The Annals of
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Issue 44(2004)

SRH

Consultants' Contract - Leek Tested!

Programme for 2004

April

Annual Spring Meeting
Peebles Hydro
April 23rd – 25th

May

Annual Trainees' Meeting
Dunfermline
Friday 28th May

June

Annual Golf Outing
Prestwick St. Nicholas
Tuesday 8th June

December

Annual Scientific Meeting
Jointly with RCA Scottish Study Day
Thursday & Friday
2nd & 3rd December

The Scottish Society of Anaesthetists

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Editorial

Mr Gordon Brown tells us that inflation is under control. As I once again struggle to inflate the "West of Scotland Lungs" which are my daily bread , I can't help but wonder - but if he says so.... We did not always live in such fiscally prudent times.

One of the first joys of doing the Annals is getting a look at the archives. There I found a 1972 brochure for the previous venue of the Peebles meeting – the Post House in Aviemore. Cost of a double room? £6.00 – That's *dinner*, bed & breakfast! How times have changed - and in more ways than the merely financial. In recent years there have been photos of the Peebles event published, many of them containing children. Alas – the Scottish Executive's legal department informs me that this is now illegal without written consent of the parents. As you will see, I have had to resort to subterfuge to illustrate the kiddies' entertainment at Peebles!

My thanks go to Charlie Allison for his help in guiding me through the various tasks involved in getting the Annals to the publisher. The format he has developed has been very successful and I hope that he isn't too upset by this edition of his "baby". I have kept the magazine format much the same. There is no overall theme to this issue other than that the articles are intended to highlight current events in the anaesthetic world. New contributors hail from both the East and West – Angela (Mrs Bernard) Heidemann provided the front page cartoon, Iain Taylor comes off the bench to delight his fans around the country with a look into the future and Jane Chestnut begins a "diary column" for which further stories and pictures for next year will be welcome. For lack of volunteers I've put in a bit and am hoping for a TV & movie spin-off. Just what we need to improve our public image!

There has been a suggestion in council that in order to increase interest among younger anaesthetists, Simon Cowell and Pete Waterman should be invited to judge the registrars' prize. The competition would be renamed "Gas Idol" or possibly, "Prop Awfol". As yet I have not received a reply from Mr. Cowell's production company.

Another development, coming under the duties of Editor, is the Society website – "scottishsocietyofanaesthetists.co.uk". This is not intended to duplicate the facilities at the RCA or AAGBI sites but merely to act as a place to get information about the times, dates, people and places of the various Society events. It is also a place where regional and specialist groups and societies can display their programs etc. Please let me know if you would like anything posted on it or have any suggestions for improvements.

Presidential Year

'Plus ça change, plus c'est la même chose', in the Society at least. The 'Crosshouse' team of Alistair Michie, Steven Lawrie and Jane Chestnut has taken over from the 'Dundee' team of Neil Mackenzie, John Bannister and Charlie Allison as the Society's Office Bearers, but your President can detect no change in the smooth and efficient organisation of our activities. In my year of office these have followed the traditional pattern with the modified programme for the AGM continuing to attract a good attendance at Peebles, and both trainees' (Dunfermline) and scientific (Glasgow) meetings playing to full houses. The latter was, as is usual, capped by the Gillies Lecture, this year given by one of our own, Cam Howie, a fitting recipient who maintained the high standard of this lecture. Your President is pleased to note that he passed the point of highest anxiety of his year, handing over the traditional Caithness glass bowl, *without* dropping it!

Elsewhere there is much change, but it is far from seamless. The political imperatives continue: treat more patients, reduce the trainees hours of work, re-negotiate your contract, implement competency based training, deliver services locally, and remember the ever changing names of the various organisations set up to deliver the 'quality' agenda. In all of this there is an insoluble equation, the key components of which are treat more patients and reduce trainees hours of work. The politicians have perhaps recognised those who have been predicting 'melt down' might have a point, and we are seeing some adjustments to the distribution of acute services, but will that be enough? In Scotland we are protected from the worst excesses of 'modernisation', but that may just be a case of delay while the Scottish Executive Department of Health allows its London counterpart to do the initial work, and then learn from their mistakes. Too often, the UK organisations of the specialty, particularly our College, are seen as the source of these initiatives, but they are actually only the messengers with but a limited ability to influence events at present. There is an ongoing process of turning us from autonomous professionals into corporate employees, and resistance is extremely difficult. As my predecessor, Peter Wallace, noted last year it seems very wise that the College strengthened its organisation in Scotland, and that the Association established a parallel group, but as you will see from my Presidential address, I feel that more may be required. This Society decided not to become more overtly involved, but to continue with its traditional background role of influencing others. For that to work we must ensure that there are enough active enthusiasts to support several organisations.

I am sorry if this sounds a little depressing, but we must be realistic about the pressures which encompass the whole profession, and not just our specialty. However, one only has to review the activities of the Society to see that anaesthesia (in all its components) continues to attract enthusiastic and talented recruits. While that is the case the future will always be bright! I started by noting that we have had a change in our Society Executive, and I must close on the same topic and thank them for their support during the year. I wish my successor as an enjoyable year as I have had.

Tony Wildsmith

Presidential Address

'An Englishman Abroad'

Tony Wildsmith,
Professor of Anaesthesia, Ninewells, Dundee

Presidency of this Society has brought me three, successive reactions. First, a feeling of some honour, because becoming President of the oldest national society in our specialty ***is*** an honour, and one which I feel particularly for a reason which I will note later. However, the honour was quickly overwhelmed by the second reaction, the challenge of meeting the standard set by my predecessors. That challenge began with the invitation to accept the nomination, but (nominal democracy being paramount) did not become 'real' until the public announcement, something which concentrated my mind wonderfully. Thus preparation began at last year's meeting, and the result owes something to a comment made by Peter Wallace in his address. He suggested (only in jest, of course, but all the best jokes have a hint of truth in them) that Professors travel the World on the back of a single, frequently repeated lecture, so the bulk of this presentation will be on subjects which I have not spoken about previously. Some of you were kind enough to attend my Inaugural Lecture in Dundee, and you will hear echoes of that, but it was about intent and this is mostly about my attempt at delivery. The third reaction to the Presidency is that here is an opportunity to acknowledge those who have supported me on along the way to today. I hope to meet both challenge and opportunity by reviewing some past and current activities, and covering a variety of topics to try and find something for most, if not all of you.

My involvement with this Society goes back exactly 30 years because I attended my first meeting in 1973, having won the Registrar's Essay Prize with a paper on 'Postoperative Hypoxaemia'. That I achieved this before sitting the final Fellowship examination owed much, in very different ways, to two past Presidents, Alastair Masson and Willie MacRae. They have enthused, encouraged, supported, bullied and occasionally held me down ever since I first met them when I was an undergraduate. Thirty years on from my first Society meeting, I am giving the Presidential Address and my career has completed a cycle, and I can think of no better opportunity for thanking them. In between I have had the equally challenging task of delivering the Gillies Lecture, and that just a week after I was appointed to the Chair in Dundee in 1994, the year in which Sandy Forrest was President. With a 'finger in both pies' (Lecture and Chair), he has had some influence on my career also.

Prior to that I served on the Executive, the group which actually does the work as opposed to 'swanning' around in the fancy chain as now. I edited the Newsletter, and Brian Slawson was Honorary Secretary, the caption to a photograph [1] of us running the 'spot' dances at Aviemore (*"One on the accordion, two on the fiddle"*) ignoring completely the fact that the real 'fiddler' was Vaughan Martin, the Honorary Treasurer. One of our contributions was to break the sequence of annual meetings at Aviemore and move the Society here to Peebles, something which I feels benefits the Society still. I am digressing a little, but before moving on I must note that Brian, Vaughan and I remain, to this day, amazed that nobody commented that all three of us came from south of the

border, two and a half from Yorkshire.

The half is me, because my Father was a Yorkshireman, who, before the Second World War, set up in business as a building contractor in Gloucestershire. Yorkshiremen are sometimes described as Scotsmen who have had all the generosity squeezed out of them, but my Father was entirely generous in his acceptance of my career choice, even though it ignored completely the family business. He met my Mother when working in Abergavenny where she was the Theatre Sister, having trained as a nurse at the Royal Free Hospital in London. Both of them believed in hard work and high standards, attributes which I hope I have either inherited or acquired, who knows which, from them. However, Mother was less generous than Father in her attitude to my second career choice: she never forgave me for ***not*** applying to a London Medical School. Two years ago, on her death-bed, her comment was, and I quote verbatim: "Well I suppose you've done quite well". Faint praise it might seem, but actually a ringing endorsement!

My sister and I were born and grew up in a small town called Newent, and I acquired a wife from the same area, north-west Gloucestershire, dominated by the distinctive shape of May Hill. Newent's greatest claim to fame, before me, of course, was that it was the smallest market town in England. If you take your pictures from the right places, the town can seem quite attractive, but today it is better known for the best vineyard in England, Three Choirs. One of the key events in the Dundee department is the annual 'mixed case' presentation, a pre-Christmas wine tasting. I don't think that Iain Gray has yet recovered from discovering that my light, dry, fruity contribution to the 1995 session cost only five pounds and came from an English meadow! But I digress again. Newent lies to the north-west of Gloucester, and my family home looks across the Severn Vale such that, on a clear day, you can see Gloucester Cathedral. This is of more than passing relevance because I was sent to the Cathedral School, 10 miles each way, each day for over 12 years, leaving me with a life-long hatred of buses and some scepticism about the senior clergy of the Established Church.

Figure 1.

However, the Cathedral remains for me an awe-inspiring example of medieval craftsmanship: from the great east window, the largest area of stained glass in Britain; along the Quire where lies the source of the Cathedral's early wealth, the tomb of Edward II; past the exquisite fan-vaulted Cloisters, the World's best; to the great Norman nave; it is quite magnificent, good enough to have been

used as a setting for the first 'Harry Potter' movie, the source, I guess, of some more recent wealth. In the south-west corner of the nave stands one of the few memorials to the pioneer of vaccination, Edward Jenner, who was born and practised medicine in Berkeley, just a few miles to the south. Every day the school filed past this single worded tribute to a man who was also the greatest naturalist of his time. If any one factor first made me think about a career in medicine, it was Jenner's memorial. Why then to Edinburgh University, you might well ask? Well, the answer is more prosaic: it was a long way from home (at 18 that counted for much), it had a good reputation for medicine, and it was not London, a place which has never been able to hold this country boy.

So in 1964 I headed for Edinburgh and its "unadulterated good fun" [2], in my case obtained on four wheels during my first Presidency: that of the University Motor Club. However, I was so certain that I would return south after I qualified that I joined the MDU, not the MDDUS, because it seemed more appropriate. That decision has, with the advent of differential subscriptions, cost me a great deal of money over the years, but it does indicate my mind-set. However, in retrospect it is clear that fate had something else in mind for me. As a 'fresher', my appointed mentor was one J.D. Robertson, and later my first surgical attachment was to the unit in which he worked. To this day I remember clearly my first visit to the operating theatre, although whether I was more impressed by his handling of the physiological challenge of an adrenalectomy or the psychological challenge of a boorish surgeon remains in doubt! Either way, I may have been hooked before I met Messrs Masson and MacRae, let alone the other two members of the R.I.E. department who had great influence on me, 'Griff' (H.W.C. Griffiths) and Bruce Scott.

The Edinburgh department was a stimulating environment in which to train and to progress, so stimulating that I never did make it back to England simply because one attractive post followed another. Regional anaesthesia became a progressively more important topic for research, particularly after a slightly late acquisition of the 'BTA' (been to America) qualification in Boston, courtesy of Ben Covino, one of the nicest men, let alone Americans, I have ever met. I returned to the Royal in Edinburgh, to a great hospital building, now sadly about to become mere real estate to satisfy political dogma. On my return there, several collaborations were crucial. First, clinical; close involvement with John McClure as the anaesthetists in the first full-time peripheral vascular surgical unit in the UK, helping achieve some of the best outcomes produced after such surgery [3]. The unit was happy and multi-disciplinary, but long before that word became as devalued as it is now. The second collaboration was long distance and literary, working with Edward Armitage from Brighton to produce our joint pride and joy, now in its third edition [4].

By then Alastair Spence (Figure 1) had succeeded Jimmy Robertson to the Edinburgh Chair. Alastair has not seen the picture before, but that is because, when I showed it at a BJA writing workshop to illustrate that blacking out the eyes does not preserve anonymity, he had sneaked away to take a look at Durham cathedral – not a patch on Gloucester, by the way. During the next decade or so I served my time on a number of Councils and Boards, and, in my spare time, became an examiner for our College. Then 'management' reached the N.H.S., and in 1992 I found myself 'elected', not that I ever announced my candidacy, as Clinical Director for Anaesthesia, Intensive Care and Theatre Services. It was time out from my primary interests, but I regret that little because it gave me great insight into the workings of the modern NHS, something which remains invaluable.

However, I did decide very quickly that one three-year term as Clinical Director was going to be enough, and that I did not want to remain a medical manager for the rest of my career. So what next? Well, before I went to the States Jimmy Robertson had sent me to look at a Chair or two, and in the mid-nineties there were a number of reasons why I considered it as an option again. First, a move would not be the great domestic upheaval which it would have been even five years before. My 'three graces' were all away from home and at University, although the realisation that they were going to have to sort out all their 'stuff' when we moved came as a shock to each of them. I am delighted that all three are here today,

but I suspect that this is as much a reflection of their happy childhood memories of the Society's 'family friendly' meetings as tribute to their Father, so I do not feel too churlish in reminding them that there is still a fair amount of 'stuff' to be dealt with! There was, of course, the little matter of their Mother's views about a move, but she was very supportive and, the first part of the golfer's prayer: "Dear Lord, please make my wife interested in golf..." having been answered, she has flourished on Tayside's fairways. Sadly though, the last part of that prayer: "...but don't make her better at it than me" has not been answered!

The second reason why I considered a Chair was the Research Assessment Exercise (RAE). Introduced to eliminate the academic who 'sat', but 'thought little' and did less, it has had a very negative impact on clinical academic medicine. Unfortunately, anaesthesia is more vulnerable to its negative impact than some specialties, and many, mostly non-anaesthetists, were saying that we were "finished" as an academic discipline. This is because the RAE scoring system places great emphasis on the amount of so-called 'hard' grant money raised and on publication in 'high impact' journals. There is some way to go before I can say I made the right decision, but I was damned if I was going to accept that my chosen discipline was "finished academically" without a fight. I am sure that some people thought that I was having a mid-life crisis, had 'flipped my lid' even, in moving at a fairly mature age, not that anyone said that to my face. No, the usual periphrasis was along the lines of "Oh, you must miss Edinburgh". Well, Edinburgh was very kind to me, but it was the jobs, not the place, which kept me there, and Dundee was another attractive opportunity, and with an awful lot less traffic to cope with on the way to work! The view is not bad either!

My third, and most important, reason for considering a Chair was that, once again, I was presented with an attractive opportunity. Proving the doubters wrong was an important but secondary issue, although the future of our specialty requires that they be proved wrong. All clinical academic specialties are in similar difficulties, but we have the added problem of lacking intellectual 'ownership' of either a body system or a disease process, both of which attract research funding. We are the last of the generalists, although we should consider that a strength, not a weakness, and use it to define what ***we*** mean by academic anaesthesia. That definition will not find favour with the RAE worshipping, sub-molecular scientists who are in the ascendancy in most Universities at present, but the RAE's consequences are now distorting basic science departments as well, so, sooner or later, somebody will recognise that 'The Emperor has no clothes'. Further, there is concern that money provided for the education of '*Tomorrow's Doctors*' is being diverted to support research which has minimal clinical relevance. If the Universities are not careful, that funding will be taken away from them and applied through organisations such as the NHS University which, as an employer's organisation, will be far more interested in service than education.

So what have I done with my opportunity? The 'meat' of this address is a description of some of the things I have been involved with over the last 8 years, but I should start with ***my*** definition of academic activity. This encompasses four domains:

1. Research, of course, but clinical and operational, as well as laboratory studies;

2. Undergraduate Teaching, the preparation of students for the pre-registration house officer role or, to be trendy, teaching them peri-operative medicine;

3. Postgraduate Training, not only of our own, but other specialties; and finally

4. Promoting High Standards, currently the least well recognised academic activity, but, in my view, the most important because it, really, is what drives the others.

The four domains form a loop, and too much focus on one will, ultimately, be to the detriment of the others.

The loop starts with the education of undergraduates because they are the future, without which there is nothing. This must lead seamlessly, as the

GMC has recognised, into postgraduate education, a field which I fear some academic anaesthetists consider irrelevant. However, it provides the opportunity to encourage critical thought about what we do, and to motivate the next generation of researchers to ask the questions without which there will be no more research. This research will inform the development of high standards of clinical practice to complete the loop by teaching better clinical care. You do not have to be an academic to pursue any or all of these activities, but academic posts provide, more than anything else, protected time. We could withdraw into the Health Service, but the Universities are important institutions in Britain and I would hate to see us excluded. No individual can pursue all of these activities at a high level at the same time, but every department should have a commitment to each, and draw on our major strengths: the generalist nature of the specialty, and our ability to collaborate with others - other anaesthetists and other disciplines.

After the definition, the next consideration must be a bare description of the input and the output achieved:

1. The core people: the NHS Trust funded me, a Senior Lecturer and a Lecturer; the University a secretary. Potential Senior Lecturers were thin on the ground 8 years ago, they still are, so I persuaded the University to accept the Edinburgh model of part-time Senior Lecturer, that is an NHS consultant with an additional academic session. More of them later. The Lecturer post was filled more readily (sequentially by Matthew Checketts, Carol Macmillan and Cameron Weir), and it is vital to our future that some trainees are prepared to take academic posts, especially when many are so negative about academia.

2. The funds generated: This is almost the only figure which seems to matter to some, and nearly £2 million is not bad going, nearly half of it 'hard' money (from Government agencies and the major foundations), and a third of a million 'medium' (from the professional organizations and other charities). The balance is often referred to deprecatingly as 'soft', although anyone who thinks that it is easy to raise money from the pharmaceutical industry for anaesthetic research has never done it.

3. The output: We have had four PhD students, 8 clinical research fellows, two visiting fellows and a research nurse; and the department has published 60 original papers, 25 reviews and 18 editorials, to say nothing of making numerous ARS and similar presentations at home and abroad, two more this morning.

4. The RAE judgement: We were returned as part of a group of clinical academics which scored '5', a matter of some satisfaction given that 5* is the top grade.

What of the real substance though, I hope you are wondering. What has been done? Well, research is not everything, but it is important, so let's start there.

It was easy to continue my interests in regional techniques because those methods are used perhaps more in Dundee than Edinburgh, and I thank all of my new colleagues for their co-operation, but I am sure that the others will agree that Jon Bannister and Graeme McLeod merit particular mention, as do those who have done the work, a series of enthusiastic clinical research fellows. Those who supplied the funding (AstraZeneca and Abbott) must be mentioned as well. However, my move was about ***new*** opportunities, and it is those which I want to expand on today. The biggest question in our specialty has long been simple: how do our drugs work? Before I moved I was aware of relevant work in the Dundee Pharmacology Department, and my opposite number there, Jerry Lambert, welcomed a clinical collaborator

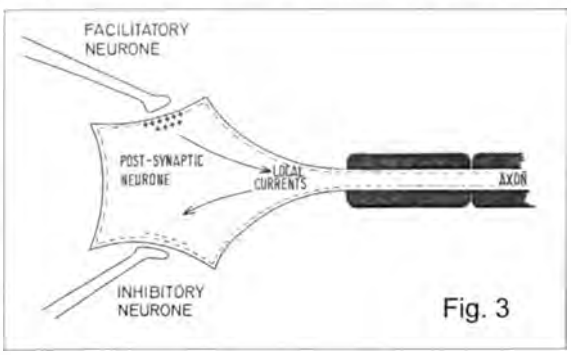


Fig. 3

generously and enthusiastically. Others have done the actual work, because my role is about encouragement, facilitation and the all-important fundraising, the sources of which must be acknowledged also. I am pleased to note that initial funding from within the specialty (Association; BJA; College) has enabled us to fulfil one the aims of such funding, we have raised money from beyond the specialty (Tenovus; SHERT). So what have we found?

Any theory of unconsciousness must have some foundation in a theory of consciousness, and while the neuro-physiologists have only scratched the surface, they have learned much about the brain's basic function. It is an incredibly complex network, each cell projecting to, and receiving input from, tens, hundreds, perhaps thousands of others. However, we can use a very simple model: that is of a cell receiving inputs which either facilitate or inhibit activity (Figure 3). Block facilitation, or enhance inhibition, and neuronal activity will decrease, producing the behavioural changes which we recognise as general anaesthesia. Until 15-20 years ago, all theories of anaesthesia were based on the assumption that cellular inhibition was global, and achieved by non-specific interaction with cell membranes. Neither proposal can be accepted now, but the very diversity of anaesthetic drug structure supported the view that their actions must be related to physico-chemical properties, the oldest and best known theory, Meyer-Overton, correlating anaesthetic potency with lipid solubility.

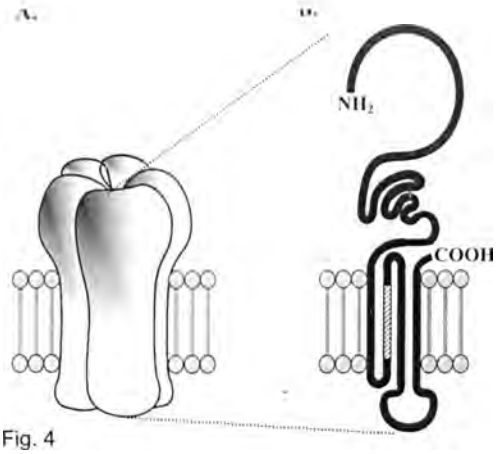


Fig. 4

However, a number of observations undermined such theories:

1. The membrane disruption produced by drugs is actually very small, being no greater than that produced by a 1°C change in temperature;

2. Certain stereo-isomers, pairs of drugs which have identical physico-chemical properties, have different anaesthetic potencies; and

3. Increases in alcohol chain length up to C_9/C_{10} increase both lipid solubility and anaesthetic potency, but further lengthening increases only lipid solubility – the so-called 'cut-off' phenomenon.

Then in 1984 Franks and Lieb [5] showed a correlation between anaesthetic potency and the ability to inhibit a membrane-based protein, the firefly enzyme, luciferase. The specific relevance of this observation is nil, but it occurred at a time when great advances were being made in the knowledge of neuronal transmitters and their receptors, the latter all being complex protein structures. That luciferase inhibition correlates even better with anaesthetic potency than lipid solubility implied that proteins could be the real 'targets' for anaesthetic drugs, and the subsequent developments in knowledge have been huge.

The main inhibitory systems in the human CNS release -amino butyric acid (GABA) or glycine to act on chloride channels and the facilitatory systems release glutamate, 5-hydroxytryptamine or acetylcholine to act on sodium or calcium channels. Two agents, ketamine and nitrous oxide, act by blocking the facilitatory systems, and it is of more than passing relevance for future development that both have analgesic as well as hypnotic actions. However, all the other hypnotically active drugs, including general anaesthetics, act by enhancing inhibitory systems. In vitro studies suggest that many drugs, isoflurane for example, act on several transmitter systems, and that they have both direct actions, mimicking the effects of transmitters, and indirect ones, augmenting the actions of those transmitters. However, many of these phenomena are artifactual, occurring at concentrations much greater than those produced in the brain in the clinical setting. The key action of most

drugs, at clinically relevant concentrations, is, almost certainly, augmentation of GABA.

GABA receptors are of two broad types, A and B, with type A being predominant in the human CNS. Each receptor is composed of five subunits, arranged in a ring around a central ion channel, and projecting from the membrane into both intracellular and extracellular fluid (Figure 4). GABA causes a conformational change which allows chloride ions to pass from ECF to ICF, to lower the membrane potential, and inhibit cell firing. Each $GABA_A$ sub-unit is a chain of approximately 450 amino acids, the precise sequence of which determines the general and detailed structure, and thus the specific physiology and pharmacology. Nineteen sub-types have been identified and, with five units in each receptor, the total number of possible permutations is around 55,000. We are only beginning to understand how these different types are distributed and function, but some fascinating information is available already. For example, alpha and beta units are needed in combination to create a binding site for GABA, and benzodiazepines act only on receptors which have a gamma unit. Further, folding of the amino acid chain means that each sub-unit has four transmembrane domains, the second one of which is thought to line the ion channel. Substitution of methionine by n-asparagine at position 289 of the alpha sub-unit, changing only one amino acid, renders the receptor insensitive to etomidate, but still sensitive to pentobarbitone, suggesting that each agent may have a discrete point of action on the receptor.

All of these observations have been made using laboratory techniques, but the ultimate proof of the theory has been a Swiss group's recent creation (I use the word advisedly) of a mouse with a genetic modification causing it to produce these 'insensitive' receptors. The mouse appears quite normal except that it does not become unconscious when given etomidate or propofol, although it responds normally to other agents [6]. Now we want better drugs, not patients who do not respond to them, but better drugs will only come when we understand fully how the existing ones interact with their targets. Two other discoveries are equally fascinating and relevant:

1. The drugs - the steroid 35 pregnanolone is a potent modulator of GABA, but the 35 isomer, differing only in that one hydroxyl group lies above, rather than below the plane of the molecule, is inert (a tiny difference in 3 dimensional structure, producing a huge difference in potency) [7]; and

2. The receptors - studies of the distribution of different $GABA_A$ receptor sub-types, and understanding of the activities of the centres of the brain in which they occur, imply great specificity of function [8].

Extending and combining such observations should result in the development of highly specific drugs with minimal side effects.

From sub-molecular pharmacology to the psychological consequences of intensive care is some journey, but it is now all in a day's work, and therein is the attraction. I did at least have some background in pharmacology because of my local anaesthetic interests, but this was a very new involvement. Although my time as a Clinical Director did make me realise how frighteningly expensive intensive care is, and led me to recognise that its outcomes need close examination, the real idea came from Janice Rattray, one time Charge Nurse in the ICU in Ninewells, and now a Lecturer in Nursing, who was looking for academic guidance, and someone to provide a clinical perspective on her proposal. The expertise in Quality of Life assessment came from Marie Johnston in St Andrews, who some of you may know of from her work showing that pre-operative anxiety increases the risk of postoperative complications. We did a little, locally funded retrospective study [9], and then secured funds from the Chief Scientist's Office for a definitive study which was completed last year thanks to the co-operation of my ICU colleagues.

We reviewed, at the time of hospital discharge, and then six and twelve months later, 109 patients who had spent at least 24 hours in the Ninewells unit after emergency admission. To check the generalisability of our findings, a group of 101 similar patients from Edinburgh were reviewed at six months, and we had two groups of comparator

patients, general surgical patients who were, or were not, admitted to the high dependency unit. Three standard questionnaires were used: the Short Form 36 for health related quality of life; the Schedule for the Evaluation of Individual Quality of Life; and the Hospital Anxiety and Depression Scale. The scores from these assessments were related to clinical and socio-economic information so that a huge amount of data was generated, the analysis of which will take some time yet, but I can give you a flavour of what we found.

Perhaps the first thing to say is that quality of life must be defined from the patient's perspective, not that of the doctor. Second, these patients have significant, ongoing problems which do not appear to be related to the severity of their condition on admission to the unit, at least as judged by the APACHE II score, but patient age, social factors, and total duration of both illness and hospital admission ***are*** relevant. Thus we have to be careful in ascribing all of the problems to the intensive care unit stay, but what is very clear is that many patients have a classic post-traumatic stress disorder, with many of the 'precipitants' relating to the intensive care unit. This became apparent during our pilot study when we recognised the need for a way of measuring it. The intensive care experience questionnaire (ICEQ – you have to have an acronym to be a serious player in this business!) was developed as part of the definitive study, and is currently undergoing validation by colleagues in Nottingham, in the hope that it can be used to inform studies of both the treatment and, better, prevention, of the problem.

So much for research. What about the other, to me equally important aspects? When I moved, Dundee's Medical School was beginning to revise its undergraduate course to meet the precepts of the GMC's document, *Tomorrow's Doctors* , and the School was very receptive to the inclusion of an 'acute care' component. This runs through all five years, so we start with basic life support in year one and progress through advanced life support to teaching them about recognising and dealing with the acutely ill patient in year five. This programme is still developing, aided by a British Heart Foundation grant for a university based resuscitation officer, and I would like to thank Matthew Checketts, Carol Macmillan and Fergus Millar for their input. At postgraduate level, Dundee is the smallest School of Anaesthesia in the UK, bringing the advantage of close integration, but also the need to collaborate with others when it comes to courses, and Iain Levack and John Colvin have been very active. A word also about the simulation centre in Stirling where my main role, apart from being the first person ever to cancel a simulated patient's operation, has been to moan about the cost, I mean supervise the finances. Ronnie Glavin and Nikki Maran have done a superb job of making the centre work, but perhaps not quite with the enthusiastic support from our specialty that there should have been. Other specialties are being enthusiastic, and if we don't use it, we will lose it.

Clinical standards encompass many aspects, but must start, and indeed end, with each one of us constantly reviewing personal practice. This must include working towards peer-reviewed standards, and much of my time over the last 5 years has been directed towards two reports: one on dental anaesthesia for our own College [10]; and the other on the use of sedative drugs by non-anaesthetists for the UK Academy [11]. I was tempted to discuss these two documents in detail, but I have done that enough times in other settings recently for even me to want to talk about other matters today. However, such work is a major aspect of 'academic anaesthesia' as far as I am concerned, and (along with the postgraduate aspects of teaching, training and examinations) is best delivered through the medium of our Royal Colleges, much though some of the politicians might like to take it away from us – more on that from Peter Hutton later, perhaps. Making representations to those politicians is becoming an increasingly important part of maintaining our standards, and we in Scotland have the additional complication of Devolution. Just in case you missed the point of my introduction, I am an Englishman and, while I am a ***Scottish Anaesthetist*** through and through, my perception of devolution is resolutely English.

It is an evolving process, but some consequences are clear already. We have a separate Parliament, a separate Department of Health, and separate (but possibly better integrated) organizations within

that Department. Every document is issued with at least a separate cover (the 'kilted' versions), and sometimes with entirely separate content also. Some 'lip-service' has been paid to the need for cross border rationalisation, but how many noticed that a recent document, *Modernising Medical Careers*, published jointly, and I quote, "by the four UK Health Ministers" had the logo of the "Scottish Office" on the front? Well, St Andrews House must have noticed because the cover changed to "Scottish Executive" p-d-q, but such mistakes do not bode well and, with a separate consultant contract being discussed, everything could change. I feel that the Scottish professional organizations are ready for this, but is our specialty, and does it have the resources? "Barely" is my answer. As chairman of the College's pre-devolution Standing Committee I hoped that this Society would take the lead, but it decided against, preferring to persuade the UK organizations to adapt. Thus the College Committee expanded into a Board, and the Association set up its own Committee. Is this all working? Well, yes, but I have concerns, and they relate to resource, human resource.

There are fewer than 500 consultants in Scotland, and yet we support 2 other, essentially Scottish organizations (SICS; NBPA), to say nothing of our significant input into the many UK organizations. As chairman, until last year, of one group, the College's, I attended the meetings of two others, and there is significant overlap in the agendas. We talk much, and I am sure that the Intensive Care and Pain groups look at the same issues as well, but do we have the time to actually address the issues, or engage fully the civil servants or politicians? I know that I am in a minority in being concerned, and I will admit that three years as Convenor of the College's Standing Committee, followed by two years as Chair of the new Board, left me too closely involved for too long. However, one other person has been at the meetings of all three organizations for the last four years, this Society's outgoing Honorary Secretary, Neil Mackenzie, and he is a part of my minority. If a document goes to the College it has the full resource of Russell Square available to help generate the response; if it goes to the Scottish Board, it gets whatever time the Chairman or Honorary Secretary can find to deal with it. "***Make*** the College deal with it" is the traditional approach, but this fails to recognise one important consequence of devolution.

It is often said to risk, or even to intend, removal of the Saltire from the Union Flag, but what is less well recognised is that it risks removing St George's Cross as well. You may view organizations like 'The English Democrats' with mild amusement, but that used to be the status of the Scottish National Party; and this Englishman is still amazed at the number of red crosses, rather than Union Flags, which he saw displayed in the south during the last World Soccer Cup. Discussion about devolution has raised English awareness, but not always to the benefit of the Celtic components of the UK. In health care, much of this focuses on the 'Barnet formula', which gives us a clear financial advantage. It is related to deprivation, but there is deprivation south of the border as well. The leaders of our UK organisations, both College and Association, have been ***very*** supportive, but the views of many others in England can be summed up in terms of: "Devolution? OK, but you do it".

Apart from anything else, our colleagues are busy enough dealing with the myriad of primarily English organizations: look, for heaven's sake, their initials alone would fill a slide! I doubt if many in this room voted for devolution, but we are stuck with its consequences, and must recognise that one other factor complicates the issue: the three Scottish Medical Royal Colleges. I am not the only one in this room who pays a subscription to one of them, and I am very impressed with the way in which it addresses the issues, the civil servants and the politicians. We are doing fine when the issues are clearly and directly, specialty related (dealing with the new Clinical Standards Board, for instance), but some way or another, we must address the broader issues equally well or our views will be lost. This is serious material for a Scottish Society of Anaesthetists Presidential Address, perhaps too serious for some, but I make no apology because I considered devoting the whole of this hour to it. I even had a working title: from the English Bard, but his 'Scotch Play': "Stands Scotland where it did?" In the end, I decided that I wanted

to take a broader view, and I hope that I have shown you that, academically at least, the answer to Macduff's question is favourable. I am sure that you would hear similarly up-beat views from my opposite numbers in Aberdeen, Edinburgh and Glasgow, but the medico-political situation needs more careful thought.

So to finish. Where stands this Englishman near the end of his career 'Abroad'? Well, he thanks Scottish Anaesthesia for taking him into its fold, and for making him, as far as he can tell, its first English-born President. Not the first President to have been born outside Scotland because I think that honour goes to Frank Holmes, but he is not English. Such is my gratitude, I considered seriously changing the prejudice of a life-time when my predecessor said that he would like to see me in a kilt this evening. He even went behind my back to some of the 'Anglos' who support this meeting, and I found myself under pressure from Ed Charlton as well. But someone, not unknown for her influence upon me, made it clear that she was "agin", so I was truly 'between a rock and a hard place'. Then, on one of those rare opportunities which Professors have for overseas travel, taking a short break from hard academic endeavour even on the aeroplane, I thumbed idly through the in-flight magazine and found the solution to my dilemma, a wish could be fulfilled.

I think that Fay was right!

References

Photocall. *Scottish Society of Anaesthetists Newsletter*; 1982, p 11.

2. Cronshaw A. *Edinburgh From Old Picture Postcards*. Edinburgh: Mainstream Publishing; 1989. ISBN 1 85158 287 8, p17.

3. Mutirangura P, Stonebridge PA, Clason AE, McClure JH, Wildsmith JAW, Nolan B, Ruckley CV, Jenkins AMcL. Ten-year review of non-ruptured aortic aneurysms. *British Journal of Surgery* 1989; **76**

4. Wildsmith JAW, Armitage EN (Eds). *Principles and Practice of Regional Anaesthesia*. Edinburgh: Churchill Livingstone; Third Edition 2003. ISBN 0 44306 2269.

5. Franks NP, Lieb WR. Do general anaesthetics act by competitive binding to specific receptors? *Nature* 1984; **310**: 599-601

6. Jurd R, Arras M, Lambert S, Drexler B, Siegwart R, Crestani F, Zaugg M, Vogt KE, Ledermann B, Antkowiak B, Rudolph U. General anaesthetic actions in vivo strongly attenuated by a point mutation in the GABA(A) receptor beta3 subunit. *The FASEB Journal* 2003; **17**: 250-2.

7. Lambert JJ, Belelli D, Hill-Venning C, Peters JA. Neurosteroids and $GABA_A$ receptor function. *Trends in Pharmacological Science* 1995; **16**: 295-303.

8. Nelson LE, Guo TZ, Lu J, Saper CB, Franks NP, Maze M. The sedative compnent of anesthesia is mediated by $GABA_A$ receptors in an endogenous sleep pathway. *Nature Neuroscience* 2002;**5**:979-84.

9. Rattray J, Johnston M, Wildsmith JAW. Assessment of individual quality of life in survivors of intensive care. *Nursing in Critical Care* 1998; **3**: 220-6.

10. Wildsmith JAW (as Chairman of Dental Anaesthesia Committee). *Standards & Guidelines for General Anaesthesia for Dentistry*. London: Royal College of Anaesthetists, 1999.

11. Wildsmith JAW (as Chairman of a Working Party). *Implementing and Ensuring Safe Sedation Practice for Healthcare Procedures in Adults*. London: U.K. Academy of Medical Royal Colleges, 2001.

12. Justins D. President's message. *The Pain Society Newsletter*; Spring 2003, p 5.

Guest Lecture

Professor Peter Hutton –
Is there a future for the Medical Royal Colleges?

The recognition that a professional had responsibilities to the public became a reality with the creation of the Livery Companies, the first to be established being the Weavers Company in 1184. In medicine, the Medical Royal Colleges continue this tradition of public service. The first Royal College was the RCS of Edinburgh which was granted a Royal Charter in 1505. Each College Charter stipulates the responsibilities of the College and, through its provisions, the College is responsible to the public via the Privy Council.

The provisions of the RCA Charter require it to:

- Educate medical practitioners for the benefit and protection of the public
- Further instruction to others
- Advance study and research
- Educate the public in relevant matters

Note that all of these responsibilities are to patients and the public and not for the benefit of doctors. It is probable that this bond and duty to the population at large will be our most important asset, provided that we remain true to the objectives for which the College was established.

The Medical Royal Colleges are, at the time of writing, represented in the following areas of Parliamentary Legislation:

The Medical Acts relating to the GMC

The European Medical Specialists Qualifications Order
The Appointment of Consultants Order
The Joint Consultants Committee
The Specialist Medical Advisory Committee

The Colleges' position in the first three of these has recently come under review, and in the first two, their influence has been considerably reduced. The number of College seats on the GMC has been reduced from 12 to 1, and the new PMETB will have up to half the medical seats (approximately a quarter of the total) allocated to Colleges. Why have the Colleges had their wings clipped in this way when they feel that they have been working away for the benefit of the public, often against insuperable odds? The answer is unfortunately not easy to define, is certainly multifactorial, and teaches us some lessons from which we should learn for the future.

There are probably two main causes. The first is the dislocation that has occurred between the medical profession and the public that became symbolised in the Bristol and Alder Hay enquiries: the second is a government that genuinely wants to improve the health of the nation and is committed to resource provision but which wishes to see its reward in the ballot box. In combination, these two parallel developments have led to widespread but non-specific criticism of the medical profession with an apparent underlying assumption that if only the doctors could be sorted out, everything else would fall into place. Would it be that it were that simple!

The drivers for change in the relationship between the Colleges and the public are changes in the practice of medicine, in society's values and attitudes, in legislation and the effects of devolution. These are superimposed on a rapidly changing medical landscape in which there is better diagnosis, more agreement about optimal therapies, greater team-working and increasing use of skill-mix. Simultaneously, medical staff who are committed to doing their best for the patient in front of them are often seeing a limitation of resources of money and personnel without their having been a proper public debate about the conflict between the duty to an individual and the duty to the patient population as a whole. This then spills over into the self-image of doctors: for instance, is a consultant an independent expert or a corporate employee? Perhaps the root of the problem is that medical progress has been so fast that the profession has not had time to accommodate to its consequences. Furthermore, it has not re-aligned itself with the changes in public perception and demand that have themselves been generated by these improvements in care.

Where are the Colleges in all this? It was unfortunate that they were seen by a number of influential people as lumbering bastions of conservatism, protecting doctors' rights and not fulfilling their duties to the public. The best example of this was expressed in Parliament by Mr Kevin Hughes, MP for Doncaster North, on 16th July 2002.

'*What other group of workers wield as much power as consultants? Their so-called trade unions, the Royal Colleges, dictate how many consultants can be trained each year, where they can be trained and which hospitals can carry out what operations. They decide how many hours consultants work for the NHS and they keep waiting lists so that people fork out money to jump the queue that they have created. Will my Rt. Hon. friend (i.e. Mr Milburn) tackle this closed shop which makes Bob Crow and the RMT look like a set of woolly liberals.*'

Clearly this is far from reality and factually incorrect, but unfortunately reflects what some others

Professor Hutton receives the Quaich and Society tie!

think of the Colleges. When people such as this are taken to task, often it is misinformation that they possess rather than malevolence. Unfortunately, we must take some of the blame for this simply because we have not perhaps tried hard enough to let people know our true purpose. We then get blamed and used as a scapegoat by anybody when we are not around to defend ourselves.

Consequently, what we must do whilst pressing on with our traditional good work is to become more pro-active in influencing policy before it is set and letting the public and patients know that we are very definitely on their side. The Colleges have made a very good start in doing this by negotiating with the government a 'Memorandum of Agreement' that commits both sides to working together on a range of issues. The introduction to this begins:

The Academy of Medical Royal Colleges (AoMRC) and the Department of Health (DoH) have agreed a 'Joint Memorandum of Understanding', the principle objective of which is to improve the availability of high quality care for patients. This will be done by increasing the number of trained doctors, providing modernised, high quality, training programmes, ensuring the maintenance of standards in training and supporting and promoting clinical academic medicine. This collaboration will benefit patients, trainees, and NHS management and improve the working lives and career opportunities for doctors.

So, in conclusion, I think that the current unsatisfactory situation has arisen from a complex series of events, which, when taken together, have repainted the landscape in which we work. The job of the Colleges is to be true to the purpose for which they were established, engage the public in all they do, and become the most relevant voice in modern medical policy making. If we remain aloof, remote and pontificating in style, then we will be overtaken by the march of progress and become spectators of the modernisation process and debate that our health services desperately need.

Oops-he Dixit

A collection of tales compiled by Jane Chestnut.

She will be delighted to collect stories of a similar nature from members for next year's Annals. Yes you will Jane.

How do you ask patients what name they wish to be known by? Recently when asking a patient "Are you called William" (as opposed to "Willie" or "Bill"), the patient replied "No, I'm quite warm thanks"!

One of our nurses was on holiday in South Africa. She was having a very fancy dinner in an expensive restaurant with friends when a well-dressed lady with a posh accent who had heard them speaking approached and asked from whence they came. When they said "West of Scotland" the lady said – in her posh accent, "Oh my relations come from the West of Scotland -do you know a place called "Borrheed"?"

When asking a patient about allergies, she said "Aye, Canestan cream, Doctor". It was only after much questioning about which particular kind of cream she couldn't stand that I realised it was me who could not speak the language.

On being asked about various parts of anatomy, one eight year old proudly explained that he knew where his lungs were and pointed to his lugs-good for him.

You can never be sure about druggies. One delightful 80-year-old lady of my ken insisted that her cocodamol tablets were the bee's knees. As they did not appear on her GP's list of medicines, I was slightly mystified until she explained. She was a great baker and regularly took a nice apple pie to her friend Maggie who, she explained, couldn't cook a paper bag. Maggie, in return, had been supplying her with cocodamol for 20 years. She'd no need of it but it was on *her* repeat prescription: 'Two tablets, QPQ (quid pro quo)'!

A Committee Room Near You

It appears that the future of British anaesthesia will contain non-medical anaesthetists. Not nurses – for we need them to be nurses – so where will they come from? What talents should we seek out? Do we train them from scratch or can we harness some of the underused skills already available?

Iain Taylor *gazes into the Caithness Glass Ball……*

February 2006

As the last candidate left the room, there was a barely concealed eruption of mirth from the three highly respected gentlemen sitting at the table and a sputtering noise from the webcam and speakers that might just have approximated laughter, had it not been delivered via satellite from the first class seats of a jumbo jet somewhere over the south Atlantic.

"This is preposterous" said Dr. Wallis "We can't appoint any of these and maintain any shred of our professional credibility?"

Two heads nodded in agreement and the top of Professor Canny's head could be seen on the laptop, dipping in a similar fashion as he sipped his champagne cocktail in the jumbo jet.

"I need hardly remind you, gentlemen" said Dr. Miller, "that the projections for anaesthetic staffing show quite clearly that we must increase our complement by at least 57% over the next three years or risk being perceived as the sole and only reason for the failure of the Scottish Health Service to deliver on the Scottish Parliament's election promises. We can't get doctors in that timescale, so now is the time for innovation, improvisation and lateral thinking. The minister has tasked the assistant associate sub under secretary for health, Mr. Zero Nematode (ex-consultants' representative) with the duty of ensuring that this target is met. He has made it clear that our success would be greatly and *royally*, rewarded. We are here to appoint the first wave of non-medical anaesthetic practitioners and to demonstrate to the Scottish Office that the future of the Health Service in Scotland is safe in our hands"

The word "*royally*" was followed by a considerable amount of coughing, sniffing and paper shuffling. All present knew that the date for these interviews had been advanced by four days to beat the Edinburgh selection process past the post. Fortune favours the brave, or in this case, the first to appoint a cadre of non-medical anaesthetists and point the way to the Renaissance for Anaesthesia in Scotland.

Things would not have been so bad, had the staffing situation not been made considerably more acute in May of 2005 when the collapse of the mine workings just south of the Clyde Tunnel had

led to the buildings of the Southern General Hospital reducing their height by about three feet one sunny afternoon. The majority of these noble edifices had not tolerated this abrupt acquisition of basement accommodation with equanimity and had demonstrated their distress by falling down in untidy heaps of rubble. The ensuing architectural cleansing had lead to the lamentably early demise of many valued consultants. This abrupt derailment of the Health Board's plans for the city was the principal reason for the rapid refurbishment and expansion of the city's Victoria Infirmary and the resurgence in local support for the salvation of the crumbling cadaver of Stobhill Hospital.

"Therefore" he continued "We must demonstrate our complete commitment to innovation and the development of Anaesthesia in Scotland. We must appoint and we must appoint without delay." Murmurs of agreement came from the gathered men, accompanied by a crackling "Yes, Yes, now, at once" from a point considerably more than a mile high but clearly less than six inches from the shapely thighs of the most attractive stewardess on the jumbo jet.

"Why is he flying to Columbia anyway?" asked Dr. Farme. "Is it another lecture tour?"
"Not as such" replied Peter Wallis "He made contact with someone called Senor Jose Ramon Hidallio in some chatroom or other and it turned out that this Mr. Hidallio is quite big in the production and supply of pharmaceuticals internationally. He's promised enough funding to appoint four new research fellows if the Professor is able to introduce Glasgow as the newest hub for distribution for Europe. The Prof. is travelling first class and being met at the airport by no less than *three* limousines and a dozen assistants. The Prof. has even taken his skiing gear because Mr. Hidallio kept saying that his snow was of the highest quality!"
"Incredible" said Dr. Farme, "The Prof. landing on his feet yet again! Anyway, gentlemen, can we get back to business? Dr. Cameron, Gammie, perhaps you would be kind enough to summarise the three candidates we are considering for Glasgow Royal Infirmary"

Gammie smiled briefly, straightened his notes, and began. "The first candidate, you will remember he had the thick moustache, is of middle eastern origin and no longer in the first flush of youth. He claims to have some knowledge of pharmacology from his former friend, Ali, who was something of an expert with chemicals. He has left his home after the sudden loss of his family and business and is looking for a new start, despite his mature years. He certainly had the *gravitas* that we would expect from an anaesthetist and I doubt that he would have any trouble putting some of those uppity surgeons back in their boxes. In summary, very impressive. The only problem may concern his availability. Apparently he may have to give quite a long period of notice.

The second candidate was the well-dressed Italian gentleman. Very smooth talker, probably should be in television. Remarkable white smile and I'm sure he'll be very popular with the theatre staff. Didn't really say why he was looking for a quiet job away from Italy for a while. Something to do with frozen assets and investigations, probably the Italian equivalent of the Child Support Agency so he deserves our sympathy. Doesn't seem to like Germans very much so that may cause some workplace friction. I suppose he'll charm the surgeons down from the trees, especially the girlie ones."

Gammie was interrupted briefly as the laptop speakers burst into crackling life again.
"I said my NECK was stiff, rub my NECK please. Oh Hell! that's gone all over the place, I'll need a cloth.....and another champagne cocktail please. Sorry to interrupt Gammie, please go on. You have my complete attention"

"Thank-you Professor. Finally, we saw that slightly nondescript little man. He said that he had been *away* for fifteen months but had done some writing before that. Anybody read 'Pennies, more or less' or something like that. No? Can't be much good then. He said that he had been away because of a misunderstanding in a toilet at a railway station. It all sounded rather.....grubby. His wife is outside, very pretty, almost....fragrant. I have my doubts about this one but he does seem to be down on his luck and the Inland Revenue are so unforgiving these days."

"Thank-you Gammie" said Dr Miller "An excellent summary, does anyone have any relevant comments?"

There was a strained silence, broken only by loud crackling from the weblink. They each weighed their integrity and hard-earned credibility against the potential of Royal Reward.

"Well, the last one. I mean, railway station toilets.." muttered Dr Farme, "It's just too much in my opinion"
There were general murmurs of agreement, even from the mid-Atlantic

"Fine" boomed Dr Miller "We are all agreed. The Royal Infirmary gets Mr Hussein, and Mr Berlusconi. We'll keep Mr Archer as the reserve. The training time is three weeks, fourteen hours a day, seven days a week. They should be doing lists by the start of next month. It's a condition of employment that they derogate from the European Working Time Directive. I'll just fax the assistant associate sub under secretary for health and tell him the good news. Who do we see this afternoon for the Victoria Infirmary?"

Gammie mumbled briefly in reply.

"Wait, I have the list here" said Dr Miller "A Miss Messenger, a Ms Kournikova, a Ms Minogue and Ms Parton. Gammie, did you allocate the applicants *randomly* to the various hospitals as I asked? You're sure?... Well, never mind. Time for lunch gentlemen and I do believe that the sun is over the yardarm. Good luck with your trip Professor."

Receiving e-mail
Sender : ProfGCanny@BAChair.gla.uni.org
Gammie. Marvellous news. Jose is such an amazing chap. He's giving me a kilogram sample to bring back with me for the lab. He's wrapped it in coffee beans of all things. Says it travels better. Strangely no skiing. Back in two days.
Message ends.

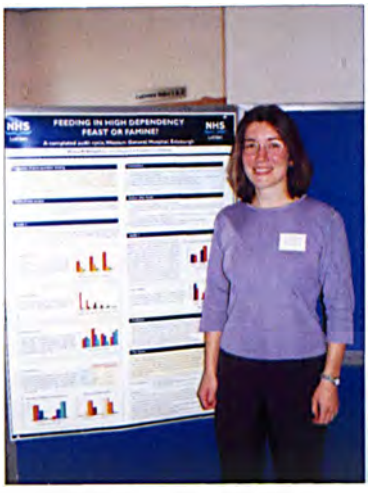
Travelling Fellowships

The Society would like to spend some of it's wealth on encouraging members wishing to work or teach in disadvantaged countries. Grants - to cover travelling costs – would normally be up to £1000 and not exceed a total of £5000 in any year. If you would like to apply, please write to the Hon. Secretary, Dr. Michie.

Who's who at the Trainees' Meeting

Liz McGrady and Vicki Clark with organiser Kerry Litchfield

Duncan Henderson, Jane Peutrell and Alistair Baxter



Dr Marcia McDougal – Best Poster

Ronnie Glavin with Professors Wildsmith & Power.
Supplementary trainee prize:
These eminent educators are together known as The Three -

A) Stooges
B) Degrees
C) Muscadets

Text your answer to the premium rate number of your choice!

Mr. Bill Walker with Bernard Heidemann

..and at the Annual Scientific Meeting..

Stephen Hickey, Sara Ramsay, Phil Korash, Magnus Garrioch and Nick Scott

Dr. Tony Absalom

Dr. Stuart Hood

Organisers Traven McLintock and Jackie Orr

The President presents Gillies Lecturer, Dr. Howie, with the commemorative Caithness Glass Bowl.

Trainees' Meeting

Halbeath, Dunfermline, 23rd May 2003

By Linda Warnock

Prof. Wildsmith first welcomed us to the meeting. The programme was varied and well organised with speakers from all over Scotland.

The first session was chaired by Dr Kerry Litchfield, one of the meeting organisers. Dr Vicki Clark from Edinburgh spoke on the topic 'So you want to be an obstetric anaesthetist? ' and discussed the pros, cons and training requirements for those wishing to pursue a career in obstetric anaesthesia.

This was followed by an update in Obstetrics from Dr Liz McGrady of Glasgow. She covered the confidential enquiry, magnesium, CSE's , breech deliveries, low dose epidural techniques and the classification and Audit of Caesarean sections.

The second session, chaired by Prof. Wildsmith himself, addressed some of the current issues in training. Prof. Ian Power from Edinburgh discussed issues in training that relate to acute and chronic pain, and also the principles of pain management and assessment. Dr Glavin from Glasgow then gave us an update on the educational strategies being implemented by the College and how they relate to our training.

Following lunch, a session on paediatric anaesthesia was started by Dr Jane Peutrell from Glasgow who, with the aid of some impressive graphics, updated the audience on the recent developments and trends in paediatric regional techniques. This included caudal blocks and adjuvants such as clonidine and ketamine, peripheral nerve blocks and techniques for peripheral nerve mapping.

The second part of this session was given by Dr Alistair Baxter from Edinburgh who presented the other side of regional anaesthesia in paediatrics – when blocks are inappropriate or fail. He covered the assessment of pain right through to the treatment. Both pharmacological and psychological aspects were presented.

The last session of the day was given by Mr. Bill Walker, a cardiothoracic surgeon. He spoke about the immediate management of the thoracic trauma patient specifically including the role of the anaesthetist. He went on to involve the audience in a discussion of the management of the common thoracic trauma problems. Just as well they knew all the answers!

To finish off the day Prof. Wildsmith awarded the prize for the poster presentations. The posters were of a high quality but there could as always only be one winner and the prize was awarded to Dr Marcia McDougal from Edinburgh for her poster on a full audit cycle of fasting and feeding practices in the high dependency unit.

Annual Scientific Meeting

28th November, Glasgow

Jackie Orr, Traven McLintock and Alistair Michie, ably assisted by Annette Whelan, trusty secretary at the Royal Alexandra, had clearly compiled a very attractive programme, as the meeting was a sell-out. No effort had been spared - indeed they must even have been dancing around the bonfires to produce the kind of rain-soaked welcome that visitors to Glasgow know and love.

Our president, Tony Wildsmith, welcomed the delegates then Jackie chaired the first session on "future developments". Tony Absalom from the Norfolk & Norwich University Hospital explained why clinical signs were such a poor indicator of awareness then went on to describe various depth of anaesthesia monitors, concentrating on auditory evoked potentials and BIS for which there were the greatest body of evidence. Entropy – a technique measuring chaos in the EEG - looks promising for the future. It seems he has an almost supernatural grasp of physics! Next, Magnus Garrioch, ITU director at the Southern General in Glasgow, outlined his study of the effects of oxygen on patients with COPD and CO_2 retention. His data may lead to a change in the age-old idea, beloved of physicians, that O_2 kills these patients.

After coffee, we were treated to an excellent cardiology session. Stuart Hood, a cardiologist from Paisley, gave a marvellous talk about the evidence for the various treatment options in IHD, MI, CCF, AF and hypertension. He highlighted the benefits of acute angioplasty but also the difficulty in meeting the demand with current resources. Cardiac failure is a disease with a very poor prognosis - a fact which is equally poorly appreciated. By combining drugs in a tailored treatment package, some improvement is, it seems, possible. Another novel idea is the application of sophisticated pacemaker technology to patients with LBBB which increases ejection fraction. However it remains the case that prevention is better than cure. Have you had your aspirin and five portions today?

Stephen Hickey from Glasgow Royal was next, describing his 'favourite toy,' the transoesophageal echo. With well-explained echo films he demonstrated the value of this technique as an intraoperative tool in cardiac surgery and also for the assessment of cardiac ischaemia and function. This clearly had a big impact clinically and it is to be hoped that many others will follow his lead in taking the British Society of Echocardiography accreditation course.

Nick Scott from the Jubilee in Clydebank rounded off the morning with cardiac considerations in non-cardiac patients emphasising the individual patient considerations which formed a basis for his approach. He covered myocardial protection, the effects of SNS blockade and, of course, thoracic epidurals.

After lunch, Phil Korsah from Crosshouse discussed outreach in critical care with reference to his own, local, experience. The key is to avoid ending up looking after all the sick patients in the hospital by concentrating on the education of ward staff. Sarah Ramsay, newly acquired by Glasgow's Western Infirmary, then held the audience rapt with an account of her time working in a Hong Kong ITU during the SARS epidemic earlier this year. She mixed the epidemiology and pathophysiology of the disease with a very personal description of her own feelings at the time. A real showstopper!

The President then introduced Dr. Cameron Howie of Glasgow to give the traditional Gillies Lecture in his inimitable style! The meeting closed with the presentation of the Caithness Glass Gillies Bowl.

Gillies Lecture

'Making it better'

Cameron Howie
Victoria Infirmary, Glasgow

For approximately 10 years I have been involved in setting up and helping to run the Scottish Intensive Care Society Audit. Much of our early audit activity concentrated on validating the performance of a variety of severity of illness scoring systems and thereafter using them to quality assure outcomes in all Scottish Intensive Care Units (ICUs). We have also examined in detail outcomes for specific groups whom we considered might be more susceptible to variation in the quality of intensive care. Scotland has a relatively large number of relatively small intensive care units reflecting the current structure of our acute hospital provision. As a consequence some units will provide care for only small numbers of patients with multiple organ failure. In the past such patients were referred to tertiary centres for renal support. However the widespread availability of haemofiltration systems has resulted in such patients being treated at their base hospital, in some cases without a specialist renal service on site. In spite of wide variation in the numbers of such patients treated, the overall performance of Scottish ICU's, in caring for patients requiring both ventilation and renal support, was comparable to that observed in other large studies. Moreover, for individual ICU's, there was no indication of any relationship between numbers of such patients treated and patient outcomes.

Outcomes research is potentially an interesting but sterile exercise. The ability of research on patient outcomes to lead directly to improvements in patient care is dependent on an understanding of the relationship between the structure and process of care and consequent outcomes. This requires a sound evidence base, derived from good quality randomized controlled studies (RCT). Until very recently no such body of evidence has existed in critical care.

While there has been a paucity of high level evidence, the availability of large, high quality databases has allowed study of associations between structure, process and patient outcomes. The most striking example is the demonstration of a positive association between use of the pulmonary artery catheter early in the course of critical care and patient mortality (1), even when adjusted for underlying severity of illness. There is considerable debate as to whether this association is causal or caused by confounding. In spite of this there has been in the intervening years a progressive decline in the use of the pulmonary artery catheter in Scottish ICUs. However a position of equipoise clearly exists as there is considerable variation in use among units with a comparable case load. Resolution of this question awaits completion of the PACMAN study currently underway in the UK.

One of the problems confronting research in criti-

cal care is that of definition. This is exemplified in attempts to study sepsis. Sepsis may be due to a myriad of specific infections, however the syndrome of sepsis is characterized by an innate response, recognized by characteristic physiological responses. The Systemic Inflammatory Response Syndrome (SIRS) is defined by abnormalities of temperature and white cell count in association with tachycardia and tachypnoea. Sepsis is defined as SIRS occurring as a consequence of infection. Sepsis is important because almost half of the admissions to our intensive care units meet these criteria as some point during their ICU stay. This is predominantly associated with one or more organ system failures (severe sepsis), with the highest mortality occurring in those patients who develop cardiovascular failure (septic shock). These consensus definitions of severe sepsis and septic shock have been critical to the organization of high quality multi-centre RCTs of pharmacological interventions.

Once a therapeutic intervention has been demonstrated to be efficacious, there are a number of obstacles, which may prevent optimal implementation in the real world.

Allowing universal access to expensive drug treatments will continue to be one of the major challenges confronting the NHS. The demonstration that mortality in severe sepsis is reduced by Drotrecogin Alpha Activated (Xygris), at a cost of approximately £5000 per treatment, is one such challenge (2). The financial impact has been moderated in Scotland by the development of a guideline which recommends limiting its use to patients with multiple organ failure and an APACHE score greater than 25. This is based on sub-set analyses made available to the FDA by the company and published on the FDA web site, and is consistent with both the European and U.S. licenses. A prospective audit of guideline compliance and outcomes is currently underway in Scotland, consistent with recommendations from the Scottish Medicines Consortium. Interim analysis shows satisfactory compliance.

The problem of making clinicians aware of important new drugs is dealt with more than adequately by the pharmaceutical industry. However, in general, lack of awareness may be an important impediment to application of best evidence. Consequently while the benefits of Xygris are well known. The comparable benefits of "low dose" steroids in a sub-set of patients with septic shock may be less well known (3).

Even where there is a well conducted RCT demonstrating mortality benefit, there may be concern over implementation due to uncertain external validity. Thus while the study by Hebert (4) demonstrated improved outcomes for patients in whom a restrictive blood transfusion policy was applied, the relevance to current practice in Scotland is uncertain. The negative impact of allogenic blood when given to ICU patients may be due to immunomodulation, associated with the white cell component. As blood in the U.K. is now leukodepleted there may be no such risk associated with its use. There are however very good reasons for limiting use of blood and consequently it is not surprising that a recent audit of transfusion practice in 10 of our ICUs demonstrated that a restrictive policy is being applied, and only moderated in those patients presenting with cardiac disease.

For anaesthetists delivering care to "high risk" surgical patients it is important that they are aware of relevant studies in critical care. The benefits of "goal directed therapy", as described by Shoemaker, are uncertain when applied to intensive care patients in established organ system failure. However there appears to be consistent benefit when it is applied to "high risk" surgical patients; high risk equating to an expected mortality of greater than 20% (5). One reason why this approach has not been taken up by the majority of anaesthetists, is that it requires monitoring with a pulmonary artery catheter. A recent study of "goal directed therapy" in early sepsis demonstrated a considerable reduction in mortality. This was a pragmatic study which utilised the oxygen saturation in central venous blood as a surrogate for adequate oxygen delivery. It would be interesting to investigate the benefits of this algorythm when applied to high risk surgical patients, particularly those presenting for emergency surgery with intra-abdominal sepsis. In a similar manner anaesthetists working outwith the general ICU, should consider the possibility of implementing "tight gly-

caemic control" as described by van den Berghe (6). It is likely that this approach will be applied, at least in part, by the majority of intensive care units. However many of the patients entered into this study would, in the U.K., be found in an high dependency unit or a cardiac intensive care unit.

Even where clinicians are aware of best evidence, they may fail to adequately apply this, due to a failure to translate the evidence into a local guideline which addresses the detail of the package of care given in the treatment arm. Thus while the benefit of low tidal volume ventilation in ARDS is generally well recognized, the algorithm describing the ventilatory settings in the definitive study (7) is not (personal observation). A prospective audit in Scottish ICUs found a significantly higher mortality in ARDS than that found in the control group of the ARDSnet study. While this is probably due to case selection for the RCT, it does suggest that this is an area in which care could be improved by attention to detail.

In some cases best evidence may not be applied because it requires a more complex change in practice. This remains the case for most of us in relation selective decontamination of the digestive tract, which has been found in a recent Cochrane review to significantly reduce both ICU acquired infection and mortality (8).

It is inevitable that there will be an ever increasing evidence base for critical care. In the case of expensive drugs it will present financial challenges. However, in other areas, the challenge will be to translate evidence into effective change in practice, and where possible, to audit that process. The informal critical care network in Scotland, which has evolved around the Scottish Intensive Care Society and the National Audit, will be critical to that process.

Key References

1. Connors et al, Journal of the American Medical Association 1996: 276: 889-97.
2. Bernard et al, New England Journal of Medicine 2001; 344: 699-709
3. Annane et al, Journal of the American Medical Association 2002; 288: 862-71
4. Hebert et al, American Journal of Respiratory and Critical Care Medicine 1997; 155: 1618–1623
5. Kern and Shoemaker, Critical Care Medicine 2002; 301: 686-1692
6. van den Berghe et al New England journal of medicine 2001; 345: 1359-67
7. The Acute Respiratory Distress Syndrome Network 2000; 342: 1301-8
8. Liberati et al, Cochrane Library 2003 Issue 4

Trainees' Prize 2004

(Sponsored by Datex-Ohmeda)

Up to five trainees will be invited to give a 10 minute presentation at the annual Spring Meeting at Peebles.

The author of the best paper will receive a prize of £250 (and will get to go to Peebles at the expense of the Society in 2005!) There will also be prizes for the runners-up.

Entries by the end of February please. Details from Secretary, Alistair Michie

Peebles 2003

It's Friday, it's half way through April, and it's time to go crackers, Mac! Yes, it was the usual scene this year at Peebles when the Society welcomed its members and guests to the customary annual bash. The new format of the meeting continues to attract many who attend just the Saturday education meeting and AGM. We hope a few will be tempted to stay next year by the tales of bacchanalian modesty or dance-floor dexterity which, despite our best efforts, continue to leak out! The Society lays on a lot of entertainment for kids and partners and has free childcare arranged to allow parents to let their hair down!

Our thanks go to Abbott for their sponsorship of the Friday afternoon's sporting events. The fishing competition produced several very large fish, all of which unfortunately got away! Leslie Baird and Anne Gray won the golf with runners up Farquhar Hamilton and Norma Mackenzie. Your editor was a distant last! Many of these events and some which were even interesting were told and retold over late night toast and cocoa at the Friday evening dinner and ceilidh.

The Saturday education session got off to a fine start with an update on paediatric anaesthesia and intensive care by Neil Morton aptly titled "Wean's Wo rld". This was followed by the registrars' prize competition, which featured five excellent presentations. At the AGM Peter Wallace supervised proceedings in the last of his year's presidential tasks before duly passing the presidential chain to Tony Wildsmith. There were short reports from the political committees in Scottish anaesthesia followed by the election of the new office bearers, Drs Michie, Chestnut and Lawrie and other council members, Brian Stickle and Fergus Millar. The Society receives from time to time requests for financial support for Anaesthetists wishing to travel abroad to work or teach in developing countries and we were pleased to award a grant to Dr Kate Janossy to go to Tanzania and also to agree a gift to the World Federation of Societies of Anaesthesiologists (**WFSA**). After lunch, Tony delivered his Presidential Address and was followed by Professor Peter Hutton speaking as our guest lecturer on the role of the Royal College and our responses to the problems of manpower shortages and increasing demand.

And so to the Annual Dinner, where the members, guests and our colleagues from the Trade enjoyed fine food, fine wines and fine music well into the night. Some of the best entertainment of the weekend, however, was to be had observing the faces at breakfast on Sunday morning! Don't miss out in 2004 – get your name in the Leave Book now! (Friday 23rd to Sunday 25th April)

SL

Peebles Sport

Hannah Lawrie wins the junior archery....

Too much time to practice methinks?

.....and Jennifer Allison
the senior archery!

Nearest the pin

Anne Gray – Ladies Champion!...

...and runner-up, Norma Mackenzie

How the Booby was won!

Always there or thereabouts...

More Peebles Pics

Nice puddings!

In the blue corner.....

Tae kwon do proved especially popular with the ladies!

Wean's world

Neil S Morton

(This is an expanded version of the lecture delivered at the meeting)

Could I first thank the Scottish Society of Anaesthetists for their kind invitation to give this talk. In the spirit of the title of the talk and in deference to Garth and Wayne from the other "Wayne's World" I hereby declare "I am not worthy" of this honour!!

I shall be talking about "Weans" however who are sometimes perfect little darlings like this angelic baby or more often, in Glasgow, like the one in the Bud Neill cartoon !

It's been scary for me to think back to the start of my interest in paediatric anaesthesia some *20 years* ago! All I can say is time flies when you're enjoying yourself. And there is no doubt that paediatric anaesthesia is fun and fantastically rewarding, but some of the things we have to deal with nowadays can be poignant, tragic, infuriating and just plain "weird". Recently, I went to the cardiac ward to do my pre-anaesthetic assessment visit. I went into a side room to be confronted by three *identical* toddlers grinning at me from between the bars of their single cot! Which one was the patient? Even the parents couldn't tell me! A lot of triple checking of name bands, hospital numbers, case notes, birth marks etc. soon gave the answer! In my first year as a Consultant I had one memorable week of seven lists in general surgery, cardiology, dental and cardiac theatres in which no child had a heart with two ventricles! The basic tenet of paediatric cardiac anaesthesia that "the blue ones

go pink and the pink ones go blue" was certainly brought home to me that week!! (Trainees please note – this is a joke!)

The "wean's world" I've been involved with and interested in encompasses not only paediatric anaesthesia but also paediatric sedation, intensive care and pain management. As a paediatric specialist, it is important to keep a broader view of the political, ethical and legal framework within which we practice and to try to act as an advocate for children. It's amazing how paediatric patients are still oft forgot in health care plans and we often have to hoist the flag for the poor little children or wave the shroud! I just want to highlight a few aspects of the changing framework of paediatric practice first and this will lead me into developments in paediatric intensive care, paediatric anaesthesia, paediatric sedation and paediatric pain management.

Paediatric pharmacology

It's sobering to realise that 70% of medicines used in children do not have a product licence for that age group. I have recently been involved with a Working Group of The Royal College of Paediatries and Child Health to study this issue along with the Department of Health, ABPI and MRC. In America, a certain ex-President (who was well known for his "extensions") passed a bill allowing companies who researched their product properly in children a six month *patent* extension. This can be worth vast sums of money (hundreds of millions of dollars in some cases). In the five years since the Clinton bill, 200 trials have been completed and 40 new product licences issued in paediatrics. A budget of 250 million dollars per annum has been allocated by the US Government to research *existing* medicines in children over the next 5 years! This is in addition to the patent extension for new medicines. Europe and the UK have been very slow off the mark in this field but a similar approach is being discussed. One area where the UK could really improve on the data from the US is in longitudinal studies of children receiving medicines as, believe it or not, our medical records here are much more comprehensive and traceable! Remember that a beneficial or adverse effect of a medicine can have life-long consequences for a child and also chronic medication

"It's his teeth, aye. Awfy crabbit. Like a bear wi' nae fags."

can impede growth and development.

Child health services

The recent publication of the National Service Framework for Children has again emphasised that services need to be child-centred and focussed on the quality and safety of care and on the quality of the setting and the environment within which care is provided. This echoes many previous guidelines. Most regions are working towards an integrated and combined child health service with strong working links between primary, secondary and tertiary levels of care and amongst the disciplines of health care, social services, education and child protection. As paediatric specialists we encounter the need for better integration almost every day and I could quote glaring problems in the care of children with non-accidental injury, chronic pain or those who need home ventilatory support.

Another important aspect of child health services which affects us all is the tension between local provision and centralisation. I hope there is now a more supportive relationship in Scotland between the specialist paediatric centres and local hospitals.

We're certainly keen to foster a variety of outreach and in-reach arrangements in the form of resuscitation training, refresher courses, core topics days, hands-on-weeks and use of telemedicine and simulator training. A number of managed clinical networks are being set up throughout Scotland. Recently, joint appointments between specialist and non-specialist centres have helped foster links in paediatric surgery, cardiology, renal medicine and respiratory medicine. The dearth of adult surgeons taking up paediatric training will undoubtedly drive future centralisation of services and/or joint appointments. We have found that the refresher weeks for Consultants at Yorkhill have been incredibly popular and have been extremely well organised by Pauline Cullen and Pamela Cupples. Jane Peutrell and I have also recently co-edited a textbook entitled *Paediatric anaesthesia and critical care in the district hospital* to bring together in one place the multitude of recommendations and guidelines and examples of good practice in this field. The Association of Paediatric Anaesthetists is keen to foster this co-operative approach and has recently opened up its membership to all consultants.

Paediatric intensive care

The Scottish Paediatric Intensive Care Audit (SPICA) in 1997 revealed that of the 1000 critically ill children studied, many were being cared for in units out-with the two main Paediatric Intensive Care Units in Glasgow and Edinburgh and this constituted occasional practice. The Scottish Health Minister instructed that critical care for Scotland's one million children should be provided in two designated paediatric intensive care units with each unit running a retrieval service. National funding of the retrieval teams was agreed which in effect funds 4 PICU beds, cardiac surgery was centralised in Glasgow supported by 6 PICU beds and regional funding of 12 beds has been agreed for the next two years pending review of paediatric neurosurgery and burns care. In addition there are two nominal PICU beds in Glasgow at the Southern General Hospital for paediatric neurosurgery. The retrieval system has been refined and developed with employment of medical and nursing staff, a streamlined contact system, improved Consultant-to-Consultant dialogue and a mutual backup system when one team or unit is busy. The number of transports has risen to around 250 per year.

The main recent developments in paediatric intensive care in Glasgow have been in the care of the child with congenital heart disease, new technologies such as ECMO and High Frequency Oscillation, new therapies for pulmonary hypertension such as nitric oxide and the adjunctive use of surfactants and perflurocarbons in certain cases of respiratory failure. Pulmonary hypertension and its management features in the care of a significant number of our patients and we have been using nitric oxide for almost 10 years via a "home made" delivery system supplemented by the NOXBOX, a monitor for NO and NO2. Recently we have been compelled to change to the INO delivery system as supplies of NO cylinders from Linde have been withdrawn. This is a very nice integrated delivery and monitoring system and works a bit like the fuel injection system in your car. However, the costs are some 10-fold higher. For us this means our annual hospital bill for NO has gone from £36,000 to £360,000!! This huge hike in price has prompted us to seriously look at alternatives such as sildenafil ("Viagra"), arginine, and prostacyclin. All these work well and are a lot cheaper. In fact we have a child right now receiving all three! It can lead to hilarious conversations on the phone with pharmacy....."Is Dr Morton's Viagra ready yet. He needs it before 5 o'clock....."

The next main development for us in Glasgow is the development of a new integrated PICU and HDU. This will be a 30 bedded facility and is long overdue! I was promised a new PICU when I started as a Consultant at Yorkhill in 1989! The capital and revenue costs have been budgeted for and we hope to be open by October 2004. We've been very lucky that the Evening Times in Glasgow has set up an appeal to raise £1 million pounds- the "Magic Million Appeal". The face (and even better the rear) of the campaign is Carol Smillie. Carol does a lot of charitable work behind the scenes and has done a huge amount for Yorkhill over the years. We hope the million will allow us to install a state of the art clinical information computer system and improve facilities for parents.

Paediatric neurosurgery

A thorny problem I have recently become involved with is in discussions about provision for paediatric neurosurgery, neuroanaesthesia, intensive care and imaging. The national working group report sits with the Scottish Executive and recommends continuing emergency care as at present in 5 centres but moving to 2 and then 1 centre for elective cases over a 5 year period. There are particular difficulties in the West of Scotland with split site provision. An interim arrangement of joint working is being explored but I favour ultimately housing the elective service in either Glasgow or Edinburgh's Sick Children's Hospitals. Our neurosurgical colleagues in Glasgow remain to be convinced but they may be when the Minister decides it should go to Edinburgh!

Paediatric anaesthesia

Life-changing events in paediatric anaesthesia which I have seen in my professional span so far have been the introduction of topical local anaesthetic creams and gels (EMLA, Ametop), the Laryngeal Mask Airway, Sevoflurane for induction and maintenance of anaesthesia, desflurane for maintenance of anaesthesia in neonates, propofol for induction of anaesthesia, TCI propofol for children, and widespread adoption of local and regional anaesthetic techniques. Recently additives to caudal blocks have become very popular and have considerably simplified postoperative care.

Clonidine doubles the duration of a single shot caudal while ketamine *quadruples* the duration of analgesia. S-ketamine is virtually devoid of adverse effects and is gaining in popularity for inpatient and day case caudals. The safety of local anaesthetic techniques in children has taken a further step forward with the introduction of levobupivacaine and ropivacaine and continuous epidurals, paravertebral infusions and plexus blocks are now routinely performed in even the tiniest of babies. In neonates it is extremely easy and safe to thread a caudal catheter up to the desired lumbar or thoracic level and this circumvents many of the technical difficulties of lumbar and thoracic approaches in these tiny patients, some of whom weigh less than 1kg.

Dental anaesthesia and sedation

This is another thorny problem particularly in the West of Scotland. The volume of work is enormous- some 6000 cases per year. Yet, there is no agreed care pathway, referral system nor accurate pre-assessment screening. A recent audit revealed that primary care dentists underestimate the extent of caries in children by some 60%. Prevention of caries is poor and aggravated by the lack of water fluoridation. There has been virtually no training in paediatric sedation in the West of Scotland and thus GA is seen as the easier pathway of care. To comply with the modern GDC guidelines, the service is being redesigned to have a common referral pathway for all children using common documentation, accurate dental assessment including radiographs for all, accurate medical assessment and more detailed discussion of the risks and benefits of local anaesthesia, sedation and general anaesthesia. GA provision will be centralised at the Glasgow Dental Hospital except for the young child and those with medical co-morbidity who are currently managed at Yorkhill. Within 2 years the service will be centralised in a new custom built facility at Yorkhill.

Sedation for procedures in children (SIGN Guideline 58 www.sign.ac.uk)

Dental sedation was one of the procedures we considered in the working group I chaired for SIGN on paediatric sedation. This was published in 2002 as a fully referenced guideline and as a quick reference guide with supporting checklists and moni-

toring templates. As with adult sedation, there have been loads of guidelines over the years but the problem is in getting them implemented. The first step is to find out, in a systematic way, what sedation activities are actually going on in your hospital, particularly in the deep and dark recesses! We did this by conducting a survey involving all Consultants in our hospital conducted by myself and an elective medical student. We then personally interviewed the lead consultant in all units where sedation was carried out. As part of this, we discussed the SIGN guideline and the impact it would have on practice in their unit. This helped us identify problem areas (eg. A&E, joint injections, burns dressings, renal biopsies) but also highlighted major shortcomings in practice which led to rapid changes to solve these. Thus problems in radiology, endoscopy and oncology were rapidly resolved. Extension of the role of the pain team to cover some painful procedures and an education programme for staff undertaking these procedures was conducted. Thus, a new child-friendly Entonox system was introduced for A&E, for chest drain removal and for joint injections which has proved to be exceptionally successful. In turn we realised there was very little information for families and children about procedural sedation and this has led me to liaise with colleagues at the RCA and AAGBI who have developed information for general anaesthesia www.youranaesthesia.info to adapt the templates for sedation. We are also working on pictorial "storyboards" for use in A&E and for younger children.

As recommended in the recent Academy of Royal Colleges document on sedation, we have formed a multidisciplinary group to implement the SIGN guidelines and to audit sedation practices in the hospital.

Paediatric pain management

There have been tremendous developments in the management of paediatric pain in the last 15 years. In Glasgow, we were very fortunate in having Douglas Arthur and Roddie McNicol promoting regional anaesthesia techniques and multimodal analgesia since the early 1970's and this is now accepted as the standard of care world-wide. My modest contribution was perhaps to build on this to develop techniques for continuing pain control using local anaesthetics, opioids and NSAIDs. Patient-controlled analgesia for children was developed at Yorkhill and took a major step forward with Eddie Doyle's series of research projects to define the optimal PCA regimen for children from age 5 years. Pain assessment techniques are now available for all age groups and the RCN has published a standards document to ensure this becomes part of the vital signs observations for every child. We teach the vital importance of linking assessment to intervention and this is best coordinated by pain teams. We were fortunate to establish the first paediatric pain nurse specialist post in Scotland (the second in the UK) and the first Nurse Consultant post in the UK. We now have the largest acute pain service for children in the UK and the largest paediatric pain management programme encompassing acute, chronic and palliative care modalities. A recent approach from the Children's Hospice Association Scotland (CHAS) to fund 2 Consultant sessions per week has been received to assist with care of children at the new hospice in Balloch is a most welcome development.

So I hope I have given you a flavour of the range of paediatric practice and some pointers to future developments. This young star patient has recently got home for the first time to celebrate her first birthday. You'll notice there are no candles alight on the birthday cake- this is because she is still on 2l/min oxygen!! The investment in this child has been enormous but she is still growing and adapting with her whole life ahead. The feedback from the families (and the kids) is what keeps us going and makes it all worthwhile.

The New Start

A bedtime story suitable for pre- and post-fellowship trainees

by Steven Lawrie

Hermione woke with a strange feeling. The letter on the mat bore her name in an institutional typeface which had nonetheless been rendered colourful by the seemingly magical effects of rainwater on the cheap hospital ink. She read the letter: "We are pleased to inform you that you have gained a place at Hogwash School of Anaesthesia, Critical Care and Pain Management (formerly Witchcraft and Wizardry). Please find enclosed a list of necessary items for your training."

Excited, Hermione took the list to amazin'.com – but they had never heard of "Principles of Potions for Anaesthetists" by Calveus and Williamus or "A Beginners Guide to Surgeons and Midwives" as recommended by the Care of Magical Creatures professor. Almost in tears she noticed an odd little man in strangely outmoded clothes – "Hogwash student is it?" he asked. She nodded. "Are you an anaesthetist?" He said nothing but pointed at a small purple door, which she hadn't noticed before. "You want to try Di & Ali's," he said. "It's all in there." Di & Ali's turned out to be a large department store and sure enough before long she had everything on the list. It was then that she began to notice the other shoppers. There was a group of older trainees gathered enthusiastically around a large display. She could not see what it was but caught the odd fragment of the excited babble, "Zero to sixty in....., Wicked oversteer in the wet..." Above the display ran a banner: "Glen Henderson – Executive Broomsticks – **B**room-sticks **M**ade **W**icked, Mercurials, Audi...". She wondered how her Nova would look in the Hogwash broom park.

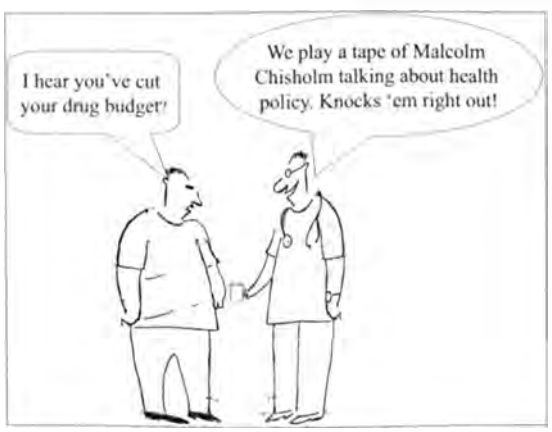
Neither her Mum nor her Dad were anaesthetists but, reluctantly, they were supportive – "I did think you might want to be a proper doctor but if you're sure it's what you want...". Term started on the 6th of August. She crossed the broom park and entered the modern yet curiously already crumbling building. She asked where she should go at the welcome desk but was instead directed to the Anaesthetics Dept. She wandered along corridors with increasingly flaking paint turning left and right, going up and down stairs. "Not exactly handy is it?" she thought as she found herself standing in a rather cramped room. This was the Sniffunder's common room. There were two other new starts. "Hi, I'm Harry Potter," said a young man with round glasses and a curious lightning-bolt shaped scar on his forehead. Hermione stammered, "D..D..Don't I know you from somewhere? How did you get that scar?" she asked. "Fell off my bike when I was ten," he replied. "Oh," she said. "And I'm Ron Weasley," said Ron Weasley. "No one can ever remember my name, I come from a long line of anaesthetists."

One month later in the Sniffunder common room the three buckle down to some studying.
"I say, Harry," said Ron, "That was mean of Professor Old-Fogey to make you hold a mask on like that. Was it really for the whole twenty minutes? I don't know how you managed it."
"What a ******d," said Hermione. Her nose was, as usual, buried in a book. This time it was 'How to Survive as a New Start Anaesthetist.' "It says here that if your consultant makes you hold a mask on, you should let the patient get too light, so that they cough a bit, the consultant will panic and put a tube down for you. Might be worth a try, Harry."

"Cool." said Harry.

At that moment a rather tired looking owl swooped into the room and dropped three pay packets... "Whoopee!" said Ron – "We're still non-compliant, right? What do you think Gaultier or Armani?"
"Do you think Jimmy Choo does theatre clogs?" mused Hermione.
"What kind of broomstick would give me the best chance of pulling that Cho Chang in ITU? BMW mini or Audi Twig-Top?"
Hermione's eyes rolled up, "Really Harry you'll need to read the odd book sometime you know. It's not all down to 'wand work.'"

Ten months later...
Hermione was in the Sniffunder's Common Room, reading the British Journal of Alchemy. Ron came in. She looked up, "Weasley, isn't it? Have you been at the MAT or something? I haven't seen you for a while.
"No, no. I guess it's just this partial shift rota we're on now."
"Yes it's a bummer. Just our luck, no sooner do we get used to the Dolce Vita than bang, we're 1A compliant. What're you still here for anyway?"
"I'm waiting for the Wizarding Sickness Society rep. I'm going to get my pension sorted out. You should too. It only makes sense you know."
Hermione was looking at him with renewed interest when .....Kerrrash! A blood spattered and somewhat bedraggled Harry staggered in and flopped into a chair.
"Been out with Cho again?" wasped Hermione.
"I've just done a list with Mr. Mort," said Harry.
"What old Walter? I thought he'd been suspended by the GWC," said Ron.
"Well, he's back. Make no mistake. If it hadn't been for those defence against the damn surgeons tutorials I'd have been a goner."
"What spells did you use Harry?" asked Hermione.
"All of them - blood warmers, ephedrine, phenylephrine, ketamine, tazocin...There was just a flash of steel then all Hell broke loose. Nurses blasted off their feet, just the smouldering clogs left. Still, it's hard to keep an anaesthetic assistant within earshot at the best of times anyway...His SHO's were quaking in their wellies and wishing they'd worn a plastic apron. There was blood everywhere. Eventually old Prof. Humblebore came along and rescued me. He got something from the back of the cupboard dusted it off, one squirt and the patient was being packed off to Mme Pommefrites in ITU all nice and stable. Then he took old Walter Mort aside and talked about gardening or something like that.
"Lucky for the patient Humblebore was on," Ron gushed.
"Yep. I really thought he'd had his chips. Anyway, I'm bushed. Anyone for a butterbeer?



Trainees' Prize
(Sponsored by Datex-Ohmeda)

Airway Management Skills – An Audit of New-Start Anaesthetic SHOs

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Introduction

Concern has been expressed recently about the deterioration in airway management skills of trainee anaesthetists [1,2]. Reasons for this include fewer cases in total and the domination of anaesthetic practice by the Laryngeal Mask Airway (with the associated reduction in facemask cases and perhaps most importantly, endotracheal intubations). Previously we could rely on the volume of clinical experience to ensure that our trainees rapidly became experts in airway management. This is no longer the case. Because of these concerns we decided to audit training in the West of Scotland.

Methods

This prospective audit looks at airway management in new-start anaesthetic trainees in their first 3 months. College tutors in the West of Scotland were asked to identify anaesthetic trainees starting in their departments from February to October 2002. Trainees with no previous anaesthetic experience were sent an "Airway Management" logbook to document the type of airway technique used for each general anaesthetic case during their first 3 months in theatre. We determined how many cases were managed by facemask alone; with the laryngeal mask airway (LMA™; Intavent Orthofix, Maidenhead, UK); with endotracheal intubation and how successful the trainee was in performing these skills. Intubations were recorded sequentially in the logbook. Laryngoscopy grades achieved by the supervising anaesthetist were recorded for failed intubations.

Results

Twenty-three new-start trainees were identified at 10 hospitals in the West of Scotland over the 9 month study period. Nineteen logbooks (83%) were successfully completed.

All trainees except one had SHO experience in other specialties including Medicine, A&E and ITU. Seventeen trainees had received airway management training on manikins, 12 of these on ALS/ATLS courses. Sixteen trainees had previous intubation experience on patients either at cardiac arrests or as medical students.

Facemask cases were included if this was the sole method of airway management for the duration of the case. The total number of facemask only cases was 230 (7.5%), a mean of 12 facemask cases per trainee in 3 months (range 3-32).

The LMA was the most common type of airway technique used. 1608 patients (53%) had a LMA inserted, a mean of 84 per trainee (range 34-136). The success rate for insertion was 94%.

A total of 1201 patients (39.5%) were intubated. The mean number of intubations attempted by each trainee was 63 (range 18-120). Of the attempted intubations 108 (9%) were unsuccessful. Twenty-four of the failed intubations were classified by the senior anaesthetist present as grade III or IV laryngoscopy as described by Cormack and Lehane [3]. At the end of their first 3 months in theatre, 15 trainees had a 90% or better success rate for intubation. One trainee had a 62% success rate having attempted 66 intubations. This trainee expressed concern at this low figure and requested further training before going onto the on-call rota. Nineteen oesophageal intubations were identified. One oesophageal intubation was not detected by the trainee.

Supervision for new-start trainees joining the on-call rota consisted of a senior trainee or consultant present in the anaesthetic room or theatre suite during the induction of anaesthesia. Following induction the level of supervision depended on the complexity of the case. In the 10 hospitals studied the senior anaesthetist remained in the hospital until the end of the case.

Discussion

The new Royal College of Anaesthetists (RCA) training document [4] emphasises the importance of adequate training in airway management in the formative months. This study confirms the concern that SHOs at this important stage in their training may not be getting the experience necessary to become competent in these basic skills.

LMA insertion is an important and relatively easy skill to acquire [5]. However, we feel that the fundamental skills of airway maintenance by facemask and endotracheal intubation are being compromised by overuse of the LMA. Trainees learn at different rates and so it is difficult to recommend a target number of facemask cases and intubations necessary to acquire competence. In teaching airway management, emphasis is also required in the preoperative assessment of the airway, correct patient positioning, adequate pre-oxygenation, recognition of oesophageal intubation and knowledge of the failed intubation drill. We recommend the need for a structured approach to airway management training.

We would like to thank Dr A D MacLeod, the College tutors and SHOs who helped us with this audit.

References

1. Mason RA. Education and training in airway management. *British Journal of Anaesthesia* 1998; 81: 305-307.

2. Cooper GM. Is the art of airway management being lost? *RCA Bulletin* 2002; 14: 662-663.

3. Cormack RS, Lehane J. Difficult tracheal intubation in obstetrics. *Anaesthesia* 1984; 39: 1105-11.

4. Royal College of Anaesthetists. *The CCST in Anaesthesia II. Competency Based Senior House Officer Training and Assessment. A Manual for Trainees and Trainers*. London: Royal College of Anaesthetists, 2000.

5. Alexander R, Hodgson P, Lomax D, Bullen C. A comparison of the laryngeal mask airway and guedel airway, bag and facemask for manual ventilation following formal training. *Anaesthesia* 1993; 48: 231-4.

Mr. Bob Gray from Datex-Ohmeda presents the Trainees' Prize

Other papers

Runner-up, Dr Paul Fettes, Dundee.
With : CS.Moore, JB.Whiteside, GA.McLeod, JAW.Wildsmith

Comparison of continuous and intermittent administration of extradural ropivacaine with fentanyl for analgesia during labour.

Intermittent injections of epidural local anaesthetic may provide more reliable analgesia than that obtained by continuous infusion[1], but the lack of suitable pumps implied that this method could not be used widely. The development of devices which can deliver bolus injections at regular intervals has now made this method of administration practicable. With local ethics committee approval, a study was performed using 40 primigravid patients who had requested epidural analgesia in early labour. Each patient gave informed consent to a study comparing regular intermittent bolus administration with continuous infusion. A three-side hole catheter was advanced 3 to 5 cm in a cephalad direction from a 16G Tuohy needle inserted at the second or third lumbar interspace. After a 5 ml test dose, a further 10-15 ml of plain ropivacaine 0.2% was titrated to produce analgesia and bilateral sensory block to T10, the time at which this level was achieved being defined as time 'zero' for the study. Patients were then randomly assigned to receive either an infusion of ropivacaine 2 $mg.ml^{-1}$ plus fentanyl 2 $\mu g.ml^{-1}$ at 10 $ml.hr^{-1}$ starting immediately, or hourly boluses of 10 ml of the same solution injected at $2ml.min^{-1}$, but starting 30 min later. Thus until rescue medication was administered, both groups received the same amount of drug hourly. Both regimens were delivered using a Medfusion 2001 pump (Medex Inc., Duluth, Georgia, USA).

Analgesia was recorded (by an assessor 'blind' to the mode of administration) using a Verbal Rating Score (VRS; 0=no pain, unaware of contraction; 1=aware but not painful; 2=painful), and a Visual Analogue Scale (VAS; 0-100 mm) at 5 min intervals until time zero, and then at 30 min intervals. If analgesia was deemed inadequate at any time, additional 10 ml boluses of the study mixture were given (maximum number 2, minimum interval 15 min). Sensory block was measured bilaterally using sensation to pinprick with a short bevelled 27swg dental needle. Motor block was assessed on each leg using both a modified Bromage score (0-3) and a straight-leg raising scale (5-0). Maternal pulse rate and blood pressure were recorded regularly and foetal heart rate was monitored continuously (cardiotocograph). Hypotension (^{3}30% decrease in systolic blood pressure) was treated with 6mg of ephedrine in one patient in the continuous infusion group (after an additional bolus). Fisher's exact test and Kaplan Meier survival analysis were used to analyse non-parametric data, and Student's *t*-test used for parametric data.

There were no differences between the two groups in demographics, duration of labour, mode of delivery or neonatal outcome; nor were there differences in sensory or motor block, or in the occurrence of unilateral block. 12 (60%) patients in the infusion group required one or more additional boluses compared to 4 (20%) patients in the bolus group (95% CI: 9.6 to 61.7%, $P<0.05$). Thus the bolus group had a lower total drug dose than the infusion group ($P=0.02$).

The intermittent bolus group required less rescue medication, and a lower total drug dose to maintain similar pain scores, sensory and motor block compared to the continuous infusion group. These results are in accordance with those of a similar study performed over a 24-hour period in patients undergoing lower abdominal surgery[2]. In both studies a reduction in interventions, and thus anaesthetic workload, was achieved and the quality of analgesia was maintained. We believe that regular intermittent bolus administration of epidural local anaesthetic mixture offers advantages over continuous infusion, and that the approach may have wider application.

Acknowledgement: The authors would like to thank AstraZeneca Pharmaceuticals for financial assistance with this study.

References

1 Scott DB, Schweitzer S, Thorn J. Epidural block in postoperative pain relief. *Regional* Anesthesia 1982; **7:** 135-139

2 Duncan LA, Fried MJ, Lee A, Wildsmith JAW. Comparison of continuous and intermittent administration of extradural bupivacaine for analgesia after lower abdominal surgery. *British Journal of Anaesthesia* 1998; **80:** 7-10

A study of the accuracy of visual estimation of weight and height of critically ill patients in an intensive care unit.

Elizabeth Steel,
R. Bloomfield, P. Keston*, D. Noble, ICU and Dept. of Radiology* Aberdeen Royal Infirmary.

Introduction

There is considerable variation in height and weight amongst the human species (figure 1) and numerous calculations routinely used in intensive care medicine require know edge of patients' height and body weight [1-5]. However actual measurement of height and weight on ICU is often not accomplished [1]. Patients are frequently admitted as emergencies, are not ambulant and may be unable to communicate and these factors in combination make accurate estimation or measurements difficult. This may lead to inaccuracies in:

- Drug doses, dosages and infusion rates.
- Enteral nutrition prescriptions
- Nomograms for estimation of ideal body weight, tidal volume, creatinine clearance
- Calculation of body mass index (BMI) for nutritional assessment
- Calculation of body surface area (BSA) to allow indexing of physiological variables

such as cardiac output and its derivatives as well as oxygen delivery and consumption.

Thus accurate estimation or measurement of height and weight of critically ill patients may be fundamental to optimum clinical care.

Materials and methods

After an initial pilot study on ambulant surgical patients we sought and obtained local ethics committee approval. Written informed consent / assent was obtained from either patients themselves or from their relatives. The study was conducted in a 16 bed mixed medical and surgical intensive care unit on two separate days, three weeks apart. Fourteen patients were estimated by the same 20 assessors with a total of 280 observations each for height and weight. The assessors comprised three consultants, four senior trainees, seven junior trainees and six nurses.

The weight and height of participating patients was not measured before the study. Each assessor was asked to observe each subject for as long as they needed to make an estimate of weight and height. They were then asked to record this on a sheet in the units of their choice. Once all the assessors had completed their estimates the patients were weighed and measured. Patients were weighed, by two nursing staff with lifting apparatus which also has a weighing facility. The Arjo Maximove™ can weigh patients of up to 190kg to a nominal accuracy of 0.1kg. Accuracy was verified using calibration metal weights prior to use. Patients were lifted in a rigid stretcher completely off the bed surface. The patients' height was marked on the rigid portion of the hoist and then measured with a steel measuring tape.

Results

The characteristics of the assessors and the patients are listed (table)

Estimates of height showed smaller percentage errors than for weight. The majority of these estimates were within 10% of the measured values. However estimates for weight were much less accurate with errors of $\geq$ 10% evident in 47% of observations and $\geq$ 20% in 19% of observations. The magnitude of error of different groups, (junior doctors vs senior doctors vs nursing staff) did not vary significantly in estimation of weight.

Discussion

This study has shown that some estimates, particularly of weight differed substantially from measured values. Many current clinical practices are based on knowledge of height or weight or both. This may have implications both for clinical practice and publication of research data.

	Patients	Observers
Number	14	90
Sex(M/F)	8/6	10/10
	Mean(SD); Range	
Age (Yrs)	50(15.7); 21-76	32(5.8); 25-47
Height (cm)	170(8.7); 151-184	172(10.2); 152-196
Weight (kg)	76.2(18.8); 56-123	75.2(18.7); 45 –119
BMI (kg.m-2)	26.9(8.6); 18-46	25.0(4.7); 19.5- 36
SAPS II score	41(13.2); 18-61	-
SAPS II predicted mortality	32(22); 3-70	-

Underdosing or overdosing of drugs, particularly those with a narrow therapeutic range, may predispose to treatment failure or drug toxicity.

Nutritional requirements, whether based on calculated ideal weight or actual weight, may be wrongly estimated.

With regard to haemodynamic variables such as cardiac index, measurement errors inherent in the technique will be amplified by inaccurate estimates of height and weight. Unreliability of data will decrease associations

and misclassify individuals [6]. Those patients misclassified into the wrong haemodynamic subset may then be denied appropriate treatment or receive inappropriate treatment.

Finally, papers that report drug dosages, infusion rates or indexed haemodynamic or oxygen transport data often do not describe measurement of patients' weight or height [7]. The scientific reliability and validity of such results and conclusions may be open to question.

Conclusions

With the current availability of suitable measuring equipment we believe that best clinical and scientific practice should be based on actual measurements and not on estimates. Scientific investigations that present data which has been adjusted according to height, weight or body surface area should state explicitly how height and weight were measured.

Acknowledgements

We would like to acknowledge help with the pilot study from Professor SD Heys, the statistical advice of Dr Neill Scott, and the help of the volunteer assessors and ICU nursing staff.

References

[1] Leary TS, Milner QJW, Niblett DJ. EurJAnaesth 2000; 17: 698-703. [2]. Coe TR, Halkes M, HoughtonK, Jefferson D. Anaesthesia 1999; 54: 582-8. [3]. CameyDE, MeguidMM. Arch Surg 2002; 137- 42-4. [4]. Cockcroft DW, Gault MH. Nephron 1976; 16: 31-41. [5]. Forrester JS, Diamond G, Chatterjee K, Swan HJC. NEnglJMed 1976; 295: 1356-62, 1404-13. [6]. Fleiss JL. The design and analysis of clinical experiments. 1986 Wiley-Interscience, New York. [7]. Boussat S, Jacques T, Levy B, et al. Intensive Care Med 2002; 28: 712-8.

European bat lyssavirus infection

A rare case of respiratory failure and paralysis admitted to ITU

Sabu James, Dundee

A 56 year old previously fit and well male was admitted to the medical ward with 2 days' history of abdominal pain, vomiting and haematemesis. He was pyrexial, hypoxic and had right sided pulmonary signs. A chest x-ray showed right sided patchy infiltration, which was assumed to be due to aspiration. He later complained of numbness and weakness of his left arm. He was a volunteer who looked after sick and injured bats and had been bitten and scratched by bats several times in the past and had never been immunised. Recently he had been looking after a Daubenton bat, which had bitten him on his left middle finger.

He had a CT-Scan followed by an MRI scan, during his stay in the ward which were non - confirmative. His lumbar puncture showed clear fluid under normal pressure with raised proteins and he was started on high dose immunoglobulins for a variant Gullain-Barre syndrome. In the ward he became violent and hyperactive and needed sedation .He became progressively paralytic and hypoxic and had to be admitted to the intensive care unit urgently.

In the ITU he was sedated and ventilated. He remained pyrexial, deeply comatose and paralysed despite withdrawing all sedation and relaxants. At this time the main differential diagnosis was paralytic rabies following bat bite. Skin samples and salivary samples were sent off for analysis. His ITU stay was complicated by cardiac arrhythmias needing amiodarone and beta-blockers. He also developed diabetes insipidus which responded to desmopressin. EEG studies showed no evidence of conscious cerebral activity and a neurophysiological study ruled out the possibility of Guillain-Barre syndrome. Anti-cardiolipin anti body titres came back as raised and the possibility of a neural Systemic Lupus Erythematosis was considered. Hence he was started on high dose steroids and cyclophosphamide. Repeat salivary samples and skin biopsy was sent off, the salivary samples were reported as positive. Following this diagnosis and the fatal prognosis, his family wished to withdraw active support. He died the next day with his family around him. The diagnosis of rabies was later confirmed post-mortem.

***Post mastectomy pain syndrome – a follow-up study.**

Louise McEvoy, Aberdeen.

Introduction

PMPS is a chronic neuropathic pain condition occurring after breast surgery which has historically been underdiagnosed and treated.[1] It has been widely described in the last decade with a large variation in incidence (4 – 73%)[6-8] The long-term prognosis has not yet been studied. A literature search looked for evidence of follow-up of PMPS patients – none was found. Using a sub-group of patients previously studied in our region, we planned a follow-up study to add evidence regarding this little known process. We defined PMPS as neuropathic pain described using terms such as burning, pins and needles, stabbing numbness and ache, lasting beyond three months postoperatively. Our questionnaire also asked about lymphoedema which commonly co-exists with PMPS. The aim of the study was to assess the long-term outcome of this condition and use this information to

describe the natural history of PMPS and its impact on quality of life. A group of post mastectomy patients had which had been studied I 1996 was used for the study. Of this group 43% had PMPS which was commoner in younger or overweight.

Methods

A postal questionnaire was sent to 138 surviving patients identified as having PMPS from the first study and who were suitable for inclusion. Results from the questionnaire were collated in an excel file and statistical analysis was carried out using an SPSS program with the assistance of the Public Health Dept. at the University Medical School.

Results

The response ate was 113/138 questionnaires (82%). 59 responders had PMPS (52%). This represents 14% of the 1996 study group. Again, mean age was lower and mean weight greater in those with PMPS. The PMPS patients had significantly poorer social function scores. Comparison of the 1996 and 2002 studies revealed a general improvement in the social functioning scores. There was also a trend to better Magill pain scores but this only reached statistical significance in one variable.

Discussion

Post Mastectomy Pain Syndrome although a generally poorly understood phenomenon, is gaining wider respect in the environment of breast surgery, with more studies published now in the subject than when the first study was undertaken in 1996. It has become apparent over the years that it does indeed cause women in our society a significant amount of morbidity. From our questionnaire survey, it seems that many women are "just getting on with it" and although they have tried many forms of treatments, there seems to be none that is ideal. From our results, 14 of an original sample of 408 identified as having had PMPS following breast surgery from 1990- 1995 were still suffering from symptoms which could be described as PMPS 7-12 years post operatively. Of these women, the risk factors which were previously identified in1996 as being important in the development of PMPS, were also found in our study to be significant in the persistence of the pain. Young age and a high BMI were found to be associated with the occurrence of PMPS from the study in 1996. From our present study, younger women and those with a higher body weight were more at risk of having continuing pain. Both had statistically significant results. Looking at the SF- 36 quality of life questions, there was a tendency towards a better quality of life in the present day "no pain" group compared to the "pain" group. As hoped would be the case, there were overall better scores for quality of life in the "pain" group as compared to the same group of women studied in 1996. In the MPQ, again pain scores were tending downwards although only statistically significant in one of the scoring modalities. In conclusion, it has been shown that Post Mastectomy Pain as an entity can be present up to 12 years post- operatively (14 in our study). It can be seen that although pain and quality of life scoring systems have tended to show a downward trend in severity, it is still a major cause of distress in some women.

REFERENCES [1] Stevens PE, Dibble SL, Miaskowski C. Prevalence, characteristics, and impact of post mastectomy pain syndrome: an investigation of women's experiences. Pain 1995:61:61-68 [2] Wallace MS, Wallace AM, Lee J, Dobke MK. Pain after breast surgery: a survey of 282 women. Pain 1996; 66: 195- 205 [3] Vecht CJ, Van de Brand HJ, Wajer OJM. Post- axillary dissection pain in breast cancer due to a lesion of the intercostobrachial nerve. Pain 1989; 38: 171-176 [4] Wood K. Intercostobrachial Nerve Entrapment Syndrome. Southern Medical Journal^97Q; 71: 662-663 [5] Carpenter JS, Sloan P, Andrykowski MA et at. Risk Factors for Pain After Mastectomy/Lumpectomy. Cancer Practice 1999; 7: 66- 70 [6] Carpenter JS, Andrykowski MA, Sloan et al. Postmastectomy/ Postlumpectomy Pain in Breast Cancer Survivors. J Clin Epidemiol 1998; 51: 1285- 1292 [7] Eija K, Tiina T, Pertti J. Amitriptyline effectively relieves neuropathic pain following treatment of breast cancer. Pain 1995; 64: 293- 302 [8] Gottrup H, Andersen J, Arendt-Nielson L et al. Psychophysical examination in patients with post-mastectomy pain. Pain 2000; 87: 275- 284 [9] Watson CPN, Evans RJ. The postmastectomy pain syndrome and topical capsaisin: a randomised trial. Pain 1992; 51: 375- 379 [10] Fassoulaki A, Sarantopoulos C, Melemeni A. EMLA Reduces Acute and Chronic Pain After Breast Surgery for Cancer. Regional Anaesthesia and Pain Medicine 2000; 25: 350- 355 [11] Smith WCS, Bourne D, Squair et al. A retrospective cohort study of post mastectomy pain syndrome. Pain 1999; 83: 91- 95 [12] GarrattAM, Ruta DA, Abdalla MI et al. SF 36 health survey questionnaire: II. Responsiveness to changes in health status in four common clinical conditions. Quality in Health Care 1994; 3: 186- 192 [13] Melzack R. The McGill Pain Questionnaire: Major Properties and Scoring Methods. Pain 1975; 1: 277- 299 [14] Boureau F, Doubrere JF, Luu M. Study of verbal description in neuropathic pain. Pain 1990; 42: 145-152.

*This last article has been significantly abridged by the editor because of limited space.

Annual Golf Outing

Aberdour, Fife, 11th June 2003

It was a fine day and the 20 who had gathered for the day munched their bacon rolls then gathered expectantly around the first tee. Expecting what? Was it to be an ignominious bounce off the rocky beach before the ball was lost in the sun-spangled waters of the Forth or a mathematically beautiful arc to the green of glory? There were of course enough golfers present to cover both of these options and the full range in between. In particular it was to be a memorable day for three. The organiser, Eddie Wilson from Dundee scored a hole-in-one at the 7th hole (145 yard par 3)! - Thanks for the drink Eddie!

Where's the ball Eddie?

The winner of the morning stableford competition was Rae Webster from Northampton with a score of 37 points narrowly beating Jim Dougall from Glasgow on the better inward nine rule. Third was Alan Morrison also from Glasgow with 36 points. Rae regularly travels up for the golf outing and this time succeeded, becoming the first female winner! I myself had a memorable day going round in a personal best ever 84 – though I'm sure I will have told everyone that in person at some point, I just want to record it again for posterity! Those with good memories will know that I won the booby prize at the Peebles golf outing this year – but Crosshouse was not to lose its grip on such an ac-

Rae Webster

colade and the ever reliable Dr. Michie stepped into the breach and bagged that distinguished prize. In the afternoon round, the nearest the pin test was at that famous 7th hole but Dead-Eye Eddie was unable to repeat his wonderstroke and the prize went to Farquhar Hamilton. I'd like to say that the East vs. West afternoon match-play competition was a keenly fought nail biter. I'd like to say that but the West capitulated shamelessly (4:2).

As the sun set over a fine tea in the club house, John Mackenzie thanked Eddie for his organisation of a most enjoyable day. Paul Wilson "volunteered" to organise next year's outing which will be at Prestwick St. Nicholas on Tuesday 8th June. Details will be on the website.

Alistair chooses his tree carefully then .....Fore!

2004 Golf Outing

Prestwick St. Nicholas Golf Club

Tuesday 8th June

There may be an afternoon on the 7th as well –
details from Paul Wilson at Crosshouse or the website

Report from the Royal College of Anaesthetists Board in Scotland

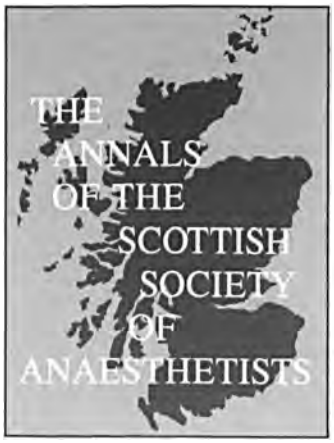
Professor Gavin NC Kenny
Chairman, Royal College of Anaesthetists' Board in Scotland

Scottish anaesthetists have been well served by Professor Tony Wildsmith who has chaired the Royal College of Anaesthetists' Board in Scotland since it was established almost two years ago, and I look forward to attempting to maintain the high standards he has set.

The Board has continued to represent the academic and professional interests of Scottish anaesthetists in a wide variety of areas. In particular, we have been asked to make appropriate responses to the increasing volume of documents which are sent to us for comment. These have ranged from areas such as the major changes outlined in Unfinished Business to improving patient safety in Learning from Experience. Members of the Board have taken considerable time and effort to analyse the various documents and to provide detailed and incisive replies to enable coherent and comprehensive responses to be sent on behalf of Scottish Anaesthesia.

One major event this year has been the publication of the draft Clinical Standards for Anaesthesia. Two meetings were held in Scotland to provide feedback on the draft document and we were gratified by the excellent attendance and enthusiastic audience participation on both occasions. Two pilot hospital visits have also taken place and the overall effect has been to refine quality of the Standards. We hope that their implementation later in the year will help anaesthetists in Scotland to improve further the already high quality of service provided to our patients. This development has been watched with interest by anaesthetists in other parts of the United Kingdom and Scotland may be leading the way in this vitally important area. Members of the Board have developed new courses leading to the FRCA examination and initial assessments by those who have attended have been extremely favourable but places are limited in view of the high level of interaction which they involve. The message is therefore to reserve places early. The Royal College of Anaesthetists' study day was held this year in Aberdeen and, as with last year's event in Perth, a superb programme was provided by the local team. In the coming year, we anticipate considerable activity in areas such as assistance for anaesthetists, implementation of the Foundation programmes and other proposals outlined in Unfinished Business, provision of anaesthetic services in rural areas and the European Working Time Directive with its major implications for anaesthetic manpower.

The Royal College of Anaesthetists Board in Scotland was established to meet the challenges of devolution, and to preserve the interests of all anaesthetists and the patients we treat. Representation on the Board includes members elected by Fellows living in Scotland, Regional Advisors in Anaesthesia, Critical Care and Pain Medicine. Our aim is to ensure that we can represent the interests of our specialty and our patients at the highest level within Scotland. We reply on the support of Scottish anaesthetists to achieve this aim.



What? Where? Who? When? – News from the Regions.....

The Editor thanks all of our correspondents – even though some of them are clearly using this as a thinly veiled excuse to advertise their "situations vacant" and the attractions of working in their area!

Dumfries & Galloway Royal Infirmary and Stranraer ~ *Hugh Brewster*

Nationally the vote on the Consultant Contract may or may not be the herald of changes in hospital medicine, but locally there is a reassuring stability. Ranald Spicer and Hamish Stewart continue to keep Garrick hospital (Stranraer) open 24 hours a day, with intermittent but regular help from Dennis Coyle from Northern Ireland. Less often, one of the Dumfries consultants travels down to cover a night or a list, and due to the excellent local hotels this is a popular task.

In Dumfries there is a gap following the resignation of James Neil, whom we sorely miss. So there you are: if you are coming up to your CCST and want a great job in one of the most beautiful parts of the country come down and see us. Otherwise our consultant complement is as before. There was a brief wobble in the New Year when both David Bennie and John Carruthers decided that after 30+ years of testing orthopaedic surgeons' conversational skills it was time to test their technical abilities. Fortunately Anita Vinjirayer, one of our former SHOs, was happy to return to us as a Locum Staff Grade. Our SHOs have matured well, Majd Al Shamaa, Wael Abdel Rhmann, Laura Dagg, Murali Patri and Emma White are now potent forces, so being consultant-on-call out of hours is going through one of its lighter spells. David Ballingall continues to be a real rock of a Staff Grade and he and John Carruthers get through an immense amount of work. How, I hear you ask, are our SpRs? An excellent question, but sadly Glasgow and the West of Scotland is probably the only school of Anaesthesia in the British Isles that is unwilling to allow its SpRs to work in DGHs at the edge of its Deanery.

Glasgow Royal Infirmary ~ *Michael Basler*

As ever the great monolith that is Glasgow Royal Infirmary continues. The department goes on under the sterling stewardship of Dr Frame, who is currently attempting to reorganise the debts of Rangers FC as a PFI initiative. We await the development of our new "Californian style" ACAD. After it's completion Springburn is to try and twin with Palm Springs. Two new buildings from the "BP petrol station" school of architecture have opened to replace Rottenrow and Canniesburn. Due to an influx of refugees, interpreters have become more commonplace than anaesthetic assistants although it seems that the second stage of labour is the same in everyone's language.

Both surgeons and management still conspire to prove Woody Allen's maxim that "sometimes you brain is your second favourite organ".

We have had some new converts and a few losses to personnel. A fertility boom has also ensued with several additions to the Christmas Party, and although Canniesburn is no more, Mr Magico still remains.

Dr Stuart was unable to convince the trust to fund her sabbatical in the Bahamas and has settled for a baby and Canada instead. Dr Crooks and triplets are well. She is currently applying for an SpR job to fund her childcare. After many years in the department Dr Colquhoun is set to become a Virginian. We always thought he was a Scorpio. Dr Susan Smith is the latest addition to a fairly young consultant body. Not her's of course.

NHS organised chaos continues but to paraphrase Oscar Wilde - "Life (anaesthesia) is too important to be taken too seriously" and that is indeed our alma matter.

Stobhill ~ *Roger Hughes*

Stobhill, as many other smaller hospitals do, continues to bleed services. However the process is slow. Last year I referred to the move of Gyn, ENT and Ophthal-

mology: this still hasn't happened although the party line is that they must move by next June to allow six wards to be demolished in order that the long promised ACAD can be built. However this is still up in the air as only one contractor bid to build the ACAD which is against the rules as there is supposed to be competition. A serious worry is that the prophesied cataclysm caused by further reduction of junior hours next summer may cause a collapse of surgical receiving far sooner than projected but I gather we're not alone there.

Despite all this, Consultant numbers continue to expand. Andy Woods obviously couldn't stand sharing an office with me and has moved to Stirling - I think really to escape the chaos of North Glasgow. He has been replaced by Susan Smith, and Barbara Miles has been appointed as our sixth ICU consultant. She now shares my office and I do her Gartnavel list every sixth Monday in the spirit of N. Glasgow ecumenicalism. Hopefully we will appoint yet another new consultant in November.

We're doing our best for the population figures. Carol Murdoch had a son, Finlay and is now back at the treadmill, David Ure had a son, Joe and our Pain Sister Siobhan is scheduled to deliver twins.

On the more sombre side our much loved former secretary Maureen died of cancer this summer. Our SHO's continue their successes in the primary with Nick Brown and Rishi Khanna having just passed first time. The downside for us is this usually results in their being swallowed up by our big brothers in North Glasgow. Lisa Vincent-Smith blew through the department, tried Anaesthetics but has decided to take up a SpR post in Respiratory Medicine instead – congratulations!

At 56, I've voted for the contract again and am still waiting for the money.

Southern General Hospital – *Joan Prentice.*

The main selling point of the Southern, namely good car parking, continues to be eroded. It is currently estimated that builders here out-number all other staff put together, and we are all learning to work with the soothing background hum of pneumatic drills, sometimes in vibrating operating theatres. Perhaps by next year's bulletin we will have been renamed "the South Side Gynaecology Empire".

The anaesthetic department, however, plods on regardless. Many of our trainees have moved on this year to such exotic destinations as New Zealand, Canada and Dundee. Some intrepid individuals have even crossed the river to the North Glasgow Trust. Congratulations to all those who have moved on to promoted posts. This exodus has lead to an influx of SHOs and SpRs too numerous to name, but welcome nevertheless. On the consultant front, we have welcomed Gregor Imrie, a former south side trainee, to ITU. Commiserations to Gregor on the vast drop in salary entailed by taking up this post!

We are relieved to see Gavin McCallum returned safely from his tour of duty with the RAF reserve in Iraq. Although as a new recruit Gavin spent the war in Cyprus, he had the misfortune to be shot in Iraq during the "peace". Nurses are forming an orderly queue to inspect his war wound! Finally, it seems that the department has been struck by an epidemic of fertility, and congratulations are due to Alan MacFarlane, Kenny McKinlay, Marc Janssens, Daphne Varveris and Judith Wilson on their new arrivals.

Victoria Infirmary, Glasgow ~
Gavin Gordon

Your ageing correspondent, whose by-line as the sceptic, has turned the devout into doubters and seraphim into cynics, may very soon have to dry his quill permanently. Why? Because we have prevailed! Despite ward closures, staff shortages, the New Deal and the transfer of services, the Vicky is still open for business. More than that, natives are said to have seen portents. Strangers from other lands walk the streets and men with theodolytes are working across the road. Could this mean that the promised ACAD will be born in 2007? Will there be other signs? Will a new star appear and should I keep looking at the night sky? Well, dear reader, time will tell. Optimism can be a heady brew and should be taken in small draughts.

Yorkhill – *Crispin Best*

It's been a funny old year, really. Once again the issue of obstetrics and where to put them (all suggestions kept to yourselves, please) has been causing great excitement amongst the great and good. The issue is now open for public consultation, so expect a fudged decision shortly.

Some changes in the department to report. Ross Fairgrieve has joined us, and as well as general anaesthesia is taking part in the provision of the paediatric pain service. This goes from strength to strength, i.e. busier and busier, so Drs Currie and Cupples need all the help they can get. We also have Lesley McKee with us as a locum consultant, and as her husband has just got his consultant post in Stobhill, we hope she will be around for the foreseeable future. No retirements since our last message, although Roddie McNicol has been seen to look out of the window and sigh wistfully from time to time. All ideas as to what he's actually looking at gratefully received.

Our 'new' theatres continue to excite a fair degree of comment. As some of you may know, we have windows on the north side giving a view of the Campsies, weather permitting. Rumour has it that the large tur-

quoise and grey building in the way will be removed shortly, making the outlook even finer. The seventh operating theatre, originally nothing more than a concrete shell, was to have been fitted out and in operation by September. Unfortunately the company chosen to do the work promptly went in to the hands of the receivers - plus ca change, etc. A new company was chosen, and the work should be completed shortly. Where we will then get the staff for this new facility is still open to debate.

The PICU continues to provide its customary excellent service. We are in the middle of converting the old second floor theatre suite and some ward space to provide a new PICU/HDU, which will be a very welcome change for a facility which has operated for years in what is in fact a converted bed store. Andrew Macintyre's transport service is now so well established that we believe he even has a choice of colour for the Day-Glo jackets he wears. We have also been provided with an ambulance car to take the team to sites requesting a service, the most vital piece of equipment provided being a large bag of sweeties for the journey.

Finally, the implications of the new consultant contract, the effect it will have on time and salaries and what it all means when junior doctors' hours are included in the equation continues to be the main topic of coffee room discussion. General feeling is that if more than two consultants are talking together it should count towards SPA time. Any other views out there?

Gartnavel and Western Infirmary, Glasgow – *Colin Runcie*

Little has changed here at Gartnavel. Leyla Sanai retired earlier in the year. Her health, however, has slightly improved and we wish her well in her new life in Glasgow and Nice. Keith Rogers has also retired after decades of sterling service and we wish him well. His departure represents the passing of a gentler age. Graham Hilditch has been appointed from within the department to replace Leyla and Sarah Ramsay has come from Hong Kong - having dealt with the SARS epidemic - to take up an ITU post at the Western. Grant Tong filled Leyla's position in her absence and has now moved on to a Consultant post in Inverclyde. Fiona McIlveney and Fiona Henderson have moved on to Consultant posts in Falkirk and Stirling respectively and they will be sorely missed. Many trainees have been appointed to and from SHO and SpR jobs in the department, their numbers now reaching into the thousands annually.

Moving from staff issues, Peter Wallace is still the most powerful man in the world and will remain so. Despite working in some of the oldest hospital accommodation in Scotland, the department remains as optimistic as ever. This was well illustrated by the sparkling magnificence of our annual barbecue, hosted by Tom McCubbin in sleekly jovial fashion.

Royal Alexandra Hospital, Paisley – *Jackie Orr*

The department has grown to meet the demands of an increasingly busy hospital. We negotiated 4 additional SHO posts last February and our consultant numbers expanded to 17 in July with the appointment of Drs Dave Alcorn and Kevin Rooney. We opened an extra inpatient theatre this year and the ICU now has 6 permanent beds. The delivery of health services within NHS Argyll and Clyde continues to evolve. Emergency and major elective surgery required by the Vale of Leven population will be done at the RAH by the end of 2003. The obstetric redesign has recommended the development of two midwife-led units at Inverclyde Royal and the Vale with a consultant-led unit here. Patient choice, the developments in Greater Glasgow and staffing pressures will all impact on the future organisation of services. Tom Goudie became Chairman in March and John Dickson remains clinical director.

Vale of Leven – *Bill Easy*

I believe that there is an old Chinese curse which goes, "May you live in interesting times". Well, we certainly have been since I last wrote a piece for the Annals.

The decision has been made that this hospital is too small to continue in the form in which it has existed for many years, so it either had to expand or contract and change. The nature of the solution has been an agonizingly long time in materializing, during which time the problem has nearly solved itself, as staff, uncertain of the future, have left for more certain employment prospects elsewhere.

Well, first the "Hatches, Matches and Despatches"! One of our staff anaesthetists, Eleanor Guthrie, left us for Stirling. I have subsequently heard that she is engaged and is to be married in the Spring, so it sounds as though the move has been good for her! She had been with us since 1993 and we miss her. Tim Barber got itchy feet again and moved on to a locum career (currently in Manchester, I believe). Roddie Chapman then joined us as a research fellow and, being intrinsically a cheerful sort of chap, has fitted into the department very well.

Much of what will happen to the department over the next year is out of our hands, but my predictions are that we will be doing no major or emergency surgery here, though our orthopaedic colleagues in Paisley are keen to bring hip and knee replacement surgery, and back surgery over here – and we are keen that they should do so. Our critical care beds will remain open *pro temps*, pending a decision as to what the future will bring. Many of us will be doing sessions over in the RAH, Paisley in

order to keep our skills honed, and we look forward to the eventual full merger of the two departments.

Falkirk and Stirling ~ *Crawford Reid and Gordon Wardall*

The last year has brought mixed fortunes to Forth Valley. 2003 began well with a successful College visit to both sites, training approval being granted for a further six SHO posts, a decision subsequently supported by SACMW. The posts were filled with reasonable ease, allowing some preliminary centralisation of services, O&G and paediatrics going to Stirling and urology to Falkirk. Teething troubles were inevitable, but it's hoped that these moves will work out in future. However, like everywhere, we are having to come to terms with the New Deal and inflexible partial shifts, and are anticipating further problems as the EWTD begins to take effect. Further reorganisation seems inevitable in the near future, hopefully putting all acute services on one site. The Health Board has decided to go for a new acute hospital to replace both infirmaries, probably based at Larbert, but this proposal has yet to be approved by the Scottish Executive. The earliest that this new hospital could be built is likely to be 2009.

There have been several notable changes in staffing. The Falkirk department said goodbye to SHOs Nik Mangold and Vina Desurkar, while Stirling welcomes Donna Clayton and Suzanne Boyle along with Kumar Basu, Krishna Basava, and Nityanand Lanka. We now have the making of a first class cricket team! From Edinburgh, Anthony Bateman joined us (briefly) in place of Claire Wallace who went on to Dunfermline. At present we have two SpR's Sonya Allam and Pamela Docherty on rotation from Glasgow- the beauty of being in the dead centre of Scotland! In future trainees (SpRs and SHOs) will rotate between the two sites. Both departments are pleased to welcome two new consultants. Andy Wood started at Stirling in the spring and Fiona McIlveney starts at Falkirk in November 2003, while Fiona Henderson is currently working as a locum - my how time flies, it seems like only yesterday she was here as a new SHO.

It is with great sadness that we say farewell to Lou Michels who has had to retire on health grounds. Lou has been a stalwart of the department in Stirling over the past few years and has made a huge contribution including setting up the acute pain service and being College tutor. Lou will be sorely missed by all who had the privilege of working with him. We wish him and Jo and the girls all the very best.

St John's Hospital, Livingston ~ *Duncan Henderson*

Lynn Carragher (Glasgow) and Joann Pahl (New Zealand) were appointed to Consultant posts last year. With Elaine Martin, they have moved into our largest office, previously inhabited by Patrick Armstrong and Lachlan Morrison. It is now much easier on the eye and the nose.

There is obviously something in the water at St John's. Lynn, Jo and Patrick have all had babies in the past year, Lynn going for the twin option. Jeremy Thomas has offspring number 3 in the pending pile. Samantha Moultrie and Przemyjlaw Dabrowski are doing an excellent job as locum consultants.

Our sporting prowess continues. Shona Neal is British Veteran, over 30, gymnastics champion. Patrick and Lachie have done well in 10k runs. However, our injury list is growing - Dan Burke, # arm, Simon Rowbottam, # ankle and Mike Brockway # big toe.

Despite not voting for it, we look forward to seeing how the new contract works out. It will be good (if and) when our staffing catches up with our sessional commitment. We also await the outcome of Lothian's acute hospitals review. As ever, St John's remains an entertaining workplace.

Monklands – *Peter Paterson*

Nothing terribly dramatic has happened at Monklands over the past year I think this is the calm before the storm we face in the near future as we grapple with all the horrendous implications of the EWTD and other related issues. During the last year David Clough left us for a bit to take part in the controversial Iraq business. Glad to say he returned to us well although considerably slimmer. We lost Caroline Harper who returned home to Sheffield but had the pleasure of two new Consultants joining us, Ruth Rae from Glasgow and Sanjiv Chohan from Edinburgh. It was encouraging that a second of our Staff Grades, John Dolan, obtained a Specialist Registrar post in Glasgow.

Wishaw General Hospital ~ *John Martin*

I have no doubt that elsewhere in Scotland, as is the case here in Lanarkshire, the issues that were to the fore last year – EWTD, Appraisal, New Contract, etc., are still unresolved and that as usual resolution awaits crisis. Some things never change. Lanarkshire's solution to some of these issues, however, may have interesting repercussions in the provision of acute services in the future. More if this, perhaps, next year.

Our consultant number has increased again. Alison Simpson, last heard of as locum, is now definitive. Dawn Johnston has joined our ranks, and we now have a politically correct department with equal representation of sexes even to the extent of segregated toilets. Terry Nunn, erstwhile Associate Medical Director of our hospital, and increasingly absentee anaesthetist, has

given up poaching altogether and now is Gamekeeper for the Acute Lanarkshire Hospitals Trust based at its stately home Centrum Park.

Alan Morrison has taken over from Seamus Thomson as College Tutor, the increasing paperwork arising often obscuring him from my vision in his office across the corridor. Meanwhile Seamus continues to look after our interests as BMA representative. Lorraine Bell, who foolishly took on the rotamistress duty, spends much of her time with a calculator and lots of bits of paper with numbers on them.

Otherwise Wishaw has been relatively quiet, or perhaps your correspondent has become hardened and oblivious to what in the past would have seemed worthy of note.

Royal Infirmary, Edinburgh ~ *David Ray*

Greetings from Edinburgh and our new PFI hospital. As I write this in my office wondering if (or should that be when) the electricity will fail again, and if the computer network will allow me to stay on-line long enough for me to complete this report, I am determined to represent the new hospital in a better light than the national media. We opened Phase two of the building in April this year and the move of services and patients passed off with very few problems. Our clinical facilities are excellent and have certainly transformed the case with which we can care for our patients. Theatres, recoveries and critical care areas are very impressive and well equipped with new anaesthetic machines, monitors, operating tables and beds. The Department of Anaesthetics, Critical Care and Pain Medicine runs virtually the length of the hospital – the extra distance should result in a healthier workforce, and in line with the Trust policy to encourage healthy lifestyles, requisitions for skate boards are being declined at present. Car parking (at least for medical staff) has proved to be less of a problem than initially thought. So, yes we have experienced some problems with electrical supplies, liaison with some PFI partners, and bed availability in the general wards, and yes we face further discussion and concerns on how equipment will be managed, but all is not as gloomy as some commentators would have us believe.

We have increased our Consultant complement by two since the last report. We welcomed back Martin Ruth as a joint RAF/Trust appointment, and Bernhard Heidemann moved from a local Lecturer appointment to supplement our Obstetric anaesthetic numbers. We have had no retirals and to date no one has been sacked as a result of the appraisal process. Four trainees have been exported to consultant posts in Monklands, Livingston, Sheffield and the Western General Hospital across town. Our trainee rotas are not yet fully compliant with the New Deal but work continues to achieve this. We anticipate a further increase in trainee numbers once we receive the funding promised almost a year ago.

Appraisal is commencing its second cycle and has been extended this year to include associate specialist and staff grade doctors. Trust IT systems are still unable to provide reliable and useful information to assist with this process. Implementation of the new Consultant contract is uppermost in many minds just now - let us hope that local discussions go smoothly and amicably, and that next year's report is filled with positive news. Finally I'd like to report that Kylie and Justin dropped in to the Department for coffee when in town recently for the MTV awards..... but that, like much of this report, would just be wishful thinking.

Western General Hospital, Edinburgh ~ *David Wright*

No major service changes this year, but a steady increase in the intensity of work. Following the reorganisation of 2002, Ward 21 became a level 2 High Dependency Unit, primarily for surgical patients. This year, however, Ward 21 has had an increasing number of non-surgical admissions and with ICU busier than ever, ICU and HDU function more and more as a combined critical care unit. Two new consultants have taken up duties during the year, Ivan Marples with a primary interest in Pain and Kirsteen Brown with a primary interest in Neuro-surgical anaesthesia. Mark Rockett has been here as lecturer, enhancing our academic commitment. Since our last report Alison Macara has become the new anaesthetic department secretary and seems to be settling in nicely as a replacement for Dorothy Leighton. Margaret Cullen is now a Clinical Sub-Dean and has been succeeded as College Tutor by Sue Midgley. The year has seen a number of changes in the work patters of trainees and we wait to see what the implications of the new contract will be for consultants. It will be surprising if the next year does not bring major changes to the way that we work and as usual we look forward with interest to seeing what will happen.

Fife ~ *Gordon Smith*

It must be a symptom of advancing years, but time really does fly. It seems like only yesterday that Charlie Allison asked me for last year's report. From what Stephen said on the phone it seems that Fife was forgotten about and he needed the information ASAP. I jokingly said did he mean tomorrow and he said yes! Anyway this is tomorrow so here goes:

Our move towards centralisation of all acute services in Kirkcaldy continues to advance at snail's pace. Our outline business case was approved by the Health Minister in July after sitting on his desk for 9 months. Mr Chisholm is obviously either a very slow reader or

maybe it just got lost in his in-tray. It will take at least another 18 months for a full business case to be worked up and finance (PFI of course) found. Only then can building commence with expected completion in 2009 - post retirement for many of us!

Meanwhile the problems of working on 3 sites threatens the viability on our junior anaesthetic rota when the European Working Time Directive takes effect in August 2004. The implementation of the new consultant contract has demonstrated just how hard we are working (48+ hours in most cases). At the time of writing we are still not sure if funding is available to pay for 12 sessions of work. If this is not the case we face losing over 50 of our elective surgical activity which is totally unacceptable - lets hope common sense prevails.

On the staffing side Ines Boyne left us in January for the sunnier shores of Australia - we wish her well. We were fortunate to appoint Bodil Robertson in her place. Bo had worked as a locum with us for a year and has a wealth of experience to offer. She continues to be cheerful despite getting an awful lot of urology lists. Callan Wilson returned from a short retirement as a locum for 1 day a week, keeping the chronic pain patients happy, and we continue to have locum assistance from another retiree, Keith Birkinshaw - very helpful as we estimate we are 4 consultants short.

Lastly I would again like to thank my colleagues for their help and support. It makes the job of Clinical Director so much easier when everyone is prepared to go the extra mile to keep the service going despite the pressures we all face.

Ninewells – *Fergus Millar*

The appraisal juggernaut continued its unstoppable, politically powered roll through Scottish medicine and for most of us was an irritating non-event (just like daytime TV). I feel I did quite well as I acquired an Emergency Medicine textbook (I am not sure if this was a subtle message). I am certain our medical managers are basking in a pool of self-reflected warmth at a 'job well done' in the face of medical cynicism. Next up was the NHS Quality formally known as Clinical Standards Board Scotland. We were luckily chosen to be a pilot site for Anaesthesia in the hope that teachers pet would get inflated marks. It did not quite work out that way, we did receive some commendations but also some black marks for an under-resourced acute pain service and theatre recovery. Nobody is certain as to whether NHS Quality will have any teeth, but as any dentist will tell you: too many quality street lead to rotten teeth! It remains to be seen if this process will lead to improvements - here's hoping! Also this year we have had the Joint Colleges Scottish generic SHO visit and an RCA school visit. When will it all stop?

The new consultant contract offers some interesting times ahead and who knows where it will all end. One thing is for sure, we all must stick together during what promises to be tough negotiations with management. Luckily we have Neil Mackenzie to lead us through these awkward times.

Our department continues to expand with three new consultant appointments, Stewart Milne, Ian Mellor and Ute Goldmann. Neill Purdie left in June for Toronto and will probably move on to a consultant post on his return. We welcome back Jonathon and Kate Whiteside from their Southern Hemisphere travels. Fiona Cameron has taken up the reins of acute pain, whilst Deitmar Hartmann has been appointed as REA in Pain Training. Justin Nanson has successfully put together the SpR 1-2 training programme whilst growing her new son Fergus who was born in the autumn. Barry Maguire has managed to establish a new HDU facility for MaxFax, ENT and plastic surgery. You will need to ask him the secret. Meanwhile, John Colvin manfully fights on for extra resource in the ICU and HDU in the face of management indifference and rising demand. Congratulations to Ian Mellor for passing the Diploma in Intensive Care Medicine.

This is a record breaking year for me, as it is the first year of this millennium that I have avoided the surgeon's knife and had to work during the summer months (drat). Unfortunately, some of our colleagues have been less lucky but I am glad to report they have recovered. Are we unusual in having 5 consultants undergoing cervical disc surgery in the past 10 years? (Stop looking over your shoulders – Ed.)

As Alan Milburn said "that's enough as I want to spend more time with my family".

P.S. For those infidels out there who still don't believe in Sod's law – the week after this report was posted Fergus hurt his knee again and had another "taste of his own medicine"! – Ed.

Stracathro – *Charlie Allison*

Our ADTC reincarnation has proved to be trendsetting in a cash-strapped NHS faced with heaps of hernias, vanloads of veins, piles of piles and a disgruntled public fed up of waiting. Nobody cared when we did all that great work years ago, but now we get official visitors wanting a look around and a spot of homely country cooking. That's progress.

After 31 years, local legend Annie Donald decided to retire to her garden & golf course. She always did a power of clinical work, as well as being the pivotal administrative focus who liaised with secretaries, cajoled surgeons and ensured her colleagues turned up to pass the gases. It delighted Annie that it took three guys to replace her! We welcome Iain Levack, Ian Mellor & Stewart Milne on their days out from Dundee. Jan

Beveridge has eagerly taken on the rota/scheduling role. Alban Houghton returned refreshed from a hypoxaemic hill-walking jaunt in Tanzania. The absence of the Annals has meant that my family can enjoy a civilised Christmas without distraction for the first time in five years. I am looking forward to reading this new comic and wish Steven well in his task.
Lastly, for those who wondered about Ion Grove-White's retirement - well he's been doing locums up in Elgin & Orkney and is going off to work in Ghana in November. You just can't keep a good man down!

Aberdeen ~ *Brian Stickle*
In terms of staff changes it's been an unusually quite year up here. Lesley Strachan and Manisha Kumar transmogrified into new consultants (actually Leslie was last year but we forgot to mention it - sorry Leslie). Paul Martin went the other way and turned back into a trainee, heading off to Dundee to be a SpR in Palliative Medicine. All the best Paul and we hope you think of a way to spend the pay rise soon!! Vivek Kulkarni went off to America and decided not to come back. Unfortunately he decided to give us about two weeks warning of this. Cheers Vivek! Some members of the department decided that we'd be best to plan for the future and generate some new recruits more directly. Congrats to Andrea Harvey and Ruth Stephenson on the arrival of Jennifer and George. We may need to get them on the rota soon! The other obviously epochal news is the retiral of Donny Ross after eight years in senior management in the Trust preceded by umpteen years in the anaesthetic department. Donny will now be pursuing his new career of Renaissance Man full time. Reports that Ian Smith managed to retire yet again are purely scurrilous. Alan Thomson has been appointed to a Consultant post and immediately decided to escape around the globe for six months. Part of his time will be spent in Timor, helping set up local educational programs in anaesthesia. This endeavour is being supported partially by a grant from this society.

Just about all our trainees managed to pass their relevant exams this year - so a huge well done to them and to the people who have made such a big effort to help with tutorials and viva practice etc.

In writing last years report Kath Ferguson made optimistic reference to the near complete state of our new children's hospital. Well it's still not open - but it appears to have stopped growing. There's now glass in the windows and it's been painted white. There has undoubtedly been other progress but as I've not been on one of the (strictly limited) guided tours of the interior I can only guess at the Byzantine gilded splendour that must surely lie within. Next year - honest!

Like the rest of you we await the arrival of the New Contract with interest. May you live in interesting times – wasn't that an ancient Chinese curse?

Dr Gray's Hospital, Elgin ~ *Colin McFarlane*
The good news this year is that we are an expanding department and have approval to increase our department to eight. This is to keep up with more surgeons, more transfers to intensive care, and to keep us a bit nearer to the EWTD. Ian Harper has moved on suddenly to the north east of England, with our best wishes, and hopes that Geordie is easier to understand than Doric. We have just appointed an excellent replacement in Robert George from Hull. Elgin is still the place to be!

Raigmore, Inverness ~ *Isobel Mackenzie*
Can a year have already passed since last I wrote a note from Raigmore? This has been a year of many additions to our surgical ranks and one notable subtraction. There have been new appointments in ENT, Orthopaedic, Vascular and Breast Surgery. The hospital seems like a once slender and quite elegant snake that has eaten some very large animals with lots of lumpy antlers and is still in the process of assimilation. Also suddenly the senior surgeon retired leaving us with a large number of spare double lumen tubes and trainees with a big gap in their logbooks. We have had no expansion on the anaesthetic bench but all the impossible mathematics of squeezing emergency cover from the vanishing number of hours available. Jackie Howes has been doing nobly now halfway through her term as convenor. Our College Visitors gave us a decent report and suggested more Consultants forthwith but we see no sign in the heavens at present let alone anywhere nearer. Were it not for the assiduous help of Dr Azmi F.R.C.A. who comes to our aid regularly from Alexandria where would we be? And the authorities have the cheek to make him report to the police station as an alien and at the airport confiscated all his precious Camels. Drs Chie Lee and Ros Lawson have added to our strengths in I.C.U. and Paediatric Anaesthesia. Ros seems to attract unwell children like moths to a flame. We have seen a great deal of Dave Simpson and his tremendous Retreivers. Is this the revenge of Yorkhill? The M.R.I. is now up and toddling. The new A& E is rising a large piece of white Lego from a great hole in the ground inconveniently interrupting progress home at the end of long days. This will no doubt receive the out of hours refugees from Primary-We- Care-From- 9-5. Large numbers of straight-jackets have been ordered to cope with those maddened by previous lengthy phone-calls to nurses in Glasgow. Dr I.G.J. spends a lot of time in the air at present between Inverness and London on A.A.G.B.I. duties. The retired Dr Spenceley is at Sea or in France but when occasionally sighted looks exceedingly well. Very sadly, this year,

Who needs Paris in the Springtime –
Come to Peebles 2004!
(Just after the World Congress)

"Congratulations, Mr. President!"

The President and the 'First Lady' check out the children's entertainment at Peebles!

we lost our colleague Neelam Thomas who died in July aged only fifty-two. The department lost a fine anaesthetist, her family a wonderful wife and mother. Neelam with great courage carried on working almost to the end despite the vicissitudes of frequent surgical procedures and chemotherapy. We miss her. I would like to take this opportunity to salute the sterling work of the other Associate Specialists and Staff Anaesthetists who contribute so much to the safe and secure running of the service. Julian Kennedy who has moved on, Dr Dale Deacon, Dr Suzanne Dempster, Dr Keith Veasey and Dr Gumar Robayna - take a bow.

Belford Hospital, Fort William ~
Charlie Leeson-Payne

The Belford Hospital is almost certainly on the brink of something interesting and challenging, if not threatening and overwhelming. The only trouble is, no one is quite sure what it is. The West Highland Health Services Project, which is purporting to investigate the development and continuation of acute services on the west coast, has dominated everyone's thoughts and many actions over the last year. Our little band of anaesthetists, Jim McKay, Wagih Antonios and myself have plodded through the soggy fields of uncertainty in good spirits. When this short report is read, some kind of decision will probably have been made, but in true political style we may not actually ever know what the decision has been. That is until, of course, the new Belford Hospital rises from the swamp. I think the analogies to the wet west coast climate have probably gone too far, as the weather in 2003 has been the very best for many a long year with records of consecutive dry sunny days smashed. Visitors have appeared in their swarms, queuing up to fall off hills, rock faces, and mountain bikes just to get the chance to visit the Belford. Talking of swarms, even the midges seem to have been less troublesome this year. Lochaber has certainly been the place to be. (Enquiries for the additional consultant posts to be created should be made to.....!!!)

Jim McKay has, what can only be described as blossomed into his new rôle as Clinical Director. Rather a unique position as, for the total of ten consultants in Fort William, this amounts to being a local medical director, looking after all specialties represented here, not just Anaesthetists. A normally self-effacing individual of modesty and shyness, he has taken on the mantle of authority with skill and efficiency. Despite the unending frustration and obfuscation of medical management, he has still never felt the need to raise his voice. (Except that is when the footpump on the third consecutive patient's bed broke on arrival in the anaesthetic room, resulting in the patients needing to do their own version of Munro-bagging as they climbed from bed to operating table, allegedly.)

Following relentless campaigning and a fitful game of brinkmanship, we are now training our own ODP (with Raigmore's help of course), having appointed an ODP trainer here as well as a new theatre manager/charge nurse. In all areas we have met the challenges of the New Deal for trainee doctors (although of course we don't have junior anaesthetists) and continue to pioneer working practices for small acute hospitals. (Well, I think that's what we've been doing). As usual, we all still seem to be stretching ourselves near to the limit to deal with a huge selection of stimulating clinical situations and management hurdles. Some of these would be unlikely to be considered worthy of Consultant attention in a larger hospital, but go to prove that if you want a job doing properly it's probably best to ask an anaesthetist. Variety remains the spice of life!

Shetland ~
Russell Rarity & P O'Connor

Shetland anaesthesia continues to develop good relationships with colleagues in Grampian, and is pleased that the department at ARI felt that it could ask the Trust to give us honorary consultant contracts - this helps immensely with our desire to keep up-to-date with what's happening in teaching hospitals. The department is also starting to get involved in anaesthetic and critical care issues at a national level, and so it definitely feels as if any perceived professional isolation is getting less. Moreover earlier this year the Board made the decision to increase consultant numbers in Anaesthetics by 50% - from two to three! This increase will help to make Island jobs less onerous in terms of on-call and potentially allow compliance with the Working Time Directive whilst getting rid of the need to source expensive locums. We were delighted to get a lot of serious interest despite the current state of the job market and recruit at the first attempt, and are looking forward to Dr Barr's relocating from York in March 2004. Dr Rarity's decision to take a consultant anaesthetic job in New Zealand in early 2004 after 5 years in Shetland has come as a bit of a blow. As luck would have it, one of the other candidates for the third consultant post has agreed to take an initial six-month post whilst we run the advert again in the New Year. So, all in all, things are looking good for Scotland's most northerly anaesthetic department.

Lorn and Islands, Oban ~ *Jason Davies*

Flux! Yes, a state of flux describes the situation nicely.

A year of scrutiny and promise has elapsed. Due to various extrinsic pressures some developments hoped for have not come to pass. The West Highland project, which was seen as a real opportunity to develop and improve services to the populations of Lochaber and Lorn, has began to mumble and falter. Rationalisation within Argyll and Clyde also leaves us a little grateful for our continued existence. Hopefully, and hope is all we have, current prudence will facilitate future developments. This at least is the party line.

On a lighter note! Due to the appointment of an anaesthetic secretary I think it safe to say that we have attained 'departmental' status. Anaesthetic activity continues to increase both in and out of theatre. We look forward to the coming year of Consultant contract negotiations and eventual delivery of our long awaited 'Job plans'. I suspect that if nothing else it will be entertaining!

Ayr ~ *Iain Taylor*

A year of ups and downs, again.

We welcome the arrival of Lois Fell to the fold of the elf-anaesthetists at Ayr. Lois is of South African extraction and was a slave-elf at Margate before she escaped to the leafy glades of our sanctuary. Lois joins the ICU team with a full day of suffering every Thursday.

We were fortunate to secure the services of a locum-elf through most of 2003. Dr Pekka Neuvonen (a Finnish elf) abandoned the joys of practicing in Portland, Oregon for the green and sunny meadows of South Ayrshire. He remarked that the practice here was "more gentlemanly" than in the US. If you would like to hear about purgatory for anaesthetists, then ask him about Portland. Pekka has two daughters at university on the East Coast of Scotland so we expect that Dunfermline will benefit from his presence for a time yet.

No success with our HDU development, again. The management balrog (ex-Little France and a creature of fire and shadow) gave all the development money to the community side and blew the reserved £500k on diverse toy purchases for the rest of the trust. This lead to great depression in the land of sparkling lights and huffle-puffing machines (ICU). The struggle continues.

No sign yet of our acute pain leprechaun-nurse. At least we now have a committee looking at the possibility of considering such an appointment in due course and in the fullness of time etc.

We have been working a new system of elf-cover for our emergency theatre for the last six months or so. Every permanent elf takes a turn at covering the emergency theatre for a week (ie. no trainee-elves). The orthopaedic orcs think it is great (they normally work the morning session), the theatre hobbits are strongly in favour and the surgical goblins have said very little (just the occasional grunt really) so we continue for the

moment.

The anaesthetic-elves are still having problems getting those elusive discriminatory points. The elves put them into the cauldron, the orcs, goblins and physician-trolls take them out again! We know that other elves have their own cauldron but we are so few in number (but high in quality!!) that it might not be our best option.

We remain under the nominal rule of a boss-elf who lives in another leafy glade but at least we have our own sub-boss (Ken MacKenzie) to fight our corner closer to home.

We have managed to acquire three new PC's for the elven sanctum and may even let the HDU-leprechauns start their audit. Oh happy days! At least we think that the new contract will yield some rewards for hard-working elves with onerous on-call. Maybe we'll get one over on the management-nazgul at long last. Hurrah!!

Another year has passed, why do they go so quickly?

(Is there no hope for the National Elf Service? - Ed.)

Crosshouse, Kilmarnock ~
Chris Hawksworth

Having honed my creative writing skills on my discretionary points application, I felt able to have a go at the report for the Annals! The Crosshouse consultants are about to embark on our second round of appraisals, with Jane Chestnut, Roger White and myself assisting Alistair Michie as appraisers. The first round was a learning process for all concerned and ran a little behind schedule. One of the problems raised by the process was the lack of outcomes data available to anaesthetists. Hopefully with the forthcoming appointment of a departmental audit assistant we may be able to resolve this problem before the first GMC revalidations are due.

Our esteemed Service Director Alistair Michie is going to be hard pressed with job planning for 24 consultants. Quite how he is going to fit in our on call commitments and weekend work and still provide the same level of service is beyond me. With so many of the department active on the political and ALS/ATLS/CCrISP fronts, one sometimes wonders who is left to give the anaesthetics. Steve Lawrie's rota manipulating skills are going to be further taxed now that we are running the ALERT course as well.

Much to our surprise, the politicians have finally seen sense and allowed the health board to move the maternity unit to Crosshouse from an "isolated site" at Irvine. The decision wasn't made public until after the Scottish parliamentary elections for some reason! Plans for a new build unit are well advanced. This move coupled with the reduction in junior doctors hours has led to plans to move all inpatient paediatric services to Crosshouse too. Suggestions that Crosshouse will eventually become the Ayrshire Acute Hospital have been rubbished by those with no imagination.

We have had two new SHO posts approved this year but any benefit to rota compliance has been negated by the lack of the staff grades who would be required to make the rota fully compliant. We also have too many trainees to give them all 3 months ITU training in two years as required in the competency based training programme. In response to this problem, we have started a rotation with the South Glasgow Trust whereby their trainees come to us for some paediatric anaesthesia and ours go to them for an ITU block.

So, in summary, I'm pleased to report that in the North of Ayrshire, anaesthetists have had the usual untroubled and peaceful year happily passing gas, saving lives and living in harmony with our benevolent managers. On a more serious note, I'm saddened to report that a plethora of Aberdeen FC posters have appeared on Alistair Michie's office wall this year. Does anyone know any treatment for this problem? [Editors note: Apparently the posters celebrate the last time Aberdeen won anything – they must have antique value surely?]

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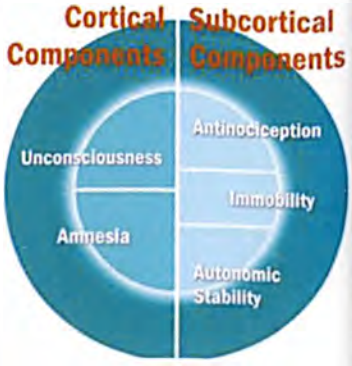

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