

# THE ANNALS OF THE SCOTTISH SOCIETY OF ANAESTHETISTS

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# SCOTTISH SOCIETY OF ANAESTHETISTS

## Council for 1992-1993

### OFFICE BEARERS

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| President | Dr J Wilson, Edinburgh |
| Past-President | Dr S McGowan, Dundee |
| Vice-President | Dr ABM Telfer, Glasgow |
| Honorary Secretary | Dr JD McKenzie, Aberdeen |
| Honorary Treasurer | Dr ID Levack, Aberdeen |
| Editor of the Annals | Dr WA Chambers, Aberdeen |

### REGIONAL REPRESENTATIVES

| | | retires |
|---|---|---|
| Aberdeen | Dr HJ McFarlane | 1994 |
| Dundee | Dr T Houston | 1994 |
| Highland | Dr JH Spencely | 1995 |
| South-East | Dr IR Armstrong | 1993 |
| | Dr DW McKeown | 1994 |
| West | Dr B Stewart | 1993 |
| | Dr B Scorgie | 1995 |

### PROGRAMME FOR 1993

Registrars Prize: Entries to be submitted to the Hon Secretary by 28th February.

Annual General Meeting: Peebles Hydro Hotel, 23rd - 25th April.

Registrar's Meeting: Western General Hospital, Edinburgh - 4th June.

Scientific Meeting and Gillies Memorial Lecture: Royal Alexandra Hospital, Paisley - 12th November.

Golf Outing: Downfield Golf Club - 11th June.

# PRESIDENTS NEWSLETTER

On looking back over the list of past Presidents and considering my year in office, I realise the privilege that I have received in being your President. It has been most enjoyable holding the office and carrying out the not too onerous duties required. These duties were considerably ameliorated by the executives of our Society, the Honorary Secretary, the Honorary Treasurer and the Editor of the Annals. I wish to place on record my appreciation of their hard work over the year and especially of the support, so willingly given to me by John McKenzie.

Before I touch on the official business of the Society I must refer to the deaths in the last year of two past Presidents. Donald Beaton of Stirling died some months ago after a fairly short retirement from a very busy life style. In addition to his clinical duties in and around Stirling, he was a most enthusiastic and active member of the BMA, engaged in that organisation both locally and nationally. He was a regular attendee at our meetings and his participation from the floor was a regular feature of annual general meetings. More recently another very good attendee and supporter, Jimmy Kyles of Kirkcaldy, died suddenly. He created a thriving and happy department in Kirkcaldy and East Fife before retiring eleven years ago. All of us will recall his interest in everyone he met and in all he did. I will always remember his firm hand grasp on my arm and the kindly 'How are you, Jimmy?' whenever we met. The Society will be the poorer for the loss of these two; our sympathy goes out to both of their families.

One of the occasions on which I represented the Society was the inaugural Professor JD Robertson Memorial Lecture in the Royal College of Physicians of Edinburgh. The Edinburgh and East of Scotland Society have set up a trust to provide a regular lecture by an eminent person in his memory. The first address was given by Professor Sir Gordon Robson, a long-standing friend and colleague of Jimmy Robertson, and it admirably covered his life and work. The large audience included Mrs Pat Robertson and his five sons, two of whom had travelled from North America. Also present were the Presidents of the Royal College of Anaesthetists, the Association of Anaesthetists, the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons and Physicians of Glasgow, the Glasgow and West of Scotland Society of Anaesthetists and the Edinburgh and East of Scotland Society of Anaesthetists. The Royal College of Physicians of Edinburgh was represented by their Vice-President and a dinner followed the address. The text of the lecture is published in full in this issue of the Annals.

I also attended, as did a good representative number of members and their spouses, the combined scientific meeting with the Society of Anaesthetists of the South West Region, held in Bath. This meeting came about as a result of initial discussions between one of our past Honorary Secretaries, Peter Wallace, and Dr RM Weller of Bristol. The business and social activities were held over Friday and Saturday and included the annual Gillies' Memorial Lecture which was delivered by Dr WDA Smith. All present claimed the success of this meeting and it will be repeated, the next one being hosted by ourselves in Scotland.

This year has seen the newly founded College of Anaesthetist honoured by the Queen with the title 'Royal'. We must be proud that it is one of our members, Professor Alastair Spence, who is the President at this most important time. In addition, the Society provides another member, and past President, Willie Macrae as the current President of the Association of Anaesthetists. With yet another member, Donald Campbell, the current President of the Royal College of Physicians and Surgeons of Glasgow, this must be an exceptional year for the Society.

Throughout this year there have been again many changes in the National Health Service. The granting of Trust Status to the first hospitals to be

so treated in Scotland, occurred last year, but only became effective during my year of office. The North-East, Aberdeen and the South-West, Ayrshire, were the two areas affected and reports emanating from those two are mixed and the adverse opinions voiced are not, as some would have us believe , restricted to only those who have spent their lives in the NHS. It seems sure as night follows day that this change will occur in every hospital throughout Scotland, with or without the approval of hospital staff. I have worked my whole career since graduation in 1952 in the NHS and seen all the reorganisations that have occurred, but the present series promises to be the most far reaching and damaging to the original concept of the NHS. It seems incredible that all our work must now be accomplished with the objective of decreasing cost and increasing productivity each year with the further need to improve on these figures in the following year. I can already see the gradual return to the bad old pre-NHS days of a two tiered medical system. I hope that those now starting their careers who will not know any different will ensure that the system can be made to work for the general good of the patient and not just for the political satisfaction of the reigning political party.

I shall close by wishing that the annual general meeting in Peebles in April will be as well attended, as interesting and as happy as its predecessors.

# EDITORIAL

Over the past year the Society has continued to expand its interests while maintaining the more traditional activities. The Annual General Meeting was once again held at the Peebles Hydro Hotel and the customary mixture of science and social intercourse (in the correct proportion) led to yet another most enjoyable weekend. The golf outing was disrupted by an outburst of lightning but not before Peter Wallace had posted a winning score - perhaps he has wooden shafts! The annual golf outing returned to Ladybank and on this occasion the Scott Trophy was won by John Vance. The Society continues to sponsor a lecturer to attend the Annual Refresher course of the East African Society of Anaesthetists and Dr Mel Thomson from Dundee was the latest participant. The joint meeting with the Society of Anaesthetists of the South Western Region proved highly successful and it is hoped that another joint meeting will take place in Scotland in due course.

The changes in the Health Service continue apace and some of the benefits and drawbacks are becoming apparent. The power of the purchasers to influence service provision and standards and to take or leave specialist advice as they see fit has enormous consequences for all of us. Perhaps the most worrying long term effect will be the lack of coherent strategic planning although some will no doubt wonder how effective this was in some cases in the past. Those who are more directly involved with patient referral are already being asked to make services more available and to demonstrate the 'paying customer is king' ethic. In the past some service provision has lacked proper attention to the non-medical needs of pâtients and inappropriate scheduling of appointments in out-patient clinics for the possible convenience of medical staff which led to long delays for patients are an example. The stipulation by a purchaser that proper attention is paid to such deatils may well constitute an improvement for patients. However, the provision of health care cannot be properly carried out on the basis of blindly following the demands of those who pay whether this is a fund holding general practice, the local Health Board, an insurance company or a private patient. Mechanisms must be developed which will allow for the proper consideration of specialist advice when purchasers and providers meet to negotiate contracts and anaesthetists should not be in any way remote from this. We would all readily agree that the provision of an anaesthetic service of high quality must include suitably trained staff with adequate time for the pre operative assessment and post operative care of their patients and the back up of other staff e.g. nurses on acute pain teams, technicians etc. Facilities within a department for education and research with the availability of study leave are also necessary if standards are to be maintained over a period of time and due regard must be given to these details. However if the present high standards of anaesthetic practice in this country are to be maintained in the face of increasing financial pressure it is essential that a continuing audit of practice is carried out and that the cost of this is included in contracts. It is simply not good enough to have to rely on the goodwill of enthusiasts to carry this out in their spare time or to become dependant on obtaining research monies. Not many of us are surprised that the sums which were allocated for medical audit when the subject became fashionable have been greatly reduced. Perhaps the granting of monies to quickly drafted proposals and the resultant lack of apparent benefit from the exercise has influenced those who control the purse strings but unfortunately many scientifically sound projects have had to be abandoned. It behoves us all to ensure that a rigorous, continuing and professional examination of our activities lies at the heart of our practice and to ensure that adequate resources are made available to allow this to happen.

# PRESIDENTIAL ADDRESS

DR JAMES WILSON

'The safe administration of anaesthesia necessitates skilled and exclusive assistance . . . assistance must be provided by staff who have been specifically trained and who have acquired relevant skills, working within a structure that promotes proper management, pay and working conditions'. These statements in 'Assistance for the Anaesthetist' made me hesitate and ponder the origins of the group of people we expect to see with the patient in the anaesthetic room.

The development of anaesthesia has been studied in depth in terms of agents, equipment, techniques etc. but the aspect of organisation in terms of the participants has perhaps not been so well covered. It is obvious that in the very beginning the art would be practised by the surgeons and obstetricians themselves. It followed that they carried on giving anaesthetics for themselves, as operator/ anaesthetists, or for colleagues until, as the novelty wore off and the pressure of work increased, the chore would be delegated to someone junior. In London the volume of anaesthetising was sufficient from the start to encourage specialisation and from Snow, Clover, Buxton, Silk and Hewitt up to the present day there has been a succession of specialist anaesthetists and the resulting financial rewards that followed. In provincial England and elsewhere in the United Kingdom anaesthesia in hospital practice remained firmly in the hands of the surgeons, and in the community the general practitioner, who may well have had a surgical training, was generally expected to administer the anaesthetics, usually in the patient's home.

Even in Edinburgh, which in the mid-nineteenth century, probably ranked, in terms of medical excellence, close to, if not on a par with London, the scene was governed by the surgeons. There, obstetricians were among the first to appreciate the value of each agent as it appeared and J Y Simpson and his coterie of inhalant aficionados were the prime movers. Simpson gave anaesthetics for his surgical associates amidst his involvement in academia, clinical obstetrics and his many other interests; he reputedly used between five and seven gallons of chloroform per annum and over his career was alleged to have given about 8000 anaesthetics! In spite of this it is obvious that anaesthesia could have played but a small part in his professional life. It would often be necessary, for those who followed him, to delegate the anaesthetic to a member of his team and in the unit system that then prevailed that would be his assistant. This was a junior surgeon and in hospital practice this meant the House Surgeon. That failing, the next in rank, dressers or clerks of the ward who were final year medical students, and failing that the next in line the nursing staff, would be pressed into giving the anaesthetics. Lower in the pecking order there was only the infrastructure of general hospital staff of whom the porters were those most likely to be in contact with surgery. It is not so difficult to see how, at an early date, students, nurses and even porters became involved in giving anaesthetics!

I should like to try and reveal, by means of records from the main hospital centres in Scotland, how the change to specialisation came about and to illustrate some of the obstacles that did, and still do, stand in the way. I shall begin by recounting an unfortunate event that occurred in the new Royal Infirmary of Edinburgh in 1880. Up to the date of transfer of patients to the new site in 1879 the total number of deaths in the old Infirmary since 1848, accredited to anaesthesia, was eight; against this low figure must be borne in mind the small number of operations carried out; about 100-150 per annum in the eighteen fifties rising to about 600 per annum in the eighteen eighties.

On Saturday, 3rd of January 1880, a 45 year old estate worker from the village of Aberlady in East Lothian (or Haddingtonshire as it was then known), partially amputated his right forefinger cutting firewood. It is unlikely that he received any primary medical care locally but he found his way to "the big house" where he obtained instructions to proceed to Edinburgh. The lady of the house was a Mrs Hope and the Hopes were regular subscribers to the Edinburgh Royal Infirmary and as such had ready access to that establishment. I discovered that at this time Glasgow Royal Infirmary actually produced a proforma reference letter for the use of subscribers which was printed as part of the annual hospital report. John Blair, the patient, arrived with this referral from Mrs Hope and was admitted to the wards of Mr John Chiene. Chiene was one of the Ordinary, or Visiting surgeons, who was destined in a few years to inherit the chair of Systematic Surgery from Professor James Spence. Sometime over the weekend it was decided to carry out toilet and debridement of the wound to allow skin cover of the stump. The operation was eventually scheduled for 7 p.m. on the following Monday. Dr G B Silke, Mr Chiene's house surgeon was to do the operation and Ernest Neve, a fifth year medical student and the ward dresser was to give the anaesthetic. The patient died during induction of anaesthesia and I will give you Dr Silke's description of events as he recorded them. 'The patient requested that chloroform might be given to him, and had to be several times assured that it would, before he would be satisfied ..... Unfortunately however, the patient got leave to go out in the afternoon without my knowledge, and partook of a hearty meal, a fact disclosed to us by post-mortem examination. Whether or not he partook of any stimulants at the same time I cannot say, but if so this would have assisted in making chloroform more dangerous to him. Chloroform was administered to him in the usual manner (Edinburgh method) about 7 p.m., I watching the patient while

the administrator was giving it until he was fully under it - a result not attained without an unusual amount of struggling on the part of the patient. I then proceeded to remove the bandages from the finger, and, the patient again struggling, the cloth was re-applied without adding any more chloroform. Another few whiffs, and again he was quiet, and according to the statement of the administrator and a gentleman who was watching him, breathed freely for a few seconds, when suddenly the breathing stopped.' This is an extract from a letter written by Dr Silke to the Haddingtonshire Courier and gives us a first hand account of the case. Resuscitation was attempted with the help of two brother house surgeons who were summoned, but to no avail. The patient died and news of his death was transmitted to Mrs Hope of Luffness House, who in turn passed the news to the family. This method of informing the Blairs was to be criticised later and was, with the letter to the paper, to be the only features of their conduct of the case to be criticised by the investigators. The letter was written by what must have been a very distraught Dr Silke in response to the rumours and allegations of negligence which were circulating in the deceased's locality and in Edinburgh and the pressures applied by threatened litigation. By custom in those times it would have been more in character for a family of the Blair's background, to have accepted the outcome without demur and we must assume that the legal proceedings were initiated by someone of the Hope family's standing. A firm of Edinburgh lawyers, Fyfe, Ireland, Miller and Fyfe (still existing today as Bird, Semple, Fyfe, Ireland) were employed to take the matter up with the Managers of the Edinburgh Royal Infirmary and there ensued a series of letters between them interspersed by meetings. Of these the most important was one held to investigate the case ordered by the said Managers and convened by one of their legal members, Lord Shand. This committee of investigation included the then President of the Royal College of Physicians, Dr Haldane, the police medical officer, and the pathologist. This committee found that all had been done for the patient that was possible and that no blame attached to either Dr Silke or his Chief, Mr Chiene. It is an interesting fact that although it is possible to trace Silke and all his undergraduate history no trace of him exists in either the Medical Register or the official list of Royal Infirmary residents. He was South African and it may be that he returned there soon after this incident but this does not explain his absence from the Register. In his reminiscences, "Looking Back" Chiene recalls him by name, mentioning that he was already dead at the time of publication, 1897.

Out of this episode came a recommendation from the Crown Office, the Procurator Fiscal writing to the Managers, suggesting that in future all general anaesthetics should require the presence of two qualified doctors. This was tacitly accepted by the Managers but appears never to have been promulgated.

Again in 1889 and 1892 the Procurator Fiscal was reminding the Infirmary Managers of his recommendation of 1880, there having been four deaths 'under Chloroform' between these two dates. In 1889 for example the Procurator pointed out that in the death of one Robert Kellagher, only one qualified person had been present and that the chloroform had been administered by a final year student called Luke. In 1892 the Crown Agent advocated, in addition, that one of the doctors required by the standing rule ought to be a practitioner of wider experience than the house-doctors. The response to this from the Medical Staff was that the proposal quoted from the letter of the Crown Agent is unnecessary and impracticable. Following this exchange the records are remarkably quiet on the matter of anaesthetics until 1896 when the Managers authorised one of the Honorary Surgeons to obtain apparatus for the administration of nitro-oxide gas and ether in place of chloroform in acute operations. In 1899 The Edinburgh Dental Hospital appointed Dr Thomas Davey Luke to be anaesthetist and, soon after, he also became associated with Chalmers Hospital. Shortly after this, discussions appeared in the minute book, on the appointment of an Anaesthetist to the Infirmary but this was not to be accepted easily by the surgeons. Basically they wanted to have the status quo so that they and they alone would continue in charge of the anaesthetic but desired to appear enlightened enough to have students and newly qualified doctors taught the theory of anaesthesia by an Instructor in Anaesthesia. This appointment was not to be to the staff of the Infirmary but was to be made personally by the surgeon desiring it. The first doctor so appointed was either Dr Luke or Dr MacAllum, there is some confusion in the records about this. Then followed the appointments of "Instructors" to several of the separate units in the Infirmary. In 1901 Luke was made Lecturer in Practical Anaesthetics in Edinburgh University, a post he held till he resigned in 1908 to go to The Hydropathic at Peebles as Medical Officer. Dr MacAllum was then appointed in Luke's place and he held that till his death in 1915, having in the interim become this society's first President in 1914. Thus the situation in Edinburgh at the beginning of this century was that there were several specialist anaesthetists each appointed by a separate surgeon, or Chief, and specifically to his unit's wards. Some of those, like Luke and MacAllum were employed in more than one hospital and depended on private work for their income. This situation was to continue right up to the inception of the National Health Service with little change except for a long period, from the First World War to 1946, when Dr Gillies was appointed, during which there was no University appointment. This unit arrangement meant that each anaesthetist was working in his own Unit theatre, virtually isolated, especially if the unit had a separate anaesthetic room. In turn this meant that he was entirely dependent upon the availability of nurses,

orderlies and porters from the unit theatre for any help or assistance; this is a situation that persists today. It is of some interest that during the 1914-18 war, as the Residents' List shows, unqualified students filled most of the ward Resident posts in this and other hospitals nationwide.

Edinburgh, therefore, had a rather unprepossessing Anaesthetic record after the heady start given it by J Y Simpson. What had been happening in the other major medical centres in Scotland?

A search of the Greater Glasgow Health Board's records revealed that a few reports exist in the Glasgow Royal Infirmary's Managers Minutes of chloroform deaths but little was made of these and, as in Edinburgh concern was not noted till the 1880s. Then in 1883 a Committee of Investigation was decided upon to look into the administration of chloroform in the Royal Infirmary. This resulted in a questionnaire being produced aimed at discovering the state of the art throughout the United Kingdom at that time. This enquiry might have been far-reaching in its effects if the information it collected had been broadcast, as it could have played a part in the development of anaesthetic organisation. That it did not reflects rather on the lack of efficient communication between centres rather than on the questionnaire. I would like to expand on this enquiry and its Scottish responses. In Scotland the questionnaire was sent to the following Infirmaries: Aberdeen, Dumfries, Dundee, Edinburgh, Glasgow Western, Greenock and Perth. Nine questions were posed and I wish to present them in their original order with their relevant replies.

Question 1. Are there any formal regulations issued with the sanction of your hospital, with respect to the use and administration of anaesthetics, especially chloroform?

This broad enquiry brought forth an almost unanimous negative response. All but two replied No. Dundee replied, no formal regulations whatever - I will elucidate this reply later. Aberdeen replied, Have a regular chloroformist for all staff operations. I shall also leave that reply for the moment.

Question 2. Is there any special instruction given in the hospital, or in the medical school, on the above subject?

Dumfries, Greenock, Glasgow Western and Perth all replied No.

Aberdeen: Each surgeon teaches his own students.

Medical students today often carp about the paucity of clinical teaching they get - in comparison with those of 100 years ago they are well catered for, as teaching for Dressers, Clerks and House surgeons was minimal, bearing in mind that there were no teaching grades in the Units and the Visiting Surgeon's time was restricted by outside commitments which were his livelihood.

Dundee produced a comprehensive answer: This is not a medical school. No special instruction, for, (1) It is made sine qua non in the selection of a house surgeon, that he shall have had previous practice in giving chloroform, (2) the rule that exists in every hospital - that while chloroform is given, the chloroform giving is the sole work of one man - is strictly adhered here, (3) I have myself a great respect for chloroform, as an instrument of danger, and with this feeling I invariably, if necessary, inoculate the house surgeon as well, (4) at chloroform giving here the superintendent is, when possible, present - not as a mere onlooker, but with powers to see among other things, that the chloroform-giver does make the chloroform-giving his sole work, and that nothing shall distract his attention, (5) anything unusual in the behaviour of the patient during the chloroforming is made subject of remark afterwards between the superintendent and the house surgeon.

Around this time there were about 100 operations per year in Dundee Royal Infirmary, there would therefore be little scope for gaining much experience of anaesthetics as a house surgeon and it would appear from this answer and those to questions 5 and 8 that the superintendent was ultra-cautious in his approach to chloroform-giving and allowed the house surgeons little rope by which they might have hanged themselves.

Edinburgh:- Instruction is given by the Surgeons in the course of their lectures. The senior Clerks and Dressers administer anaesthetics in the three operating theatres, under the direction and supervision of the Operating Surgeon and the Resident Surgeon. This reply was no more than could have been expected when we know the experiences of the Edinburgh Procurator Fiscal! The dressers and clerks were medical students and the theory they received in the surgical lectures was abysmal, merely a few words of the surgeon's personal experiences with the Edinburgh method, using chloroform on a piece of folded cloth and watching the patient's breathing. The surgeon's supervision would be to ensure that the patient remained still (has anything changed!).

Question 3. Are the resident medical and surgical officers allowed to chloroform without the presence of the Visiting surgeon or other member of the senior staff of the hospital? And, if so, under what restrictions, if any?

Aberdeen, Dumfries, Edinburgh, Greenock and Perth all replied yes.

Glasgow: Yes, with a verbal instruction from me, that there must always be two assistants present during the administration of any anaesthetic, one of whom must be qualified.

Dundee: As there is only one House Surgeon in this hospital, he cannot give chloroform unless either the superintendent or one of the visiting staff is present. If the superintendent is out of the House, the case is put up temporarily till his return, if he is away for any length of time, one of the Visiting Staff agrees to come up if anything is wanted. If he is on holiday, he must provide a qualified man to act along with the House Surgeon who, although pro temp superintendent, continues always to give the

chloroform.

Question 4. Are such resident medical officers assistant or principal officers?

All replies said assistant.

Question 5. Are such resident medical officers, in every instance, men legally qualified to practise medicine and surgery? And for what period have they practised or been qualified to practise? Or has any special instruction in the use of anaesthetics been required of them as a qualification for their appointment?

Aberdeen: Are recent graduates. Graduate in April and are appointed in May.

Dumfries: (a) no, (b) no.

Dundee: The house surgeon must be qualified in medicine and surgery. For years back he has always been one of the crack residents from one of the leading schools.

Glasgow: Almost always recent graduates. Latter part no.

Greenock: The senior is qualified; the junior is not. The senior just appointed has been engaged in practice for six months.

Edinburgh: (a) They must, in every instance, be registered medical practitioners (how does this tie in with Dr Silke's position?), as fully qualified to administer anaesthetics as to practise any other portion of their profession. (b) They generally hold office within a couple of years of having qualified. (c) none.

Perth: Fully qualified. No period fixed.

Question 6. Is it permitted to assistants not legally qualified in surgical wards to administer chloroform or other anaesthetics; and, if so, under what restrictions, if any?

Aberdeen: May do it under the supervision of the Surgeon in charge only (this is a strange reply in light of their earlier statements that they have a regular anaesthetist for staff operations).

Dumfries: Yes, under no restrictions, the house surgeon, or in his absence the assistant house surgeon, simply act to the best of his ability.

Dundee: Never. Not even alone to watch a patient coming out of chloroform after operation. Either the superintendent or House Surgeon remains with the patient till he is satisfied the patient may be safely left.

Glasgow: In the presence of a qualified resident.

Greenock: No.

Edinburgh: No (a case of economy of the truth!).

Perth: The matron gives chloroform frequently but always under the superintendence of a medical officer.

Question 7. Is there any specialist appointed for the administration of anaesthetics?

Dumfries, Glasgow, Greenock, Edinburgh and Perth all answered no.

Dundee: Practically yes; for it is arranged that only one patient is getting chloroform at any one time and it is always the house surgeon who gives it.

Aberdeen: A bald affirmative. I would, at this juncture, like to return to their reply to question 1, regarding formal regulations for anaesthetising. Then it was said that they had a regular chloroformist for staff operations and I feel this requires further explanation. In 1871 a Dr J C Ogilvie Will wrote to the Managers of the Aberdeen Royal Infirmary offering his services as a chloroformist as chloroformists are now attached to the more important hospitals and as no one has as yet been appointed in that capacity to Aberdeen Royal Infirmary. He certainly was not referring to any Scottish hospitals but to a few in London! On having this offer put to them the Surgical staff stated that the duties of chloroformist had hitherto been performed by Dr Davidson (the ophthalmic surgeon) and that he regarded this as part of his Infirmary work. It was agreed to let matters stand as they were with a Dr Ogston as Dr Davidson's relief when he was otherwise engaged (this locum was none other than the man who was later to become Sir Alexander Ogston, professor of surgery). He recalled in his reminiscences that, one of my duties (as a junior surgeon) - in addition to acting as Ophthalmic Surgeon - was to act as anaesthetist. By 1875 Dr Davidson found the twofold responsibility of at one performing the various delicate operations practised on the eye and also at the same time administering chloroform to the patient is too much for one man. We must remember that Dr Kohler's discovery of the local anaesthetic properties of cocaine was still about 7 years off so it is perfectly possible that Dr Davidson did indeed anaesthetise with chloroform and operate concurrently! (Quite stressful). The surgical Staff now recommended a properly qualified chloroformist be appointed - his duties to administer anaesthetics on the operating days in the Operating Theatre or otherwise on receiving proper notice, but without any prejudice to the right of the members of staff to administer or to instruct in the administration of anaesthetics in the wards or otherwise in emergencies. He was to be paid 20 guineas per annum the money to be taken from the money paid by medical students for their hospital tickets (their permit to attend clinical classes). However the Staff were of the opinion that the chloroformist's salary should come from other Infirmary funds as, the benefit is reaped entirely by the patient and the Infirmary and not by members of the Staff. The managers did not accept this and adhered to their original suggestion but reduced the salary to 12 guineas per annum. On 20th October 1875 Dr Patrick Blaikie Smith was appointed and continued in the post till 1886; the first step in a progression of specialist anaesthetists up to the present day. His appointment however caused some local comment as these quotations from The Northern Echo show (this was a weekly paper given to comment on North-eastern public affairs): Mr Patrick Bailie Smith has just been appointed assistant physician to the Royal Infirmary. The appointment has created some spirited feeling among the Board of Management, but now that it is settled, it is generally accepted that Mr Smith will prove himself equal to the situation,

and judging from his past career one can have every confidence in him. A month later it said, Apropos of the chloroformist vacancy at the Infirmary it strikes me that two of the candidates must be getting pretty familiar with the canvassing rounds now. This is not the first time these gentlemen have been on the tramp. It must be distinctly understood that the post does not go by merit; that is a very secondary consideration. About another month later, A Hospital Manager asks me to return his most sincere and grateful thanks to that active and busy bevy of cousins, uncles and aunts who did so much to clear up his hazy mind with reference to the merits of the successful candidate for the Hospital appointment of chloroformist. Of course as I stated before, merit was of very little consequence, for any appointment in an Aberdeen public institution family influence is the great and all-important factor. I have a strong regard however, for any man who, despite the fact that he is destitute of family connection, fights and well-nigh wins a battle, relying on his intrinsic merits alone! We must assume that Dr Smith was of some merit as he stayed the course for some years.

In December 1891 the Managers regularised the position of chloroformist making it as other officers of the Board, requiring annual re-election by the Managers' Court - virtually putting it on a par with surgeons appointments. No fatalities occurred in Aberdeen Royal till in 1895 it was reported to the Board that two fatalities had occurred but no details were recorded. In that year however the Infirmary made recommendations on the safe-keeping of anaesthetics and labelling of bottles and appointed an assistant anaesthetist. By this time the new surgical block had been opened for three years with two operating theatres as opposed to the one in the old hospital - one is forced to assume that for those three years the one specialist anaesthetist was either abnormally long-armed or had acquired an unofficial assistant. The senior and assistant anaesthetists continued to function on their own until 1937 when a second senior anaesthetist was appointed. From then to 1948 there were many assistants appointed to keep pace with the increasing work-load.

Let me now return to the questionnaire:-

Question 8. Have fatal accidents occurred in your hospital during the medical or surgical administration of chloroform and, if so, has the occurrence of such accidents led to any practical (even if not formal) restrictions as regards its administration as aforesaid?

Aberdeen: No fatal accident has lead to anything that the committee remembers anything about. Nothing in the Minutes.

Dumfries: One death occurred during the surgical administration of chloroform a few years ago. On that occasion the whole Resident and Visiting Staff were present. No other death has occurred from the administration of anaesthetics; (b) No.

Glasgow: Two cases during the last eight and a half years. Both deaths took place in the presence of one or more of the Visiting Surgeons. Second part, no.

Greenock: Yes - two. No restrictions of any kind.

Edinburgh: No restrictions. When practical the assistance of a brother resident is usually obtained.

Perth: None during 30 years, except one man who was moribund beforehand.

Dundee: None fatal; but several times in my early residence, in the hands of temporary assistants, and in cases of minor accident, there was a very uncomfortable amount of trouble. I grew in consequence more and more reluctant to let chloroform be given in such minor cases, and now, as a net result of eight years experience in a Hospital to which are brought the worst of the minor accidents of a town abounding in mills, I am perfectly convinced that chloroform, in the great majority of cases is given quite unnecessarily. Again cases of compound fracture and the like, so bad as to require chloroform for putting up, require also, the presence of the Visiting Surgeon. Moreover a certain proportion of chloroform cases can, by various expedients, be tidied over till next morning's visit. The expedients then that exist in this hospital for minimising the dangers of chloroform are these:-

(1) Avoiding the unnecessary administration of chloroform

(2) Throwing chloroform cases as much as possible on to the Staff list

(3) Making chloroform-giving a serious formality

(4) Having as much as possible, during chloroform-giving, a third and authorised person present, whose duty is simply to WATCH.

Question 9. Oblige by stating as nearly as possible,

(a) the number of surgical cases treated in your hospital per annum

(b) the number of operations presumably requiring anaesthetics

(c) the number of beds, distinguishing medical and surgical, and the disposition of these as regards the Visiting staff i.e. the average number assigned to each Physician and Surgeon?

| | a | b | c |
|---|---|---|---|
| Aberdeen | 1100 | 250 (including minor) | surgeons 41, medical 30,33 |
| Dumfries | about 200 | about 50 | 50 surgical |
| Dundee | 695 | chloroform was actually administered 120 times | 2 surgeons, 61 beds between them |
| Edinburgh | 3042 | operations in which anaesthetics are not used are extremely rare | 269 |
| Glasgow | 1814 | about 100 | surgical 180, 45 per surgeon |
| Greenock | no answer | no answer | 100, surgical and medical |
| Perth | 170 | 80 or 90 | 100, surgical and medical |
| Glasgow Royal Infirmary | 5500 | 950 | 500 plus, surgery and medicine |

The bald statement from Edinburgh in response to (b) covers the fact that at this time about 750 major operations per year were carried out

What did this questionnaire and the responses offer Glasgow Royal Infirmary in 1883 and what does it tell us today?

Firstly the UK return rate was about 60% and that of Scotland 100%; the latter a first-rate response at any time showing that the interest in the subject was there. It would have been clear to the enquirers that the variety of service offered was like the Curate's egg! They would be able to deduce that there was a mortality rate associated with general anaesthesia even if it was not large and that all was not perfect with this young discipline. They certainly would get the message that specialisation in anaesthesia was not a popular concept with surgeons, especially in the home of chloroform. In Glasgow the system was basically the same and they would see nothing wrong in the Edinburgh response nor would they perceive the need for change. Unfortunately the enquiry and its responses do not appear to have been aired outside the Glasgow Royal Infirmary - there don't even appear to have been any local meetings to discuss the results. This might have been the opportunity to propose specialisation! So the concept and the creation of the enquiry was excellent but the perception and dissemination of the message in the replies was poor.

Today we get a picture of this very young creation, Anaesthesia, in its birth throes and getting little help to reach even puberty, except in Aberdeen. There, in spite of a small throughput of surgical cases specialisation was perceived as being necessary. Perhaps the other centres would have moved more quickly if some of their surgeons had been like Dr Davidson, Ophthalmologist, more involved in the operator/anaesthetist scene. Then they might have appreciated the draw-backs of the combined work and realised that anaesthesia was not ideal for the most junior and menial workers in the unit. Dundee, in these formative years, undoubtedly suffered from a superintendent, being too anxious and strict. In any case the workload would not have supported a full-time anaesthetist and there were not student tickets in Dundee! I feel that Aberdeen must be given credit for being the first of the Scottish centres to appreciate the importance of specialisation in Anaesthesia and that Edinburgh and Glasgow lagged quite a way behind and some of the blame for this may well rest with the unit organisation of the surgical hospitals in those two larger centres. Anaesthetists were appointed by the Visiting surgeon, the Chief, and were entirely dependent on him as to what practical work they might perform in addition to instructing. They would indeed be entirely dependent on him for any income which would only derive from private practice. Further as a result of the unit system isolation of the ward theatre would be complete; this would mean that any help for the anaesthetist would only derive from the ward staff in the theatre area and this would be very limited. It follows that any of the retinue bringing the patient to the operating theatre might well be pressed into staying with the patient at least until surgery commenced. The evolution of the theatre orderly from the hospital porter is therefore obvious. In like fashion a nurse without any immediate duty might well be expected to be prepared to help at the induction of anaesthesia but would have to be immediately available to attend to any need of superiors or of the surgeon. It is evident from the prevarication that persisted from the eighteen eighties into the twentieth century that those august overlords, the visiting surgeons, saw no need for a change in the status quo and therefore saw no need to put into practice the legal recommendations. It is equally doubtful if any of those administrating the anaesthetics saw any real need for qualified help to be at hand. The persistence of the unit system has had effects on the discipline of anaesthesia, perhaps the greatest of these being the failure to develop the centralisation of theatres and recovery rooms with all the associated advantages in terms of economy of staff and availability of equipment etc. This, in terms of today's difficulties in theatre staffing has been very detrimental and one must hope that entrenched views on retaining old hospital premises will not obviate the future development of central operating suites.

A cynic might be forgiven for suspecting that perhaps the failure to build modern hospitals suitable to house theatre suites was not all due to shortage of central resources but just might be the death throes of surgeons fighting to retain their prized unit system. But this will ultimately change and will see all the advantages of the common theatre suite, with the pooling of experience, staff and all associated services for the benefit not of the surgeon or the anaesthetist but for the patient.

I wish to acknowledge the encouragement and help I received from Dr Michael Barfoot, Lothian Health Board Archivist, Miss F R Watson, Grampian Health Board Archivist, Mr A Tough, Greater Glasgow Health Board Archivist and Mrs J Auld, Archivist of the University of Dundee.

# Guest Lecture

# Dr Peter Baskett

Around the time that the Scottish Society of Anaesthetists was honouring Cecil Gray and Alfred Lee to be guest lecturers in the late 1950s a man called James Elam was discovering the rebirth of resuscitation as we know it today. The work was largely carried out in the city of Baltimore by Peter Safar who along with Henning Reuben. Safar was from Austria and like many people at the end of the war emigrated because there was no money in Europe to foster research and it was in the United States that they looked into the scientific basis for resuscitation. Management of the airway and the efficiency of mouth to mouth respiration was assessed in a curarised human volunteer and various methods were tried to see if they would work or not. Not the sort of thing that Ethical Committees would approve nowadays. Jude and Knickerbocker carried out some of the original work and they measured flows in the carotid artery and the systolic blood pressure during chest compressions. It was Safar and Reuben who put the act together and combined airway management and chest compressions. Hitherto they had tended to be very much separate - airway management was used particularly in patients who had drowned but the need for airway management and ventilation with oxygen in patients who had cardiac arrest was not appreciated. The chest compression side of things was very much devised by physicians who didn't bother about the airway, and it was Safar who introduced the sequences which have stood the test of time of over 30 years.

Despite all this, bystander resuscitation is not carried out well in many countries and clearly this is a very important aspect. There are a number of reasons for this. Many members of the public are quite interested to learn it but there are various problems of motivation which may easily lead to unrest. Most of us are fairly reticent and slightly embarrassed about getting involved and there is a great fear amongst the public in doing it wrong. Sadly nowadays there is also the fear of legal involvement and it is easier to pass by on the other side. The fear of catching a transmissible disease such as AIDS is also a factor. The vital sequences which must be followed in managing any cardiac arrest have been put together and called the chain of survival and these must quickly follow one upon the other. If one link in the chain is not there the system won't work. The first one is clearly to have someone - a colleague or assistant - if you are up in the mountains somewhere on your own and your friend collapses and dies there is very little can be done about it because you cannot get help. In an urban situation if the event is not witnessed and CPR commenced then all is lost - no matter how good the paramedic set up and ambulance service. It is now apparent that without early defibrillation the chances of patient survival are very poor but with early defibrillation the prospects for survival are remarkably good. Finally, to back all this up there has to be a good system at the hospital, and possibly in the ambulance where drug therapy can be given and all the other necessary support provided to amplify the early management. There should also be a fifth link in the chain to consider the patient's underlying condition. One of the problems is that although we successfully resuscitate a number of patients not many of these live for a long time and that is an area which needs to be addressed.

A Belgium study demonstrated that bystander CPR improves survival if this has been required for less than about fifteen minutes but after that time the survival rate falls. If there is no bystander CPR then the survival rate falls within a very short period of time. Survival rates of up to 80% have been obtained if defibrillation is done within 3 or 4 minutes. This falls to around 60% at 5-8 minutes, 40% at 7-8 and after 10 minutes it is down to under 20%. So it is very vital to be able to defibrillate the

patient within a very short period of time, ideally under 7 or 8 minutes.

One of the points that we need to address in teaching citizens CPR is should we aim for blanket teaching or should certain groups be targeted. Is there a need to adjust the course design, to look at testing methods and to look at the way we refresh people's knowledge from time to time? These are all areas that are being addressed and I don't think our teaching has been as good as it might be. Targeted groups who should have priority in learning CPR would include those who will be in charge of others - for example air hostesses, railway ticket collectors, those in charge of sporting events. If you have had one cardiac arrest it may be well to get your wife sharpened up a bit in terms of CPR so that if it happens again at least she would be able to do something for you. As you can imagine that is a group of people who must be considered on an individual basis. We are starting to do this and interviewing the relatives of people who have survived a cardiac arrest and trying to find out whether it would be a good idea to teach them or not. One of the important things to do is to teach people how to recognise the problem and make a correct diagnosis and how to motivate them to do something until calling the emergency medical services and that of course is in addition to being able to perform CPR. One of the disappointing things is that if you teach members of the public to resuscitate, the skills diminish with time. This is really very disappointing because you can run a huge programme to train people and then at the end of 6 months it needs to be repeated. One of the ways round this may be to introduce a reminder system on the telephone and I am delighted that this may be introduced on a national scale. Once you dial 999 someone would be able to offer you guidance. I did a small unscientific survey one Saturday afternoon when I brought 18 women and 13 men whose ages ranged from 22 to 62, to my house. Resusci Ann was on the floor and they were told to imagine that this is your nearest and dearest who has just collapsed - what would you do? A telephone was nearby and most of them dialled 999. When they rang 999 the call was routed to an extension and my daughter offered advice. I had previously instructed my daughter on what we were going to do. She asked where they were and who they are, that is always standard when you ring 999, and then a brief description of the patient's condition - were they conscious, were they breathing, were they blue, how old were they. Encouragement was given and the bystander asked if they would like help or guidance in resuscitation and helping the patient. Only two said no. Those who said yes were asked to check the condition and then given basic guidance on airway breathing and circulation. We kept them on the phone for 10 minutes and then said that the ambulance was here and thanked them for joining in the exercises. The results were quite interesting and in 21 out of the 31 had been satisfactory. Now this was only on the basis of the recording from the mannikin but nevertheless 69% were adequate. Some individuals hyperventilated and were blowing in over one and a half litres along with a chest compression rate of about 60, perhaps a little slow but reasonable enough and I would pass them. One overweight individual was inflating Resusci Anni with a tidal volume of about three litres and he was chugging along at about 20 compressions a minute, but meant well. Afterwards I asked if they had any previous experience or training in resuscitation and 5 of the 13 men had, some 2-8 years previously and 10 of the 18 women had between 2 and 15 years ago. These were as Boy Scouts, Girl Guides or various classes and of those who had previous experience the results were much better with 80% satisfactory, compared to only 50% in those who hadn't any previous experience. I think guidance on the telephone might be a way to go - it's cheap and all you have to do is to make sure there is somebody on the phone who will stay with you for 5 or 10 minutes or as long as it takes for the ambulance to arrive. I would think that is a possible way round the problem of deteriorating skills which go off so quickly.

What about the nursing staff in hospital? They don't like doing mouth to mouth resuscitation and prefer to use a self inflating bag and mask. Unfortunately many are no good at it. The gas all goes into the stomach or out the side of the mask and this is becoming more recognised and the Americans, in the advanced trauma life support and the advanced cardiac life support, now teach that use of a bag and mask is actually a two man procedure. Two hands to hold the mask on makes that job a lot easier and another person squeezes the bag. Now that's all very well but we don't have man power and women power to be able to cope with that. However I came across an interesting paper which showed that holding the mask on with one hand and squeezing the bag against your chest can provide a much better volume. Using the open palm method which is squeezing the bag against yourself or your leg

there is a reasonable tidal volume of over 600 ml. On your own, the average person with a hand, especially girls, can only manage about 500 ml with significant deviation around that figure. With two people, one person holding the mask on and another person with two hands squeezing a bag, then a tidal volume of almost a litre can be obtained. At the two hospitals where I work the bag and mask is available for skilled individuals, but the first line treatment and management of respiratory arrest is to use a simple, little pocket mask and these have become increasingly popular. Oxygen can be added via the little nipple on the side of the mask and although this will not produce a very high inspired oxygen concentration it should be quite reasonable. These have been proven to be better than using the bag and mask badly. We currently teach nurses firstly on mannikins and then on anaesthetised patients.

The management of the airway in the general wards of the hospital is appalling. The options are either a pocket mask as we do with perhaps an oropharyngeal airway or a self inflating bag and an oropharyngeal airway and as I think we all know the incidence of regurgitation and inhalation is phenomenal. One little study I carried out looked at all the patients who end up in the Coroner's department and found how that 60% of those who had suffered a cardiac arrest had inhaled. The laryngeal mask may be worth considering. Despite the reports of patients who have regurgitated around the cuff the other option is a naked airway with just an oropharyngeal airway down it. We have started to train our nurses in introducing laryngeal mask airways and initially we have kept it to the Coronary Care Unit because they are a small group of girls we can work together with and we know them all individually. We can make sure their training is up to scratch and they have started using this in cardiac arrests. The numbers are small so I wouldn't wish you to place any particular emphasis on it but so far the opportunity seems to have been good, they haven't had any problems in actually introducing the mask and of course once the mask is in, it can be joined simply on to a self inflating bag and better oxygenation is available. I am sure that during a large series there will be some cases with evidence of contamination of the airway but nevertheless I would hope that we might well have an improvement, not only in airway management but also in ventilation with reasonable oxygen percentages.

What then about the chest compressions? What has happened in that field since the initial work in the 1950s. About a decade ago simultaneous ventilation and compression was proposed, with the idea that a thoracic pump effect would be valuable and this worked well in certain animals. Generally speaking these were long thoraxed animals like pigs and some dogs and it seemed to work provided the animal was intubated, the chest compressions were carried out with a mechanical pump and the ventilation was performed with an automatic ventilator linked in through a computer system - not the sort of standard kit that we have in each ward. Sadly when this was tried on patients the results were not very good and only worked with intubated patients. So the practice was abandoned but many felt that the thoracic pump effect could have some potential value if it could be harnessed. The story moves on to last year in San Francisco where a rather unusual, extraordinary case happened. A seventy year old Iranian man collapsed and his son who had never been taught CPR at all but knew something about compressing a chest attacked his father with a drain plunger and pumped it up and down for the twenty minutes it took for the paramedics to arrive. They continued with conventional CPR and the patient recovered. The paramedics and the receiving doctor thought there was something in this and the Cardiology Department in the University of San Francisco took this up to see if something could be made which could imitate a drain plunger. AMBU have made a device and called it ACD - active compression and decompression. If we think back on our old concept of curasses there may well be something in this. Compression is carried out at the same rate as normal - 70 or 80 per minute with 50% of the cycle in compression and 50% decompression. The decompression should be about 20 lbs negative pressure and the positive pressure should be around 60. I had 60 lbs on my chest and I can manage that all right, but 90 and it is extremely sore. Animal work in America has shown that systolic pressures of up to 100 mmHg can be obtained. This has been followed with trials on patients and radical improvements noted. At present there are multi centre trials in San Francisco, in Minneapolis and in Bristol. We are doing two little projects - one is with pre-hospital CPR - we are issuing this to 20 ambulances in Bristol - we are teaching the people how to use it and then intend to carry out a randomised trial in the ambulances on front line duty. It's difficult to get numbers of significance in resuscitation but we would hope to study about two

or three hundred cardiac arrests each year in a city the size of Bristol. The other little project is to measure end tidal CO2. These would be patients in the Coronary Care Unit and in the Accident Department and who will have a period of 5 minutes standard CPR, then an endotracheal tube will be passed and ventilation continued with a standard automatic resuscitator so that the ventilation doesn't vary and we will alternate between standard and ACD CPR over periods of 3 or 4 minutes for each technique and look to see if there is any difference in the result.

It was Broadbeck in the 50s and 60s who coined the phrase 'Heart too good to die' and many people develop ventricular fibrillation without myocardial infarction and probably about one third of those who develop a cardiac arrest do not have a myocardial infarction. In this group once the patient is defibrillated he is as good as new - it was as if cardiac arrest had not occurred. So there's no doubt that the advent of early defibrillation has made a tremendous difference to the potential outcome. If nothing is done for 10 minutes there are virtually get no survivors. Early bystander CPR buys time and defibrillation at about 8 or 10 minutes will result in 2% to 8% survival. Advancing the time of defibrillation to about 6 minutes with good bystander CPR will give about 20% survival. The ultimate in our paramedics and our hospital cardiac arrest teams is to have early bystander CPR, early defibrillation and early ACLF which means giving adrenaline in the early phases of cardiac arrest and then the survival rate should be above 30%. Widespread defibrillation has been made possible with the advent of the semi automatic defibrillator which takes the diagnostic skill away from the operator - all they have got to do is to apply the paddles and to turn it on and do what they are told and this has transformed the availability of defibrillation throughout the ambulance service. We have been using defibrillation since 1972 but now have dropped almost all of our old manual defibrillators and gone on to semi automatic ones. Work from Sweden confirms that early defibrillation gives a longer period of time with high survival rates, above 50%, but after about quarter of an hour it declines.

One of the first really widespread schemes to equip ambulances with semi-automatic defibrillators was in Scotland. 1,111 cardiac arrests were studied of which 54% were in a defibrillatable rhythm and in these 30% had a return of spontaneous circulation. Only 12.5% survived to discharge but there would have been a much higher survival to discharge if the arrest had been witnessed. Clearly the best thing for you is to have the arrest in the presence of the paramedic and be defibrillated there and then before your brain has time to go blue.

It is interesting that all of these results we have seen from Belgium, from Sweden, from the United States and indeed from Scotland, have shown that early survival rates of 30-40% can be easily achieved. But late survival figures are not very good - around 10 or 12%- and perhaps we now need to add another link to our chain of survival which should be the management of patient in the post arrest phase. This may include better management of hypertension and the various other underlying problems that caused the cardiac arrest in the first place, better management of the patient in that respect and I feel sure that we soon will be giving anaesthetics a lot more for patients having implantable or implanted defibrillators and that is now a huge market in the United States - we have started doing this in Bristol and I think it is going to be a much bigger market, something along the lines of putting pacemakers in. It may well be that this can be carried out under local anaesthesia but usually general anaesthesia is used and it is a very sporting performance because they defibrillate the heart just to see if the things works.

I think it should be our aim to have every nurse who is detailed to be in charge of a ward be trained to defibrillate. It is already occurring and has occurred for a long time in Coronary Care Units and I don't see why it shouldn't emerge outside into the general wards of our hospitals and I would hope that that would be followed by considerable improvement.

The European Resuscitation Council was launched about three or four years ago with the object of improving resuscitation throughout Europe, rather as the European Academy of Anaesthesiology was launched to do the same job, it's not so elitist as the European Academy and may have a better future because of that. But it started with the idea of doing all the good things, producing guide lines, making sure we critically review our guide lines regularly to make sure they stood up to scientific scrutiny, recording audit, teaching, research and it has got off to a remarkably good start. It met with its counterpart which is the American Heart Association to produce a glossary of agreed terms

so that we all know what we mean by basic CPR; we all know what we mean by an automatic defibrillator, these were all defined and it was surprising how much disagreement there was. We also sat down and produced reporting guidelines so that when a series of patients with cardiac arrests was reported, comparisons could be made. The concept of minimal and optimal data was described. The optimal data for a population served includes many things, the gender, the education levels of the people there, the socio-economic grades, age ranges, and their incidence of death due to ischaemic heart disease and trauma and so on and so forth. The minimum data consisted of those items which had to be listed in any publication. We also designed reporting templates and these are the various steps which you should record starting off when the collapse is recognised by the bystander, when the first CPR is done by the bystander, when the call is sent and received by the professional Emergency Medical Service, all the various steps that occur during the management of a cardiac arrest outside hospital and as you go down the group you can score how many survived in that group and then move on to the next one. You know you can take how many were in ventricular fibrillation, what was the percentage of those who had a cardiac arrest, what percentage were in ventricular fibrillation, what percentage survived after ventricular fibrillation and so on, so that has been published. The good news is that the various national international organisations are now talking to each other. For some years, the Americans have dominated guidelines and standards for CPR and I think a number of us were not entirely happy with all the recommendations that they were making and to their great credit they have invited the European Resuscitation Council to come to their meetings and they have been remarkably generous in opening their meetings and listening to what was said. Hopefully there is room for considerable co-operation in the future. One of the things that is nice as anaesthetists is the great appreciation of the importance of the airway, there is a greater appreciation of the need for some laxity in assessing bystanders rather than labelling as failed those whose performance is only marginally less than perfect. The other thing that was debated long and hard was the dose of adrenaline and I think we should be giving more adrenaline - that was already coming in to clinical practice. In the early days when I started an interest in CPR the dose of adrenaline was about 0.2 mg. It is now 1mg initially and a further 1mg every 5 minutes up to 5 mg. It hasn't gone beyond that and I think probably most people are happy with that but there were some Americans who wanted to give 15 mg of adrenaline. This did appear to be a bit heavy handed but they had some remarkable survivors with such large doses. The message is coming through that virtually everybody who has a cardiac arrest whether it's ventricular fibrillation or asystole should have adrenaline right away unless they are immediately defibrillated.

Finally the Chief Medical Officer has pointed out that our ombudsman had given a certain district health authority a ticking off because a son had complained that his mother had been labelled not to be resuscitated for 5 days and then actually got better and survived. It was the old story that the consultant was never available to talk to him and the health authority hid behind every possible legal loophole and it was five months before he could get an appointment to see anyone. There has been a move afoot to develop a 'Do not resuscitate' policy for the country and this was sparked off by the Royal College of Nursing who went to the BMA and pointing out that nursing members are complaining that the consultants or the medical staff will not make a decision. They wonder about and won't write anything down, they have a person who is dead and dying and there would be no wish to resuscitate but they don't actually write it down. The nurse resuscitates because she can do nothing else. They feel bad about that and I think that does need looking into and indeed there has been a little group formed from, the BMA and the Royal College of Nursing, and I am pleased to say the Association of Anaesthetists was represented within the BMA group there and they have produced a draft document which I think will be very helpful to all of us. The ombudsman's real moan was that the consultant had made up his mind one day that this patient was not for resuscitation; mentally noted the next day that she was getting better, but he didn't tell his registrars or any of his junior staff or any of his nurses, he just changed his mind and expected somehow magically this to be communicated. So clearly it's an area we need to address and need to look at to improve our general resuscitation policy.

# AIRWAY CARE FOR ALL?

Dr Paul D Martin
Senior Registrar
Aberdeen Royal Infirmary

Concerns regarding the poor resuscitation skills of pre-registration house officers expressed in the past with recommendations for improvement have resulted in improved theoretical knowledge, but no improvement in the practical skills of ventilation.

The provision of adequate ventilation via a clear airway is the essential first step in all modern resuscitation protocols and the teaching of this skill has been described as the "sine qua non" for the anaesthetist in medical education. Much of the current training in airway care utilises manikins which, although useful, are a poor substitute for the unconscious patient and it is increasingly recognised that, in addition, trainees should be brought into theatre and recovery wards to learn airway care.

In our institution would-be learners of airway management skills include trainee anaesthetists, other clinicians (A&E, CCU personnel, paediatricians and GPs), undergraduate medical students, qualified and trainee paramedic ambulancemen and nursing staff. Such large numbers threaten to overwhelm the available commitment of the local department and necessitates efficient allocation of staff and theatre sessions for such teaching.

In an effort to identify appropriate sessions and efficiently allocate students to them, a series of audit exercises was carried out.

## METHODS and DATA

Over a four week period the number of elective patients undergoing general anaesthesia was recorded along with whether they were intubated and, if so, whether they were regarded as suitable teaching material and, if not, why not. There was 100% compliance in completion of the audit forms. The figures are therefore an accurate reflection of airway management in our hospital. This demonstrated that over that period 2099 GAs were administered, of which 943 (45%) were intubated and, of these, 614 (29%) were regarded as suitable for teaching. Detailed analysis of each session allowed identification of those with a high frequency of intubated patients suitable for teaching. Similarly, lists with no intubation and a high turnover of patients having mask airway maintenance were readily identified. Finally, lists utilising advanced airway techniques and suitable for anaesthetic trainees were identified.

It is interesting to note the reasons why patients were regarded as unsuitable for teaching intubation skills. 22% were recognised as anticipated difficult intubations; 17% as an aspiration risk; 24% were not suitable, as a special technique (nasal intubation, awake intubation, double lumen tube etc.) was employed. 11% of intubated patients were babies and not regarded as suitable teaching material for non anaesthetists and 19.5% had co-existing medical disorders (mostly ischaemic heart disease and hypertension) precluding teaching. The remainder were members of staff or their relatives. Six patients presented with unanticipated difficult airways.

There was a view expressed that the total number of patients who were being intubated was falling, particularly since the introduction of the LMA. A second survey once again studying all anaesthetic sessions revealed that LMAs were being used in 16% of patients undergoing general anaesthesia, and, of these, 29.5% would have been intubated if LMAs had not been available.

Finally, following comments and suggestions on the audit forms, it was clear that a variety of opinions on training in airway management existed. A questionnaire was sent to 32 senior anaesthetic staff in the region of whom 27 replied.

The first question sought to assess attitudes to training of undergraduate medical students, non anaesthetic medical personnel, nursing staff and paramedics in those airway skills practised in theatre, namely, bag and mask airway maintenance, endotracheal intubation and LMA insertion.

All respondents, with one exception, felt all groups should be taught bag and mask airway management (the dissenter considered that nurses should not be taught any of the airway skills used in theatre unless they were to be employed in particular circumstances e.g. Forces RGNs).

21 (78%) of the 27 respondents felt that medical students should learn intubation skills but only 16 (59%) considered they should be taught LMA insertion.

24 (88%) considered non anaesthetic clinicians should be taught how to intubate, but only 17 (63%) felt they should learn LMA insertion.

For nurses, only 8 (29%) out of 27 felt endotracheal intubation was worth teaching, but 11 (40%) felt LMA insertion should be taught to this group.

Finally, the figures for paramedics were 19 (70%) for intubation and 17 (63%) for LMA insertion.

The second question asked those who regularly anaesthetised children whether they considered such skills should be taught using anaesthetised children. 14 qualified their answer and a variety of opinions resulted. 4 gave an emphatic NO for all groups, with the rest giving a qualified Yes with provisos confining teaching on children aged 3-5 years and over and to clinicians (particularly paediatricians) and paramedics only.

The final question asked who should teach any trainee groups and when. 16 of the 27 respondents felt that any training should be supervised by them on their own lists. In addition 17 considered that training could be supervised by designated individuals on designated lists. Only 3 were happy for other supervisors to teach on their lists.

The space provided for additional comments was used to express concerns over adequate numbers of suitable patients for all groups of trainees, and that the needs of trainee anaesthetists should not be compromised. Other comments emphasised airway care by mask technique as the skill of choice for most groups, the need to address the problems of retaining learned skills and the issue of informed consent (vide infra).

The findings of these audit exercises have enabled our department to improve the design of courses in airway management. Appropriate sessions for maximum experience in endotracheal intubation and mask airway maintenance have been allocated to undergraduates and paramedics according to their curricula. Continued audit will demonstrate whether these curricular needs are met and whether other groups might be accommodated.

## DISCUSSION

*Why bother? Is training in airway care for non anaesthetists worthwhile?*

There is no doubt that failure to maintain a patent airway is a common cause of avoidable death in unconscious patients. Moreover, in socio-economic terms, resuscitation represents good value for money compared with many other activities in medicine. Despite the poor UK experience, after the introduction of a mandatory Advanced Cardiac Life Support (ACLS) course for medical house officers in three US hospitals, survival after in-hospital cardiopulmonary arrest was significantly increased.

Locally there is no remuneration for in-theatre teaching, and in a climate of increased financial accountability and budget holding such activities may represent a source of income generation. Alternatively, a sessional allocation may be appropriate. Finally, one to one teaching can improve interspecialty relationships and attract enthusiastic clinicians and undergraduates to the specialty.

*Who should learn airway care?*

Despite the varied views expressed in our questionnaire, the Royal College of Physicians have made recommendations as to which groups should receive training in airway management.

The groups presenting to our department have already been described, but it is worthwhile noting that in Scotland, emergency care in remote areas relied heavily on GPs and ambulance personnel, and airway securement of ill patients is essential before they are transported. Indeed these are the only two groups who have nationally agreed requirements and examination in the proficiency of airway skills. However, until sufficient resources are made available it is probably wise to exclude those groups who are unlikely to need to use these skills.

*What should be taught?*

In the operating theatre anaesthetists maintain an airway most commonly by one of three methods; oro-nasal mask, endotracheal intubation and LMA insertion. There is no doubt in the minds of most that everyone should learn and be proficient in airway care by bag-mask-valve techniques. The issue of

tracheal intubation is a vexed one. While it is regarded as the gold standard of airway securement, it is not without complications and is not for the inexperienced. Certainly, the majority local view is that medical students, other clinicians and paramedics should learn this skill.

The Laryngeal Mask is still to find its place in unskilled hands but recent studies have shown that Naval ODAs and nurses can learn its use and ventilate at least as well as with mask techniques and almost two-thirds of those answering felt undergraduates, other clinicians and paramedics should learn its use.

The difference between seeing a technique and being proficient and examined in it should be emphasised. For example, a clinical undergraduate may benefit from seeing endotracheal intubation, but not need to be proficient at it until he or she becomes a member of the resident medical staff.

*How often should they learn?*

There is no doubt that "one-off" training in airway care is valueless unless practised. Such skill retention may be achieved by regular encounters with patients requiring those learned skills. More often, though, it is necessary to attend refresher courses. There is little information on how often refresher courses should be held to retain these particular skills, but experience in Cambridge suggests six-monthly for junior doctors is sufficient.

*Who should teach?*

In addition to regular practice the quality of teaching is a factor in retaining taught skills. The underuse of academic departments of anaesthesia has been emphasised. In Scotland there are only two academic departments with eight full-time staff, who have a commitment to research as well as teaching. It is plain that the bulk of in-theatre teaching of practical skills will always lie with NHS anaesthetic departments. It is well known that not everyone who can do, can teach, and whilst the majority of local personnel were happy to teach on their own lists, it may be of benefit to them and their trainees to learn teaching and communication skills in a formal way. The introduction by the College of Anaesthetists of courses "Training the Trainers" is designed to provide this.

While this essay is concerned with in-theatre training on anaesthetised patients, it is remembered that such teaching is complementary to other training. Anaesthetists are attending Advanced Trauma Life Support (ATLS) in increasing numbers and being selected to train as ATLS instructors and will receive specific instruction in educational methods.

*The medico-legal situation*

The issue of liability for a mishap befalling a patient at the hands of someone learning airway skills under supervision needs to be addressed. At present there are attempts to design a consent form to include agreement to being used for training while undergoing surgery and anaesthesia. Current advice is that each case would be considered individually, but broadly speaking, most Health Boards would accept liability for medical students and Health Board employees undergoing training, provided they had been informed that such training was taking place.

*Other Considerations*

Finally, if anaesthetists are to become more involved in demonstrating and teaching their skills to others, theatre administrators and surgeons will have to accept longer lists or fewer patients on them.

**SUMMARY**

1. In-theatre teaching of airway maintenance is a valuable but underused adjunct to other training in resuscitation.
2. Such a commitment, places a considerable burden on Anaesthetic department resources.
3. Audit of anaesthetic management is easy to do and allows efficient allocation of resources (staff and sessions) for such teaching.
4. If such work is undertaken, it may be appropriate to allocate sessions or charge for it.
5. It is probably beneficial for would-be teachers to be taught teaching methods.
6. The medico-legal situation particularly with regard to informed consent for patients on whom it is proposed to teach needs to be clarified.

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The second prize went to Dr P Sanderson, Royal Infirmary of Edinburgh for an essay entitled Airway Management in Patients with Dentures. 121 women who normally wore dentures were visited prior to gynaecological surgery and asked whether they would prefer to wear their dentures peri-operatively and whether or not they thought their dentures were a good fit. They were then randomly allocated to two groups - one keeping their dentures in and the other taking them out. The complication rates between the two groups were then compared in endotracheal tube, laryngeal mask and face mask anaesthesia. In those patients retaining their dentures, a correlation was sought between the complication rate and whether the patient thought that the dentures were a good fit. The majority of women preferred to retain their dentures and they tended to be younger. Those patients who retained their dentures showed no difference in complication rate in endotracheal tube and laryngeal mask anaesthesia. In face mask anaesthesia there were significantly less complication compared to those who had their dentures removed.

The third prize went to Dr JA Freeman from Glasgow for an essay entitled Pulmonary Function Tests before and after Laparoscopic Cholecystectomy. Twenty two patients took part in a prospective observational study of pulmonary function before and after laparoscopic cholecys-tectomy. The results showed that there was a small but statistically significant reduction in FRC post-operatively and that there is much less disturbance of pulmonary function after this operation compared to upper abdominal laparotomy.

# Registrars Meeting
# Ninewells Hospital Dundee, 31st May 1992

Tom Houston and his colleagues organised an excellent scientific programme for the Annual Registrars' meeting. The President, Dr J Wilson, welcomed a large audience to a symposium on Pain and the morning session was chaired by Dr J Colvin with addresses on topics related to acute pain. After lunch, Dr John Bannister chaired a session where attention turned to problems in chronic pain.

**Non Steroidal Anti-Inflammatory Drugs (NSAID) in Postoperative Pain**

*Dr Mel Thomson, Consultant Anaesthetist, Ninewells Hospital*

Perfect analgesia remains an elusive goal. As anaesthetists, we strive for the safe conduct of our anaesthetics. Postoperatively we should be equally determined to provide optimal pain relief for our patients. Traditionally, opiates have been the mainstay of post surgical analgesia, with success, but equally with significant side effects.

Dahl et al coined the concept in 1990 of balanced analgesia and showed that using a combination of intrathecal, extradural (local anaesthesia and opiates) and NSAID, in patients undergoing abdominal surgery, a high percentage of complete analgesia could be achieved. The NSAIDs, a component of this regimen, are the group of drugs which attention has swung back to in recent years.

First used in medieval times as a herbal extract of Salix Alba, the common willow, salicylates were the mainstay of this group of drugs until the 1970s when the Arylalkanoic Acid derivatives were developed. Vane in 1971 discovered the inhibition of Prostaglandin Synthetase. Deeper understanding of the local tissue response to injury and the chemical mediators involved has led to increased interest in modification of this response by the NSAIDs. In a recent review by Dahl on the use of NSAID for postoperative abdominal surgery pain, eleven out of thirteen studies showed significant pain reduction or decrease in opiate requirement or both. In a further six studies on orthopaedic surgery patients, similar benefit was obtained in all, although this was only modest in one. In Dundee two studies have supported these results. Piroxicam for patients undergoing total hip replacement reduced the opiate requirement by 50% and in dental surgery produced a similar marked reduction in opiate requirement. There is therefore a fair body of scientific evidence to support the beneficial effects of NSAID in acute pain relief.

When we look at the best option, there is not a lot of evidence to differentiate one NSAID from another. In safety terms for chronic administration Ibuprofen and Ketoprofen appear to have the best record. There is no comparable data for short term use. Pretreatment appears to give the best results and this is in line with current concepts of pain mechanism and with work by McQuay in respect of opiates and local anaesthesia. NSAID may be administered orally, rectally or intramuscularly. There have been however reports of local tissue injury in association with intramuscular use of Diclofenac. There are as yet no licensed intravenous preparations in the United Kingdom.

Four areas of concern are apparent regarding systemic side effects related to use of NSAID.

Gastrointestinal with gastric mucosal damage.

Haematological with prolongation of the bleeding time by inhibition of thromboxane a2 and consequent reduction in platelet adhesiveness.

Renal with reduction of prostaglandin mediated regulation of renal blood flow.

Respiratory where severe bronchospasm may be precipitated in asthmatic patients with aspirin intolerance.

In conclusion NSAIDs are a valuable component of balanced analgesia and can replace opioids in most minor surgery patients and many intermediate surgery patients. Caution must be used in patient selection because of the documented potential for significant side effects.

**The Acute Pain Service in Dundee**

*Dr John Bannister, Consultant Anaesthetist, Dundee*

Over the past year we have established a consultant based acute pain service in Dundee. The service now operates throughout the general surgical and

neurosurgical units. Two consultant anaesthetists each have one (flexible, eighth) session allocated to acute pain, and the on call is covered principally by four consultants with an interest in pain. We have been fortunate to secure funding for a senior charge nurse for the service. This has significantly improved both our ability to oversee patient's management and communication with the ward staff.

Although we have a remit to advise on any acute pain problem, most of our patients are post-operative. The service is based around PCA, and formal protocols are laid down to standardise treatment as far as possible in order to minimise errors in drug administration. Our standard prescription is for Morphine sulphate 1 mg/ml, 1 mg bolus, 5 minute lockout. It is rarely necessary to amend this regime. The drug comes in 53 ml single use vials (one syringe plus line dead space) to avoid errors in dilution and introduction of infection. We have found the Graseby series of PCA pumps to be satisfactory, and these are connected to a dedicated cannula or a Bard PCA set with one way antisiphon valves.

A survey conducted into the attitudes of nursing and resident medical staff on wards with and without the benefit of the acute pain service revealed several interesting points. Both medical and nursing staff were poorly educated about the severity and duration of post-operative pain, the response to opioids and risks of addiction in short term use. They feel that before the advent of the APS, acute pain was poorly treated, and is now significantly better treated. They felt that nursing workload was reduced and junior medical staff workload increased, with the rider that doctor patient relationships were improved.

The introduction of our acute pain service has had a great impact on the lot of the post operative patient in general and neurosurgical units. We look forward to extending it to the rest of the acute services in Dundee.

**Peripheral mechanisms in pain: advances in pharmacology**

*Dr D McQueen, Senior Lecturer, Department of Pharmacology, University of Edinburgh*

The lecture reviewed the role of peripheral sensory nerves, particularly unmyelinated slow conducting polymodal C fibre nociceptors, in the process of sensitisation that results in primary and secondary hyperalgesia in response to local injury. Various mediators thought to be involved in neurogenic pain and inflammation were considered, including histamine, 5-hydroxytryptamine, bradykinin, eicosanoids, tachykinins, opioids, interleukins and nitric oxide. Considerable advances have been made recently in our understanding of the pharmacological receptors on which these mediators act, and this information has enabled new drugs to be developed which will act selectively at these receptors. The use of existing analgesics, including local anaesthetics, needs to be re-examined in the light of current knowledge.

Neuropharmacological studies on nociceptors in rat ankle joint, with or without adjuvant-induced chronic inflammation and arthritis, enable the actions of drugs to be studied on peripheral sensors. Experiments with 5-hydroxytryptamine have shown that 5-HT3 receptor antagonists such as ondansetron are able to block the rapid excitation and sensitisation of nociceptors induced by the amine, whereas the 5-HT2 antagonist ketanserin blocked the delayed activation of these sensors. Recent human studies with the 5-HT1 - like agonist sumatriptan have shown it to be very effective in relieving the pain of migraine, possibly by acting against neurogenic inflammation in cerebral blood vessels (see review by Saxena & Ferrari, Trends Pharmacol.Sci., 1989, 200-204).

There are also exciting therapeutic prospects in the eicosanoid field where the receptor classification for prostanoids and leukotrienes has facilitated the development of selective agonists and antagonists. Paracetamol and aspirin reduce the discharge from sensitized rat joint nociceptors and discharge can be restored by injecting prostacyclin (PGI2) or cicaprost, a stable IP prostanoid receptor agonist but not by PGE2. New drugs are being developed by pharmaceutical companies with the aim of blocking unwanted actions of eicosanoids, leaving other beneficial actions unaffected; MK886 binds to FLAP (5-lipoxygenase-activating protein) and stops the translocation of the protein from the cytosol to the membrane where it is required for leukotriene production.

Rapid progress can be expected in establishing the role of tachykinins (Substance P, neurokinin A, neurokinin B) and their interactions with other peptides (e.g. opioids, bradykinin, CGRP) in neurogenic inflammation because their receptors have been characterised and potent selective antagonists are now available, such as the NK1 antagonist CP 96,345. The recent discovery of

capsaicin receptors on nociceptors, and the emergence of a capsaicin receptor antagonist (capsazepine), has fascinating implications, and bradykinin antagonists (B2 antagonist Hoe 140) look promising as potential analgesics, as do interleukin-1 antagonists. Nitric oxide could be a key endogenous mediator of inflammation and pain. Some chronic pain conditions respond well to sympathetic block, and the role of the sympathetic nervous system and adrenoceptors in hyperalgesia is becoming clearer.

The recent advances in understanding the mechanisms involved in pain and the identification of mediators together with characterisation of their pharmacological receptors will lead to the development of new peripherally-acting analgesics and better treatment for patients.

**Neurosurgical techniques in pain control**

*Mr TRK Varma, Consultant Neurosurgeon, Dundee*

A number of neurosurgical treatment modalities are available for the management of chronic pain and these include:

Neuro-modulation techniques - Electro stimulation

There have been major advances in the equipment and techniques available for electro-stimulation of the nervous system. Transcutaneous nerve stimulation is now routinely available in most centres, while peripheral nerve stimulation has proved less popular. Spinal cord stimulation is now a well established technique and is used both for the treatment of neurogenic pain, and the pain of peripheral vascular disease. There is also interest in the use of spinal cord stimulation for the treatment of intractable angina. The electrodes can be placed either percutaneously or by laminotomy with the receiver positioned sub-cutaneously at a convenient site. The mode of action of spinal cord stimulation remains uncertain.

Deep brain stimulation for the control of chronic pain is a less widely available technique, and requires the facility for stereotactic surgery. The commonly used targets in the brain are either the sensory nucleus of the thalamus or the periventricular grey areas (usually the periaquaductal grey matter). It seems very likely that periventricular grey stimulation relieves pain that is sensitive to opiates whereas thalamic stimulation relieves neurogenic pain that is resistant to opiate therapy.

Ablative lesions of the central nervous system

Over the years ablative lesions of the central nervous system have been carried out at every possible site from a peripheral neurectomy to a cortical gyrotomy. It is now clear that most peripheral ablative lesions carry an extremely high risk of denervation syndromes and so are best avoided. There is, however, a limited role for cranial rhizotomies, especially in cranial neuralgias and pain due to head and neck malignancies. Ablative procedures of the trigeminal ganglion remain one of the main stays of treatment for trigeminal neuralgia.

Ablative procedures of the spinal cord include cordotomy (anterolateral tractotomy), myelotomy and dorsal root entry zone lesions.

Cordotomies can be carried out either percutaneously or by laminectomy. In the latter case a method of awakening the patient during the procedure to confirm satisfactory lesioning is described. The percutaneous technique has major advantages because of its low morbidity and the fact that it is tolerated by ill patients. Physiological localisation is carried out by stimulation through the lesioning electrode, and allow for accurate identification of the spino-thalamic tract. The complications of percutaneous cordotomy include ipsilateral motor weakness, bladder dysfunction, respiratory insufficiency and dysaesthesia.

Respiratory insufficiency occurs most commonly in bilateral cervical cordotomies and in patients with severe reduction in lung capacity. Bilateral cervical cordotomy is not advocated because of the very high incidence of respiratory failure. Bilateral lower limb pain can however, be controlled by a percutaneous cordotomy on one side and an open thoracic cordotomy on the other side.

Commisural myelotomy involves cutting the spinal cord in the midline over a number of segments, thereby interrupting the crossing spino thalamic fibres. This technique allows for the control of bilateral limb pain, but involves a major laminectomy and carries the very much higher morbidity.

Dorsal root entry zone lesions i.e. thermal lesions carried out in the region of the dorsal root entry zone of the spinal cord which is exposed by laminectomy, has been tried for a number of deafferentation syndromes. This has been most effective in the management of pain due to brachial plexus avulsion,

and less effective in other pain syndromes.

**Drug Delivery Systems.**

There are now very sophisticated systems of instilling analgesic drugs, either into the spinal subarachnoid space or the cerebral ventricles. Very expensive infusion devices allow for accurate continuous infusion of drugs, but the cost of the system limits its use. The less expensive manual systems are very effective in the short term administration of opiates for patients with terminal illness. The spinal intrathecal catheter is placed percutaneously and the catheter tracked subcutaneously to the administration device which is placed in the subcostal region. By the sequential compression of two buttons the patient can administer a fixed dose of drug.

**Pituitary Ablation.**

Pituitary ablation has been used over the years for the management of pain due to metastatic breast carcinoma. The ablation can be carried out either by transnasally placed radioactive substances or transnasally injected alcohol. Trans-sphenoidal hypophysectomy is now rarely used because of availability of other non-surgical methods of pain control.

**Treatment of the Cause**

In a number of situations it may be possible to control pain by treating the cause of the pain even in metastatic malignant disease. Pain of metastatic deposits in the spine causing instability can be treated by surgical fusion. Microvascular decompression for trigeminal neuralgia aims to treat the pain by removing the cause of neuralgia i.e. vascular compression of the trigeminal nerve. There is, however, some debate as to whether or not vascular compression is the cause of trigeminal neuralgia. It remains a very effective and non ablative technique of pain control in the cranial rhizotopathies.

**Chronic Pain**

*Dr Bill Macrae, Consultant, Dundee Pain Clinic*

Medical treatment is usually based on models of disease. In chronic pain the model that existed up until the 1960s was based on Descartes' writings of the mid 17th century. A painful stimulus occurs in the body, either somatic or visceral, and this is relayed through nerve fibres to the spinal cord and then up the anterolateral spinothalamic tract to the brain where it reaches consciousness. The implications for treatment were that if you interrupted the transmission pathway you would stop the pain. This led to numerous neurosurgical approaches, to ablate nervous tissue in order to stop pain. In general, these ablative techniques not only failed to relieve the pain, but produced significant morbidity. This theory is not wrong but it is inadequate.

When Melzack and Wall published the Gate Control Theory of pain in 1965, the model changed so that spinal cord modulation became conceivable. Later with the discovery of descending control from the brain to the spinal cord, it became clear that higher centres had a modulating effect in addition to the spinal cord modulation produced by peripheral afferent input. As a direct result of the Gate Control theory, stimulation analgesia was developed and this is now used successfully to treat many patients using acupuncture, transcutaneous nerve stimulation (TENS), and dorsal column stimulation (DCS). The theory also provoked an explosion of interest and research in the dorsal horn of the spinal cord, where the mechanism is thought to be located.

In the early 1970s opioid binding sites were identified in nervous tissue and the enkephalins discovered. This led to the clinical use of spinal opioids and generated additional research into opioid ligands. Further transmitters were also discovered, falling into three main groups, peptides such as enkephalins and dynorphins, monoamines, such as 5HT and amino acids such as aspartate and glutamate. This has led to the use of novel compounds, not formerly thought of as analgesics, to treat pain, for example tricyclic anti-depressants and clonidine. It has also provoked interest in new types of receptors such as the N methyl D aspartate (NMDA) receptor.

The Gate Control theory still serves as a powerful tool to explain many phenomena, but it too is no longer adequate. For example it cannot explain when in nerve damage pain the stimulation of A mechano-receptor fibres produces pain. According to the Gate Control theory these fibres should produce inhibition at the dorsal horn, closing the gate. In the past five years the realisation that the nervous system is not hard wired but can change with time has produced a new model. It is now thought that changes can occur both at the periphery and centrally at the spinal cord. The NMDA receptors may be involved in these

changes, switching on 3rd messengers or early onset genes such as C-fos, which alter excitability states and synaptic effectiveness so that different patterns of activity reach the CNS. This "plasticity" in both the peripheral and central nervous system may explain some of the phenomena that are seen clinically in patients who suffer chronic pain, and whose symptoms up until now have defied rational explanation. New knowledge and understanding may lead to new treatments in the future. In the meantime it should make us believe what our patients tell us about their pains and accept the definition that "pain is what the patient says hurts".

## PAIN THERAPY IN PRACTICE

*HTO Davies, Research Fellow*
*Department of Epidemiology and Public Health*
*Dundee University, Ninewells Hospital & Medical School*

An explosion of interest in pain followed Melzack and Wall's Gate Control Theory in 1965. The increase in understanding of both peripheral and central mechanisms led directly to the development of wholly new treatments (e.g. stimulation), new approaches to existing therapies (e.g. new routes of administration of opioids) and the decline in use of previously established modalities (e.g. neuro-ablation). With such advances it might be thought that good pain control would be achieved in most instances. This is not so.

An examination of the quality of pain relief in different settings shows a large gulf between what is possible and what happens in practice. The inadequacy of post-operative pain relief has been described as shameful despite the efficacy of opioids. Many studies show that 50-80% of patients with cancer have moderate or severe pain, yet it is commonly estimated that only 5% with unrelieved pain is a realistic goal. Vulnerable patients groups are even more poorly served: neonates may receive no anaesthesia during surgery and opioids are used very sparingly for infants, if used at all.

The most important reasons for inadequate pain relief are what have been termed "the myths of morphine", including: that respiratory depression is a serious problem in chronic pain; opioids cause addiction and opioids are rapidly tolerated. The supporting evidence for each of these is limited (for example, a study in Boston could find only one serious case of addiction out of almost 12000 inpatients who had received narcotics). The essential point is that, whatever the problems of opioids, they should not preclude the rational use of this most powerful weapon against pain. Other reasons for ineffective pain management abound, including lack of knowledge about non-opioid therapies and inadequate resources for pain services.

Future research will develop new therapies and establish the appropriate role for existing treatments. Postgraduate education is vital to ensure that all those involved in patient care are aware of current knowledge. Audit may bring the biggest benefits to patients: by uncovering the extent of hidden suffering and spurring improvements in the management of pain.

Participants at the Registrars' Meeting

# Report on the 6th Refresher Course East African Society of Anaesthetists Moshi, Tanzania: 3-7 August 1992

The sixth refresher course in anaesthesia was held at the Kilimanjaro Christian Medical Centre (KCMC), Moshi, Tanzania on the week commencing 3rd August 1992.

There were 85 Anaesthetists attending, comprising mostly anaesthetic officers with some nurse anaesthetists and a few medically qualified anaesthetists not of specialist status.

Course organiser was Dr Eugene Egan of KCMC assisted by Dr Jeremy Smith on a six month secondment from Dublin. Facilitators (teachers) comprised local specialist anaesthetists from Uganda, Kenya and Tanzania, accompanied by overseas anaesthetists: Dr Michael Inman from Plymouth representing the WFSA, Dr Jane Kehoe from the Plymouth Department of Anaesthesia, Dr M Thomson from Dundee representing both the Scottish Society of Anaesthetists and the Association of Anaesthetists of Great Britain and Ireland, and Dr Rex Underwood from the USA.

Travel arrangements for the UK visitors were kindly made by Dr Inman and entailed a stopover in Nairobi as a suitable Air Tanzania service to Kilimanjaro airport had been discontinued. Connection from Nairobi to Arusha, Tanzania had been arranged by bus on the morning of the 2nd of August but was eventually completed by taxi (at bus rates) with a change at the border with Tanzania. Transfer from Arusha to Moshi was also by taxi.

Accommodation had been arranged at the Lutheran Hostel which, although basic, was clean, comfortable and economical. A two mile walk was the most convenient way to reach the International School course venue with an 0830 start. Classes consisted of about twenty with two or three facilitators, one of whom was a nominated chairman.

The week's programme was divided into topics consisting of obstetrics, paediatrics, monitoring, drugs and equipment, training, further education and management. The emphasis was on audience participation with encouragement to voice anxieties, tell simply how they did things, and peer commentary.

The role of the facilitator was to co-ordinate, emphasise, stimulate and gently guide, where appropriate, so that a compilation of techniques and problems could be made, leading to a best option in individual clinical situations.

The problem for a visiting western anaesthetist is to imagine the actual clinical conditions facing the East African district anaesthetic officer:

lack of equipment (no suction in one case, no ETT, no sphygmomanometer);

lack of drugs (frequently no oxygen);

lack of training (2 years basic then sometimes single handed practice);

lack of authority (not medically qualified).

Not withstanding these problems, the enthusiasm and motivation is sometimes remarkable. The extent of knowledge is in some cases certainly up to Part I FFA standard. Sessions were long, the day lasting from 0830 - 1730, morning coffee coming after a two and a half hour non stop stint. More balance could have been achieved by minor adjustments to the timing.

On the first four days a 'hands on' session ran concurrently each morning at the KCMC. Spinal anaesthesia was demonstrated courageously by Dr Egan before the assembled group - safety, monitoring and care of the equipment afterwards being emphasised. Clinical case presentations in the ICU followed. Facilitators at these sessions could be expected to be called upon at an instant's notice to take over and continue the discussion on almost any topic. This certainly kept one attentive at all times. Friday morning was reserved for a summary of each topic given by the official secretaries of each session after they had met to review the proceedings of each group. The headings were problems, solution, strategies. Summing up and conclusions were then made by the visiting western facilitators.

Following this, presentation of free papers occurred. An amazing sixteen papers were read to the UK representatives, a shortlist of three was then made. These papers were then presented to the combined company and a winner chosen by ourselves as impartial external observers. On Friday evening the course dinner was held followed by a dance which was well attended by all.

On the Saturday morning I awoke to the magnificent view of Mount Kilimanjaro denuded of its almost perpetual cloak of cloud.

Conclusions to be drawn are varied. There is no doubt that the basic training given at KCMC is, within the limits of resources available, of a good standard and a triumph of organisational skills on behalf of Dr Eugene Egan. The refresher course itself has to be of immense value to the isolated rural practitioner. He/she may work for years in relative isolation with little or no support or further education.

The external western input is of benefit in several ways. The mere presence is good for moral and is much appreciated. It provides an overview that gives stimulus and possibly maintains standards. They provide feedback whence resources can be justified, maintained and hopefully increased. The visitors themselves are refreshed and stimulated by the challenge of thinking in first principle terms and then communicating in a realistic way to an audience of variable educational background. I would strongly recommend the continued sponsorship by the Scottish Society and the Association of Anaesthetists. My only additional re-commendation would be for the trip to be a few days longer with arrangements made for a period before the course starts to be spent at a district hospital. This would increase considerably insight into the actual working condition of the majority of the course delegates.

I am very grateful to both the Scottish Society and the Association for the opportunity to have visited and hopefully been of some benefit to the anaesthetists of East Africa.

M F Thomson (Consultant Anaesthetist)
Ninewells Hospital, Dundee

Editor's Note: It is likely that the Society will continue to underwrite part of this venture and any member who is interested in taking part should contact the Honorary Secretary.

# Annual Scientific Meeting
# 27th & 28th November 1992

A Presidential Meeting?

The Annual Scientific Meeting in 1992 took place at the Assembly Rooms in Bath as a combined meeting with the Society of Anaesthetists of the South West Region. A contingent of over forty members of the Society, many accompanied by spouses, made the journey and found our hosts most hospitable and congenial. Dr Les Shutt is to be congratulated on his powers of organisation and the event provided both a stimulating scientific programme and an interesting social programme.

The meeting was opened by Dr ME Wilson, President of the Society of Anaesthetists of the South West Region and the first scientific session which was chaired by Dr AF Avery, Consultant Anaesthetist, Bath was devoted to the problems of major vascular surgery. Professor M Horrocks, a vascular surgeon, stated that recent statistical evidence suggested that the incidence of both elective and emergency abdominal aneurysms was increasing. Although the mortality rate was initially higher in the emergency group it soon fell to levels comparable to the elective group after the initial post-operative phase. He pointed out that changes in the pattern of operations being carried out meant that aneurysms as small as 4cm in diameter were being operated on electively and that whereas aorto-femoral reconstruction was the operation of choice, in some instances this was being replaced by angioplasty procedures. Finally Professor Horrocks drew the audience's attention to the cost of vascular surgery and the ever increasing need for the clinician to be involved in management.

Dr P Magee, Consultant Anaesthetist, Bath then outlined some of the cardiac complications associated with major vascular surgery. He pointed out that of all operative procedures, major vascular surgery accounted for the majority of vascular incidents. Pre-operative assessment was particularly important especially when it was realised that 83% of ischaemic episodes were silent. Although a number of diagnostic methods were available to help clinicians, each of them had drawbacks. While ischaemic changes on the ECG were relatively specific they tended to show up late. Two dimensional transoesophageal echocardiography and pulmonary capillary wedge pressure on the other hand detected changes fairly rapidly but were non-specific. Investigation such as pharmacological stress imaging and ejection fraction coronary angiography were really only suited to the pre-operative phase. Dr Magee stressed the importance of the post-operative period and in particular the need for adequate monitoring, pain control, the maximisation of oxygen delivery and the distinct advantage obtained from the use of epidurals.

Mr L Grant, Medical Physicist, Bath began by reassuring everyone that modern pacemakers were unlikely to be a source of intra-operative problems and that there was now no longer a need for the use of magnets. He confirmed that magnets may in fact cause problems and that they should be kept well away and were only used to switch on devices. Nevertheless while the inherent safety of pacemakers had improved considerably, he did advise that wherever possible bipolar diathermy should be used and that the use of only short bursts of active was preferable. Where it was necessary to use uni-polar diathermy then the return plate should

be as far away as possible from the pacemaker unit. The risks associated with diathermy included unit failure, exit block resulting from increased threshold at the tip and re-programming of the device. The use of defibrillators no longer presented a problem since pacemakers were now fitted with a spark gap safety device.

The second session was chaired by Dr EJ Galizia, Consultant Anaesthetist, Bath and consisted of presentations by two senior registrars, Dr J Nolan from Bath and Dr T Parke from Plymouth followed by the Annual Gillies Memorial Lecture which was delivered by Dr WDA Smith.

Dr Nolan addressed the problem of the likely causes of cardiovascular collapse associated with hip arthroplasty and discussed the likely role of fat emboli and the cement used to fix the prosthesis. Hip replacement was established in the 1960's but it took some ten years for the cement monomer to be implicated as a likely cause for the hypotension which is frequently seen. Despite considerable research the role of cement is still in dispute. Animal studies have shown that the blood monomer levels associated with significant hypotension are ten times the maximum levels seen in the clinical situation. The role of fat emboli is equally unclear and since the correlation between the number of fat emboli and a decrease in the partial pressure of carbon dioxide is poor. Some have suggested air embolus as a possible cause of cardiovascular collapse and while the size of the embolus is proportional to the intramedullary pressure during prosthetic placement, flushing with carbon dioxide does not affect the incidence of collapse. Dr Nolan was of the opinion that a neurogenic mechanism mediated via an increase in intramedullary pressure was the most likely cause of the cardiovascular collapse and that the rise in complement and histamine levels, pulmonary macro-aggregates and fibrinogen, tended to support this.

Dr Parke then gave a graphic account of the risks involved in carrying out a sacrectomy. He pointed out that these procedures take a considerable amount of time with large volumes of blood loss and significant falls in core temperature and that adequate preparation is essential.

The final scientific session was devoted to Practical Aspects of Trauma Management and was chaired by Dr ABM Telfer, Vice President of the Scottish Society of Anaesthetists.

Dr A Dow, Lecturer in Anaesthesia, Bristol opened the session with a discussion of the golden hour in trauma management. He discussed the use of the management algorithms developed for the ATLS and their application in this country, emphasising the importance of prompt resuscitation to prevent irreversible organ damage. Mr J McGuigan, Consultant Thoracic Surgeon, Belfast then gave a graphic account of the problems associated with major chest trauma. This was very well illustrated with cases which have arisen as result of the violence in Northern Ireland and demonstrated the need for prompt specialist attention if lives are to be saved. Mr D Sandeman, Consultant Neurosurgeon, Bristol outlined the early management of severe head injury. He stressed the importance of good monitoring and discussed the indications for CT scanning in head injury. The session closed with a presentation from Dr PA Oakley, Consultant Anaesthetist, Stoke about the future of trauma management in the UK. He outlined the role of designated trauma centres and the need for good communication between the ambulance service, district general hospitals and specialist trauma centres. He pointed out the advantages of having a fairly small immediate trauma team with the availability of other specialist advice when required.

The final session of the meeting consisted of a special invitation lecture entitled Survival: rescuing and preserving historic Bath which was given by Dr M Rowe, a consultant geriatrician who is also a Trustee of the Bath Preservation Trust. He gave a beautifully illustrated talk on the problems associated with the commercial development of Bath; a city which is historically important in architectural terms. Several occasions when new structures were erected with little apparent thought as to how these would blend in architecturally with existing buildings or where old buildings were demolished were demonstrated. He discussed the work of the Trust in promoting the restoration of run down buildings and the means by which this was achieved and the large audience were most appreciative of an excellent presentation.

# Gillies Memorial Lecture

# Dr WDA Smith

**An Open Mind**

When the Scottish Society honoured me with an invitation to present the Gillies Memorial Lecture it declared interest in the encouragement of safe clinical anaesthesia; but I had already been out of clinical touch for almost a decade. Today's clinicians might well ask - What does he know about anaesthesia or safety in the 1990s? Furthermore, I had a firm and much delayed commitment to Henry Hickman's biography. I had reassured my publisher that there were no more competing projects. No way could I see myself having time or material to do justice to this lecture. I suggested a search elsewhere for a memorialist. With discussion, however, came compromise, and with the publisher's permission came a tentative decision to borrow from the unfinished biography.

At least Dr John Gillies was a Hickman Medallist and, albeit unknowingly, he provided the title for this lecture. Imagine tea-time in sisters' office on the surgical floor of the Royal Dental Hospital, Leicester Square, in August, 1961. I had been monitoring dental anaesthetics. Seated were two surgical sisters and an amiable light-grey suited bright-eyed unpretentious Dr John Gillies. He retired in 1960. Tea drinking aside, I know not why he was there in 1961, but I recall his enthusiasm for visiting other departments, with an enquiring and an open mind, whatever the local interests. The phrase An Open Mind, popped up from the subconscious at my first reading of the Scottish Society's invitation. Having no idea what I might talk about, if I did, this seemed a doubly appropriate title.

Nowadays Henry Hickman is often called Henry Hill Hickman, perhaps for the tri-nominal euphony, for its hint of special significance, or perhaps from unquestioning habit, but Hill, his mother's maiden name, was not registered at his birth, marriage or death. There are thirty two known contemporary evidences of Hickman's name. Only eleven of these thirty two were tri-nominal and included either the name Hill or the initial H standing for Hill. Of these eleven, eight date before the end of 1823 and only three date after the beginning of 1824, suggesting the slight and diminishing fondness for inclusion of the name Hill. It might have been used to distinguish our Henry Hickman from a Chemist namesake, of the Market Place, Dudley, whose full page advertisement featured Aperient Effervescing Powders, Epicurean Zest Sauce, Camphorated Tooth Powder, Furniture Polish and Marking Ink.

Our Henry Hickman, a farmer's son, became a country surgeon then a self-styled physician. Bar a few months in London, at least six months in Scotland and about the same in Paris, he lived and worked from 1800 to 1830 near the borders of Shropshire, Herefordshire and Worcestershire, practising in Ludlow, Shifnal and Tenbury.

Some twenty years before the discovery of anaesthesia, Hickman sought to calm the fears and relieve the sufferings of surgical patients. He also hoped to facilitate healing and reduce bleeding. From unidentified experiments by others, he thought that animation could be suspended without permanent injury. He tested this experimentally, inducing suspended animation in animals by denying them fresh air or by introducing certain gases into their lungs, in particular carbon dioxide. When he then operated upon them they did not appear to be the least sensible to pain. They soon recovered completely and he gained the impression of good healing and reduced haemorrhage. He expected the same in man.

Hickman described these experiments in a handwritten letter of February, 1824, addressed to TA Knight Esq. FRS of Downton Castle near Ludlow. TA Knight, grandson of a wealthy ironmaster, was a farmer, a horticulturist and a friend of two Presidents of the Royal Society, Sir Joseph Banks and Sir Humphry Davy. Banks died in 1820. Incidentally during the second world war Downton Castle housed much of the Royal College of Surgeons' library.

Hickman recast his manuscript as a printed open letter, dated August 1824. Its introduction To The Public implied expectation of Royal Society support. Most of the pamphlet was reproduced in the Shrewsbury Chronicle, but without the Title Page which wrongly identified TA Knight as one of the Presidents of the Royal Society. Young Hickman may have thought that the Royal Society was like the Royal Medical Society of Edinburgh, a keen student body which elected four Presidents each session. The title page continued with a line which was later crossed out on the only surviving copy. It read: And Read Before it (i.e. before the Royal Society) by Sir Humphrey Davy which was a non-event, and Humphry was mis-spelt with an 'e'.

Hickman's pamphlet drew no known support and, in 1828, he addressed an appeal to Charles X, King of France, for assistance from His Majesty's Medical and Surgical Schools. When this was passed to the Academie Royale de Medecine the academicians were incredulous. That meeting at the Academie in 1828, was recalled at another in 1847. It was recalled that only Baron Larrey (Napoleon's Surgeon General) thought Hickman's propositions deserved the attentions of

surgeons. One unsubstantiated report suggested that Hickman mentioned nitrous oxide. Hickman came home and died in 1830, less than a year after setting up practice in Tenbury.

Henry Hickman was born in Bromfield Parish, Shropshire, on January 27th 1800. According to Cartwright (1952), of John Hickman's four children, Henry was the only one to survive infancy. That was misleading. A Bromfield family tombstone does account for Henry, his parents and three children. Two of these children, Richard and Katie, buried respectively in 1797 and 1799, were siblings of Henry but the third child was a nephew from High Walton farm, buried in 1819 aged 9 months. Parish registers identify Henry as the fifth son among eight sons and five daughters. Other siblings were presumably buried elsewhere. A surviving Daguerreotype leaves an impression of Henry's younger brother, Richard (not the earlier Richard who died in 1797).

Henry's father, John Hickman, rented the Earl of Plymouth's Lady Halton Farm from 1795, when he was thirty years old, until his death in 1829. In 1822 he owed some rent and a Land Agent's Report on the State of Cultivation and Husbandry criticised the farming at Lady Halton. He had at least one other interest. The Ludlow races were held nearby. Between 1799 and 1825, John Hickman's name appeared at the foot of the race handbills as Clerk of the Course. He evidently had whatever this took, perhaps a fairly positive personality, a fair education and relative ease with gentry.

Henry's mother, Sarah Hill, born in 1769, lost her mother at the birth of her brother George. She was two and a half years old. Her subsequent upbringing is unknown.

In March 1792, John Hickman and Sarah, both of Stanton Lacy, married in the neighbouring parish of Culmington. A month later their firstborn, Benjamin Hickman, was baptised in Stanton Lacy. The International Genealogical Index records no other Benjamin Hickman in Shropshire. He was surely given the name Benjamin after his maternal grandfather who died in 1814 aged 77.
Was there some connection between John Hickman's eldest son being baptised 'Benjamin', after 'Benjamin Hill' and Henry being called 'Henry Hill'? Did Henry's parents regard Benjamin Hill with particular respect, perhaps related in some way to Benjamin Hickman's near illegitimacy? These questions are unanswered, but note that memorial inscriptions of Benjamin Hill, his wife Ann and their second son, Thomas Hill, are laid conspicuously close to the transept on the aisle floor in Stanton Lacey Parish Church, suggesting local respect for these Hill - at least when the memorials were placed. If so, was that for friendship, good works, power, rectitude, wealth or what?

Hickman's schooling is unknown but a fair copy vellum covered notebook with H Hickman 1816 on the front cover and No 2 on the spine, reveals some evidence of his apprenticeship from 1816 at least up to 1818. It contains precis and extracts from a dozen text books and notes on a fortnights' attendance at Brookes' London School of Anatomy, in January 1818, all written by quill with scarcely a blemish. Against the first anatomy lecture he wrote: Second Course.

Up to January 1818 his entries averaged about 200 words per week, suggesting a one or two day per week discipline. Then he speeded up. In all about 50,000 words on 200 pages cover Cullen's Practice of Physic, Fordyce on Fevers, Denman's Midwifery, Wilson on Febrile Diseases, Essay on Consumption by Thomas Beddoes, Hunter on Venereal Disease, Clarke on Female Diseases, Adams on Morbid Poisons, Currie's Medical Reports, Roberton's Diseases of the Generative System, Mathias on Mercurial Disease, Darwin's Zoonomia and Joshua Brookes' Anatomy Course

Whose the idea? What the aims? To aid learning, guarantee coverage, as evidence of study, for economy in textbooks? Who owned them? The titles are in the Charles Hastings Library at the BMA, except Roberton's which was advertised in Berrows Worcester Journal in 1813.

Eleven leaves from the end are two and a half unnumbered pages headed Observations and Experiments containing a dozen observations. A graphologist has advised that the handwriting of these observations, placed near the end of the book, most nearly matches that around pages 79-80, written perhaps in the summer of 1817.

The first entries read:

Mr Jukes thinks that after large and repeated blood lettings in inflammation of the brain . . . narcotics in small doses are followed by the very best effects . .

. . . in treating a disease the digestive powers ought always to be attended to. . .

. . . whenever headache comes on in pregnant women; or during . . . labour, blood should always be taken away as permanent blindness may come on if blood letting is neglected . . .

That no medical aid is of use where alteration of structure has taken place in parts that cannot be got at . .

Dr Philip . . . found by experiment that Galvanism has great effect on Digestion and Asthma.

Mr Watson thinks . . . opium has injurious effects in gastritis . . . seen in a patient of his, ordered by Dr Jones.

Mr Jukes believes that . . . pain is in proportion to the power . . . in the muscular fibre, if (it) is great the pain is excessive, if not, it is in less degree; . . . persons in health cannot bear pain so well as those whose muscular power has been diminished by ill health.

Hickman added:

Mr Jukes tells me that Rea & Cannadry, gardners in town, assured him that they have found by experience . . . whenever Peach Trees are moved . . . the soils should be completely changed . . .' Alas, Rea & Cannadry have not been traced.

Mr Carden Asserts . . . that stimulants are the best applications to burns within twelve hours. . .
Mr Ware has written in favour of the efficacy of electricity and mercurial snuff in cases of amourosis

O'Halloran, (whose name Hickman linked with Sharp) . . . very justly observes that the most expert operator is not the best surgeon as we must in many cases rather avoid than perform capital operations.

At 23 & 24 Bridge Street, Stourport-on-Severn, there was a Mr Richard Jukes, surgeon-apothecary, in partnership with Mr Kendrick Watson; about 12 miles from Worcester, 17 from Leigh Court, 25 from Ludlow and 18 from Dudley. Watson may have begun his career in the Army or Navy. He got his MRCS in 1826, his LSA in 1833 and his FRCS in 1843. He was one of the earliest members and a member of council of the Provincial Medical and Surgical Association. He died of Anthrax in 1847 aged 62 years.

In 1810, Charles Hastings, founder of the BMA, was apprenticed to Messrs Jukes and Watson for two years. He was sixteen and three quarter years old. The fee was 150 guineas. McMenemey (1959) guessed this probably the best practice in the Worcester vicinity. After 18 months they sent Hastings to London to complete his training. He attended first Joshua Brookes' School of Anatomy. In December 1812, not quite nineteen years old, Hastings became house surgeon at the Worcester Infirmary. He resumed studies in Edinburgh in the Autumn of 1815, joining the Royal Medical Society in January 1816 but returning to Worcester to recover from inflammation of the lungs. He might have met Hickman during his convalescence. On 1st August 1818, Hastings got his MD. On November 2nd he was appointed physician at the Worcester Infirmary.

Returning now to the sources named under Hickman's Observations and Experiments, Mr John Carden was surgeon at the Worcester Infirmary from 1798 to 1829. Messrs Ware, O'Halloran and Sharp, however, were not listed locally. Dr AP Wilson was appointed physician at Worcester Infirmary in 1803. His four volume Treatise on Febrile Diseases was published between 1799 and 1804. He changed his name to APW Philip in 1811 and resigned after a row with colleagues in 1818.

Hickman's Observations imply close if not personal access to his sources. Most of them were practitioners in or near Worcester. Hickman's apprenticeship, therefore, was probably in or near Worcester, but how did he actually reap such a harvest of attributed beliefs?

In 1815, the London Medical Repository reported: A Society has lately been formed in Worcester which meets once a month under the name of 'The Medical and Surgical Society of Worcester', consisting of about fifty members, including almost all the practitioners in the city and county. The objects are the dissemination of medical knowledge, the discussion of practical points, and the keeping in view amongst its members the principles of the Profession. Each member, in his turn proposes a subject of conversation, to which the attention of the society is confined for one or more meetings, according as it is more or less important or interesting. The Institution admits Honorary and Corresponding Members in the hope of receiving communications from medical men who reside at too great a distance to attend its meetings. Perhaps Messrs Ware, O'Halloran and Sharp were corresponding members.

Announcing this Society's Annual Dinner in 1819, Berrow's Medical Journal identified its President as Dr Hastings, who probably leaned upon his experience with the Royal Medical Society of which he became one the Presidents in 1817-1818. McMenemey mentioned evidence of a Worcester Medical Book-lending Club as early as 1799, probably encouraged by Dr Philip when newly appointed (as Dr Wilson), doubtless also influenced by the Royal Medical Society of which he was a President in 1792-93.

It seems likely that Hickman was apprenticed to Messrs Jukes and Watson and that they let him attend at least one meeting of this Society. Sadly, minutes have not survived. Hickman having evidently begun his apprenticeship by 1816, could have followed Hastings at Stourport in the autumn of 1815.

Although unproven there is further circumstantial evidence of a link between Kendrick Watson, Henry Hickman and his father, John Hickman at Lady Halton. On 5th January 1818, about two weeks before Hickman attended Brookes' Course of Anatomy in London, Mr Kendrick Watson and Mr John Foxton, a Ludlow surgeon, certified Mary Mason, a domestic apprentice at

Lady Halton under John Hickman, as lame. This meeting would have provided opportunity for Mr Watson to discuss Henry's progress with his father and it may have been arranged for that purpose. The certificate survives in Bromfield Parish Records.

Of all the local medics mentioned by Hickman, Dr Philip stands out as an initiator of animal experiments. He personally supervised them, but they were performed by colleagues whose assistance he acknowledged; Charles Hastings, Mr Sheppard and Mr Herbert Cole in Worcester; and in London, Mr Cutler, then assistant surgeon to the Grenadier Guards. Cutler was present when Benjamin Collins Brodie explored the effects of carbon dioxide on a guinea pig on January 23rd, 1821, at St George's Hospital. He got his MRCS two months after Hickman.

By September 21st, 1819, Henry was in Edinburgh, writing to his fiancee, Eliza Hannah Gardner, of Leigh Court, five miles from Worcester. She was then aged fifteen and three quarter years. (They were both born in January). Question: was Henry enabled to court Eliza by his duties as apprentice bringing him near Leigh Court?
In 1815, an advertisement appeared in Berrows Worcester Medical Journal for a surgeon and apothecary to attend the poor of Leigh Parish. Could Hickman's master have taken this on and later found duties for Hickman in the parish? Did Hickman ever lodge in or near Leigh Court? Correspondence of 1930, between two of Hickman's grand-daughters, does mention his visiting Cotherage Lower Court, just across the River Teme from Leigh Court. Although Hickman did attend a patient at Leigh in 1823, this may have had nothing to do with the previous arrangements.

Hickman matriculated on 1st November 1819 and he registered at Edinburgh University for courses in Chemistry and Materia Medica. It may be significant that he wasted no time in joining the Royal Medical Society, on November 19th signing its laws Henry Hill Hickman. In May 1820, however, aged only 20 years and three months, he was in London getting his MRCS, his only qualification. Whether the brevity of Hickman's exposure to Edinburgh University, and his sitting the MRCS examination under regulation age, were planned from the beginning, or due to altered finances, or health, or eagerness to get going is not known. He married Eliza Hannah daughter of George Gardner, tenant farmer, at Leigh Court, on June 21st, 1821. He was twenty one and a half years old and she was seventeen and a half. They were to have one son and three daughters.

Three months later Hickman was quick off the mark with a publication on A Case of Abscess of the Spleen communicating with the stomach and the Umbilicus which was a report in the London Medical Repository of a post-mortem on Sarah Harris, aged fifteen, whom he described as a patient of his friend Dr Thorp, a Ludlow physician. Six months after Henry married Eliza her father went bankrupt.

In February 1821, an advertisement for an apprentice appeared in the Shrewsbury Chronicle, directing applicants to Felton, Bookseller, Ludlow. The advertiser promised instruction in the different branches of the profession, possibly reflecting Hickman's own apprenticeship, and he promised access to a museum. A subsequent annotation in the same paper confirmed that Hickman had a museum. Its origin, total content and ultimate fate are unknown but Hickman auctioned some natural history specimens before moving to Shifnal.

By 1828 a Commercial Directory listed Hickman as physician at Shifnal. Dr Beddoes, who died in 1808, appeared to precede him but there is a dearth of early directories to fill the gap between 1808 and 1828. Henry Benjamin Gardner Hickman, Hickman's son, a copy of a faded photograph of whom survives, was born there.

In 1928, the Royal Society of Medicine had its annual dinner at the May Fair Hotel. Guests of honour were Mr Churchill and Rudyard Kipling. Lord Dawson of Penn, presiding, mentioned Mr CJS Thompson's discovery that preceding the introduction of ether in the United States . . . a young doctor . . . Hickman produced anaesthesia by inhalation of carbon dioxide and nitrous oxide in animals, performed painless operations upon them and tried to persuade the English and French professions to institute the same anaesthesia in man.

CJS Thompson, Curator of the Wellcome Historical Medical Museum, reported his rediscovery of Hickman in 1911. He quoted JY Simpson as saying that: Dr Hickman . . . in 1828, suggested the inhalation of carbonic acid as a means of producing insensibility in surgical operations and that he used carbonic acid 'in imitation of the experiments performed for ages in the poor dogs at the Grotto del Cane. He also quoted the following from an article in the Postgraduate (New York) of 1905, by WJ Morton who was William Thomas Green Morton's son: Among actual operators who produced anaesthesia for surgical operations was . . . Hickman, a surgeon of London, who in 1828, in a letter to the French Academy of Medicine, published his results and described a method of suspending insensibility by the methodical introduction of certain gases into the lungs during which the most delicate and most dangerous operations are performed without producing pain. That implies that Hickman wrote directly to the Academie royale de Medecine, not to Charles X, and without actually saying so, it gives the erroneous impression that Hickman suspended sensibility in man. This warns us to be cautious about

WJ Morton's evidence.

WJ Morton lived in New York with his mother who died in 1904. He may have inherited papers from the 1846 era. Let us digress for a moment from Hickman to WTG Morton.

In 1911, during discussion following a paper read at the Annual Meeting of the American Therapeutic Society, WJ Morton said that: previous to the first use of ether at the Massachusetts General Hospital (in 1846) my father, Dr Morton, had employed this for thirty seven private operations done by Mr Henry Bigelow, and that, before beginning the administration of ether, he was accustomed to give large doses (40 minims) of Laudanum.
This is mentioned in Stanley Sykes' Essays Volume 1, 1960 but not indexed (see page 122). The precise number of cases suggests that records were kept and may have survived until 1911.

WTG Morton administered his first clinical anaesthetic to Eben Frost on 30th September 1846, His famous demonstration at the Massachusetts General Hospital was on October 16th. WJ Morton, therefore, implied that his father anaesthetised patients for Bigelow 37 times in a fortnight and that premedication was used from the beginning. Relevant documentation may yet survive.

Now for a glance at the unfinished biography. It reviews what is known about Hickman and how it came to be known. It tries to set him in perspective and to offer leads for future research, It permits some undisguised speculation. Part 1 introduces the background topics identified by the chapter titles. Part 2 presents research on Hickman before 1965. Part 3 details subsequent findings.

Here are some illustrative points just from Part 1. Chapter one provides a brief outline. Chapter two adds the post-Hickman discoveries of inhalation anaesthesia. Chapter three presents Davy as part of Hickman's background. Chapter four presents pedigrees and family matters, and recalls the poverty, unrest and bankruptcies of the post-Napoleonic era. It mentions the introduction of Income Tax, the upgrading of the London Holyhead road via Shifnal and completion of the Menai Bridge. Chapter five, Surgical Suffering: a distant perspective, explores evidence of early surgical operations and follows that of trephination from pre-history towards the present century. We will save comment on the soporific sponge until the end but meanwhile here are notes on incidental stories relevant to trephination and pain.

First, the legendary tale of King Bhoja of Dhara in India, trephined c 1050 AD, allegedly to remove the fry of a small fish which had got into his skull. Administration of an unidentified powder of stupefaction was described but not identified. If true, was this ingested, applied locally or snuffed?

The second in 1667: Prince Rupert was trepanned in a two stage operation, following infection of an old head injury. Stage 1 entailed a circular incision through the scalp and packing with linen pledgelets to stop bleeding. A bloodless Stage two on the next day was confined to bone which explain Samuel Pepys' comment: with other into the house, and there hear that work is done to the Prince in a few minutes without any pain at all to him, he not knowing when it was done. Prince Rupert survived another fifteen years. There have been reports of single stage trephinations with evidence of little or no pain.

The third story dates within living memory. Immediately before and after the First World War, Berber and Arab doctors in Algeria admitted Hilton-Simpson (1922) to their secrets. Three grams of freshly powdered seeds of Hyoscyamus Albus swallowed in rose water were said to be soporific. Seeds kept for two or three years would still a patient during an operation lasting a quarter of an hour, but the surgeons were afraid of it. It might be used where the family of a relation or a personal friend could be relied upon to keep their counsel should it prove fatal.

Chapter six, Towards Anaesthesia, explores attitudes to and experiences of pain, especially textbook evidence between 1746 and 1846. It discusses various factors influencing the discovery of anaesthesia. Chapters seven and eight cover some mesmeric background. Mesmerism emerged in Austria. It grew, diversified and was outlawed in France, then crossed the English channel and the Atlantic.

Dr Fuge (1986) has reminded us of the painless breast amputation under mesmeric sleep performed by Jules Cloquet in 1829. It may be added that four days later Cloquet reported it to the Academie Royal de Medecin where Hickman's appeal was debated only six months earlier. Larrey again led the discussion yet there was no hint of any memory of Hickman's earlier visit. Larrey doubted that the patient was either somnambulised or pain free, and he discountenanced association between a good surgeon and magnetic impostors.

I will skip the rest of the biography's contents in order to leave time for the soporific sponge. In a letter to the BMJ, or 1927, the Reverend Wayland Joyce was the first to draw public attention to the imminent Centenary of a forgotten pioneer, Dr Hickman, and to plead for something to be done about it.

FG Layton responded: General anaesthesia was known

long before Hickman. He instanced the soporific sponge.

Recently Infusion and colleagues (1987) drew attention to texts on the soporific sponge from the 9th to the 17th centuries. They assumed it must have worked. They wondered whether the route of the anaesthetic was via the mucous membranes of the nostrils or even of the eyes, but their experiments on rats were inconclusive. Most authors seem to have been puzzled, sceptical or plain disbelieving.

John Snow translated Dominus Hugo's version of Theodoric's 13th century recipe for the sponge, using 10 herbal ingredients but it is not known whether either Hugo or Theodoric ever used it themselves. Take of opium, unripe mulberry, hyoscyamus, hemlock, mandragora, woody ivy, forest mulberry seeds of lettuce, seeds of dock and of the water hemlock - of their juices each an ounce, mix in brazen vessel and place a new sponge in it; boil until the sponge consumes all. As oft as there shall be need of it, place in hot water for an hour. Let it be applied to the nostrils until he has fallen asleep.

We tend to equate inhalation of anaesthetics with inhalation of anaesthetic gases or vapours but as John Snow went on to point out all volatiles would be dissipated by boiling. Non-volatiles, on the other hand, should not be dissipated by boiling unless they are destroyed. Morphine, for example, is not destroyed by boiling.

Residue from ten fluid ounces of mixed juices evaporated to dryness may have been pretty potent. When rehydrated and inhaled in aqueous solution it may have been taken up in sufficient quantity via the nasal and pharyngeal sub-mucosal capillary networks. Intermittent deep breaths upon command with perhaps judicious sponge-squeezing, should permit a degree of titration which, in educated hands and in the context of the time could have been safer than oral administration, though perhaps not always safe enough.

There may have been notable and successful pioneer sponge soporificists, but until one has been identified and his or her story told, Humphry Davy remains the earliest known pioneer of anaesthesia by inhalation. His thoughts on destroying physical pain using nitrous oxide, however, were soon displaced by other interests. We should not object too strongly at the Section of Anaesthetics of the Royal Society of Medicine attributing first pioneer status to Hickman, as beautifully engraved in stone by Eric Gill on the memorial plaque inside Bromfield Parish Church.

In 1824, Hickman wrote, almost as an afterthought: There are also many cases in which it would be important to prevent any considerable haemorrhage, and in which the surgeon would feel the advantage of a diminished flow of blood during an operation. In 1948, Griffiths and Gillies summarised the achievement in their hands as follows: A method of combined analgesia. vasoconstrictor paralysis and narcosis has been devised, to provide an ishaemic field and adequate relaxation, with safeguards against disturbances of circulatory and respiratory dynamics.

# The Professor JD Robertson Memorial Lecture

The Pursuit of Excellence
Professor Sir Gordon Robson CBE

Mr President, Pat Robertson and family and friends, it gives me great pleasure to be here today to present the first JD Robertson Memorial Lecture.

This pleasant task has added a new dimension to my long standing friendship with Jimmy Robertson, that of making an appreciation of his life and achievements and the prominent position which he came to occupy in our institutions and in the minds of his contemporaries. I am profoundly honoured and grateful for the opportunity to do so.

Jimmy Robertson spent his life in the pursuit of excellence and can be held up as an example to his pupils and successors of devotion to doing everything he had to do, both in his public and private lives as well as his considerable natural gifts allowed.

I have a clear early recollection of him. It was in 1954 when he was working in the Department of Physiology, he liked to call occasionally to see what was going on at the sharp end in the hospital. I had just joined the department. His visit was fleeting but the impression left behind was of a brisk, knowledgeable, friendly and keen young man with a dead-pan sense of humour, a sharp wit and firm opinions.

In later years when we worked together in other fields I appreciated that he had the highest standards, strong principles and was an archetypal Scotsman when south of the border. He presented himself as more Scottish than the Scots when he was on the Board of the Faculty of Anaesthetists and I think that it amused him to do so. Solemn proceedings and discussion in the Board, probably where the special circumstances of Scotland had been temporarily forgotten, were often forcefully and humorously brought to attention by Jimmy pointing out that there was life north of Watford and that with careful observation some might even be found in Scotland.

I am most grateful to Pat Robertson who allowed me to look at the scrap books which Jimmy kept since his army days. They reveal a great deal about his character. Most of us keep memorabilia tucked away in trunks in the attic or stuffed in drawers where they are the object of winnowing exercises during periodic spring cleaning. They lose their freshness and immediate impression because they are subjected to later editing with the imposition of hindsight.

Jimmy knew what he wanted to keep and kept the books up to date with whatever interested him at the time. And so they are excellent chronicles and make fascinating reading with press cuttings and photographs; invitations to speak of which there were many; press cuttings and photographs of friends from school, the Infirmary, the University and the Royal Colleges and of the many visits and lecture tours which he made world wide. He also maintained his interest in his native town of Stranraer where he went to school and he recorded the events and the doings of its notables, most of whom he had been to school or university with.

Most of you will know that he was a keen sportsman and a good golfer and as I recall he maintained a handicap of eleven or twelve for most of the time. One of his scrapbooks contains a score card from a medal stroke competition showing a gross score of seventy four, net sixty three. Anyone would have put a card like that into a scrap book. Such ability and transparent evidence of golfing 'banditry' in being able to play a game eight strokes below his handicap accounted for his unbeatable success in the departmental golf matches. A departmental trophy was later presented and his playing handicap for this was so adjusted that unfortunately he was never in contention.

I first met Jimmy and Pat at one of the Scottish Society of Anaesthetists week-end Annual meetings in Dunblane Hydro Hotel when they resumed after the war. That was probably in 1949. Although we met infrequently, nevertheless he was in the forefront of the immediate post-war generation of anaesthetists and he was held up to us even in Glasgow as an example of achievement to emulate. We were, as everyone was in those days working very hard. There were not enough competent anaesthetists around to allow much free time and the crossings of the East-West cultural divide were much less frequent that they are at the present time.

Jimmy joined the army in 1941 after having qualified in medicine in Edinburgh in 1940 and his army career extended to 1946. He had only time for the basic house jobs in medicine and surgery in the Royal Hospital for Sick Children before joining the army. Initially he was a regimental medical officer then became a general duty medical officer and anaesthetic specialist with the rank of Major. His

service in West Africa gave him the opportunity to make a scrap book of his time in the country and later in his career he forged clinical links with Nigeria which lasted until the civil war which rent the country.

From West Africa he went on to the Middle East and the North West Europe theatre of war, landing in Normandy shortly after D Day. It was when he was working in an active casualty clearing station in Europe that he met Pat McNaughton who was an army nursing sister hailing from Peterhead. They were married when Pat demobilised while Jimmy went on to finish his army career in Egypt. Their marriage, as most of you will know, was blessed with five children, all boys, all of whom are here today and all were to follow professional careers.

His army life must have given him a taste for travel since he never missed an opportunity to go abroad. I rather suspect from my own knowledge of him and from his scrapbooks that he had an intense sense of curiosity and travel satisfied some part of it as did research in his own field.

Although he spent a long time away from further post-graduate medical education at a critical stage in his career, active service in the RAMC undoubtedly provided post-graduate education of another sort and I judge that it made for the outstanding maturity, strength of purpose and clear headed judgement which was so characteristic of him.

When he was demobilised, he joined the staff of the Royal Infirmary being appointed as an Anaesthetic and Medical Registrar, class three. I believe that this was within the ex-forces post-graduate scheme funded by the government. This scheme was the fore-runner of what we now know as the General Professional Training Scheme although only the best departments such as that in the Infirmary made a real attempt to provide broadly based training with proper rotations to ensure experience in the sub-specialties. I recall that the stipend attached to it was set at the princely sum of either four hundred and fifty pounds or six hundred pounds a year paid quarterly in arrears, depending on grade.

In the anaesthetic service in the Royal Infirmary in the early post war years the anaesthetic staff was a fraction of that at present. There was then little sense of unity. Everyone worked much too hard to be sitting around in the small attic office which was called the department. We certainly spent the greater part of the week in the theatres and wards and in other hospitals, and departmental meetings were rare simply because it was impossible to get together a quorum of anaesthetists who were not in the operating theatres. Now the consultant anaesthetists are just one short of being able to field two football teams and no doubt the department could field a registrar team as well. Perhaps they now even have time for committee meetings.

There was another disincentive to spending time in the department in that Dorothy Taylor's predecessor, Betty Davidson, when telephoned for help, used to pay little attention to the duty rota which was of necessity in those days very informal and lightly observed, and conscript whoever happened to be in the department to attend to the problem. It was not, of course, that we were unwilling, but it disrupted the day and deprived those on call of experience which might have helped them to become better anaesthetists.

There was also at that time extraordinarily little social life associated with the department. I suppose it was because there were commitments to young families and money was short. It has to be remembered that there was then the strictest food rationing, with even greater food shortages than during the height of the war and it was difficult to be normally sociable.

It has been used as an excuse by many that some years spent away from academic pursuits and medical school allows time for basic science to be forgotten, for the academic urge to have evaporated, and to have rendered it hopeless to try to follow anything but the least rigorous of professional pathways.

Jimmy was made of sterner stuff and as I have noted, set an example for all of us to follow. He took his Diploma of Anaesthetics without trouble in 1947 and followed that with the Membership of the Royal College of Physicians of Edinburgh in 1951. This was a singular course to take but was, as we came to recognise, totally in character.

The DA was held in two parts in 1947 and its Primary examination was almost identical to the surgical primary examination of the FRCS, with papers and vivas in anatomy, physiology and pathology but it had in addition the pharmacology relevant to anaesthesia. It was therefore rather more of a test than the primary examination of the FFARCS later became and far from being easy for those distant from their undergraduate days.

For those of you who are unversed in early post war affairs I had better explain that with the impending NHS in 1947 there was great concern among anaesthetists that they might not achieve consultant

status. It was a matter of hot debate in discussions between the BMA, the Royal Colleges and government on the terms and conditions for the prospective health service. There was at that time no anaesthetic qualification comparable to the fellowships of the three Royal Colleges which were the accepted pathway to consultant status.

I find it very strange in retrospect that so much emphasis was given at that time to the supposed status conferred by a fellowship examination. The FRCS and MRCP were diplomas which could be achieved in pre-war and immediate post war days within a year of qualification and told little about the individual. They certainly did not pose a test of intellectual quality or practical ability. One can only assume that they were an indication of interest and there were no other formal guidelines such as approved training schemes to go by.

Sir Alfred Webb-Johnson, then President of the Royal College of Surgeons of England was much concerned about the status of anaesthetists. In the absence of an academic body for anaesthetists the Association had taken the lead in setting up the Diploma in Anaesthetics in 1935. This was run by the College of Surgeons through the examinations secretariat. Sir Alfred addressed the Association of Anaesthetists on the question of consultant status and counselled that anaesthetists had to be seen not to have an easy option in their diploma if they were to have consultant status and he suggested that the Diploma in Anaesthetics should be modified to incorporate a primary basic science examination. The changes were introduced and the two part DA came into being in 1947 with a pass rate which seldom exceeded twenty per cent in either part. I have often felt gratitude to the unknown and unsung anaesthetists who must have at that time impressed Sir Alfred that their skills deserved such status.

When the Faculty was established in the Royal College of Surgeons in 1948 the next step was to change the DA into the FFARCS and return the DA to its former one part state. Jimmy and other holders of the two part DA were elected FFARCS in 1953. By this time he had taken his MRCP at the Edinburgh College.

In the immediate post war period John Gillies' department was one of the most prestigious in Great Britain, and posts in it were much sought after. As I noted in the Gillies lecture in 1978 there were in those years as trainees in the department in the Royal Infirmary, JD Robertson, Alastair Gillies, JP Payne, Nick Greene, Stuart Vandewater and Douglas Joseph all of who achieved university chairs, who made signal contributions to the specialty of anaesthesia and who became known in anaesthetic circles throughout the world. He found himself in the best of company.

Jimmy became a senior registrar in 1949 and held this post for three years until he decided to set himself scientifically well ahead of his contemporaries. He obtained a research fellowship from the Medical Research Council, itself no mean feat for an anaesthetist in those days, and went to work in the Department of Physiology.

He was fortunate to be taken into this excellent department which was headed by Professor David Whitteridge. It may interest you to know that David Whitteridge still contributes to the Physiological Society and has passed his eightieth birthday. His physiological interests were wide and he supervised Jimmy on excellent projects for the two years of his fellowship.

Together with Swan, they worked on the effects of some of the volatile anaesthetic agents on the systemic baroreceptors. a part of the nervous system which has much to do with setting the level of the blood pressure. They also investigated the effects of some of these anaesthetics on respiration, in particular on their actions on the stretch receptors of the lungs. The questions which they posed had practical implications in anaesthesia and were, I have no doubt, related to the departmental interest at that time in the control of the blood pressure during surgery and anaesthesia. The work showed that the inhalation of ether, chloroform or trichlorethylene increased the sensitivity of the carotid sinus and aortic baroreceptors and that cyclopropane did not do so. The actual result of this sensitisation was the slowing of the heart rate and the fall in blood pressure.

In physiological circles the work was much acclaimed and JDR's thesis on the subject earned him the MD degree with commendation in 1955. The research was of real interest to physiologists because it is useful to them to find spanners to throw into the works, in a metaphorical sense, because the disruption of function reveals something of the fundamental workings of the system itself. Since then a vast body of work has been done on the control of blood pressure looking at all the central and peripheral and humoral mechanisms and many new therapeutic agents have been developed for use in general medicine and anaesthesia. The work of Robertson, Swan and Whitteridge was an early step in that direction.

Their work on the basic physiology of the stretch receptors of the lung made an important contribution

to our knowledge of the effects of anaesthetic drugs on respiration in clinical practice. They examined the frequency of the action potentials travelling in small slips of the vagus nerve which carries information from the stretch receptors in the lungs. The results shed light on some of the mechanisms of the alteration of the rate and rhythm of breathing of the anaesthetised patient. In particular, the anaesthetic agent trichlorethylene, then widely used for anaesthesia and for analgesia in labour, caused very rapid and shallow breathing in patients which made it difficult to use in many cases although it was an otherwise excellent agent. The explanation which Robertson and Whitteridge furnished was that the agent sensitised the stretch receptors in the lungs so that instead of signalling for a change of respiratory phase when a normal tidal volume had been taken they signalled it at low volume and so caused very rapid shallow respiration. The phases changed quickly with small volume change.

I find it interesting that between 1952 and 1954 when the work was carried out, electrical recording of the small action potentials from nerve filaments was in its infancy. Amplifiers and oscilloscopes were constructed with valves and required multiple adjustments to get them going. They were crude and difficult to maintain and keep stable, and it was a work of art rather than science to exclude interference from external electrical fields. The preparation acted as a rectifier and radio and television signals could be tuned in accidentally to corrupt the recordings. It was a great credit to them that such reliable information was obtained in such a short time.

When he returned to clinical work in the Royal Infirmary in 1955, Jimmy was made a consultant. His scientific curiosity had been finely tuned and he was well equipped to carry out the many clinical trials of new therapeutic agents which he did over the years to come. His particular interest lay in the investigation of the many new intravenous anaesthetic agents which were produced over the next thirty years.

I recall a period when he was investigating the 'lytic cocktail'. This was an anaesthetic regime devised by two French anaesthetists, Laborit and Hugenard in 1951. They used a mixture of chlorpromazine, promethazine and pethidine given intravenously slowly until the patient fell asleep. The cocktail was indeed lytic in nature and induced a state of severely depressed circulatory, respiratory and peripheral reflexes and profound loss of consciousness. The patients were deathly pale, had shallow infrequent respiration and would not respond to drugs which normally raised the blood pressure. They were not pretty to see and one's first impression was that they were in a state of advanced surgical shock. However Laborit and Hugenard used the cocktail in patients with severe hypovolaemic shock with reported good results in circumstances where full resuscitation could not be carried out. To some of its advocates it provided an alternative to using an anaesthetist, particularly so when they simply added a small dose of gallamine triethiodide if muscular relaxation was required and did not trouble to ventilate the patients artificially or to intubate them. If you feel like saying 'Tut, Tut' you must remember that this was forty years ago.

Unfortunately this ataractic state tended to persist for twelve or more hours and while this might suit some surgical teams it really did not fit in with the surgery in Mr Adamson's wards where Jimmy worked at the time. Mr Adamson and his senior registrar, Iain Campbell could each do seven or eight major operations between nine-fifteen and twelve noon and the wards were left with a prolonged exercise in the post-operative care of inert, areflexic, unconscious patients. The work was rapidly abandoned.

Despite the excitement and claims for breakthrough in French surgical and anaesthetic circles at the time, I am not aware that it is ever used today. Thus the tide of fashion ebbs and flows even in our own subject. Jimmy was not one to be behind fashion and he explored most innovations very actively.

He was an advocate of controlled, induced hypotension which was under critical examination in the fifties. The total spinal technique developed by Gillies and Griffiths was well established in Edinburgh and used in some very major surgery with excellent results but was not useful for many surgical operations where control of the blood pressure would be helpful if not essential. To this end Jimmy carried out many clinical trials with agents such as Arfonad and Trophenium and added a considerable amount to our knowledge and to patient safety with the techniques of induced hypotension.

When Dr Gillies retired in 1960 Jimmy was appointed as senior lecturer and head of the University Department of Anaesthetics and his reputation and standing grew apace. In 1961 he was elected to the Board of the Faculty of Anaesthetists, virtually replacing Dr Gillies in that year. This showed the cohesion and wisdom of the Scottish Fellows of the Faculty. There were no reserved places on the Board for Scottish consultants and Scots had to be pretty unanimous in their support to have one elected. From all points of view this was an excellent and perceptive choice because he did a superb job until his term of office ended in 1977. I

joined the Board in 1968 and found him to be a power in that land just as two previous Scots, John Gillies and H H Pinkerton had been. His was always a wise voice in Board discussions and he was an excellent contributor to debate. Over a critical period he made the most significant contribution to Board debates and was an excellent Vice-Dean.

When Dr Wylie was Dean of the Faculty there began a strong move to break away from the Royal College of Surgeons and to set up a separate College. The move was initiated by an active group on the council of the Association of Anaesthetists. In due course the Association held a referendum on the question, polling all the anaesthetists in the UK. This produced results which were capable of many interpretations. It seemed to me then that referenda are devices designed by activists to undermine the due process of representational debate and decision. Certainly at that time separation would have cast the specialty to the wolves while simultaneously causing severe damage to the Royal College of Surgeons.

The discussion, which was initiated by Dr Wylie did encourage the council of the Royal College of Surgeons to seek changes to their Royal Charter to accommodate some of the major concerns of the anaesthetists in relation to their status and privileges within the College. Anaesthetists did not then have the resources to disengage from the College but this charter was to give them control over their own affairs within the College.

As a digression I would like to refer to the part played by the late Sir Alan Parks in 1980 when he was the President of the College. He ensured that the finances of the Faculty would be separated from College finances so that it became possible some ten years later to achieve separation with elegance and with decorum toward the surgeons.

Many anaesthetists throughout the world must feel grateful to the College of Surgeons for support during the forty-four years in which the specialty matured. Our sister colleges and former colonies followed the same pattern of support. Jimmy Robertson saw clearly that the time for separation had not then arrived.

It was on the topic of separation that Jimmy and I had out only joint publication in the form of a letter to the British Medical Journal on 4th March, 1978. Together with Cecil Gray, Robert Macintosh, Donald Campbell and others we sought to shed light on the Association's attempt in the form of an Editorial in its house journal, Anaesthesia, to influence the electorate to vote on to the Board anaesthetists who wished to see the dissolution of the Faculty itself. We were of the opinion that that was unprincipled behaviour.

Jimmy's voice was a strong and important one in the debate to accept the new consolidated charter in 1977 which the College had negotiated with the Privy Council to accommodate many of the aspirations of the two Faculties. He strongly represented the view of the Scots that it should be accepted.

At that time he was invited to put his name forward for election as President of the Association of Anaesthetists, an honour given to few, but he refused because of his fundamental disagreement with the views and actions of its council on the question of separation from the College of Surgeons. He discussed this with me and said that he was refusing as a matter of principle.

I recall also the occasion when the Royal College of Surgeons of Edinburgh offered accommodation to the Scottish Standing Committee of the Faculty. He put it to the Board and said that he saw an inherent danger in the offer of splitting the Faculty into two divisions, which would inevitably lead to a separate Scottish Faculty based in the Edinburgh College, a course which would later also be followed by the Glasgow College. The dental surgeons have always been handicapped by a three way split. We debated this and agreed with him, whereupon he confessed that he had already refused the offer for those good reasons. I believe that such action was not uncharacteristic of him in his office as head of department. It is alleged that he would call the consultants to meetings and say that it was not so much that he wanted to consult them about what to do as get their approval for what he had already done.

His notable administrative ability was also recognised at home and he was invited to join the Board of Management of the South Eastern Regional Hospital Board in 1962. His election to the Fellowship of the Royal College of Surgeons of Edinburgh without examination in 1963 and on to its council in 1973, were uncommon honours for an anaesthetist.

Looking at his career from that time on, one would wonder how he managed to do all that he achieved in the time available. I have a clue about this. He worked unremittingly at home in the evenings often into the small hours and virtually put some extra working days into the week.

When Dr Gillies was head of the department it was a sub-department of Surgery and came under Professor

Learmonth. For example, papers published by members of the department had to be approved by surgery. The equipment grant was common with surgery so that anaesthesia received minimal and grudging support. I imagine that Jimmy made it a condition of acceptance of the post of head of department that the departments were separated, and would be given decent space, and from then on anaesthesia flourished. He organised his department most efficiently and was a tremendous advocate for the specialty in the hospital and in the region. Trainees flocked to the Royal Infirmary because of its recognised excellence, the research output was impressive and the administrative substrate was of the best in the UK.

The excellent training scheme for registrars attracted the most able trainee anaesthetists. Among these were Walter Nimmo and Gordon McDowall, Gordon Drummond, Tony Wildsmith, Gilbert Park and many others, who have since conspicuously advanced knowledge in the specialty.

Apart from organising the training schemes and re-housing the department physically, Jimmy continued to make a solid contribution to the basic work of the department - that of giving anaesthetics, setting up and running the Intensive Care Unit and really looking after the needs of all his staff. He followed the careers of all his registrars most assiduously and was ably helped in this by Dorothy Taylor who was for so many years the mother of the department. She organised all the social and formal occasions and looked after a very large family.

He later was made Reader in the University and finally Professor in 1968. All of his friends and colleagues were surprised that the chair took so long. There was obviously a certain lack of recognition of the specialty in university circles since the subject played a minor role in undergraduate education.

Clinically, he worked in the transplant unit with Professor Woodruff an early pioneer in transplantation. It required someone of Jimmy's strength of character to do this on a routine basis but I suspect that there was some meeting of minds to compensate.

It is not an intention of this address to recite a Curriculum Vitae of Jimmy. Most of you will be aware of the many offices which he held, not because he sought them, but because such was his integrity and application to all tasks which he undertook that he was the first person to be thought of when some difficult and demanding responsibility presented itself. As one of his many contributions he did trojan service on the Scottish Council for Post-Graduate Medical Education to the benefit of all of you here today.

He served for a very long time on all bodies which had any say in our affairs in Scotland and his contributions to them were recognised by many awards. His accomplishments will be the stuff of legend.

When I was invited to give this address I was of course asked for a title. I have to admit that having then little time for thought I said that I would talk on the recognition of excellence, with the idea that perhaps I might digress into the general theme. However as I progressed it became apparent that in Jimmy Robertson I had a subject from which no digression was necessary in order to illustrate what I had in mind. His life was indeed one of the pursuit of excellence and it has been a most satisfying experience to try to illustrate this for you in relation to the times in which he served.

I wish to thank your Honorary Secretary, John McClure, and also Archie Milne, Willie Macrae and of course Pat Robertson for the help which they all gave me in the preparation of this address.

Dr Sally Edwards, President of EESSA, and Sir Gordon with Mrs Pat Robertson.

# News from the Regions

## Grampian

### Aberdeen

Almost a year into Trust status and the message from Aberdeen is so far so good. The rumoured upheavals and confrontations have not materialised and work proceeds as normal but perhaps this reflects the period of 'phoney war'. Dr DG Ross was appointed as Director of Anaesthesia, Intensive Care and Hyperbaric Medicine and presently combines this with the role of Chairman of the Senior Staff Committee.

This year saw the retiral of three of the old hands in the department, with a combined service of over eighty years at consultant level. Dr Edith Beveridge intends to continue her penchant for exotic world travel while Mike Tunstall is rumoured to have set up a research lab in one of the remoter areas of the Foresterhill site. I am not allowed to divulge much but true to form he is working on something quite innovative. Dr Drummond Hart retired then returned some months later to undergo successful cardiac bypass surgery. Having carried out his initial exercise test on the slopes of Mount Keen he continued to do it yourself and on the morning of his routine post operative exercise test he cycled five miles as a warm up!

Two of our more recently appointed consultants are also on the move. Dr Iain Levack is returning to Edinburgh to take up a post at the Western Infirmary. His unique style with a dedication to regional anaesthesia and pain control will be sorely missed. Dr Stephen Lawrie after an all too brief sojurn in the North East is returning to the South West and takes up a post in Ayr.

Dr Alison Campbell and Dr Gordon Byers have returned as consultants with a major interest in paediatric anaesthesia and Dr Rona Patey has returned from Baltimore to continue her interest in Trauma Care and Anaesthesia.

At Senior Registrar level, Dr Paul Martin is currently spending a year at the Shock Trauma Center in Baltimore. Andy Ronald was appointed following a successful research year and we welcomed Drs Michael Steyn and Fiona Bryden from Glasgow and Dr John Read from Edinburgh. At registrar level, Dr Levy has left to take up a lecturer post in Sheffield and the new rotation with Inverness is underway. A flurry of new appointments at SHO level combined with the proposed staff grade posts has gone a long way to legalising working patterns but one hopes that this will not be at the longer term expense of training and experience.

### Elgin

No staff changes - yet! The proposal by Moray Health Services for Trust Status with effect from April 1993 has been approved and the development of Dr Gray's is about to get underway. It is planned to expand the services in Elgin in general and orthopaedic surgery, to develop an obstetric and gynaecology service and to increase the establishment in anaesthesia with three additional consultant posts.

## Highland

Unlike last year, 1992 has seen considerable change in the Highland region, in addition to the changes suggested by the government.

Dr James Muir retired and we wish him and Jean a long and happy retirement. I understand that he is already fully occupied, not necessarily with the jobs Jean wants him to do. His place in Inverness has been taken by Isobel McKenzie who moved South from Wick. Dr T Collingridge has been appointed to fill her place in Caithness.

At last the Obstetric Epidural Service has taken a step forward. The new consultant post has been advertised and the associated SHO posts are about to be advertised.

Dr Bryony McEvedy has just announced that she is to get married. Not only that but she also intends to move to England. We are naturally delighted by the news of her wedding, but distressed that it will mean her departure from the department.

On the trainee front, all three registrar posts are now filled by Career Registrars taking part in the North East rotation. Drs Alison Smith and Johnathan Richards are currently here from Aberdeen and Dr Trevor Maze is about to leave us to go to Aberdeen. The Senior Registrar rotation with Dundee continues to work well, Moira Simmons and Ian Skipsey having shared 1992 with us.

As far as the Government's changes are concerned, the introduction of Resource Management proceeds apace. Dr John Machin has been appointed Co-ordinator of the Clinical Services Management Group and is a member of the Unit Management Board. Both the Raigmore Unit and the Acute Unit in Inverness have applied for Trust Status in 1993; an announcement is expected shortly.

## South East

Another year passes in the South East and while twelve months ago all seemed quiet, we have still our share of surprises and developments. The multiple 'hospital shuffling' referred to in last year's news has settled somewhat, and those colleagues affected no longer have to refer to multiple rosters of the if this is Tuesday and there is an R in the month, I'm doing urology variety. The surgical changes have, of course, had considerable effects on both departments both in Edinburgh and beyond.

Consultant jobs have altered with the changes, and in addition we have seen new blood. An interesting aspect of recent appointments has been the increasing tendency

for consultant mobility (this does not refer to the well known inertia engendered by slow surgeons). The movement of consultant grade staff is a development that those of use who have worked in Australasia or the USA recognise as a healthy way of maintaining or developing personal skills and interests, with mutual benefits for departments and consultants. Let us hope that this trend remains a small, but important part of consultant appointments.

Among those who have left for pastures new is Mark Dearden, who has left to 'Head' (sorry) a Neuro ITU with his well known trauma interest, enthusiasm and scientific approach. Imports include his replacement, Peter Andrews from Glasgow via the States, Simon McKenzie returning to his roots in the Western and Iain Levack returning from Aberdeen. Ian Armstrong has made the biggest move of all - from the Western to the Royal! He is being provided with simultaneous translation facilities and seems to be coping. Ian is joining Alastair Lee and Anthony Pollock in providing anaesthesia and ITU care to the Liver Transplantation Programme, which I suspect our colleagues in Glasgow are happy to see we are running.

Margaret Lonsdale moves from Kirkcaldy to St John's at Howden - if she can find it (the clue is, look for the little blue 'H' on road signs) and joins the department which is on one site at last. Karen Humphries returned looking tanned from her honeymoon and got a consultant post at the City Hospital. We have been lucky to keep her interest and expertise in audit within Edinburgh.

Staff grade posts have been a new and much welcomed development. All departments have been pleased with their new colleagues, whose enthusiasm and qualifications make them valued and welcome department members.

On the national and international front, Alastair Spence looks after all our interests in London and points North, South, East and West and, remarkably to those of us who get jet-lag on the shuttle, looks well on it. Willie Macrae fulfils similarly onerous tasks for the Association, but both of them fill their theatre clogs when in town. Many other consultants in the region fulfil roles of importance for College, Association, ATLS and national societies. At present their duties are covered freely and without argument - long may it continue even in the new customer sensitive NHS.

Overall then, a year of more changes than we might expect, a taste of the new regime, and of John McClure getting a hole in one on the RIE golf outing.

## Tayside

The Directorate system is well under way. This is paving the way for the application for Trust Status which is expected to be approved for April 1993. The pain clinic, which is with the directorate of neurosciences, has had a non-recurring cash injection of £80,000. This welcome resourcing will be put to good use, but recurring funding is still being sought.

The Registrars' meeting in May in Dundee, which covered some aspects of the management of acute and chronic pain, appeared to be well received and there was a profit of over £700.

Dr David Coventry from Ayrshire was appointed to a new consultant post and he commenced in December 1992. Dr Moira Simmons, Senior Registrar has been appointed as a Consultant Anaesthetist at Inverclyde and congratulations are also due to Moira and her husband on their recent happy event!

## West of Scotland

### Glasgow

The provision of anaesthetic services in Glasgow continues apace, virtually oblivious to the shifting sands of the Health Board planners. Hard on the heels of the 1989 Strategy Document we have yet another Strategy Document to digest, this time against a backcloth of Trust applications. Three hospitals in Glasgow have been granted Trust Status from April 1993 viz. the Royal Hospital for Sick Children, the Victoria Infirmary and Stobhill General Hospital. Whilst we do not anticipate many changes in the short term, clearly major changes are being planned for the provision of acute medical services in Glasgow, to see us through to the end of the decade and well into the next century. Watch this space!

At the Southern General Hospital several developments have recently come to fruition which have increased the demand for anaesthetic services. The Surgical Intensive Care Unit has finally opened after twenty years of talk, planning and struggling to look after ventilated patients in corners of wards. The consultant duties are shared by a strong team of former members of the Western Infirmary Shock Group under the directorship of Dr John McDonald. Meanwhile the opening a a purpose built Day Surgery Unit has added eight sessions to the departmental workload. The latter is expected to increase further as a consequence of the opening of the third major development, the Spinal Injuries Unit, despite this being primarily the domain of the Neuroanaesthesia Division. To meet the new commitments the consultant establishment has increased by two. Dr Lynn Newman has already been appointed bringing valuable experience from her previous consultant post in Liverpool, and it is hoped to make a second appointment shortly. Appointments have also been made to an approved increase of two in the junior staff.

The Victoria Infirmary has undergone several major 'rationalisations' in the last year. Two of our satellite hospitals, Phillipshill and the Samaritan had their specialties (orthopaedics and gynaecology respectively) transferred into the main Victoria site. The amalgamation of the elective orthopaedic and gynaecology services on to the Victoria site seems to have gone ahead reasonably smoothly - we certainly seem to be a leaner and fitter unit as we head for Trust Status. In terms of personnel, we welcomed two new consultants, Dr Philip Matthew and Dr Jane Purdie who

replaced Dr David Dutton and Dr Helen Howie. Dr Helen Howie transferred to the Western Infirmary as part of the rationalisation of the gynaecological services in the City. Our medical assistant, Dr Fiona McDonald took early retirement. Our Senior Registrars were upwardly mobile, John Sinclair (Glasgow Royal Infirmary), Kenny Lamb (Stobhill) and Jane Purdie (Victoria) each being elevated to consultant status. They were replaced by Dr Susan Midgely, Dr Alan Brown and Dr Iain Taylor. All of us at the Victoria look forward to the next year with not a little trepidation but much enthusiasm and optimism. It is with much regret that I have to announce the death of Dr Wolfred Sniper, known universally as Woolfy. Woolfy was one of the Scottish pioneers of chronic pain management and did much to foster this subspecialty of anaesthesia over the many years that he was involved with it. He was a highly respected anaesthetist and a true friend.

At the Western Infirmary the past year has seen a considerable number of senior staff changes. Dr Ian McMenemin has been appointed to the new consultant post with a specific interest for day care surgery. Dr David Duthie and Dr David Smith have both resigned from consultant posts with an interest in anaesthesia for cardiothoracic surgery to take up new posts at Papworth and Southampton General Hospital respectively. Dr Colin Runcie has been appointed to one of these posts and the appointment to the second post will be made in the New year. Dr Michael Abbot, an accredited senior registrar from Adelaide, is currently locumming in one of the cardiac posts. Dr Gerry Mone has now retired and will be replaced by Dr Nick Pace. Dr Donald Braid retires in January. On the Senior registrar front, Dr Jackie Church is spending one year in Galveston, Texas, furthering her experiences particularly in cardiothoracic work. Dr Anne Moffat has resigned to return for a further period in Australia. Dr Shahnaz Hamid has been appointed to the joint University/Senior Registrar post within the Department.

Over at Glasgow Royal Infirmary the last year has been an eventful one. There have been four consultant departures, three new appointments, a flurry of activity at senior registrar level and a bewildering series of arrivals and departures at the career registrar level. Two of the best known faces in Anaesthesia have retired this year. Mike Telfer announced his intention to retire at the beginning of the year and was quickly followed by Finlay MacDonald. Both have made enormous contributions to the department and will be sorely missed. We wish them both a long and happy retirement. We also lost the services of two of our younger consultants. Andy Winter was unable to resist the lure of sunshine and surf in Ipswich, Australia. Henry Robb was similarly tempted by the climate of Falkirk. We wish them well in their new jobs. Mike Telfer's post has been filled by John Kinsella who was the first local senior registrar to complete Higher Specialist Training in Intensive Care. Andy Winter's post has recently been filled by Liz McGrady. Some of our senior registrars are moving onwards and upwards. Nadia Hodsman has been appointed to a consultant post at Law Hospital, Colin Runcie is moving across the City to the Western, Simon MacKenzie and Peter Andrews are going back to their roots in Edinburgh. Tony Laycock is moving slightly further afield to Tasmania. Two senior registrars were appointed early in the year in the contrasting shapes of Neil Smart and Susan Geddes. Furthermore, Alan Davidson was appointed to the post of Lecturer in the University Department of Anaesthesia. Four more senior registrars were appointed simultaneously at the end of November, Fred Davies and Douglas Russell being promoted internally, Colin Dryden from the shock team and David Swann from Edinburgh. Senior registrar posts have been obtained by Fiona Bryden (Aberdeen), Kieran Rafferty (Belfast) and John Dickson (Newcastle). This year has also seen the start of the heart transplantation programme. The historic first case was performed on the first of January with Brian Maule giving the anaesthetic. As the year draws to a close, the Division of Anaesthesia is coming to an end. Bill Anderson has been appointed the first Clinical Director of Anaesthesia and Intensive Care and we wish him every good fortune in the battles that lie ahead.

At the Royal Hospital for Sick Children the only senior appointment was that of Dr Andrew Wolf. Dr Wolf arrived in Glasgow via Australia, Toronto and Philadelphia where he built his expertise in ECMO. His other special interest is that of post-operative analgesia in the very young infant using the spinal and epidural route.

Finally at Stobhill the only senior appointment was that of Dr Kenny Lamb who replaced Dr Harry Freedman who retired earlier in the year. On the clinical side, a new Day Surgery Unit is being built at Stobhill and should be operational within the next few months.

**Royal Alexandra Hospital, Paisley**

There have been no retirals or new consultant appointments in the last year although there is currently a new consultant post to cover the increased workload in surgical specialties. A proposal for the hospital to assume Trust status with effect from April 1993 has been made and appears likely to be accepted. Clinical directorates have been in place since September 1991 and a single directorate of Theatre Services includes, Theatres, ITU, CCU and the former division of anaesthetics. The director is Dr Sheila Madsen, a consultant anaesthetist. The divisional structure has been maintained with Dr Barbara Scorgie currently serving as chairman.

**Crosshouse Hospital**

In the past year three consultants have resigned to take up posts elsewhere; Dr Dave Coventry in Dundee, Dr Chris Cummings in the South of England and Dr Jane Howie in Newcastle. One of these posts has been filled by Dr Stephen Lawrie from Aberdeen. South Ayrshire Trust is already established and a new trust for North Ayrshire is proposed for April 1993. The management structure for anaesthesia in Ayrshire consists of a clinical directorate based at Crosshouse Hospital with a budget for Theatres, ITU, Pain Clinic and Anaesthesia and services are contracted on a local agreement to the

North Ayrshire Trust - the clinical director is Dr John Hilldebrand. The divisional structure has been maintained with Dr Paul Wilson the current chairman.

**Vale of Leven Hospital**
There have been no new appointments or retirals in the past year. A new high dependency unit is under construction and should be operational by January 1993. Clinical Directorates are not yet functional and the intention is to keep the divisional structure with an executive. The links with the Western Infirmary at trainee level have been ceased.

**Inverclyde Royal**
A new consultant post has been advertised. Clinical directorates are being established and Dr Winnie is Clinical Director of Theatres and Anaesthesia. The divisional structure is to be maintained.

**Dumfries and Galloway**
There have been no staff changes in the past year. New developments include the introduction of CAT scanning and the opening of an endoscopy suite. Trust status is planned for April 1994. No directorates are yet in place. Dr Bewster is presently the Chairman of the Division and is to become the lead consultant for Anaesthetics, Theatres and ITU.

**Hairmyres**
There have been no staff changes in the past year. An enquiry into Anaesthetic Services is currently under consideration by the Health Board. Clinical directorates are in place. Dr Bill McCulloch is Clinical Director of Theatre, Anaesthetics and ITU. The Division of Anaesthetics will be retained with Dr John Glasse the current chairman.

**Law Hospital**
Dr Nadia Hodsman was appointed in February 1992. A new Maternity Unit at Law Hospital opened on 12th December to replace the William Smellie Hospital. A review of Anaesthetic Services in Lanarkshire has been completed and the implications are to be discussed. Trust status has been proposed to take effect from April 1994. Dr Terry Nunn is to be Clinical Director of Theatres, ITU and Anaesthetics. The Divisional structure is to be retained but no role is seen for the chairman at present.

**Monklands Hospital**
There have been no changes in consultant staff in the past year. Clinical Directorates are to be fully functional from January 1993. Initially Anaesthetics and ITU will be part of the Surgical directorate with Dr Alastair Naismith Director in charge of Surgical specialties, Anaesthesia, ITU and Theatres. Dr Peter Paterson, current chairman of the Division of Anesthesia is lead clinician for Anaesthesia, ITU and Theatres. Monklands and Bellshill Hospital trust will be functional from April 1993.

'Ladybank 1992'

**Edinburgh and East of Scotland Society of Anaesthetists (Honorary Secretary - Dr JH McClure, Royal Infirmary of Edinburgh)**

**Oct 6**
Dr Eric Ghadiali, Walton Hospital, Liverpool.
The Psychology of Chronic Pain.

**Oct 30**
Combined meeting with Glasgow and West of Scotland Society of Anaesthetists at the Royal College of Physicians, Edinburgh.
Sir Gordon Robson, London.
'The JD Robertson Memorial Lecture'.

**Dec 1 & 2**
Tour of Mary King's Close, City Chambers.

**Jan 5**
Dr Robin Sellar,
Western General Hospital, Edinburgh.
Advances in Neuroradiology.

**Feb 2**
Mr DAD McLeod & Mr D MacLean,
Honorary Advisers to S.R.U.
Sports Injury.

**Mar 2**
Dr Neville Goodman, University of Bristol.
Chaos in Anaesthesia.

**Mar 13**
Annual Dinner & Ceilidh

**May 4**
Annual General Meeting

**North East of Scotland Society of Anaesthetists (Honorary Secretary - Dr C Allison, Stracathro Hospital, Brechin)**

**Oct 15**
Dr Henry McQuay, Oxford.
Pre-emptive analgesia - fact or fiction?

**Dec 3**
Members night including Question Time panel

**Mar 18**
Dr David Royston, Harefield Hospital.
Oxygenation in the Critically Ill

**May 22**
All day meeting at the Craigendarroch Country Club, Ballater. Presidential Address, Annual General Meeting, Registrars' Prize Papers and the Inaugural Norman Rollason Lecture by Professor Alastair Spence.

**Glasgow and West of Scotland Society of Anaesthetists**

**Oct 30**
Combined Meeting at the Edinburgh and East of Scotland Society of Anaesthetists.

**Nov 20**
Prof SM Cobbe, Glasgow Royal Infirmary.
Cardiopulmonary Resuscitation in the Community

**Jan 19**
Members Night. Presented by the Department of Neuroanaesthesia, Institute of Neurological Sciences.

**Feb 15**
Dr RG Wheatley, York District Hospital.
Development in Acute Pain Services

**Mar 11**
Presidential Address.
Dr WH Duthie

**Apr 29**
Annual General Meeting

**May**
Annual Golf Outing - date to be announced

# REGISTRAR'S PRIZE

The Society annually awards a prize of £250 for the best original essay submitted by a trainee anaesthetist in Scotland. A second and third prize may also be awarded for papers of particular merit at the discretion of the assessors. It is not necessary that entrants be members of the Society.

The conditions attaching to the award are as follows:

The paper or essay should be original i.e. it should not have been read previously at any meeting or published in any journal.

It is desirable that entries show evidence of personal work, but surveys of the literature are eligible for consideration. The Council of the Society wishes to stress that intending contenders should not be discouraged through fear of their efforts being judged elementary. It is fully realised that trainees in some peripheral hospitals may not have opportunities to deal with special types of cases or employ advanced anaesthetic techniques.

Four Copies of each entry MUST reach the Honorary Secretary by the end of February.

The Hon Secretary places all entries in the hands of the Awards Committee which consists of the President, Vice-President and Past-President. These individuals wish to adjudicate without knowing the name or the hospital of the entrant; it is therefore requested that these details be submitted on a separate covering page and that the essay itself give no indication of its source. Acknowledgements to named colleagues should not be included.

The winner of the prize will be required to give a digest of the paper at the Annual General Meeting of the Society in April. His/her expenses for the meeting and those of a partner will be met by the Society.




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