The Annals of the Scottish Society of Anaesthetists

MILLENNIUM EDITION

No. 40

January 2000

SCOTTISH EXECUTIVE

Minister of Health & Community Care
Susan Deacon MSP

We must take full advantage of the opportunities afforded us by devolution by using the powers and processes of our new Parliament to develop a modern NHS fit for the needs of Scotland in the 21st. century and offering services which can stand comparison with the best in the world. The Scottish Executive is absolutely committed to see through our plans for the NHS as set out in *Designed to Care,* and our public health plans as described in *Towards a Healthier Scotland*. These are the foundation stones on which we will build.

I want to see the NHS in Scotland turn the promise of a patient-centred health service into a reality. The NHS must improve the way it talks to people and match hi-tech development for the next century with a 'human touch'. Because patients value and remember the caring nurse and the considerate doctor, the provision of health services must be about enabling staff to combine their sense of vocation with a quality of service that has patients' interests at heart. A patient-centred Health Service must be more than a slogan - it must become a way of life.

The Scottish contribution to the history of anaesthesia shows that our aim of leading the world in terms of the services we offer is firmly rooted in reality. Since its foundation in 1914, the Scottish Society of Anaesthetists has helped to maintain the pioneering work of James Young Simpson and many other doctors who have led the development of many modern anaesthetic techniques. Patients rely on anaesthetists, in particular to relieve their anxieties and pain when they are at their most vulnerable, and for that reason anaesthetists are all the more aware of the need to provide those patients with a service of the highest possible standard.

Printed by Fairprint Ltd.,
West Henderson's Wynd, Dundee

editorial

I assume we have all survived the various perils of Hogmanay celebrations and are now adjusting to the ordinary hum-drum of this new year at work.

Like other magazines, I thought our Annals should mark the Millennium. I therefore commissioned Donnie Ross to paint a cover picture reflecting elements of contemporary Scotland & anaesthesia - it has turned out to be a minor masterpiece! I also asked my colleague Grant Hutchison to muse over two mythical anaesthetists operating at the last & next Millennia and he too has produced a quality work of supreme cleverness & wit.

Last April, Iain Gray undoubtedly steered our Society into political waters. His well researched Presidential Address gave us much to ponder over and is reproduced in full. Iain also offers an update on clinical governance and the representative bodies in Scotland, as he reflects on his Presidency Year.

Our Peebles guest Leo Strunin outlined the College's view on revalidation with clever analogy to his beloved greyhounds. Douglas Arthur chose kids dental anaesthesia as the topic for his most entertaining Gillies Lecture. Ines Boyne and Peter Curry describe their different African exploits, while S.S.A. prizewinner John Hunter shows our trainees do excellent research.

The Annals records all activities of the Society - academic or otherwise. I hope you enjoy the Peebles photo collage, Eddie Wilson's account of our golf day and all the stuff submitted by our many regional contributors. John Thorburn suggested we should have a "retired section" - maybe I'll encourage one of our celebrated codgers to compile this for future editions.

Lastly, I'm delighted Health Minister Susan Deacon accepted an invitation to write a brief mission statement for the Scottish Health Service in which she showed a sensitive appreciation of our contribution to patient welfare.

IN PRAISE OF SMALL HOSPITALS

This Editor doesn't see himself as an authority on anything, but will nonetheless use this column each year for a brief word. On this occasion I'd like to speak out on the worth of Scotland's small hospitals (surprise!) We often hear about our major "centres of excellence" (quite right too!) but our district hospitals also strive for excellence, accomplishing large volumes of usually unsung, first-class work. More power to them all, especially those fighting to retain their identity, or stay alive!

You'll see there are changes in the journal, including advertising appearing for the first time. Thanks go to *Blease* for helping with publishing expenses. Spelling errors may not have been entirely eliminated by setting up the book myself, but costs have certainly been trimmed. I must acknowledge Paul Anderson & Mark McFarlane at Fairprint for their help, particularly with the colour pages.

Next year I hope to seek out the talents of more members and invite those with literary or artistic flair to come forward to be published.

Charlie Allison

Millennial Anaesthesia

Grant Hutchison *Ninewells Hospital, Dundee*

Brechin, Alba : Feast of Saint Dunchad, Anno Domini 999

In the street outside, the flagellants are flagellating. Tomorrow is Lady Day, the first day of the thousandth year of the Christian era. I have pointed out to them that the new millennium has already dawned in much of the world - in Ethelred's England, they bring in the new year on Christmas Day. In Europe, it is said, some still use the old pagan calendar of Julius Caesar, which changes on the first day of January. But the flagellants just sneer and flagellate all the harder.

But now here's Kenneth, from the shop next door.
"'Pothecary, I'd value your help with a small matter," he says.
"I need to take the leg off Caol, the farmer from Stracathro."
"Why do you want to do that?" I ask, mildly.
"It's never been right since he fell in the midden & the bone poked through, last Saint Flannan's Day. Smells something horrid now."
"But you're a *barber*, Kenneth. You cut hair. You trim beards."
He shrugs. "They brought him to me 'cause I've got all the sharp tools, I imagine."

"And you wish me to ... help hold him down? Is that it?"

"After a manner, 'pothecary. Me and Caol, we had this notion that you might give 'im a strong sleeping draught, or some such like."
"It would need to be a remarkably strong draught, Kenneth. It's not the sort of thing one generally sleeps through." (And yet ... it would be a nice thing to sleep through, would it not? I find myself mentally reviewing my bottles and jars.)
He shrugs again, awkwardly. "Whatever you say, 'pothecary. It was just a notion. I know Caol quite fancied it, like."
I sigh. "Leave it with me for a while - I'll let you know what I think."

* * * * * * * * * * * * *

An hour later, I enter the barber's shop, to find old Caol already there, firmly bound down with the straps Kenneth uses for his tooth-pulling business.
I hold up my best (only!) glass bottle. "Let's give this a try," I say.
"Italian opium dissolved in an exceedingly large quantity of alcohol."
Kenneth frowns. "Not a vapour to breathe, then, 'pothecary?"
I give him a bemused look. "A vapour? Don't be daft, Kenneth!"
But Caol perks up visibly. "Is it from that still of yours?"
"It is indeed," I assure him. "Alcohol of unique purity."
"I'll give it a go, then." And he does, with both will & enthusiasm.

After an hour, he falls asleep, but I rouse him and give him some more. And some more. Eventually, I trickle the stuff into his gaping mouth, persisting just as long as he seems able to swallow it. He starts to snore. I lift his jaw gently forward and, gratifyingly enough, the snoring stops. "Kenneth," I say, "your patient is ready."

As Kenneth starts to fashion his flaps, Old Caol stirs a bit, and whimpers.
Kenneth eyes me reproachfully. "He's moving."
"It's not eye surgery," I say. "Get on with it, man!"
"And he's bleeding a hell of a lot, 'pothecary. What're you doing to him?"
"You've made an enormous hole in him, Kenneth. Why does it surprise you that he bleeds?"
He grumbles his way through the rest of the business, but gets on briskly enough.
Afterwards, I get him to help me turn old Caol on his side - sure as death, the first thing he'll do when he wakes is vomit.

And then we wait. Time passes. The flagellants dance and shriek in the street outside.
More time passes. Kenneth wanders over to the doorway and squints up at the sun.
"When d'you reckon he'll be woken, 'pothecary? I've got a lot of work to get through today, what with the Millennium Haircut deal I've got on offer an' all."
"He'll be awake when he's awake, Kenneth," I snap.

But I think to myself – *I really need to find something with a shorter recovery time than this.*

Nova Alba, Mars: Julian Day 2816787

In the corridor outside, the flagellants are flagellating. Tomorrow is the first day of the three-thousandth year of their eccentric Christian calendar. I have pointed out to them that the absence of a Year Zero means that their new millennium will not truly dawn for another Earth year. But the flagellants just sneer, and flagellate all the harder.

But now here's Ka-Neth, from the marketing outlet next door.
"Librarian, I'd value your help with a small matter," he says.
"I need to take a leg off Ka-Ol, the novelist from Syrtis Major."
"Why do you want to do that?" I ask, mildly.
"It's for a psychodrama he's writing. He wants to shake off the stereotypical thought imposed by bilateral symmetry, he says. Only temporarily, of course."

"But you're a *cosmetician*, Ka-Neth. You adjust noses. You aesthetify breasts."
He shrugs. "He came to me because I've got the artificially intelligent nanobiotic sculpting equipment, I imagine."
"And what do you want me to do? Hold him down?"
"Well sort of. He doesn't want to be Switched Off during it. He wants to have something called 'anaesthesia' - he retrieved the word from an old database that survived Y2K. We thought you might know something about it"
"He needs a psychist, not a librarian. Why doesn't he just Switch Off till it's all over?"
(And yet the word - *anaesthesia* - is vaguely familiar. I find myself mentally reviewing my files & hyperlinks)
He shrugs again, awkwardly. "Whatever. It was just a notion.
I know Ka-Ol thought there'd be some artistic merit to the experience."
I sigh. "Leave it with me for a while - I'll let you know what I retrieve."

An interval later, I enter the cosmetician's outlet, to find the novelist already there, reclining comfortably under the laser mapping grid.

I hold up the object I've just had the duplicators synthesise for me.
"Let's give this a try," I say. "It's called a ***KENNY*** Machine. I've reconstructed it from plans that were dug out of the ruins of Glasgow."

"Glasgow in the Hellas Basin? What's happened to it?" asks Ka-Neth, alarmed.
"No, no - ancient Glasgow on Earth. It was devastated by a group called the 'Old Firm Supporters' who gained access to nuclear weapons."
"But how does the machine work?" interrupts Ka-Ol, impatiently.
"It puts a molecule into the blood stream which interferes with cognition in a crude sort of way. The machine guesses how much to give, based on some simple parameters. It's a kind of Artificial Idiot."
Ka-Neth frowns. "So it's not some sort of vapour to breathe, then?"
I give him a bemused took. "A vapour? Don't be cerebroplegic, Ka-Neth!"

After a while, I gain intravenous access to the novelist. The process is complicated by the fact that he and I both faint at various times during the several attempts required. Ancient medicine is quite horrific.
I key in the parameters the machine requests, remembering at the last minute that it requires figures based on *Earth's* gravity & orbital period.
I turn up the predicted blood level slowly.
After a while, the novelist starts to snore.
I lift his jaw gently forward and, gratifyingly enough, the snoring stops.

"Ka-Neth," I say, "your client is ready."

He lays the sculpting machine gently over Ka-Ol's thigh, and presses a button. There is a low humming noise.
"Finished," he says, and lifts away the machine, together with Ka-Ol's lower leg.
"*What?* You might have told me you'd be this quick!" I say, feverishly pushing buttons.
"I don't how long he'll take to waken up, now."

But Ka-Ol wakens fairly quickly. "Aaaaargh!" he says. "Aaaaaaaaargh!"
Ka-Neth leans over curiously. "What's going on?" he asks.
"He's in pain, I think."
"Ah well. I'll leave you to sort that out, shall I? I'll see him a bit later, when he's feeling better."
And he drifts off to watch the flagellants dance and shriek in the corridor outside.

"Aaaaaaaaaaargh!" says the novelist, again. And then again.

After some more of this, I eventually reach over and flip the Switch on the back of his head to the **OFF** position, and he becomes blessedly silent.

But I think to myself - *I really need to do something about better postoperative analgesia.*

The President's Year

Iain G. Gray *Ninewells Hospital, Dundee*

By all accounts, implementation of the new Trust structures in Scotland has created even greater financial, managerial & governance problems than I had envisaged at the time of my Presidential address at last April's A.G.M.

In Tayside we are currently involved in an Acute Services Review (A.S.R.), a process which logically should have been undertaken two years earlier, before our Trusts amalgamated. The time scale is so tight, and the remit so all embracing, that it should perhaps be renamed the Acute Review of Services, providing a phonetically more appropriate acronym, given the volume of hot air that's been generated so far! It is about to be bogged down in a public consultation process, which means nothing of substance will come anywhere near the proverbial fan, and no strategic change in service delivery can happen until the middle of next year.

Meanwhile, like most Trusts, we are overheating on both emergency & planned clinical activity and are now facing unpalatable choices in restricting clinical provision, in order to achieve balance at the end of the financial year in March.

The Royal College & the Association of Anaesthetists, along with the specialist societies, have set standards & guidelines in several fields of our clinical practice which the politicians have adopted as hallmarks of clinical excellence. In order to meet these criteria and the targets for reducing duplication of services within the new Trusts, it will be necessary, for instance in relation to paediatric anaesthesia, to centralise services.

Yet these same politicians continue to support local activists who are determined that all services *must* continue to be provided in every hospital in the area, despite sound arguments to the contrary in relation to clinical safety & risk or cost. Political and especially financial pressures are once again the dominating issues for management. Where now Clinical Governance as the much vaunted driver for the Scottish Health Service?

Fortunately Anaesthesia as a speciality is in a much more positive & healthy position in Scotland. Despite my depressing views on the subject, your Council has assumed that you would like us to continue to pursue the establishment of a mechanism for securing a speciality advisory structure to the N.H.S. in Scotland. Following the discussion at last year's A.G.M., it became clear that there was no mandate from the Regions for a more politically active role for the Scottish Society, largely on the grounds of cost, and that the College & Association should be invited to discuss an appropriate way forward. Progress is being made and options will be presented for consideration by members at this year's A.G.M. in April.

The Society's activities have been well supported. We had a very enjoyable day at Ladybank for the golf outing. The Trainees' meeting, again held in Stirling with an evening reception at the Castle, was a very successful two-day event, organised with meticulous care by David Watson, Lindsay Donaldson & Pam Cupples. In November, Liz McGrady, Alec Patrick & Moira Simmons were responsible for arranging our Scientific Meeting in Glasgow. This was a tour de force with a varied, topical program, presented by a group of entertaining speakers who introduced new dimensions to our clinical arena.

I thank all of them and our new team of hardworking office bearers for their support and I look forward to meeting you again at Peebles in April.

presidential address

"BACK TO THE FUTURE"

Iain G. Gray MD FRCA *Ninewells Hospital, Dundee*

In November last year Dundee Royal Infirmary closed its doors to patients for the last time and for the first time in 100 years the acute clinical services in Dundee would be provided on one site.

After almost exactly 150 years of service, it is however rather sad to see the old Royal Infirmary building, derelict and soulless; a hospital which the citizens of Dundee have always held in high regard & affection. Furthermore, the Royal Infirmary title is destined to pass into the annals of history, since it has been decreed that it will not be transferred to the Ninewells building.

While researching the history of Dundee's medical traditions, it became obvious there were lessons to be learned from errors of judgement in the past which might prove useful as we consider strategic planning for the future of anaesthesia in a devolved Scotland. As we approach the millennium, it is time to take stock of the past and plan for the future. With the prospect of the first Scottish Parliament for almost 300 years, it is a time for change and a time for reflection.

DUNDEE'S DOCTORS

Dundee has had its share of characters in the medical world, though not perhaps so widely known as those of Glasgow & Edinburgh. The first recorded was Robert Johnston in 1495, then came four barber-surgeons in the 16th century. They seem to have been a quarrelsome lot, both within their profession and against the town authorities.

James Man was in trouble for breach of the peace and for refusing to take up the Sunday collection in church.

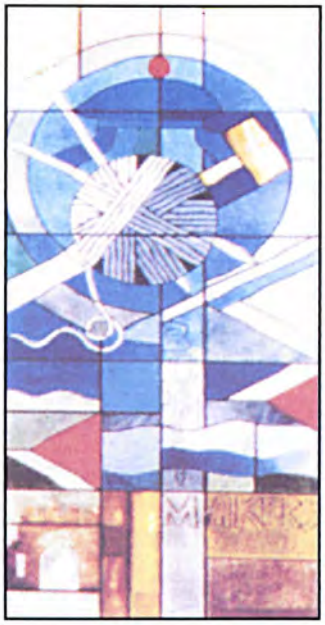
Findlay Duncan, who had a practice in the town and as far out as Forfar, was medical referee on behalf of the magistrates and seems to have had most problems with Patrick Walker.

By all accounts the latter was less well thought of than his colleagues were and had more complaints from disgruntled patients. He bore a jealous grudge against his more successful colleagues and at one point drew a dagger on Findlay Duncan. He appears to have been pretty aggressive into the bargain in pursuing his fees & expenses from patients.

Like the other cities & major towns in Scotland at the time, skilled craftsmen in Dundee learned their trade by apprenticeship to a master and barber-surgeons belonged to this group. After apprenticeship training, they had to pass tests of skill & expertise as well as demonstrate an understanding of basic anatomical knowledge, before being admitted as a burgess to the craft. The trades jealously guarded these rights and practitioners within city boundaries were bound by craft rules which became standardised - the start of protocols, guidelines & quality of practice - with the formation of craft guilds. Competence based assessment in today's terminology!

The first academically educated doctor appears to have been a man of some distinction, Dr. David Kinloch, who matriculated at St. Andrews University in 1576 at the age of 17, went to the continent and proceeded M.D. in Paris, where he attended the French Royal Family. He returned to Scotland where he won favour with King James VI and, after undertaking further diplomatic business on the continent, came back once more to his native land. Kinloch was a noted Latin scholar as well as a physician and his memorial is still identifiable in the old burial ground in the centre of Dundee.

DR. DAVID KINLOCH



AND IT'S UP WI' THE BONNETS O' BONNIE DUNDEE

OUT-GOING PRESIDENT
JOHN THORBURN
WISHES HIS SUCCESSOR
IAIN GRAY
EVERY BEST WISH
FOR HIS PRESIDENTIAL YEAR


THE HOWFF
GARDENS OF THE GREY FRIARS MONASTERY
DESTROYED 1547-8
GRANTED TO THE TOWN AS A PLACE OF BURIAL
BY MARY QUEEN OF SCOTS 1564
USED BY THE INCORPORATED TRADES
AS MEETING PLACE OR HOWFF TILL 1776
SEPULTURE DISCONTINUED 1857

THE ANCIENT DUNDEE TRADES

In the 16th. Century, independent artisans found it difficult to sustain a living unless they joined a craft Organisation that provided an early form of social security into the bargain. A Deacon appointed from their number led the crafts and dues, levies & fines were collected by the box-master to support the running of the Organisation. Each craft held regular 'Makin' suppers at which the business was discussed, apprentices were put through the test and quantities of bridies & ale were consumed. The favourite meeting place in the early days was the Howff, the cemetery still in existence behind the city churches, abutting on to Ward Road which was then the bleaching meadow - hence Meadowside today.

The first signatures in the Lockit Book of the Bonnetmaker Craft date from 1580. Traditionally it had been thought that the first Lockit Book had been destroyed in 1660 and General Monk's forces were blamed. A second Book was begun in 1660, the earlier names being entered from memory, and this lasted until the late 1950s. However the first book has since turned up, and not surprisingly the signatures in it and early names in the second hardly match. So much for the value of record keeping!

These rules and standards applied to all tradesmen operating within the city walls, but by the early 18th. century the Bonnetmakers had lost a critical proportion of their business to artisans living outwith the limits of the burgh. They were not trained craft members, but produced a reasonably acceptable article at a much lower price. The production of bonnets required input from dyers & waulkers, but there appears to have been sufficient support from some less scrupulous members of these trades to enable the rogue artisans to flourish. There is a lesson to be learned there.

A "private gentleman" wrote:
"in 1756, the Hill or Rotten Row was chiefly bonnetmakers - there were very few hats then in Dundee, except the ministers, Provost & four Baillies, Sir George Stewart & Captain Ramsay. The Hill yards had stocks of kail, and a few syves here & there but generally crops of oats and barley."

None of the houses were slated, having thatched or turfed roofs and were set with their single-storey gable to the street, outside which the bonnetmakers sat on stools and wrought their bonnets with large wires. They drew water from the Ladywell at the foot of the hill.

Although the Ancient Crafts Guilds were able to support & sustain their standards of training, it was not until they formed the Incorporation of the Nine Trades at the turn of the 18th. century that they experienced the true benefits of a united approach to wealth generation & social standing in the community. But there has always been fierce rivalry over the pecking order in the Organisation, depicted in the recently commissioned stained glass windows which adorn the entrance way into Ninewells Hospital.

The Bonnetmaker craft was clearly in danger of extinction and was later reconstituted as an open craft, whose membership now comes almost entirely from the professions & commerce, including a large number of the medical fraternity. It is the largest and wealthiest in the city. Glasgow also retains the Guild of Bonnetmakers & Dyers, but Stewarton has the only active guild - bonnets are still being produced there!

17th. CENTURY DUNDEE & GENERAL MONK

Returning to the chronology of Dundee's history, we find in 1644 that the religious wars which swept through Scotland, England and Ireland had particularly ill effects on Dundee. With its strong Presbyterian tradition, and its stance against the Loyalist forces of Montrose, it was seen as

"a most seditious place, which has a faithful receptacle to the rebels in these parts, [and has] contributed as much as any town in the kingdom to carry on the rebellion".

and this was the excuse for the first attack in 1645.

In 1651, English Cromwellian forces under General Monk sacked the city. Sir Robert Sibbald, who was a child at the time, gave a graphic account of the siege. His family was one of the few fortunate ones, for, excepting Drogheda, there was no more brutal event in the history of Cromwell's violence.

Many took refuge in St. Mary's Tower, but fire was used to drive them out by smothering them with smoke from burning wet straw, then putting them to the sword. Monk's attack devastated Dundee, with 800 inhabitants, including 200 women & children, killed. Heaps of bones are still being unearthed with each new excavation for city centre development.

Although accounts of the events at such an emotive time may be coloured, it is certain that Dundee suffered terribly and has never really recovered. As Scotland's second city at the time, it died at the hands of Monk. This left a sense of injustice, which has permeated through every generation since and undoubtedly affected the renaissance of the city.

18th. & 19th. CENTURY DUNDEE

Dundee prospered in the late 18th and early 19th centuries, as did the rest of Scotland. Even so the city's tradition for individualism & isolationism made it the only one in Scotland to forego classical replanning on a major scale. A view of the centre of old Dundee in 1845, at what was probably the peak of the City's architectural development, shows major new civic buildings and new streets leading to the river and to the North, such as Castle Street & Reform Street. The core of late mediaeval and 16th/17th century merchants houses still survive.

The oldest was the tenement with truncated tower at the corner of the Overgate, where Monk rested after sacking the town and massacring those sheltering in St. Mary's tower. The Adam Town House, erected in 1731 to replace the old Tollbooth, was known as the Pillars to the locals. It was one of the most outstanding civic buildings in Scotland, until its demolition in 1933 to provide work for the unemployed and make way for the present Caird Hall.

Samuel Bell, formerly a craftsman, had become Dundee's first and very distinguished architect. He designed the Union Hall which closed the square to the West and his Trades Hall, projecting into the East end of Market Square, provided a more congenial setting than the Howff for Dundee's Tradesmen and was a sign of their growing prosperity. The whole area had "much of that opulent and commercially great & dignified appearance which characterises the Trongate or Argyll Street of Glasgow", according to one view of the time.

In the 1790s an approach was made to the Nine Incorporated & Three Amalgamated Trades to fund, along with the Council & Kirk Session, a new church at the foot of King Street, to be called St. Andrews Church Bell was given the commission and his buildings at least helped to restore some of the lost civic pride, which had not surfaced since Monk's sacking of the city.

Although new buildings such as the Sheriff Court, erected in 1833 by George Angus, enhanced the city's architecture, only Reform Street, designed by him, focusing axially on the High School (by George Smith, 1834), matched thoroughfares being constructed in the rival Scottish cities.

PROVOST RIDDOCH

Under the leadership of the renowned Provost Alexander Riddoch, Dundee had forfeited in large measure its share of the architectural & town planning developments enjoyed by the major Scottish cities at the turn of the century. He saw no reason to compete and steadfastly refused to consider widening streets to provide access for more than packhorses to the river from the town centre. Not until 1825, when Thomas Telford developed the harbour, was Dundee able to benefit from its location at the estuary of a major river, with a southerly aspect.

Depositions were eventually put before Parliament in 1819 seeking to remove Provost Riddoch from office on the grounds that the government of Dundee "for the past century has passed from the hands of one dictator to another; at this moment uncontrolled power is vested in the person of a leader who has held the position for nearly 40 years - generally excluding from the Council the more wealthy, independent and intelligent burgesses"

Supporters of Riddoch played on the fact that local inhabitants had "not been taxed even one shilling", whereas Edinburgh & Aberdeen had gone bankrupt with their grand plans; but in the view of Telford and others the past conduct of the Corporation & their "confined views" had resulted in a "niggardly rather than judicious" management of finances.

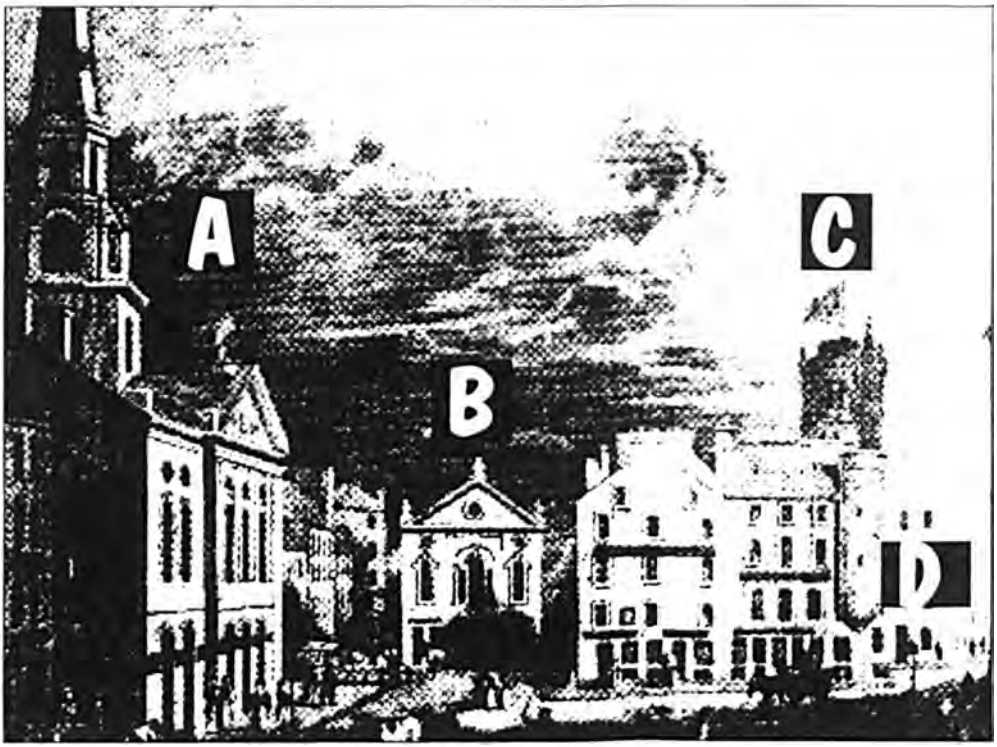
By 1840 the town had some new streets & buildings of stature but its civic reputation was severely dented. Ultimately historic buildings enclosing the Market Place had to be demolished to allow access roads through the city with the advent of vehicular traffic. It is ironic that 200 years later the whole area is again a pedestrian precinct, lacking any character or focus.

A
Adam
Town House

B
Union Hall

C
St. Mary's
Tower

D
Corner of
the Overgate



MARKET & HIGH STREETS, 1745

HOSPITALS IN DUNDEE

It was around this time also that there was growing concern about the adequacy of hospital accommodation in the city. The first Town Hospital (founded 1567) which stood at the foot of Tay Street was burned down by Montrose in 1645 and rebuilt.

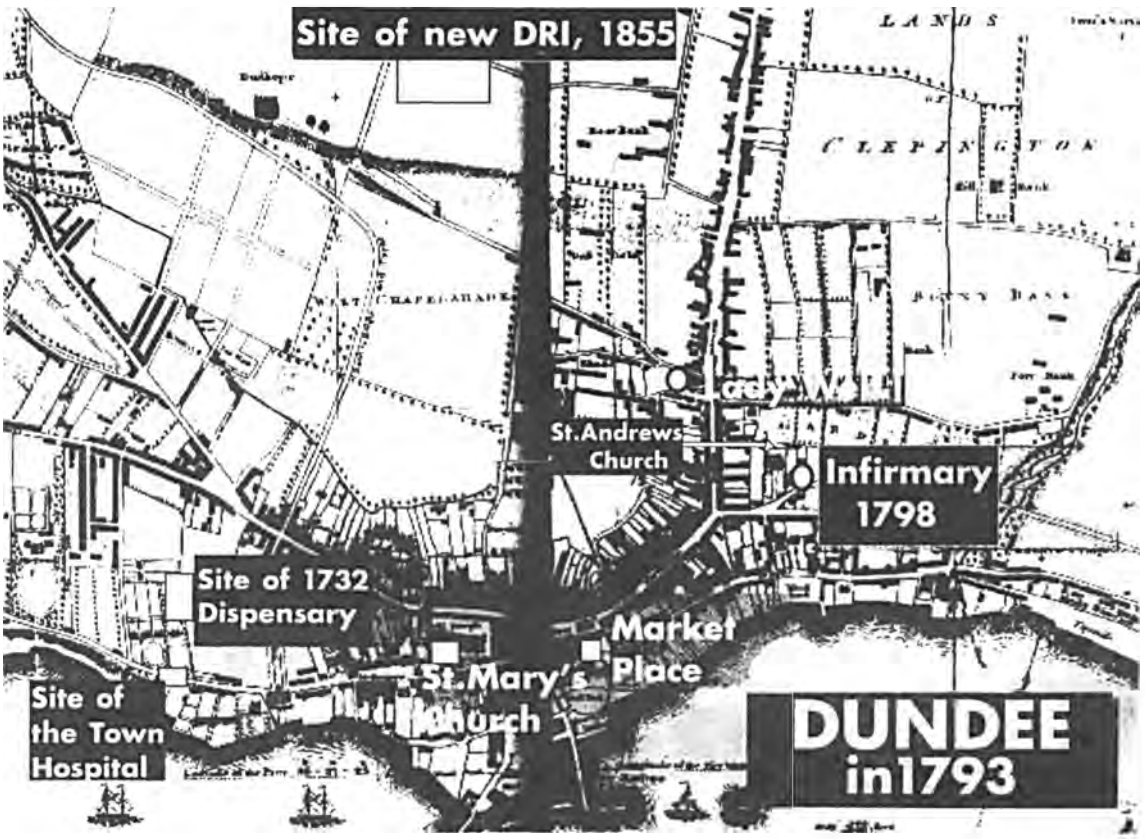
Daniel Defoe described it as "a handsome hospital with gardens running down to the river" but it was vacated in 1746, leaving only the Dispensary as a hospital provision. The Dispensary, established in 1732 also in Tay Street, badly needed replacement. Little is known of its origins or activities because the remaining records were embedded in the foundation stone of the second Infirmary building.

However in 1782, Rev. Dr. Robert Small, who wrote the first Statistical Account of Dundee, and was Moderator of the Church of Scotland in 1791, along with Robert Stewart, a surgeon, set about putting the Dispensary on a more sound footing.

By 1792 it was clear that a new Infirmary was required. Subscriptions were sought from a wide spectrum of the community, merchants, ship-owners, solicitors & local philanthropists as well as the Parishes & Town Council. Handbills were sent out to expatriates in the colonies and in London. The response was such that the Governors were soon able to buy a site on the south side of Bucklemaker Wynd "in an elevated position sufficiently detached from other buildings to secure quietness & salubrious air to the patients, with a considerable open space for a promenade to the convalescents".

The foundation stone was laid on 17th June 1794 and the building was completed two years later, at a cost of £1400. Unfortunately there were insufficient resources left to buy equipment - health care planning hasn't changed much in 200 years! However, a subscription in 1797 raised £308 and the Infirmary duly opened in March 1798.

The first patient, William Dove, a joiner from Monikie, was admitted on the 11th March, kept for two weeks and sent home with "proper medicines". In the early years funding was in short supply and, although emergencies were treated free of charge, other patients had to pay 3s 6d a week for board. As donations, legacies and collections on the streets & door-to-door increased, there was eventually scope to allow more patients access to free treatment.



DR. JOHN CRICHTON

One of its most gifted surgeons was John Crichton. Born in the city in 1772, he studied medicine at Edinburgh University before returning to life-long practice in Dundee. He is reputed to have been an expert lithotomist, with a death rate of less than 7%. He lived in a large house on the south side of High Street, in an area consisting of extremely narrow wynds which inhibited development of the town centre as they were only negotiable by pack horse.

In 1779 the Town Council decided to create a new wide street to link the harbour & High Street, but as traffic increased even this proved inadequate. When plans were drawn up it proved necessary to demolish Dr. Crichton's house. After protracted & acrimonious discussions he eventually relented on condition that the road be renamed Crichton Street. Surgeons could be manipulated by boosting their ego even in those days!

THE NEW INFIRMARY

By 1850 the King Street Infirmary was surrounded by developing jute mills and, having served the community for more than half a century, was no longer large enough to cope with the rapidly expanding population - now over 80,000.

A site to the N.E. of Dudhope Castle was purchased and the foundation stone was laid in June 1852. The stone contained several contemporary newspapers, a copy of Punch & the Edinburgh Almanac, a letter and stamp & coinage of Queen Victoria, a list of food prices, a Dundee & Arbroath Railway Bill and the early records of the old Dispensary.

The new infirmary opened on February 7th. 1855 at a cost of £14,500. Although there was accommodation for 300 patients in ten wards at the front of the hospital, the average occupancy was 200. Like Glasgow Royal Infirmary it had a "grave" outlook; not only that, it had a ready made railway line - the original Law railway - which ran past the east door before descending alongside the cemetery. Hardly the most encouraging view for patients, especially when the quality of nursing staff at the old Infirmary had left a lot to be desired. Recruited from the lower classes, their behaviour & cleanliness were such that they had to be reminded

"not to insult, neglect or quarrel with the patients"

The effects of spirits, smuggled into the hospital, compounded by the issue of bottles of ale provided by the Governors, did nothing to improve the lot of the patients. In an effort to raise standards, the advertisement for a Matron to lead the nursing staff in the new Infirmary read:

Dundee Argus

Wanted

A woman of active habits & considerable experience willing to be useful and inclined to take the duties of her office as a work of love.
Remuneration: £20 annually

Ordinary nurses were to be paid £9, despite a major increase in workload, particularly in surgery as a result of the introduction of antiseptic techniques and the advent of general anaesthesia. In 1877, a new Royal charter was granted to the Infirmary.

BENEFACTORS: A CHILDRENS HOSPITAL?

The citizens of Dundee have been generous supporters of health care for over 100 years. Although jute mill owners exploited their workforce and created massive male unemployment in the city with accompanying social deprivation & poverty, many of them, particularly the Baxter family, tried to raise standards of education & public health through their philanthropic donations to the new University College & Royal Infirmary. The Caird family donated a cancer pavilion & a maternity nurse home to provide staff accommodation for the new maternity wing which had been gifted by the Forfarshire Medical Association.

By 1882 there was strong public pressure to abandon the practice of admitting children to adult wards. Public donations raised the required £6000 in less than a year. Those who had gave more than £200 could have cots named after them and only children under 10 would be admitted. The ward opened in December 1883 and was extended to 40 cots in 1892. As demand increased there was a drive to build a separate children's hospital for Dundee. Donations large & small flooded in, but with a war on in 1916, the decision was taken to open a second ward within DRI instead. The promised children's hospital is still a pipe dream in 1999!

LATTER DAYS OF DRI

When the Infirmary opened, many thought that it would be a white elephant but this notion was soon dispelled. D.R.I. was the preferred place to go for treatment, since older residents still associated Maryfield with the Poor Sick and would beg their G.P. to wait a day until it was D.R.I.'s admitting day.

For more than a century the Infirmary provided, along with Maryfield & Kings Cross hospitals, acute health care for the population of Dundee. I remember well, as a child in the Dundee area in the 1940s, that life's experience was incomplete unless you had been "ta'en intae the Keengie" at least once!

Even in 1960, the frontage of D.R.I. was peaceful & uncluttered, but soon it was to be defaced by a car park and Casualty prefab extension on the far corner. Although the public had taken this grand old Victorian building to their hearts and protested vigorously against the impending closure, its short-falls in design and fabric, no longer suited to modern health care developments, made its demise inevitable. Surrounding high-rise buildings completely dwarfed the original imposing site, described in the British Association handbook of 1912 as

"a site which, for openness and healthiness,
would be difficult to equal in any city"

and traffic and parking problems were becoming a major restriction on safe emergency care.

A replacement hospital was planned in the 1950s on a 230 acre farm site acquired on a rural road between the West End & Invergowrie. Construction began in 1962; the foundation stone was laid by Lord Provost Hughes in 1965 and the first transfer of services from Maryfield & D.R.I. took place in 1974. Phase 2, originally expected to follow rapidly after Phase 1, was put in abeyance because of the escalating costs of building this "designed to site" hospital. The new build started 18 months ago and the transfer was completed in November 1998. After 100 years, acute hospital care in Dundee was finally on one site at Ninewells, with a quite splendid view from the ward blocks over the river to Fife.

NOTABLE DUNDEE ANAESTHETISTS

There were many memorable characters among the medical teaching staff, but I wish to mention only two of the anaesthetists who played a major role in establishing the speciality over a period of 60 years. Arthur Mills was the first anaesthetist appointed to D.R.I. in 1914 and William Shearer, the first full-time anaesthetist, arrived in Dundee in 1946. Both served as Presidents of this Society.

Arthur Mills practised anaesthesia part-time, as he also worked as a G.P., first in Fife then subsequently in Dundee. During his 30 years of tenure, he built up an effective Department and introduced many innovative techniques to Dundee, including (ahead of his time) the use of intrathecal opiates. He published an excellent monograph on Dental Anaesthesia *(a copy of which was given to me by his grandson John, a Consultant Gynaecologist at Ninewells)*

Willie Shearer was famous (or infamous depending on one's state of nervousness) for his under-graduate lectures on fires and explosions - the two American mature students in our year refused to stay when they realised that Willie really *was* going to spark a balloon of 50:50 cyclo & oxygen. The detonation could be heard all over the campus!

"Here awa there awa wandering Wullie" featured in several medical yearbooks in recognition of his renown for absentmindedness and propensity to disappear. He had a pawky sense of humour and prided himself on manning the department on a shoestring.

He would frequently phone around midnight having discovered two short lists which could be combined, freeing up someone (usually Bill Bisset or Sandy Forrest) to do an emergency or whatever. I remember well Willie's response if you were concerned as a trainee about some case – "Och, just give them an anaesthetic!"

He organised my professional career at every stage from day one in anaesthesia but I am eternally grateful for his sound advice, his determination that I would go to Canada & thereafter hopefully succeed him in Dundee and for introducing me at meetings such as this to his contemporaries with whom I have had longstanding friendships.

STANDARD SETTING

Our medical year of 1964 at St. Andrews University produced two budding doctors who were destined to play a leading role in shaping the N.H.S., Naren (now Lord) Patel and Sir David Carter, now the C.M.O. in Scotland.

Together they have responsibility for implementing and reviewing the effectiveness of the changes in medical practice & clinical standards set out in the White Paper *Designed to Care* and in theAcute Services Review.

These changes will dramatically alter the basis on which health care is provided in Scotland in the future, but it is debatable whether the principles of clinical governance and effectiveness can be sustained without a sea-change in the way the N.H.S. is structured and financed.

Within the framework of the Acute Services Review and *Designed to Care*, managed clinical networks are seen as the most important strategic development issue for acute services in Scotland, creating in Tayside for example a three-centred acute care network serving a population of between 350,000 and 500,000, depending on speciality provision.

If we feel that anaesthesia has a pivotal role in planning and organising these changes, and the Audit Commission Report confirmed that view, we must become more proactive in seeking involvement in the development of the Scottish Health Care Strategy.

WILLIE SHEARER

ARTHUR MILLS

SIR DAVID CARTER

LORD NAREN PATEL

Early indications are that appropriately informed advice has been sought in only a very few of the planned areas by those challenged with creating the framework for change. Four of the working groups were involved in planning surgical services, but only one anaesthetist was invited to a full group (neurosurgery) and two others to sub-groups (paediatric surgery and ICU).

The Integrated Regional Vascular Service model for example recommended each major centre should have: specialist vascular physicians, surgeons & radiologists; wards staffed by nurses with special interest; a vascular laboratory staffed by specialist technologists; rehab. skills (nursing & PAMS); good communication networks with transfer to community care.

No mention of the input of anaesthetists in H.D.U., I.C.U. .and perioperative assessment & management!

What was the structure of the group?

Chairmen/Chief Execs 3 Public Health 2
Surgeons 3 General practitioners 2
Physicians, pharmacy,
occupational therapy,
interventional radiology
epidemiology and nursing 1 each.

Is it surprising that we are concerned about the apparent lack of recognition of our role of our speciality in the provision of patient care under the new regime?

Guidelines & protocols are also high on the agenda for driving change in the quality of healthcare provision in the new Scottish N.H.S. Admirable though the concept might be, there is no doubt that we are in danger of being swamped by the multiplicity of SIGN guidelines, some of which have little hope of being implemented because of a lack of resources. The measure of a guideline is not the elegance of its logic but by how much it improves patient care. It is the unplanned, under-funded resource issues inherent in the implementation of some guidelines that cause the greatest disruption & staff disaffection.

It is counterproductive to produce local guidelines which, for whatever reason, are incapable of implementation. A blanket approach is inappropriate. Protocols have a place in clinical practice but of a local & limited nature. They do not remove the responsibility from all health workers of treating each person as an individual. However, where there are clear accepted guidelines for clinical management in a particular case, the reasons for non-compliance must be clearly documented if one is to avoid the risk of being pilloried for mismanagement by experts reviewing the case at a later date.

Do guidelines, therefore, illuminate a safe pathway or do they create a legal minefield? Do they create an attainable standard of excellence or promote expensive defensive medicine for fear of litigation?

The current steer is for clinical effectiveness rather than efficiency but guidelines created to make effective use of resources may not necessarily promote clinical welfare in every case & *vice versa*.

Examples of effective practical SIGN guidelines include those concerned with the management of aspects of diabetes & its complications and those on DVT prevention & management.

The latter demonstrates a good example of why guidelines founder in the gulf between acute care and primary care financial resources. Although it is clearly less expensive to manage DVT with low molecular weight heparin in the community, there is a tendency for GPs to demand in-patient care rather than carry the burden of costs for the drugs and the responsibility for care.

Quality, clinical effectiveness and efficiency cannot be considered in isolation, but will patients use guidelines as yardsticks for seeking financial compensation for non-compliance?

Some guidelines, such as those for managing breast & colorectal cancer, while based on reasonable evidence, have advocated measures which are stretching theatre & H.D.U. resources to the limit.

"The possibility of breast reconstruction should be discussed with patients prior to mastectomy."

Increasingly, patients accept the offer of immediate major reconstructive surgery involving up to nine hours of theatre time with major knock-on effects on plastic surgery theatre scheduling & waiting lists.

If we are not careful, clinicians will be at risk both from complying with and failing to implement clinical guidelines.

CLINICAL GOVERNANCE

What is clinical governance? It is perhaps symptomatic of the non-specificity of the concept that there's no generally accepted definition. Most state the obvious in one form or another:-

"Clinical governance is a system through which N.H.S. organisations are accountable for continuously improving the quality of their services, and safeguarding standards of care, by creating an environment in which excellence in clinical care will flourish"

Scally and Donaldson, BMJ July 1998

In response to this article, Neville Goodman observed "who is accountable for the continuously rising expectations against which quality is measured?"

The principles embodied in clinical governance will emerge naturally from a system in which lay managers understand the importance of improvement of clinical outcomes and doctors & nurses understand their key role & responsibility in achieving reductions in the cost of care by removing unnecessary waste in clinical service delivery.

They are part of our everyday routine management and should not be seen as a threat provided that, as individuals & directorates, we sustain clinical standards, practice regular audit, have clear instructions & guidelines for consent and, most importantly, keep clear & contemporaneous records, as recommended in the *Guide to Good Practice*.

The concept of clinical governance can usefully be broken down into -

1. Quality of professional performance.
2. Efficient use of resources.
3. Risk management.
4. Patient and relatives satisfaction with the service provision

It is almost inevitable that any move to restructure clinical services will require balanced assessment of the vector changes in each of these elements.

One pressing example in Scotland is the current provision of paediatric anaesthesia and surgical services. The specialist societies are tending to set standards for clinical care & experience achievable only by centralisation of neonatal anaesthesia & some other specialised procedures in older children.

This is one example of focusing on a single element of the equation - quality of professional practice - which will have negative impact on at least two of the other elements. In Tayside, on the other hand, the fourth element along with surgical preference, is tending to drive the decision making with a negative impact on the other three factors.

As a result of improved diagnosis & management of potential congenital abnormalities, the surgical & anaesthetic workload associated with neonates has diminished dramatically over the last 10-15 years. Except in specialised centres there's unlikely to be sufficient to sustain adequate expertise for more than one or two consultants in a department.

There is a shortfall in theatre resource provision generally and, as in Dundee, many hospitals are currently unable to provide dedicated theatre accommodation and staffing. There is a national shortage of trained paediatric nurses, especially trained theatre nurses with paediatric experience.

There is, however, still some way to go in persuading surgical colleagues, particularly in E.N.T., that dedicated paediatric lists are an essential element of our approach to high quality clinical management.

The move towards integrated clinical networks should give an opportunity to address this problem by centralising the management of under-fives for major surgery.

Over the past two or three years the arguments for and against centralisation and the maintenance of practice in DGHs & smaller teaching centres have been well rehearsed.

The A.P.A. Guidelines, based on a review of NCEPOD outcomes, if fully implemented, would exclude a significant number of consultant anaesthetists from their current paediatric practice. But would the overall standard of care be appropriate for the paediatric population of Scotland?

It is all very well to insist that all neonatal emergencies are transferred to a specialist centre, but where do the anaesthetists stand when the really sick infant with necrotising enterocolitis presents, hardly fit to be transferred from S.C.B.U. to theatre, never mind 70 miles to the centre. Is this a clinically effective arrangement?

We urgently require to have a detailed assessment of feasibility of implementing the various options for integrated paediatric surgical services in Scotland, with particular reference to anaesthesia, HDU & ICU elements which so far seem to have been largely ignored in the Acute Services Review. This should be a high priority on the agenda for discussions between the speciality in Scotland & the CMO.

There are, however, other issues particularly relating to family values and social disruption in insisting on strict compliance with some guidelines.

A consultant anaesthetist working in Inverness has drawn attention to the fact that there are dangers in transferring patients inherent in the road accident rate alone. If there is to be a significant increase in ambulance traffic on roads such as the A9, these risks require to be calculated and set against the more obvious potential clinical risks.

Clinical governance, therefore, is not a simplistic concept as some would believe. The Royal College of Anaesthetists and the Association have, as always, anticipated the import of the changing trends and have clearly set expected standards for the speciality.

It is not just about setting clinical standards; nor can any element of its many facets be changed without critically examining the impact on other factors, possibly not so obvious to the clinician but more important to patients & relatives.

THE NHS IN SCOTLAND

During the referendum campaign in 1997 there was a view from both the politicians & the public that the National Health Service in Scotland needed to more closely reflect the needs of the Scottish people and that Scottish control, over health and education in particular, was an important element of any future Parliament's activity.

In order to assess, in advance of devolution, the substance of these arguments, the Centre for Scottish Public Policy established a Health Commission in early 1998 to consider policies which might be high on the agenda for implementation and produce a report in late 1998. The membership included health academics, trade unions, professional organisations, patients, carers, management and health campaigners.

They concluded that the best way to improve health in Scotland is not through more hospitals, doctors & nurses but rather through tackling inequalities that are at the root of ill-health; reform of care in the community is urgent and should be a priority of the new Parliament.

They acknowledge that although Scotland is a world leader in the development of evidence-based guidelines, there was an urgent need to extend the use of audit & guidelines and more generally of clinical governance to cover the entire work of the health service.

They identified four key areas to address: these were public health, care in the community, evidence-based healthcare and democracy & accountability.

How health need is defined provokes endless debate. Professionally-defined needs are not necessarily the same as patient-defined needs. Some can be expressed as fairly well defined entities, for example waiting times, others cannot be expressed so clearly.

Not only are there substantial mortality differences between social classes for groups of all ages & both sexes, but in some cases the health gap has actually widened since the establishment of the N.H.S. When careful studies have been carried out comparing the use of & the need for the service, it appears that the top socioeconomic groups receive proportionately more of their share than others do.

There are clear indications in Scotland that social deprivation is at the root of much of our health care problems and it is inevitable that more funding will be channelled to community services in the future.

There is no ready prospect of a diminution in the burden of health need; indeed the evidence is that it will increase. High divorce rates & remarriage with partners of a different age group create complex kin networks spanning generations, whose emotional ties and sense of obligation are difficult to predict. There are potential carers in such groups but increasingly single parenthood & unemployment are creating their own socioeconomic difficulties.

Possibly the most troubling aspect is the increase in the elderly population, who inevitably make a disproportionately high demand on both the acute & community care services. In the U.K. there are already 8.4 m over the age of 65 and, although their inpatient care accounts for over 40% of hospital funding, there's a growing fear that the elderly are increasingly discriminated against in favour of the young. It is understandable that the Report should emphasise the importance of support for community services and a mechanism to eliminate barriers between health care and social work.

It is worrying, however, that the Health Commission Draft Report for Scotland has adopted a rather threatening attitude to acute sector clinical care in a future Scottish NHS. The terms clinical effectiveness and clinical governance are not defined except in statements such as

> "the advent of clinical governance means that clinicians & managers must ensure that their own services and colleagues are providing optimal care,"
>
> ..... but *optimal* is not defined.

"There should be scope for choice, e.g. in maternity for patients to decide about their own care which, as well as being fairer, might prompt clinicians to provide more clinically effective care."

"Managed clinical networks offer a powerful lever for change within the hospital sector".

And strangely the concept that clinical governance can in some way be taught & given an accreditation rating.

"Consideration should be given to the introduction of experiential post-graduate education on clinical governance to all professionals accredited by the National Standards Group, Scottish Department of Health."

Such statements indicate a lack of understanding of the fundamental problems. Here is a potential advisory body to the Scottish Parliament who would see the principles of clinical governance being used to dominate clinical practice and introduce a political element into clinical decision making far more transparently than has ever been the case in the past. Their final statement in this section bears this out:

"We would welcome any move by a Scottish Parliament to address more explicit priority setting and guidance."

.... a double-edged sword for quality of patient care.

SCOTTISH NHS RESOURCING

It is significant that no mention is made of mechanisms to generate the funding & staffing resources to implement the standards of care envisaged in the Report. It is also clear that the Clinical Standards Board will have no remit or responsibility for funding changes in service delivery in accordance with clinical governance targets set for Trusts or for meeting the recommendations of SIGN guidelines.

If political parties are to favour low taxation, and in addition prefer to divert public funds from health to education for instance, it is clear that current financial resources cannot match the competing demands of all these initiatives. It is axiomatic that emergency services and core clinical services have priority for funding.

Whether integrated clinical service networks serving large patient populations will be more efficient as well as effective remains to be proved, but it is probable that reducing duplication of small inefficient laboratory & support services would produce some savings.

There will be pressure on Trusts to develop new initiatives but competition for priority recognition for funding from the limited central pool has tempted some surgeons to underestimate true costs in order to secure a cost-efficiency advantage for their project.

Inevitably the most frequently under-estimated costs, if included at all, are those for theatre, I.C.U. and anaesthesia services, with serious consequences for service delivery and staff morale. Similar arguments apply to many clinical research projects.

Unless clinical directors of anaesthesia and theatre services insist on vetting, or have an input into all such funding bids, to ensure that all costs are recoverable, the speciality will continue to be seen as of little significance in the overall picture.

There appears to be an acceptance that the P.F.I. route will continue to be a necessary option for funding capital projects, but all bid preparation and development costs must be included for assessment alongside the public sector comparator.

NURSE ANAESTHETISTS?

The nursing profession has taken a firm grasp of the concepts of clinical effectiveness & integrated care pathways as the framework on which to build their ambition to be involved in patient management as a separate clinical discipline rather than as part of a healthcare team and are actively pursuing this goal.

Nursing education has proceeded down the same increasingly academic pathway as undergraduate medical education, producing frustrated scientists or sociologists who have no ambition to pursue careers in practical ward/theatre nursing and who seek to extend their role into other fields of practice.

Anaesthesia may be seen as a prime target mainly because much of the job seems to be technical & stereotyped which, with the help of guidelines, protocols & pathways of care, could be done more cost-effectively by graduate nurses, assisted by auxiliaries with basic training qualifications.

Some senior nursing managers do not subscribe to the philosophy of an anaesthetic/recovery clinical team and do not see a role for graduate nurses providing assistance for the anaesthetist.

The short-life working group set up by Council to try to establish a core training module for assistance for the anaesthetist in Scotland has now made some progress towards accreditation, despite initial resistance to the initiative. We hope to report shortly on the outcome.

While not wishing to appear to be inflexible to ideas for change, we should be aware of the potential threat to the speciality and be prepared to defend our position. We must not be complacent in assuming that our high standards of training & accreditation are impregnable. A cheaper service, supported by different but acceptable assessment criteria, might just be seen as an attractive option for trialing in a devolved Scottish N.H.S.

Remember the Bonnetmakers,

Remember the Poll Tax.

In the light of recent events, I am convinced that we must have a clear strategy for the speciality and I have already cited several examples illustrating the risk of being sidelined in the early discussions. But the question is how to achieve lines of communication with the Scottish Office and M.S.P.s to secure the place of anaesthesia in the decision making and planning of clinical service delivery in the new Scottish N.H.S.

We must be prepared to be flexible and take advantage of every opportunity, both locally and nationally, to raise the profile of the speciality. This means representation on Trust executive boards and on Scottish Committees.

It is crucial that various subgroups of the speciality do not fragment, but have a common strategy. The closer liaison between this Society & the College through the Standing Committee has already created a forum for representation of all interests which will hopefully be accepted as the advisory body to the government in Scotland. If we fail to achieve these aims we will have lost a unique opportunity.

DUNDEE'S PAST, ANAESTHESIA S FUTURE?

A recent paper on the history of Dundee's architecture and social structure observed:

"Over the past 200 years, the city of Dundee has failed to realise its true potential & exploit its opportunities largely because of a lack of long term vision & strategic direction. The Radical, and at times revolutionary, history of the town stems from a sense of frustrated idealism & hope, mixed with sacrifice & suffering, of hard-working people who have striven for ordinary democratic & economic rights in a climate generally hostile to their aims."

Dundee has experienced a resurgence in self-belief, self-awareness and optimism over the last ten years. The new city centre development promises to be one of the finest modern buildings in Europe. The Medical School has gained well-deserved international acclaim & recognition for cancer research & cellular mechanisms. We have one of the finest hospital buildings & sites in Europe.

Will the speciality of anaesthesia replace Dundee as the subject of this observation in a future historical review? Some years from now, could it read -

"Since the millennium, Scottish anaesthesia has failed to realise its true potential & exploit its opportunities largely because of a lack of long term vision & strategic direction. The Radical and at times revolutionary, history of the speciality stems from a sense of frustrated idealism & hope mixed with sacrifice & suffering of hard-working people who have striven for ordinary democratic & economic rights in a climate generally hostile to their aims."

Does this reflect how others see anaesthesia and indeed how some anaesthetists see themselves today? Not if we seize the occasion to ensure that our pivotal role in provision of acute clinical care is recognised in the new service.

In conclusion, I leave you with this quote from Horace, a master of the poetic minimalism of Latin.

Qui sit futurum cras fuge quaerere et
Quem fors dierum quunque dabit
Lucro
Aponne Horace 65-8 BC - Odes

What shall be of tomorrow, think not of asking.
Each day that fortune gives you, be it what it may,
Set down for gain.

for completeness,
and in fairness to his
two classmates
here is

IAIN GRAY

ST. ANDREWS UNIVERSITY, 1964

Trainees Meeting

AT STIRLING, JUNE 15TH - 16TH 1999

Lindsay Donaldson *Ninewells Hospital*

With the number of delegates encouragingly over fifty, the 1999 Trainees' meeting started with an overview of the conference by Dr. David Watson and a welcoming address by Society President Dr Iain Gray.

The first session, chaired by Dr. David Scott, was called Critical Care. Mr. Mike O'Sullivan gave us a very informative talk on head injury, highlighting many new advances in management. He concluded with the sobering thought that, despite all these new measures, there is no difference in outcome between units at the forefront of head injury care and those seemingly at the back of beyond.

Dr. Dermot McKeown talked about "Badges for Courses" - evaluating the pros & cons of the never-ending variety of programmes available. Anaesthetists tend to be very lucky with leave for such courses and at times he gave a slightly cynical view of their value.

Dr. Gray introduced principal guest speaker, Professor Mike Harmer to deliver the SIMS/Portex Lecture. Sporting a *Dennis the Menace* tie, Prof. Harmer discussed how not to get a paper published. This entertaining guide hopefully gave us all an idea of where we were going wrong!

The social event, always very popular, didn't let us down. First we had a drinks reception in the Queen Anne gardens, allowing fabulous views of Stirling. Then, after a scary tour through the castle, we enjoyed a great meal and danced till one to *Robbie Shepherd's Nightmare*. The *Golden Lion* hosted the traditonal after-event soiree and many welcomed the relaxed 10 o'clock start the next day.

The morning started with Dr. Andy Longmate giving a detailed lecture on the applications of paravertebral block and Dr. Nick Sutcliffe followed with an informative talk on the use of Remifentanil. John Hunter then presented his prize-winning paper on the immune effects of low-dose Dopamine after surgery.

Following this was a session on obstetric anaesthesia, starting with an obstetrician's view on the management of pre-eclampsia by Dr. Rhona Hughes. This prompted several questions from the audience.

Ines Boyne gave a fascinating account of her time spent in Malawi, part funded by the Scottish Society. She described the differences between her work in Malawi, the world's sixth poorest country and the U.K. Whilst there, she conducted an audit into the incidence and management of preeclampsia. Two areas were highlighted as having consequences on outcome: better patient monitoring and the use of anti-hypertensives rather than diazepam to reduce blood pressure.

After lunch, we discussed the varous aspects of risk. Dr. "Arnie" Arnstein looked at risk to patients, risk to medical staff and risk reporting of "critical incidents" thus raising our awareness of risk/benefit relationships. Dr. Audrey Todd lectured on transfusion hazards and explained why S.H.O.T became the chosen abbreviation (**S**erious **H**azards **O**f **T**ransfusion) & not **I**n **T**ransfusion!

David Watson's summing-up brought our third trainees meeting to a close - everyone seemed to have enjoyed it! We were again very grateful to SIMS/Portex for their continuing help in arranging the event.

* * * * * * * * *

During the meeting a ballot was held and Alan Thomson (Aberdeen) was elected as successor to Pamela Cupples.

I think it appropriate to thank Pam very much for all her hard work during the last three years and to recognise that without her efficiency & enthusiasm these meetings would not be taking place.

A date for everyone's diaries !

The Millennium Trainees' Meeting

will again be held in Stirling

on Thursday & Friday
1st. & 2nd. June 2000

See you there?

Postscript

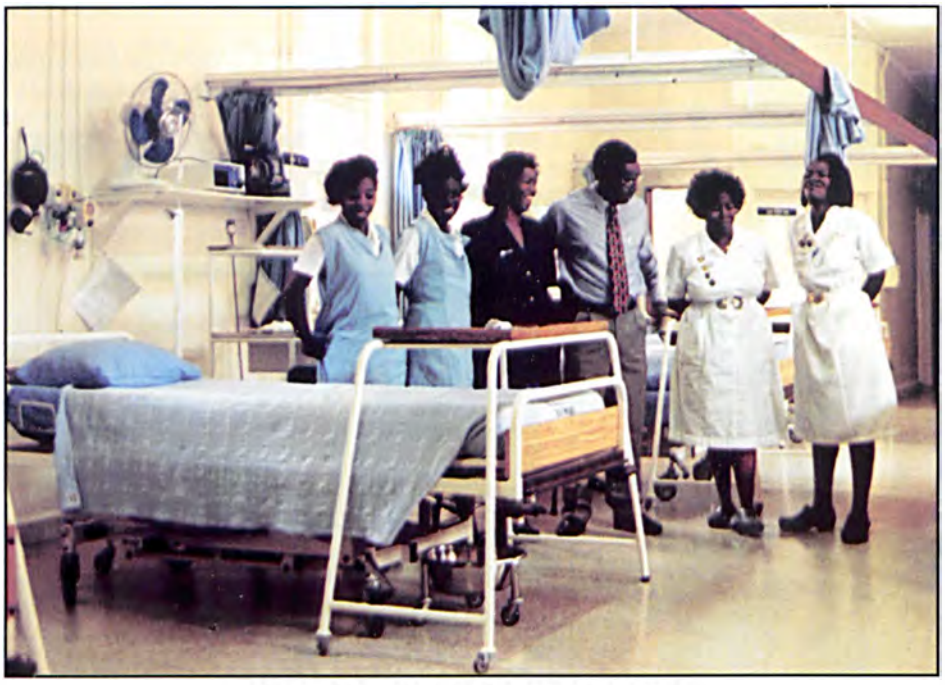
The G.A.T. Meeting is coming to St. Andrews in 2001 and will be co-hosted by the Scottish Society of Anaesthetists. Hopefully the increasing turnout seen this year will be on an exponential curve over the next two meetings!

DAVID WATSON, LINDSAY DONALDSON, MIKE HARMER, PAMELA CUPPLES & THE PRESIDENT - ALL GREAT SWELLS AT STIRLING CASTLE

JOHN THORBURN SHOWS PATERNAL INTEREST IN INES BOYNE'S BABY

OUR FRIENDS AT SIMS-PORTEX SUPPORTED THIS MEETING AGAIN

INES BOYNE WITH HER COLLEAGUES IN MALAWI
MR. BUCHANAN, DR. FENTON & PROF. ADELOYE



PETER CURRY'S VISIT TO ZAMBIA
STAFF IN THE I.C.U. AT WUSIKILI HOSPITAL, KITWE

adventures in africa

1. A Report on One Year spent in the Dept of Anaesthesia at Queen Elizabeth Central Hospital, Blantyre, Malawi.

Ines Boyne *SpR, Victoria Infirmary, Glasgow*

Thanks to a contribution by the Scottish Society and financial support from other Anaesthetic Societies, I was able to spend 1998 in Malawi. I worked at QECH with Paul Fenton, Head of the Anaesthetic Department & one of only two anaesthetists in Government Service.

Malawi is the sixth poorest country in the world and is very dependent on donations, which has major effects on the work being done in Government Hospitals. Available equipment & drugs vary from day to day and pose quite a challenge. Average life expectancy is 47 yrs.

Most anaesthetics are administered by paramedics called Anaesthetic Clinical Officers (ACOs) or Medical Assistants. Such staff receive either very minimal formal training by others who have given anaesthetics before, or come to QECH where Dr. Fenton has been running an 18 month training course for ACOs since 1991.

My main task was to help him teach (in the classroom, theatre, wards & I.C.U.) and participate in the final exams in June at the end of a course. Additionally, I had to meet a theatre commitment, cover the I.C.U. for daily/week-end ward rounds and teach medical students. Teaching was very enjoyable. Most mornings started at 7.45h with an hour in class, covering the most important subjects in physiology & pharmacology, medical questions & anaesthetic techniques/problems. This was followed by one-to-one teaching in the eight available theatres, either by us or by the trained ACOs. Alternatively, students did ward work or held study groups, discussing research topics.

Practical aspects of teaching - supervising & talking about anaesthetic scenarios - were the most important. Spinal anaesthesia, or G.A. with face mask, L.M.A. or intubation were usually skilfully administered. Even siting central venous access didn't faze many trainees. By 18 months most newly-qualified ACOs had a fair understanding of what makes anaesthesia safe and possessed excellent practical skills. The exams confirmed this part of our training with good results in practical sections and very valuable answers in the written & oral theoretical sections.

During 9 summer weeks, I was department head while Dr Fenton was on holiday. This provided me with a wide range of experience, being the only medically qualified anaesthetist available for patient assessment, advice, theatre work & ICU management. I got more experience than I wanted in having to deal with all sorts of non-medical problems by negotiation with various administrators. Learning **who** to talk to was often the most difficult step & could be very frustrating.

In the second part of the year, I had the opportunity to audit of the incidence and current management of pre-eclampsia & eclampsia at the QECH, including maternal & neonatal outcome. No data was available previously on these conditions in Malawi.

I made daily visits to take details from the labour ward & theatre delivery books. Data collection was difficult as a number of cases were missed by incomplete entries. A questionnaire was completed for every patient with pre-eclampsia and eclampsia. Follow-up of patients was done at day one post delivery.

Results

3370 deliveries were recorded.
96 patients suffered from pre eclampsia or eclampsia
(77 pre-eclampsia, 19 eclampsia)
Data was available on 91 of these from my questionnaire

The incidence of pre-eclampsia was 2.3%; eclampsia 0.6%.
18% of pre-eclamptic & 47.4% of eclamptic parturients were delivered by Caesarean section (c.f. 14.9% average C.S. rate)

88% received iv Diazepam as treatment, which was combined with iv Hydralazine in 53.8%. Oral anti-hypertensive treatment or seizure prophylaxis were also given. IV-drip rates were very variable.

Diastolic Blood Pressures (DBP) was recorded on admission to labour ward; also highest intra-partum & postpartum values.
All 91 patients were hypertensive at some stage peri-partum. DBP > 110 was present in 24% on admission, 25% intra-partum & 21% post-partum. (14 patients had no intrapartum measurements)

All 23 patients who were delivered by C.S. were anaesthetised by ACOs following guidelines, including Hydralazine to reduce the pre-op DBP to around 90, Thiopentone/Sux induction with intubation and Halothane for maintenance via a draw-over system. Spinal anaesthesia was given in mild pre-eclampsia.

Maternal outcome: 2 deaths recorded, one an eclamptic patient who died on admission to labour ward and one a pre-eclamptic who suffered a intra-partum stroke and died 2 weeks later. 3 patients were admitted to ICU post C.S. because of uncontrollable B.P., cerebral or respiratory problems requiring intubation & ventilation and multiple drug administration.

Neonatal outcome: of 103 babies - 92 live births, 7 stillbirths & 4 neonatal deaths up to Day 1 (when our follow-up ended). Neonatal APGAR at one minute was < 5 in 40 of the pre-eclamptic/eclamptic mothers (average of 9.1% in labour ward)

Conclusion

There is room for a lot of improvement in record keeping & intra-partum monitoring (though difficult to achieve with inadequate staffing levels) and also IV drug administration. Hydralazine should be given in preference to Diazepam as the anti-hypertensive treatment, esp. in view of a 4-fold increase in low neonatal APGAR scores in pre-eclamptic women.

A protocol for the management of pre-eclampsia & eclampsia is in existence at the hospital and should be implemented by now. Magnesium, as part of a multi-centre study, might be desirable.

November saw the beginning of a new ACO course and the start of the Regional Anaesthetic Training School, with 15 trainees not only from Malawi but also from Zambia & Namibia. The atmosphere in the department improved dramatically when teaching began, showing how important this aspect was to our working lives.

This paper was presented at the OAA meeting in Liverpool & at our Trainees Meeting in Stirling. I acknowledge my fellow authors: Eyob Tadesse & Frank Taulo, O & G Dept., QECH.

2. A Report on the Zambian Society of Anaesthesiology Annual Congress 4th. - 5th. November 1999

Peter Curry ***Queen Margaret's Hospital, Dunfermline***

I was fortunate to be invited by the Zambian Society through the World Federation of Societies of Anaesthesiology to attend & support their annual congress. My visit was sponsored by the Scottish Society of Anaesthetists and the Association of Anaesthetists of Great Britain & Ireland.

The Congress was held over a very full two days in Mufulira in the Zambian Copperbelt in the North of the country, just south of the Zaire border. An additional three days was spent in Kitwe visiting & teaching informally in both the mine & state hospitals there.

Zambia is a landlocked tropical country in Southern Africa and is a member of the Commonwealth. It covers just under 300,000 square miles. The majority of the country is high plateau between 3,500 & 4,500 feet. This provides some amelioration of the temperatures although it was not obvious in the early summer having travelled from Scotland in late Autumn! English is the main language and the people are generally welcoming. It is reassuring to note that the Police do not carry guns! The current use of mobile phones in the U.K. is nothing by comparison with the use of the new mobiles in Zambia, affectionately called Zambian earrings. Although the system is G.S.M., British registered phones don't work - yet.

The main population centres in Zambia are in the south around Lusaka and also in the Copperbelt. Kitwe describes itself as the hub of the Copperbelt. Copper is a very important component of the Zambian economy, representing about 80% of its foreign income. Zambia holds about a quarter of the world's known copper reserves and has suffered badly as a result of the collapse of the Copper price in the global commodities markets.

Kwacha are the local currency with around 2,000 to the pound. In less inflationary times, one Kwacha was equivalent to £1 Rhodesian or £1 Sterling! Future visitors should note that credit cards are not accepted and the only internationally acceptable "currency" are dollars or $ travellers cheques.

The Mines in the North have traditionally provided health care for all employees & their families in hospitals built, owned and operated by the mine companies. The quality of care in these hospitals is reasonable and in reality probably little short of that we expect at home. There appears for example to be less complaining about long waits in outpatients.

The only C.T. scanner in Zambia is located in the Nkana Mine Hospital in Kitwe and occasional patients will be flown up from Lusaka for scans. The Wusikili Mine Hospital in Kitwe has an Intensive Care Unit able to provide ventilatory & other support, although not as yet renal dialysis. The visit allowed me the opportunity to get working (and then demonstrate) a Japanese neonatal ventilator which had arrived with no operating instructions!

Health Care in Zambia is partly provided for by the State in public hospitals, the principle institution in this sector being the University Teaching Hospital in Lusaka. Unfortunately I didn't have time to go there, but I did visit the Central Hospital in Kitwe. Care is either provided in Low Cost or High Cost wards. The State funds about 60% of the expense of operating the Low Cost wards, the balance being made up by patients and their families, including the cost of drugs. The structure of medical care is very similar to that in the U.K., utilising similar concepts from Consultant to House Officer. SpR's haven't arrived yet!

There is clearly inadequate funding in the system to provide an acceptable level of care in the state sector for those unable to afford to contribute.

Kitwe Central has a theatre suite which it cannot use as the ceilings are falling in. All surgery is undertaken in a single theatre in the labour ward. The hospital provides care for a local population of around 350,000 and is very crowded in the low cost wards. The major problems are malaria and Aids, which now affects around 19% of the population.

The Blood Transfusion Service is centred on the local hospital, and, while there is some co-operation between centres, this is not formalised. Blood is given by voluntary donation, including from relatives when blood is required for the patient. The blood is routinely tested for HIV and Hep B., but is not screened for C.M.V. etc. There was a deeply ingrained practice of warming up blood for a couple of hours before transfusing it. Clearly the message had been delivered that cold blood might not be good for patients, but instead it is transferred to an environment where the ambient temperature is so high!

There are clear limitations in terms of the availability of funding. While this has inevitable consequences in terms of the availability of disposables & capital equipment, the much more fundamental problem is the retention of staff. Locally trained medical & nursing staff are very enthusiastic to learn and are well read with a solid core knowledge. There is up to date appreciation of many elements of care, although there is limited experience of items such as Laryngeal Mask Airways. What's sad is that foreign nationals are paid twice as much as the locals and are subjected to no tax. This leads to an inevitable brain drain to South Africa, Zimbabwe, North America & Europe. Once staff are trained up, their value increases and they leave.

There is some aid getting in but it is not well planned. Out of date drugs cannot be used in Zambia any more than in the U.K. and equipment is of little use without continued supplies of disposables and arrangements for their servicing & support.

Rusting is not a major problem in Zambia but the environmental conditions are: temperatures are high and equipment malfunctions. The C.T. scanner will not operate without its air-conditioning, as it gets too hot, and it still therefore malfunctions frequently. There is a need to find some way to achieve staff retention and fund the cost of training. Without staff there's really no value in any amount of equipment.

There is surprisingly little problem with trauma in Zambia. Their society is not violent in the manner of South Africa. The mines seem to understand the commercial advantage of proper Health & Safety. There's also apparently effective site first aid provision in the mines together with a seemingly proficient Ambulance Service.

On the roads, speeds are somewhat limited by potholes and the amount of traffic is much lower than we're used to. It is no joke to say that if someone is driving in a straight line in Zambia then they must be drunk!

The congress itself attracted a very high proportion of the available anaesthetic staff. The visiting speaker from the U.K. needs to be well prepared, having six lectures to deliver over two days. Topics covered many areas of anaesthesia and some elements of critical care. Teaching is very rewarding, with considerable interest in the topics discussed and much questioning both during the sessions & later informally.

My visit would not have been possible without the enthusiasm & support of Dr Dixon Tembo, who gave me all manner of help, from providing a taxi service to sorting out currency exchange & reconfirming flights. Without him, I might still be there! Dixon is a Consultant Anaesthetist at the Wusikili & Nkana Mine Hospitals in Kitwe. He has energy, enthusiasm and achieves triumphs over adversity in a manner most of us can only aspire to in our dreams.

Future visitors should be encouraged to participate in what is a very rewarding though tiring experience. The flying is a little tedious, although there's not significant jet lag, with a mere two hour time shift.

There are a few vaccinations to be endured, as well as the rather unpredictable effects of Mefloquine, unless you wish to run the risk of contracting Malaria.

I was informed the most dangerous local wildlife were the crocodiles who inhabit large streams in the centre of town. However they are only a minor irritation by comparison with Hippos, who apparently are the most common cause of fatal animal bites. They are assuredly *not* the friendly, quiet beasts we may believe them to be from the comfort of our armchairs in front of the television!

I hope to have opportunity to return in the future. It was a great adventure and I would recommend you go if you ever get the chance to do so.

The Scottish Society is always keen to help members wishing to undertake good work abroad

LET US KNOW IF YOU HAVE ANY PLANS, OR WOULD LIKE TO BE CONSIDERED AS A CANDIDATE BY THE SOCIETY, IF WE WERE TO BE APPROACHED FROM ABROAD

PLEASE CONTACT YOUR REGIONAL COUNCIL MEMBER IN THE FIRST INSTANCE

Annual General Meeting Peebles

Over the hills, away from the cares of the day, the Society assembled for an educational April weekend down at its traditional Borders retreat - Peebles Hydro. The format is well established - a sporting afternoon is spent golfing up hill & down dale, bashing balls into the wide blue yonder, or more peacefully communing with nature down by the riverbank, consistently untroubled by fish. There follows a frantic rush back to the Hotel to be reunited with loved ones, fresh from the woollen mills & craft shops; then it's quickly down for evening festivities in honour of the departing President - in this case, jolly John Thorburn.

Saturday is for academia and a wee bit of politicking. The A.G.M. minutes are circulated, but, in digest, members learned of the Society's continuing facilitative role in ensuring a voice for Scottish anaesthesia and discussed whether we should reconstitute ourselves on a more formal footing to seek an authoritative position. A lively debate concluded with Council charged to explore avenues and come to a decision during the year. It was grand to hear of success in hosting academic meetings and to be reassured of our continuing solvency!

The winning Trainees' Paper, concerning the effects on immunity of Dopamine after surgery, was presented by John Hunter from Aberdeen. John Thorburn then felt a weight slide off his shoulders (the chain!) as he ceremoniously passed over the trappings of office to incoming President Iain Gray. Iain cut a plausible Renaissance Rab C. figure as a Dundee Bonnetmaker in presenting his cleverly worked address. He suggested we should heed the lessons of merchant history, by seeking influence whenever the opportunity presented itself and not be marginalised into extinction by more active market forces.

Guest Lecturer Leo Strunin was in fine form. He presented the evidently unstoppable case for medical revalidation, drawing parallels with standard setting processes in the noble world of greyhounds & whippets, with which he was fondly familiar.

After dinner, we jigged & reeled, line-danced (where some retired members showed amazing prowess, perhaps honed at evening classes?) and revisited the Y.M.C.A. with great gusto. Sporting laurels were presented, with that quiet gentleman of the links Greg Imray finally ascending to the golfing pinnacle which had eluded him all those years. The fisher folk still claimed prizes after a no-score draw with the fish - and they think we golfers are daft!

Came the morn, came the farewells - till the Millennium Meeting: 14th - 16th. April 2000. Many thanks to Colin Sinclair, David Scott, Ian Armstrong & the Edinburgh team for their superior organising skills and to the Trade for their enthusiastic contribution to the event.

A SERIOUS & SOBER MOMENT

AS COLIN SINCLAIR HANDS OVER THE SECRETARIAL REINS TO NEIL MACKENZIE

MONARCH OF THE GLEN

THE PRESIDENT PROUDLY SURVEYS THE SCENE JUST PRIOR TO HIS INAUGURAL DINNER

Golf winner Greg Imray - quiet gentleman of the links

Dinner is served!

Piper, hae a dram wi' the

All the big kids dancing - at the Y.M.C.A. presumably

Mabel McGowan & friends at the cooking demonstration

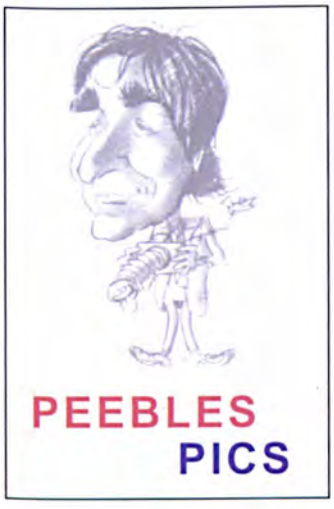
Looks like you're needing that pint tumbler revalidated, Leo!

An i

Piper, hae a dram wi' the President. By the way, we're impressed wi' yer puff!

Our No.1 Anaesthetist looking most replete...

.. presumably



Ann Gray with the friendly fisher folk - though not a fish in sight!

alidated, Leo!

An impressive regional dancing display from Flamenco Tony

Yee ha, pardner! Alastair has mastered line-dancing!

Golf winner Greg Imray - quiet gentleman of the links

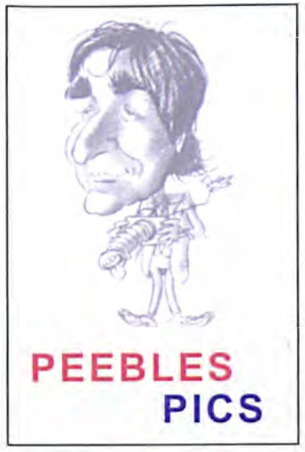
Dinner is served!

Piper, hae a dram wi' the President. By the way, we're impressed wi' yer puff!

Our No.1 Anaesthetist looking most replete...

Mabel McGowan & friends at the cooking demonstration

All the big kids dancing - at the Y.M.C.A. presumably



Ann Gray with the friendly fisher folk - though not a fish in sight!

Looks like you're needing that pint tumbler revalidated, Leo!

An impressive regional dancing display from Flamenco Tony

Yee ha, pardner! Alastair has mastered line-dancing!

LEO LEAVES THE TRAPS FAR BEHIND
AND HEADS DOWN THE HOME STRAIGHT

AT THE FINISH -
AN EXCHANGE OF GIFTS...

GUEST LECTURE

GREYHOUNDS & WHIPPETS: REVALIDATION & SELF REGULATION

an account of the talk given by **Prof. Leo Strunin** *President of the Royal College of Anaesthetists*

How do you evaluate a good greyhound? Well, one should evidently refer to standards laid down in the Booke of St. Albans (1486), where the now time honoured guidelines of colour, coat, head profile and such like were described.

And how do you assess the competence or review the performance of a greyhound or whippet - well you run it, of course!

And according to Royal College President Leo Strunin, a really keen enthusiast in the world of these canine thoroughbreds, you can't simply stick a rosette on any wee dachshund and claim that "It's a good runner" - that just won't do!

This same 15th. century reference work also stipulated a seven year training programme for raising champion dogs and many of its recommendations remain valid to this day. Contemporary registration is mandatory with both the Kennel Club & the National Greyhound Racing Club and quality assessment is also available at the Crufts Show.

Clearly there are many parallels in the dog world with *our* current professional issues of training, assessment and revalidation.

Professor Strunin observed how the quality agenda in medicine has arisen from well-publicised lapses in a few celebrated cases which raised doubts in patients' minds regarding the standards of care they were receiving from their doctors.

The Kennedy Inquiry into cardiac surgery in Bristol will highlight short-comings in the system and drive the profession to do something to restore confidence. Leo Strunin argues we should just get on with it while we are able to deliver the process for ourselves.

The Medical Act of 1858 set up the General Medical Council to govern the conduct & health of doctors. A regulatory role in monitoring their performance was added more recently in 1997.

The G.M.C. now states doctors must be able to show, on a regular basis, that they keep up to date and are fit to practise; and its specialist register licences us to work in our chosen field.

The question naturally arises of whether one should undergo periodic revalidation to remain on it?

Leo Strunin's answer is a resounding yes!

He cites JAMAL's contention that doctors must be accountable, as we enjoy a privileged position and in fact know what has gone wrong in all these cases.

Personal revalidation (C.P.D.) and institutional quality assurance (audit and clinical governance) are the twin tracks of demonstrable performance. Both should use standards and methods appropriate to each speciality.

Prof. Strunin argues that the appropriate advisory body for the U.K.'s approx. 8000 anaesthetists (made up of about equal numbers of consultants, trainees & non-training grades) should be our own Royal College, whose charter objectives are study, research & education and whose organisation of council, staff & committees is properly constituted in all areas.

Further, the F.R.C.A. is awarded by examination after trainees have passed through a structured training programme, scrutinised by tutors who in turn are subject to a visiting assessment. The College also advises the specialist training authority which awards the C.C.S.T.

Leo fondly recalled writing *A Good Practice Guide for Anaesthesia Departments* with Leslie Baird (a joint effort of the College & Association) which advised on personal & departmental portfolios and suggested consultation processes in case of difficulties. It also recommended revalidation for all.

Prof. Strunin outlined the many process levels to be gone through where an individual's or department's performance is in question.

A problem would be handled locally at first, then Leo outlined the circumstances when the College or Association might be asked in to help. In England, the C.H.I. also visits trusts. As ever, there would be reports to the G.M.C. in cases of serious breaches of performance, health or conduct.

Prof. Strunin ended, after a wide-ranging briefing during which he quoted from such diverse sources as Codman's *Hospital for End Results* and Bismarck, by recalling H.L. Menken's observation that

"for every difficult problem there is a solution which is simple, neat and wrong!"

He affirmed we *must* get this revalidation process right, promising that a model would be prepared for piloting by May 2000 and be ready for introduction in 2001.

Leo Strunin gave us an erudite & entertaining lecture and was most engaging company over the entire weekend. Since then, unfortunately, he has been too busy to submit a précis himself. I hope that I've been accurate and done him justice! A.W.A.

Annual Scientific Meeting GLASGOW

Liz McGrady, joint conference organiser with Alex Patrick & Moira Simmons, welcomed delegates to the Kelvin Centre - especially those who'd travelled a long way from south of the border, or from Edinburgh!

She explained her poster showed hip young consultants at the Royal - hanging around corridors gossiping - and justified having adhesive labels in place of badges, to avoid inflicting pin-holes in our Armani suits!

The first part of the morning was devoted to pain.

Nick Scott (H.C.I.) gave us a "controversial but reasonable" update - outlining new philosophies, drugs and techniques of acute pain management. He quoted Bruster who found 33% of surgical patients had pain most of the time, getting a slow delivery of drugs which they'd had to request; Schug referred to I.M. opioids as "the slow extinction of a dinosaur"

Nick agreed the requirements for a really good acute pain service, (as outlined in Seattle) are:
- A dedicated pain nurse
- Good teaching/education
- A multi-disciplinary approach
- Audit

He promoted new philosophies of perioperative care, espoused by Henrik Kehlet, that enlightened surgeon:
- Multimodal analgesia
- Accelerated Rehabilitation
- Elimination of Narcotics
- Sympatholysis
- Do not treat pain in isolation

Nick looked at visual analogue pain scores, showing a slow decline over 5 days post-op, whatever opioid regimen was in use. The ideal of very low scores from Day 1 was attainable, if one utilised proper therapies. He thought P.C.A. was good at delivering narcotics but lousy at treating pain and had lots of side effects, particularly nausea. Nick then told alarming tales of second day hypoxaemia, when patients were off supplemental oxygen. Close monitoring is required.

Nick took us through many new drugs - clonidine, ketamine & local anaesthetics all came in for a mention. Clonidine, an alpha antagonist, was useful in reducing basal sympathetic activity, provided central hypnosis and was shown to be protective against stress-induced injury to the gastric mucosa. S-ketamine was claimed to be neuroprotective and neuroregenerative, with low hallucinatory side effects, compared with ketamine.

Nick reckoned thoracic epidurals were the ideal - he showed cardiac patients wandering around H.C.I. and one chap playing his guitar in bed hours after surgery.

He reported on the C.O.R.T.R.A. study (Lancet 1999) reviewing 159 randomised, controlled trials in which there was comparison of various regional analgesia techniques for surgery with G.A. alone. Not one paper demonstrated G.A. alone was best. Regional techniques:
- cut Mortality by 30%
- cut DVT by 44%
- cut Transfusion by 30%,
- cut Pneumonia by 39%

and showed non-significant reductions in MIs & renal failure.

Nick asserted the aggressive management of acute pain, usually multi-modally, will reduce any move into chronicity - which led neatly into the following paper . .

* * * * * * * *

Mick Serpell (Western) offered a comprehensive update on chronic pain theory and management.

OPERATION - Patients expectation of surgery - pain! and Mick shared a couple of his own Pain acronyms:
Prevention, Afferent, Inflammation, Nociception
Pre-emptive, Anti-nociception, Individualised, Neuromodulation

Mick described dorsal horn anatomy/neurotransmission theories, showing 3 ionotropic & one metabolotropic site, explaining how acute pain may become chronic at this level, with long-term NMDA receptor depolarisation.

As for the question, "What's New?": Mick revealed an orphan opioid receptor and voltage & ligand ion channels - which can each be targeted with new drugs. High-tech imaging, spinal endoscopy and non-lesioning radiofrequency treatments were also discussed.

Mick reviewed spinally administered drugs, better focussed for less side effects. Future agents, including toxins & cellular implants releasing drug into the c.s.f., are being developed in animal models. He discussed neuropathics/anticonvulsants like gabapentin; Cox 2 inhibitors and new opioids - oxycodone, hydromorphone and fentanyl patch P.C.A.

Mick wished audit was as simple as Dr. Zeuss. We must seek validated psychometric measures and longitudinal outcomes – following patients through from primary care level. He looked forward to a Glasgow Pain School, established with all the multi modal therapies present.

Fiona Pearsall (Royal), in her second five year term on the G.M.C., outlined its current intentions regarding "Fitness to Practise".

She looked back to the minimalist Blue Book, when most practitioners really worked unsupervised, unless they came to the notice of the G.M.C. with a serious problem. Now there is to be enhanced trust in the profession, through structured revalidation linked to specialist registration. This will be run by the G.M.C., but advised by the Royal Colleges working as standard setters for each speciality.

Fiona explained that we will have personal portfolios & departmental assessments with periodic peer review, leading to fitness-to-practise certification. Revalidation will be based on knowledge, professional skills and attitudes to colleagues & patients, including complaints.

The portfolio will start with one's job plan, including a logbook. Subspeciality expertise, academic activity, management and (most important) audit: guideline & protocol adoption and non-anonymous critical incident reporting will all have to be accounted.

For C.P.D. one will have to display knowledge of certain core topics : difficult airway strategies, trauma, pain and emergencies such as anaphylaxis or cardiac arrest. Simulators or scenario-based training might be used.

She also outlined how problem doctors will be dealt with.

Fiona expressed her own concerns regarding ownership of portfolios, decisions on what information will be included and issues of access, control & confidentiality. The Consumer Association has evidently had input and is very keen on openness! There are obviously financial & career implications; the process will be time consuming and it's said there's to be no extra money.

The aim is protect patients and be fair. Even though none of this was new, many felt chilled by the prospect!

Angela Forsyth (a dermatologist from the Royal) gave us something else to worry about - latex allergy! She described delayed contact dermatitis and acute phenomena like angioedema and anaphylaxis.

The root of the problem seems to be additives or latex residues in poor quality imports, which have flooded the market after HIV scares. There is cross reactivity from fruit/nut allergy - therefore it is very important to take a history from patients. At risk groups include health care workers & other glove wearers and neurological patients who wear urodomes. One can't predict when patients will collapse on future occasions and you must be quick to treat such a calamity.

Investigation will usually include a R.A.S.T. test. According to Angela, if you want to do a prick test (titter) you'll require I.T.U. facilities - you can't just do a prick test in the depths of the nurses' home! Treatment includes avoidance (in a latex-free environment) and patients having adrenaline to hand. Education is important - the sufferer should wear a Medicalert disc; you must record the allergy on the case notes and notify the primary care team too. Colleagues need educating too - a distinguished Stoke Mandeville doctor never realised that it took two to wear a condom!

The afternoon session went through many advances in neonatal medicine, surgery and intensive care

Charles Skeoch (Glasgow) gave us an update on neonatal intensive care, discussing the disposition of specialised regionalised services & consequent problems of transporting sick babies. He reckoned there should be an agreed strategy for the whole of Scotland.

Charles described various modes of treatment - high frequency oscillation, nitric oxide inhalation, E.C.M.O. & lung liquids (perfluorocarbons), and also stressed the importance of steroids and surfactant. He showed Glasgow's E.C.M.O., quoting improved survival rates compared with conventional treatment. He touched on animal work on fluorocarbons and the surgical options.

Steve Walkinshaw (Liverpool) continued with the Cutting Edge of Foetal Surgery, which he explained may be ultrasound-guided, endoscopic or open.

He outlined commoner conditions which might be dealt with surgically: pleuroamniotic shunt for hydrothorax, vesicular-amniotic shunt for obstructive uropathy, diaphragmatic hernia, teratoma and septostomy for twin-twin syndrome. In utero repair of neural tube defects and cleft lip & palate have also been done over in the U.S., but Steve was sceptical about their value.

Most operations are performed at 22-28 weeks and raised many ethical as well as medical problems. There was the question of fetal awareness and the dilemma of giving the mother a lengthy, profound anaesthetic to depress uterine activity during & after surgery.

Alan Mathers (Royal Maty) gave us a fitting finale, with his jovial "Life Before Birth" lecture, in which he talked in broad terms of the Hazardous Journey of the Foetus and the obstacles to survival it encountered from conception to delivery. He reviewed the physiology of baby & placenta and the transitional stages through birth & early life. His best advice for babies would be to stay put as long as possible!

In excellent knock-about fashion, often double-handed with Fiona, Alan described midwifes as dinosaurs and trust management groups as Frankenstein's Monsters! He reckoned, for all this current science, that most benefits to mother & baby happened earlier this century with better nutrition & public health.

Alan stressed protocol/audit development and showed how delaying delivery 24 hours to give steroids is crucially important to survival. He discussed foetal heart monitoring, acknowledging that although an "emergency" section means within 20 minutes, the anaesthetist may only hear at the 19th. minute!

Iain Gray (S.S.A. President) then introduced Douglas Arthur to deliver the Gillies Lecture.

Iain reckoned Douglas & he had enjoyed parallel careers, including their Fellowships in Sick Kids in Toronto as well as consecutive terms as Scottish Society President.

At day's end, Iain applauded the quality & organisation of the Meeting and the support received from all the delegates.

CONFERENCE ORGANISERS AND ANAESTHETIC SPEAKERS
ALEX PATRICK, LIZ McGRADY, MICK SERPELL, FIONA PEARSALL & NICK SCOTT

DOUGLAS ARTHUR
STEPS OUT IN THE SUNSHINE
BEFORE HIS GILLIES LECTURE

DOUGLAS ARTHUR, GILLIES LECTURER 1999

THE PRESIDENT HANDS OVER THE COMMEMORATIVE CAITHNESS GLASS BOWL

Address to the Toothache

O thou grim, mischief-making chiel
That gars the notes o' discord squeel,
Till human kind aft dance a reel
In gore, a shoe-thick,
Gie a' the faes o' Scotland's weal
A townmond's toothache !

Robert Burns

Gillies Lecture

"Thou Grim Mischief Making Chiel"

Douglas Arthur *Hospital for Sick Children, Glasgow*

It is a great honour for me to be invited to give this prestigious lecture. A review of the list of previous speakers demonstrates a standard that will be difficult to emulate.

Unlike many of the earlier and more senior lecturers, I never met John Gillies; but as secretary of the Scottish Society at the time, I was one of the original signatories to the Trust deed which established the Gillies lecture.

At the time I had the pleasure of meeting the Gillies family who established the Trust. Three were anaesthetists - Deirdre in Montreal; Alastair, a professor in New York State and Ian who was in the department at the Hammersmith.

Lecturers were asked to give an address promoting safe clinical anaesthesia. Many prestigious names appeared, several from outwith our own membership. Not all would conform to the original aims of the trust as we now consider them. One went to great lengths to justify the practice of having two patients asleep at one time!

The second Gillies lecture was given by one of the doyens of paediatric anaesthesia, Gordon Jackson Rees. A great clinician and teacher, Jackson Rees was sadly never a prolific author.

It might be obvious that I should choose a paediatric topic for my talk. Those amongst you with a passing knowledge of Scots culture will have realised that the **chiel** of my title is no paediatric case, but the toothache from Robert Burns address to that condition. It is significant that Burns should write such an address.

It is also significant that the original anaesthetists were dentists such as Horace Wells, Thomas Morton and James Robinson, who gave the first ether anaesthetic in England for Robert Liston. Even Sir Humphrey Davy had used Nitrous Oxide to alleviate the pain of an erupting wisdom tooth prior to 1800. It would appear from this legacy that toothache, or more generally dental anaesthesia is a topic we should take seriously.

Burns died from the consequences of rheumatic heart disease but never wrote an address to that topic or to that of congenital heart disease.

We must all be aware of the inquiry being carried out into the results of paediatric cardiac surgery in Bristol instigated by the General Medical Council. This inquiry was initiated around the death of around 90 children who suffered from a disorder which, if untreated, would be fatal.

Mortality from dental caries alone is virtually negligible but it must be obvious that the torment is great enough to stimulate the development of our specialty as well as poetic renderings. Readily accessible documents show that since the 50s there has been a significant mortality associated with dental surgery. (Fig 1)

Deaths & Dental Anaesthesia

1950s	10 per year
1970-79	100
1980-89	42
1984-93	26
1990s	2 per year
1998	5
1999	1

Statisticians might consider the numbers not significant if taken in the context of the denominator of anaesthetics given for dental surgery, compared to the numbers involved in surgery for congenital heart disease.

Unfortunately, as can be seen from various authorities particularly in England & Wales, no-one appears to know the denominator from which to start. Two authors in the anaesthetic journals within the past year quote figures that vary by a factor of 25%. (Fig 2)

Numbers of Anaesthetics

Thornton 1977 (SSA) 2 m in 1977

Thompson 1981 (SSA) 1.63 m 1963 - 833,000 in 1977

Worthington, Flynn & Strunin (BJA) 300,000 1997-98

Cartwright (Anaesthesia) 400,000 in 1998

There's little hope of applying Fisher's or anybody else's exact test! And if we don't know how many anaesthetics are given are we really sure about the mortality? I strongly suspect the answer is no.

One of the early successes of this Society was to have the stigma of "anaesthetic death" removed from the form for reporting deaths to the Procurators Fiscal and the change to "deaths associated with anaesthesia and surgery" was acclaimed.

Further improvement occurred in 1998 with the change to "deaths as a result of medical mishap."

The fact is that deaths directly due to anaesthesia are extremely rare and difficult to detect. I was involved with others in a study of F89 forms from several major hospitals in Scotland published in the B.M.J. in 1979.

This involved an examination of the anaesthetic records by anaesthetists to establish if there was likely to have been an anaesthetic component in the cause of death. The results showed this to be extremely rare.

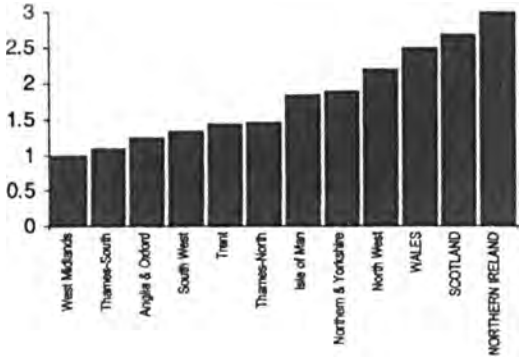
Consider deaths involving patients undergoing dental extraction under general anaesthesia. Can we say the same about these?

I would claim that the act of extracting teeth without the aid of anaesthesia could cause death in a frail or medically prejudiced patient but in a fit healthy child the anaesthetist cannot expect to escape the obvious conclusion that by far & away the majority of fatalities are due anaesthetic deaths.

Certainly the numbers of fatalities have fallen over the years but so have the numbers of general anaesthetics, but by how much?

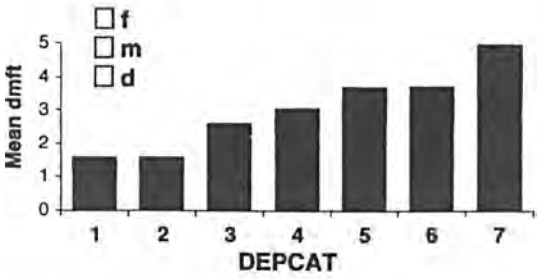
Unfortunately the incidence of dental caries in Scotland remains the highest of all the regions in Great Britain (excluding Northern Ireland) and it is clear that we are nowhere near reaching the target set for 2000. This target was to be reached by improved dental hygiene and diet through health education. (Fig 3)

Dental Caries Experienced in 5 year old Children



It is also crystal clear that the incidence of caries is directly related to social deprivation. (Fig 4)

Mean Decayed (d) missing (m) & filled (f) teeth in 5 year olds in GGHB by DEPCAT (SHBDEP 1995)



Unfortunately the socially deprived are the least likely to benefit from health education. This is particularly so when the forces of evil who peddle the caries creators spend vastly in excess of the health education budget advertising their products to the same audience.

How can we as anaesthetists make this procedure safer? That was a question asked of candidates at the second part fellowship exam in May 1999.

"What are the risks for patients associated with the administration of general anaesthesia in the dental surgery? How may these risks be reduced?"

Would the examiners pass the candidate who answered in three words. "Don't do it!" What have we done about the risks, and what are we doing about it now?

There have been at least five reports since 1967 on the subject of general anaesthesia in dentistry; one initiated by the N.M.C.C. in Scotland and chaired by a Past President of this Society (and Gillies Lecturer) Professor Alastair Spence, on which I also sat. This pre-dated the Poswillo report by nearly ten years and presented virtually the same conclusions. Unfortunately this report was subject to almost complete obscurity. (Fig 5)

Reports on Dental Anaesthesia

1967	Select Committee
1978	Wylie: Training in Dental Anaesthesia
1981	Spence: NMCC Report on Standards for Dental Anaesthesia (Scotland)
1990	Poswillo: General anaesthesia, sedation & resuscitation in dentistry
1998	G.D.C.: Maintaining Standards

Comments in the medical press at the time of the Poswillo report indicated an almost arrogant and complacent approach by the profession to the small numbers of deaths. The question was asked in print why are we concerned about all this equipment and standards when we are killing so few?

The expected fall in numbers of G.A.s following that report failed to materialise. Scotland as usual has more accurate figures. Unfortunately they also demonstrate is that any fall in England & Wales has not been mirrored up here (Fig 6)

Numbers of Anaesthetics (Scotland)

1999 Chief Dental Officer
Community & General Practice

1972-73	198,000	1992-93	39,000
1977-78	138,000	1997-98	41,000
1982-83	95,000	(30,000 under 16)	

As a result of the apparent mortality increase in 1998, when 5 patients died with subsequent media attention, the G.D.C. issued new ethical guidance on the use of general anaesthesia, following discussion with our Royal College & the G.M.C.

This has finally, after 152 years, taken away the birthright of dentists to administer anaesthetics, left them by Morton & Wells, and directed that only qualified anaesthetists on the specialist register can administer dental anaesthetics.

It has also placed a responsibility on dentists to inform patients and parents of the risks - including death. This at a rate, which we know to be small, certainly < 1 in 10,000, when most clinicians accept an incidence of 1 in 500 to 1 in 1000 as representing material risk. Following this guidance, there has been a significant fall in the number of referrals for general anaesthesia.

Whether this will be sustained we'll have to wait & see, as previous reports have signally failed to produce real reductions. Even since this guidance was published, there has been at least one death.

Why do these deaths still occur? Examination of previous investigations reveals a high incidence of fatalities (50%) occurs during the recovery period.

In the past, with the use of a single agent nitrous oxide, deaths did occur - many undoubtedly due to hypoxia.

Fainting (hypotension) with the patient in an upright posture in the dental chair has also been cited.

Since the introduction of the more powerful inhalation agents it appears that that many incidents are related to arrhythmias. There are four components to arrhythmias associated with the inhalation agents. (Fig 7)

Dysrhythmia in Dental Anaesthesia

- Anaesthetic Agent
- Fifth Cranial Nerve
- Catecholamines
- Hypercarbia
- Light levels of Anaesthesia

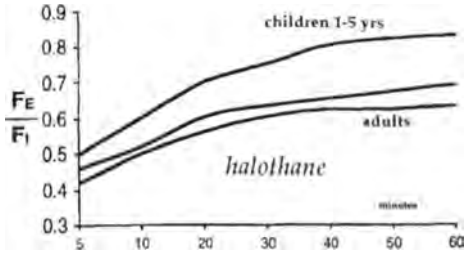
We are aware that all agents sensitise the heart to catecholamines. Unfortunately halothane has the greatest effect, causing more ventricular arrhythmias. Other agents show a percentage of arrhythmias but they tend to be supraventricular in origin.

We also know the average dental patient has a high endogenous catecholamine level, particularly young children & especially those over the age of six.

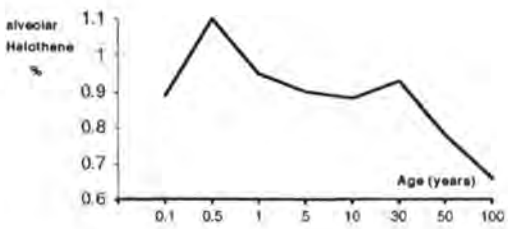
The third component after the agent & catecholamines is carbon dioxide.. Dental anaesthesia is normally maintained via a nasal airway, which produces disadvantages particularly in an age group that may well suffer from enlarged adenoids.

Fourthly, arrhythmias are more common at light levels of anaesthesia by stimulation of the fifth cranial nerve. This nerve is also responsible for the oculocardiac reflex, which we know can be virtually blocked by deep anaesthesia. What is doubly unfortunate in that dental anaesthetics tend to be light purely for logistical reasons.

Uptake of anaesthetic agents is more rapid in children. For similar reasons of small lungs, lower fat content & rapid circulation, elimination is equally rapid. (Fig 8)



We should also remember MAC is considerably higher in a young child, up to double that of the adult. (Fig 9)



It can be seen therefore that unforeseen lightening of anaesthesia by dilution via the mouth could have serious consequences in the anxious child.

Alternative agents are available which can be considered safer from a cardiovascular standpoint.

Sevoflurane allows a smooth & rapid induction. This is no more rapid however than the induction with halothane when used at 5% from the outset. One must also ask why such a wonder drug was neglected for the best part of twenty years after the first trials.

It is clear from clinical use that to achieve surgical anaesthesia will take as long if not longer than when halothane is used. In the absence of adequate analgesia, which is common in dental cases even when local anaesthetics are used, because of the onset time of the L.A. & the short duration of most dental anaesthetics, there is a high incidence of delirium or uncontrollable agitation during recovery.

This can produce unacceptable noise disturbance in the recovery area which, if adjacent to the surgery, does little to calm the fevered breast of subsequent patients.

Other agents such as isoflurane are difficult to use for induction as they are irritant and can lead to severe coughing or laryngospasm. Desflurane is irritant and results in even more agitation & delirium on recovery than sevoflurane. (Fig 10)

Induction Agents in Children

AGENT	MAC	ECG	EEG	AIRWAY
Halothane	0.75-0.9	up to 75%V	-	++
Enflurane	1.68 - 3	10%V	+++	+-
Isoflurane	1.4 - 2	14%V	-	--
Sevoflurane	2 - 4	< 20%V	++	++
Desflurane	6 - 9		-	---

Intravenous agents are less satisfactory in the child and result in prolonged recovery. Neither does the dental clinic with timed appointments lend itself to the use of cutaneous local anaesthetic creams because of the time required for adequate analgesia of up to one hour.

I will relate the history of a recent personal case:

An extremely anxious 10 year old girl was to have two teeth extracted under general anaesthesia - a lower left 6 and a lower right E. A trainee under my direct supervision administered the anaesthetic.

Induction was relatively smooth using halothane, changing to enflurane for maintenance to avoid the arrhythmias associated with halothane.

Pulse oximetry was established prior to induction, following which an ECG was attached. There was some movement when the mouth prop was first inserted so anaesthesia was deepened & the prop re-inserted.

Her pulse remained at 128/min (sinus rhythm) throughout and the oxygen saturation stayed at 99%. Following the extractions, the anaesthetic was turned off and 100% oxygen was given.

With no prior dysrrhythmia, the ECG changed to ventricular tachycardia. Respiration continued and saturation remained at 98%.

A precordial thump had no effect, so external massage was started while the defibrillator was charged and 200 Joules were given. After what felt like an interminable period of asystole, sinus rhythm was re-established.

The girl recovered as though nothing had happened but became distressed by the oxygen mask. She was subsequently transferred to the paediatric I.T.U. by a 999 ambulance. She arrived fully awake, clothed and in some distress. Following cardiological examination, she was allowed home the next day.

Reviewing the monitor's data store demonstrated sampling every two minutes. At no stage was the saturation below 98% and the pulse remained at around 120-130/min.

The incident, although taking several years from my life, had lasted less than 2 minutes.

How much experience do we anaesthetists have of circumstances such as this? Thankfully, not very much. Can we therefore expect a correct approach in the face of this lack of experience, not only of ourselves but also of those assisting?

Courses & training have been shown to have an effect, but which lasts for only a brief period and that is for basic life support. All the equipment available may be of little value in the face of inexperience.

Perhaps the simulator may help but how frequently should we all be exposed to it? Would the facilities available allow every anaesthetist to be tested twice or even once a year as in the airline industry?

Would the outcome have been different had there been only one anaesthetist and not a second watching the monitor & the patient constantly. The ECG was the only evidence that anything was wrong at the stage when all anaesthesia had stopped, i.e. during recovery.

I would suggest that transfer to the recovery area might have taken place; and by the time anything was noticed the circulation would have been inadequate for some time and myocardial & cerebral hypoxia would have been present, making restoration of sinus rhythm difficult or impossible and cerebral damage likely.

This is naturally pure conjecture with the use of the retrospectoscope, but is it all that far fetched?

Why did this occur? The patient was too light. All the inhalation agents could have resulted in the same effect though the percentages may vary as with the oculocardiac reflex.

Why was the patient light? They *all are* to a certain extent because there are only two spaces in recovery and ten or twelve patients on the list. This surely is a common occurrence.

We no longer have lists of 60-80 patients per day when the only option was nitrous oxide & hypoxia so that recovery to so called street fitness was not delayed.

I believe this is no more acceptable today than the concept of two or even three patients being anaesthetised by one doctor simultaneously.

In the past there were many reports suggesting all the equipment & training but little was achieved. Now we have endless documents from all sources, are we going to miss yet another opportunity to make real progress to safer anaesthesia for these thousands of patients?

The College states, in its own largely unpublicised document *Standards & Guidelines for General Anaesthesia for Dentistry* that it expects the same standards in dental anaesthesia as are widely accepted for other clinical settings

My thesis is simple. It may not be cost neutral but neither is a brain damaged child.

Full recovery facilities for all patients, without unseemly rush, will save lives. Patients can be given the chance of modern, safe, unhurried anaesthesia with or without intravenous induction & an acceptable depth of anaesthesia, if they can be looked after & recovered in an unpressurised manner.

Dental patients should be offered the same facilities as those undergoing day surgery.

The numbers are falling now but still considerable; but how in the face of all the documents from the G.D.C., G.M.C., our College & the Association, can we accept two-tier care? In an age of clinical governance it is not acceptable to have two standards of anaesthesia.

There is now a public affairs officer at the Association to publicise anaesthesia. There are to be Anaesthesia Days to improve the status of the specialty. We continue, apparently in vain, to convince a sceptical public that we really are doctors.

Meanwhile there are around 30,000 patients undergoing anaesthesia for the first and perhaps the only time for dental surgery. A significant proportion of parents attending a community dental clinic do not understand or accept that what is carried out there is general anaesthesia, when questioned regarding a past history of anaesthesia.

If we stop administering anaesthesia in an almost back-street manner and confine general anaesthesia to the hospital environment that will surely be a greater step towards credibility with the majority of the public than the continuing P.R. exercises.

As a hospital-based specialty, an impact would be imparted to the whole event and as such might have an educative effect particularly to those who do not consider "gas at the dentists" to be general anaesthesia. It is clear from the many reports of deaths at the dentist that professional standards are woefully lacking.

A further advantage of hospital based anaesthesia must be greater control of professional standards. There is no body at present that is able to examine premises where anaesthesia is carried out such as dental surgeries or health centres in a proactive manor. This is in contrast to hospitals and departments of anaesthesia.

John Snow, although hailed as the first professional anaesthetist, was a physician first. It was seven years after his first publication on anaesthesia when he removed the handle from the Broad Street pump to prevent disease and death. It is perhaps time that we as physicians should put the handle back on the pump but ensure that the water pumped is not laced with vibrio but with fluoride.

Early anaesthetists were all involved in other branches of medicine, significantly the dentists Wells, Morton & Robinson. John Gillies had been a General Practitioner prior to taking up anaesthesia.

It is timely that we remember this heritage and remind ourselves, as well as our patients, that we as doctors have a responsibility to health education & preventative medicine.

Perhaps we can help by taking responsibility for these tragedies and at last take action to improve the quality and safety of our profession for all.

By so doing we can prevent the Chiel from making further mischief.

The next S.S.A Scientific Meeting and Gillies Lecture will be held up in Aberdeen in November 2000

registrars' prize

sponsored by Datex Ohmeda

THE NEURO-ENDOCRINE & IMMUNOMODULATORY EFFECTS OF LOW DOSE DOPAMINE IN SURGICAL PATIENTS

John Hunter MB ChB FRCA *SpR, Aberdeen Royal Infirmary*

ABSTRACT

Dopamine is commonly used peri-operatively for its vasoactive properties and its putative renal sparing effects. It has also recently been implicated as a contributory factor to the immune dysfunction observed post-operatively.

The purpose of this study was to determine whether patients infused with dopamine on the first postoperative night showed any evidence of reduced T-cell responsiveness to mitogenic stimulation or any reduction in natural killer (NK) cell cytolytic activity.

Since dopamine may also inhibit the secretion of anterior pituitary hormones, many of which have a role in the orchestration of the immune response, serum levels of the following were assayed; insulin-like growth factor 1, T4, T3 & thyroid-stimulating hormone. Cortisol & dehydroepiandosterone sulphates (DHEAS) were also assayed, since the latter may be influenced by exogenous dopamine.

We investigated sixteen patients undergoing major abdominal surgery, with half receiving 2μg.kg^{-1}min^{-1} of dopamine. Peripheral blood mononuclear cells were tested for responsiveness to mitogens conconavalin A (conA) & phytohaemagluttinin (PHA).

N.K. cytotoxicity was measured by a chromium-release assay with K562 target cells. Serum was batch-tested for hormonal analysis.

Dopamine infusion was associated with a marked reduction in the secretion of the hormone prolactin, although there was no significant change in any of the other hormones tested. Discontinuation of the dopamine caused a surge in the release of prolactin.

Dopamine was not associated with any alteration in T-cell mitogen responsiveness. As expected, a general reduction in N.K. cytolytic activity was observed in both groups post-operatively.

On discontinuation of dopamine there was a significant difference in cytotoxicity between dopamine-infused & control groups ($p<0.01$), with the dopamine group demonstrating significantly higher N.K. cytotoxicity.

This study shows short-term administration of low dose dopamine does not contribute to T cell dysfunction and appears to have no immunosuppressive effect.

Key words: dopamine; T lymphocytes; N.K. cells; prolactin; mitogen stimulation; N.K. cell cytotoxicity.

INTRODUCTION

Major surgery and anaesthesia are associated with significant immune dysfunction[1,2,3]. The precise mechanisms underlying this are unclear but it is thought to be partly due to the neurohumoral changes induced by the trauma of surgery. Surgical stress is accompanied by an increase in the secretion of the hormone cortisol that is known to exert an immunosuppressive effect.[4] It is also recognised that many anaesthetic agents have a direct inhibitory effect on the immune system.[5,6]

The catecholamine dopamine is commonly used both intra- & postoperatively for its inotropic effects. The use of so-called "low-dose" dopamine (<3μgkg^{-1}min^{-1}) is widespread for its perceived beneficial effects on renal function although there is little evidence to support its efficacy.[7,8]

It has recently been suggested that the infusion of dopamine may contribute to the immune dysfunction commonly observed in the critically ill. Devins and colleagues examined the effects of dopamine infusion (>5μgkg^{-1}min^{-1} for 4 hours or more) on T lymphocyte function & prolactin secretion in critically ill adults[9]. They reported dopamine produced a rapid & profound reduction in serum prolactin concentration in both males & females. Patients receiving dopamine also demonstrated a transitory decrease in T-lymphocyte response to the mitogen conconavalin A, suggesting that dopamine may have a detrimental effect on the immune system.

It has recently been recognised that the hypothalamic pituitary axis has important immunoregulatory properties and that the immune & neuroendocrine systems are intimately linked and share many regulatory peptides and their receptors.[10,11,12,13]

Specific membrane bound dopamine receptors of the D2 subtype have been identified in the anterior pituitary and in the hypothalamic median eminence which are both located outside the blood brain barrier.

An *in-vivo* experiment on normal human subjects in which moderate doses of dopamine ($4\mu gkg^{-1}min^{-1}$) were infused demonstrated a widespread inhibition of basal and stimulated anterior pituitary secretion.[14] This has been confirmed by Van den Berghe & her colleagues who have extensively studied the effects of dopamine therapy on anterior pituitary function in critically ill adults and children.[15,16,17,18,19,20,21] The same group have also reported that dopamine suppresses secretion of dehydroepiandosterone sulphate (DHEAS).[22]

Many of the anterior pituitary dependent hormones have a role in the immune response, suggesting that suppression of secretion of these hormones by dopamine may contribute to immune dysfunction. Prolactin has several immunostimulatory roles. It is known to be thymogenic and prolactin receptors are present on T & B lymphocytes. Prolactin receptors have also been found on natural killer (N.K.) cells and lymphocytes have been shown to produce a prolactin like substance.[23,24,25,26,27,28,29]

Interleukin-2 (IL-2) enhances the cytolytic activity of N.K. cells & is an important growth factor for activated T lymphocytes.[30] Prolactin, by inducing IL-2 receptors on splenocytes, increases the lymphocyte response to this cytokine. N.K. cells are a subset of lymphocytes derived from bone marrow that appear as large lymphocytes with numerous cytoplasmic granules and are sometimes known as large granular lymphocytes. They are capable of killing certain tumour cells and virally infected cells. There is also some evidence that N.K. cells are actively involved in bacterial killing.[31]

DHEAS is the most abundant steroid hormone in the circulation & its secretion is probably under pituitary control. It has a modulating effect on the human immune system & directly stimulates $T_{HELPER}1$ cell function through a specific intracellular receptor. It is also known to increase N.K. cell cytotoxicity.[32,33] Some of its immunostimulatory properties may be due to its powerful anti-glucocorticoid action, the precise nature of which is still unclear.[34]

The purpose of this study was to determine whether a peri-operatively administered low dose dopamine infusion ($2\mu gkg^{-1}min^{-1}$) had a detrimental effect on T lymphocyte proliferation or natural killer cell function and whether there was any associated alteration in anterior pituitary hormone secretion.

PATIENTS AND METHODS

This was an open label randomised controlled trial The Joint Ethics Committee of Aberdeen University and Grampian Health Board approved the study.

Subjects

19 subjects, ASA I-III undergoing major abdominal surgery were recruited. Consent was obtained from all. Exclusion criteria included recent chemotherapy, corticosteroid usage, current anti-dopaminergic medication and those with known endocrine disease.

A total of 16 patients completed the study (Table 1).

Table 1 Comparative demography & clinical data

Values are mean (SD) where appropriate

	Control (n=8)	Dopamine (n=8)
Age	71.9 (7.9)	66.5 (11.6)
Operation length	239.4 mins. (65.2)	193.7 mins. (35.4)
Total blood transfusion	5 units	4 units
Dopamine duration	zero	19.7 hrs. (2.4)
Sex	M:F 6:2	M:F 5:3

One patient voluntarily withdrew after the initial blood sample was taken and two others suffered excessive intra-operative blood loss requiring inotropic support and overnight ventilation in an intensive therapy unit.

Those randomised to receive dopamine were infused with $2\mu g.kg^{-1}min^{-1}$ via a central venous line commencing at induction of anaesthesia until discontinued at 08:00h on the first post-op. day. The control group received no vasoactive drugs.

All operations were elective (with one exception, colonic resections) and patients were operated on by one of two surgeons. Pre-medication & anaesthetic technique were identical for all subjects.

Patients were premedicated with a benzodiazepine and anaesthesia was induced with a "sleep dose" of thiopentone (3-5mg/kg) & $2\mu g/kg$ of fentanyl. Neuromuscular blockade was produced with atracurium, antagonised at the end of the procedure with neostigmine/glycopyrrolate.

Anaesthesia was maintained with isoflurane in a nitrous oxide/oxygen mixture. Analgesia was provided with up to 20mg of morphine intra-operatively and a $5HT_3$ antagonist was administered to all patients as an anti-emetic. Postoperative analgesia was provided with morphine given via a P.C.A. Device. I.M. cyclizine was prescribed for post-op. nausea and vomiting.

Blood sampling

Peripheral venous blood samples were taken on the day preceding surgery at approximately 09:00 hours. Further samples were taken at 08:00 & 13:00 on the first post-operative day. After venesection, blood for hormonal analysis was centrifuged and stored at -20°C pending batch analysis.

Isolation of lymphocytes

Samples were processed immediately after collection. Peripheral blood mononuclear cells were isolated by Histopaque-1077 (Sigma Diag.) gradient centrifugation & cryo-preserved in liquid N_2 at -180°C until analysis.

Measurement of lymphocyte proliferative response

Lymphocytes were thawed and a suspension of $1.25x10^4ml^{-1}$ mononuclear cells was prepared in a medium containing RPMI + HEPES + 10% FCS-HI. Lymphocytes were cultured in triplicate (6.25 x 10^4) with a range of concentrations of mitogen in round bottom microtitre cell culture plates. The mitogens were conconavalin A (conA, Sigma Chemicals) at final concentrations of 250, 125, 62.5, 15.6 & 3.9$\mu l.ml^{-1}$ and phytohaemagluttinin (PHA, Murex Diagnostics) at final concentrations of 16, 4, 1 & 0.25μlml^{-1}. Plates were sealed & incubated for 48 hours at 37°C. At 18 hrs before harvesting, 25μl of ^{3}H-thymidine (Amersham Int.) was added to each microculture well. Radioactivity was measured using a beta radiation counter (L.K.B.-Wallac, Pharmacia Biotech) as counts per minute (c.p.m.)of ^{3}H-thymidine incorporated into DNA.

N.K. Cell Cytotoxicity Assay

Assessment of N.K. cytolytic activity was by a ^{51}Chromium-release assay using the standard N.K. sensitive K562 cell line as target-cells. Briefly, target cells were subcultured on the day prior to the experiment to ensure maximal viability. They were then incubated with ^{51}Sodium Chromate (Amersham) for 1 hour in R.P.M.I. Cells were washed three times in medium & adjusted to a concentration of $2.5 \times 10^4ml^{-1}$. Mononuclear cells were thawed, washed and used to prepare effector-to-target ratios of 40:1, 20:1, 10:1, & 5:1. Spontaneous & maximal release were determined in wells containing radiolabelled cells & medium or 0.1M hydrochloric acid respectively. Cells were incubated for 4 hours at 37°C in humidified air & 5% carbon dioxide and the supernatant harvested. Radio-activity was assessed using a gamma counter (L.K.B. Wallac 1282)

The % cytotoxicity was calculated as equal to:

$$\frac{\text{CPM experimental release} - \text{CPM spontaneous release}}{\text{CPM maximal release} - \text{CPM spontaneous release}} \times 100$$

Hormonal Assay

All samples from each patient were processed in the same assay run. Serum concentration of the following hormones were assayed; prolactin, dehydroepiandosterone sulphate, insulin-like growth factor 1 (IGF-1), thyroid stimulating hormone (TSH), T3, T4 & cortisol.
Prolactin, TSH, T4 & cortisol were measured using the Technicon Immuno-1 system (Bayer) which employs a heterogenous competitive magnetic immunoassay. T3, DHEAS & IGF-1 were measured by radioimmunoassay.

Statistics

Results were analysed for statistical significance using the Microsoft Excel 5.0 with the Astute stats add-in. Comparative analyses between dopamine & control groups were made using Students' t-test for parametric and Wilcoxon Rank Sum Test for non-parametric data. Results considered statistically significant when $p<0.05$.

RESULTS

There were no significant differences in age, duration of surgery or transfusion requirements between the dopamine and control patients *(Table 1, previously)*.

Effects of dopamine on anterior pituitary function

There was no difference in prolactin concentrations between the two groups before commencement of dopamine. The infusion of "low dose" dopamine was associated with a 31 %(SD 40) reduction from baseline in prolactin secretion, compared to a 76% (SD 74) increase in controls *(Fig 1)*. The mean prolactin concentration in the first postop. sample was 137±103mu.l^{-1} in dopamine patients & 402±140mu.l^{-1} in the control group. ($p<0.05$). Dopamine disontinuation lead to a significant rebound increase in prolactin secretion (631±177 vs. 393±116, $p<0.05$) to 250% above baseline levels in the dopamine group compared to 59% in controls.

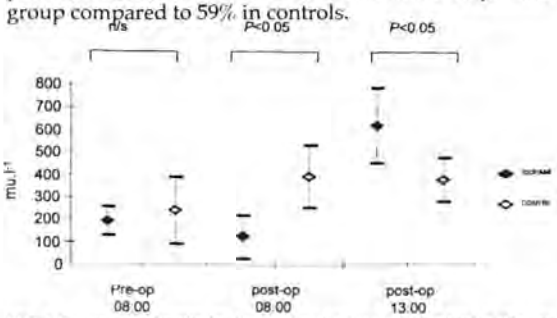


FIG 1 Serum prolactin in dopamine-infused & control patients

Values expressed mean ± SD n/s = not significant

No significant difference in preoperative serum concentrations of DHEAS could be detected between the dopamine & control groups *(Fig 2)*. Likewise, serum levels of DHEAS were not significantly different between patients receiving dopamine & control patients when measured postoperatively.

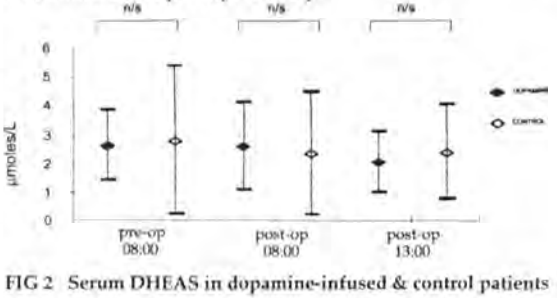


FIG 2 Serum DHEAS in dopamine-infused & control patients

Values expressed mean ± SD n/s = not significant

Measured serum concentrations of thyroid hormones & IGF-1 were not significantly different in the two groups at any sampling times. There was a predictable increase in cortisol post-operatively, but dopamine infusion appeared not to influence cortisol secretion *(Fig 3)*.

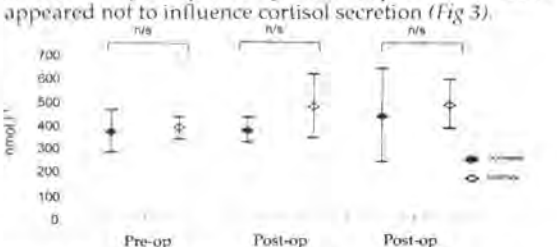


FIG 3 Serum cortisol in dopamine-infused & control patients

Values expressed mean ± SD n/s = not significant

Effects of dopamine on N.K. cell cytotoxicity

Predictably, there was a drop in N.K. cell cytotoxicity observed postoperatively, with a 50.3% decrease from baseline occurring in the dopamine group compared to a 37% reduction in the control group when sampled at 08:00 on the first postoperative day *(Fig 4)*.

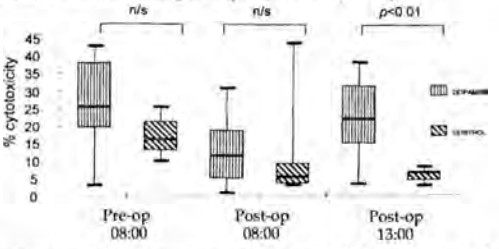


FIG 4 N.K. cell cytotoxicity in dopamine infused & control pts.
There is a statistically significant difference (p<0.01) in cytotoxicity in samples obtained 6hrs. after discontinuation of dopamine
Box & whisper plots indicate median, 25th & 75th percentiles c ranges as vertical lines

However, comparing N.K. cell cytolytic activity between the control & dopamine groups at this sampling time demonstrated no significant difference. In samples obtained at 13:00 postoperatively there was a 14% drop in N.K. cytotoxicity from baseline in the dopamine group and a 62% drop in the control group. A significantly higher (p<0.01) cytotoxic activity was observed in the group that had received dopamine compared with the control group. Median cytotoxicity in the dopamine group at 13:00 was 22.5%(25th-75th percentile 15.4-32) & 7.2% (25th-75th percentile 5-7.3) in the control group.

Effects of dopamine on mitogen induced T-lymphocyte proliferative responses

No significant difference in T-lymphocyte proliferation could be demonstrated between dopamine & controls with either con A or PHA mitogen stimulation *(Figs 5, 6)*

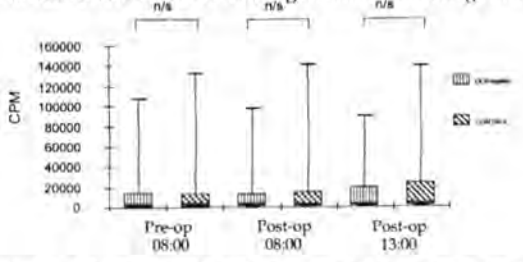


FIG 5 ConA stimulated T cells in dopamine & control patients
Box & whisper plots indicate median, 25th & 75th. percentiles with ranges as vertical lines

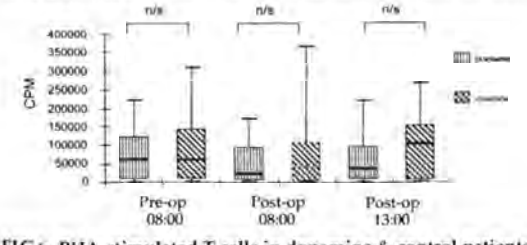


FIG 6 PHA-stimulated T cells in dopamine & control patients
Box & whisper plots indicate median, 25th& 75thpercentiles with ranges as vertical lines

DISCUSSION

Patients undergoing major abdominal surgery become immunosuppressed with respect to peripheral T-cell function.[35,36] A recent study suggested the commonly used catecholamine dopamine might be contributing to this immune dysfunction.[9] The mechanisms responsible are unclear but it was hypothesised that dopamine induced hypoprolactinaemia could be responsible for altered immune function. In accordance with others, it demonstrated exogenously administered dopamine profoundly inhibits prolactin secretion by the pituitary. This effect was reversible on cessation of dopamine, resulting in a large surge in prolactin.

Prolactin is thought to regulate its own secretion through a short-loop feedback & hypoprolactinaemia inhibits endogenous dopamine secretion. This may be responsible for the elevation in prolactin secretion observed when dopamine is discontinued.

Human studies in normal individuals & the critically ill have demonstrated dopamine induced widespread inhibition of basal & stimulated ant. pituitary secretion. However, significant differences in levels of cortisol, DHEAS, IGF-1, T3, T4 & TSH between control patients and those receiving dopamine could not be shown at either postop. sampling time. This may be due to the relatively modest dopamine dose in this study, since all others used in excess of $4\mu g.kg.min^{-1}$, or the very short study period with regard to hormone dynamics.

It has been suggested that hypoprolactinaemia is accompanied by reduced serum levels of DHEAS.[37] In this study no association was observed between hypoprolactinaemia & any alteration in DHEAS secretion.

No significant difference between PHA or conA induced lymphocyte transformation could be demonstrated between dopamine patients & controls.

This is in contrast to a study by Devins who reported a transient decrease in T-cell proliferative response to conA in patients receiving dopamine infusion (p<0.001). Several reasons could account for this difference. Patients recruited for Devins' study were critically ill, a group already known to exhibit abnormalities of T-cell function. Doses of dopamine ($>5\mu g.kg^{-1}min^{-1}$) were much higher than employed for this study. It is therefore possible that differences observed in T-cell function were due to higher doses of dopamine exerting a direct inhibitory effect on lymphocyte transformation, an effect previously reported *in-vitro*[38] They demonstrated dopamine infusion was associated with hypoprolactinaemia and hypothesised decreased immune responsiveness could be due to the alteration in endocrine function. The present study suggests this may not be the case since a similar marked reduction in prolactin concentration in those receiving dopamine was not associated with any significant alteration in T-cell responsiveness to mitogen stimulation.

N.K. cells are an important component of the immune system because of cytotoxic actions against tumours, bacteria & virally-infected cells. N.K. cell activity is known to be impaired after anaesthesia & surgery.[40] In accordance with this, there was a generalised reduction in N.K. cytolytic activity observed postoperatively.

Interestingly, this reduction was not so marked in samples taken at 13:00 in patients who had received dopamine, when a significant difference in N.K. cytotoxicity was demonstrated. The reasons for this observation are uncertain, since dopamine had been discontinued several hours prior to sampling.

It is feasible that dopamine was suppressing N.K. cytolytic activity & this increase in cytotoxicity was due to a rebound phenomenon. This seems unlikely however as there was no significant difference in cytotoxicity in the first post-op. samples when dopamine levels were high. It may be that dopamine is associated with attenuation of the usual drop in N.K. cytotoxicity seen after anaesthesia & surgery, with the lag time in response being due to upregulation of mRNA. The small sample size also introduces the possibility of Type I error.

No previous study has examined the effects of dopamine on N.K. activity but Nomoto & colleagues examined the effects of dobutamine on N.K. cytotoxicity[39]. They reported patients receiving 5μg.kg^{-1}min^{-1} of dobutamine demonstrated an increase in N.K. cell activity that returned to pre-infusion levels within 30 mins. of stopping. The infusion time was only 30 mins. compared to nearly 20 hours in this study, which may allow for more prolonged N.K. activation.

The results of this study suggest the possibility that dopamine is associated with an increase in N.K. cell activity. This is consistent with observations from other studies involving catecholamines. Tonnesen et al reported subcutaneous administration of adrenaline to healthy volunteers resulted in a significant elevation of N.K. cell activity within 15-30 minutes.[40] The percentage of N.K. cells in peripheral blood is also increased after the administration of adrenaline. It has been shown that adrenaline enhances N.K. cell activity *in-vitro*, an effect which can be blocked by the simultaneous addition of the ß-adrenoceptor antagonist propranolol.[41] This suggests ß-adrenoceptor stimulation may be involved & indeed it is known that circulating human lymphocytes possess a large number of ß-adrenoceptors. It is thought that receptor activation increases c-AMP via the adenylate cyclase complex. In addition catecholamines have an action on endothelial cells influencing leucocyte trafficking, with a rapid mobilisation of N.K. cells from the extravascular space into the circulation[40].

While dopamine undoubtedly causes a reduction in serum levels of prolactin, we found no evidence to suggest a deleterious effect on the immune system due to reduced circulating levels of this immunocompetent hormone. This study presents no evidence to suggest that dopamine has an immunosuppressive effect.

REFERENCES

1 McIrvine Lymphocyte function in the critically ill surgical patient. *Surgical Clinics of North America* 1983; 63:245-261

2. Abraham Immunol. mechanisms underlying sepsis in the critically ill surgical patient. *Surgical Clinics of North America* 1985;65:991-1003

3. Salo Effects of anaesthesia and surgery on the immune response. *Acta Anaesth Scandinavica* 1992; 36:201-220.

4. Ross Levels of GH-binding activity, IGFBP-1, insulin, blood glucose & cortisol in intensive care patients. *Clin Endocrinol* 1991; 35:361-367

5. Stevenson The effect of anesthetic agents on the human immune response. *Anesthesiology* 1990; 72:542-552.

6. McBride Immunomodulation: an important concept in modern anaesthesia. *Anaesthesia 1996;* 51:465-473.

7. Cottee Is renal dose dopamine protective or therapeutic? No. *Critical Care Clinics* 1996; 12:687-695

8. Denton "Renal-dose" dopamine for the treatment of acute renal failure: scientific rationale, expt studies & clinical trials. *Kidney Int 996,* 50:4-14.

9. Devins Effects of dopamine on T-lymphocyte prolif. responses & serum prolactin concs.in crit ill pts.*CritCare Medicine* 1992; 20(12):1644-49

10. Anisman Neuroimmune mechanisms in health and disease: 1. Health. *Canadian Medical Association Journal* 1996;155(7):867-874.

11. Chrousos The hypothal-pit-adr axis & immune-mediated inflammation. *New England Journal of Medicine* 1995; 332(20):1351-1362

12. Reichlin Neuroendocrine-immune interactions. *New EnglandJournal of Medicine* 1993; 329(17):1246-1253.

13. Blalock The syntax of immune-neuroendocrine communication. *Immunology Today* 1994; 15(11):504-511.

14. Kaptein Effects of prolonged dopamine infusion on anterior pituitary function in normal males. *J. Clin. Endocrinol. Metab* 1980; 51:488-491.

15. Van den Berghe Anterior pituitary function during critical illness & dopamine treatment. *Critical Care Medicine* 1996; 24(9):1580-1590.

16. de Zegher Dopamine inhibits growth hormone & prolactin secretion in the human newborn. *Pediatric Research* 1993;34(5):642-645.

17. Van den Berghe Dopamine suppresses pituitary function in infants & children. *Critical CareMedicine* 1994; 22(11):1747-1753.

18. Van den Berghe Growth hormone secretion in critical illness: effect of dopamine.*J of Clinical Endocrinology & Metabolism* 1994; 79(4):1141-46

19. Van den Berghe Dopamine and the sick euthyroid syndrome in critical illness. *ClinicalEndocrinology* 1994;41(6):731-737.

20. Van den Berghe Thyrotropin-releasing hormone in critical illness: from a dopamine-dependent test to a strategy for increasing low serum triiodothyronine, prolactin & growth hormone concentrations. *Critical Care Medicine* 1996;24(4):590-595

21. Van den Berghe Luteinizing hormone secretion & hypoandrogenaemia in critically ill men: effect of dopamine *Clin Endocrin.*1994; 41(5):563-569

22. Van den Berghe Dehydroepiandrosterone sulphate in critical illness: effect of dopamine. *Clinical Endocrinology* 1995; 43(4):457-63.

23. Reser PM. Prolactin and immunomodulation. *American Journal of Medicine* 1993; 95(6):637-844.

24. Nagy Regulation of immunity in rats by lactogenic & growth hormones*Acta Endocrinol.* 1983; 102:351357.

25. Nagy Immunomodulation by bromocriptine. *Immunopharmacology 1983;* 6:231-243.

26. Bernton Suppression of macrophage activity & T lymphocyte function in hypoprolactinaemic mice. *Science* 1988;239:410-414

27. Russell DH Prolactin receptors on human lymphocytes & their modulation by cyclosporine.*Biochem Biophys Res Commun* 1984; 121:899-906

28. Matera Prolactin receptors on large granular lymphocytes: dual regulation by cyclosporin A. *Brain Behav Immun.* 1988; 2:1-10.

29. Murphy Mini review. Effects of growth hormone & prolactin: immune development and function. *Life Science* 1995; 57:1-14.

30. Mukherjes Prolactin induction of interleukin-2 receptors on rat splenic lymphocytes. *Endocrinology* 1990; 126:88-94

31. Garcia-Penarrubia Natural killer cells in bacterial infection. In Lewis CE, McGee JO'D, eds*The Natural Killerrr Cell* Oxford Uni Press 1992;68-105.

32. Lobo Prolactin modulation of dehydroepiandrosterone sulfate secretion. *American Journal of Obstetrics & Gynecology* 1980; 138(6):632-636.

33. Suzuki Dehydroepiandrosterone enhances IL2 production & cytotoxic effector function of human Tcells *Clin Immunol &Immunopath* 1991; 61:202

34. Blauer Dehydroepiandrosterone antagonizes suppressive effects of dexamethasone on lymphocyte proliferation. *Endocrinology 1991,* 129:3174-3179

35. Faist Depression of cellular immunity after major injury. Its association with post-traumatic complications & its reversal with immunomodulation. *Arch of Surgery* 1986; 121:1000-1005.

36. Polk A systematic study of host defense processes in badly injured patients. *Annals of Surgery 1986,* 204:282-299.

37. Vermeulen Effect of prolactin on plasma DHEA(s) levels. *Journal of Clin Endocrinology & Metabolism* 1977; 44(6):1222-1225.

38. Kouassi Selective T-cell defects induced by dopamine administration in mice. *Immunopharmacol Immunotoxicol* 1987; 9:477-488.

39. Nomoto Natural killer cell activity & lymphocyte subpopulations during dobutamine infusion in man *B.J.A.* 1993; 71:218-221

40. Tonnesen Natural killer cell activity during premedication, anaesthesia & surgery *Acta AnaesthesiologicaScandinavica* 1983; 27:238-241

41. Hellstrand Evidence for a beta-adrenoceptor-mediated regulation of human natural killer cells. *Journal of Immunology* 1985; 134:4095-4099.

• The Editor regrets that lack of space permits only first authors' names.

Datex Ohmeda's Scottish Business Manager Bob Gray presents John Hunter with his prizewinners cheque

SCOTTISH SOCIETY OF ANAESTHETISTS

TRAINEES PRIZE

Each year the Society offers a prize of £250 for the best paper submitted by a trainee

Closing date - 28th. February 2000

Details from the Secretary
Dr. Neil Mackenzie, Ninewells Hospital, Dundee

SOME NON-ESSENTIAL PERSONNEL ENJOY A HAPPY DAY AWAY FROM THE COAL FACE

PRESIDENT IAIN HOLDS THE PIN
AS THE BROCH BALLESTEROS AND
TIGER TOMMY DISCUSS THEIR ROUND

GOLF DAY

AT LADYBANK GOLF CLUB

by our Golf Correspondent EDDIE WILSON

A total of 21 hardy souls converged on Ladybank for our annual golf day on the 3rd. of June. The rather inclement weather failed to dampen spirits and a thoroughly enjoyable time was had by all.

Despite having a one o'clock meeting scheduled with the CMO in Edinburgh, our President's priorities were such that he was keen to play his round en route. Iain Gray thus persuaded Farquhar Hamilton of the merits of a ten-to-eight tee-time but they undoubtedly played in the worst of the rain. The drookit duo were spotted on the 9th. green by the rest of our group enjoying their pre-golf bacon rolls in the Clubhouse. His early start also left Farquhar with three hours of foutering around to do prior to the afternoon round. (no problem!)

The morning Stableford was won by Tom Goudie, obviously playing well for his 35 points. Farquhar came next with 32 pts and, for the second consecutive year, Bill Kerr was third on 31 pts.

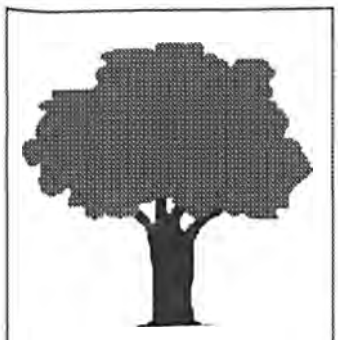
The traditional East v West afternoon match proved to be a triumph for the West by 3 1/2 points to 1 1/2, though all the games were close. Farquhar Hamilton & Sandy Buchan were sole victors for the Eastenders while Tom Goudie, ably assisted by Malcolm Daniel, continued his winning ways for the West Coasters.

Iain Gray returned from Edinburgh in time to join us for an excellent meal and to present the much coveted trophy to Tommy. Thanks were given to your trusty scribe - an outing organiser who undoubtedly blamed the consequent stress for his truly pathetic putting display. I wish Alex well for next year!

RESULTS

1. TOMMY GOUDIE 35 PTS.
2. FARQUHAR HAMILTON 32 PTS.
3. BILL KERR 31 PTS.

WEST BEAT EAST BY 3 1/2 MATCHES TO 1 1/2



GOLF DAY 2000

This year's event will be held at

Glenbervie Golf Club, Larbert

on Tuesday 13th. June Tee time 9.00am

Organiser: Alex Macleod, Western Infirmary

around the regions

THE EDITOR WISHES TO THANK ALL LOCAL CONTRIBUTORS

THEIR VIEWS ARE ENTIRELY THEIR OWN!

INVERNESS Ian Johnston

Following the example of our Raigmore orthopaedic colleagues, who have formed a "non-financial partnership" in order to demonstrate the way they "feel about each other", greetings to all Society readers from "The Firm". We're just waiting to decide who gets the first equine sleeping companion!

1999 has been a year of change throughout the country, not least in Highland Region. First & foremost, Raigmore and the greater parts of Bedford Hospital, Fort William and Caithness General in Wick amalgamated into the Highland Acute Trust. So far this has had little effect on individual departments but who knows what awaits us in the next thousand years? Management changes involved a new Chief Executive and Medical Director. John Machin stood down from the latter role and subsequently resigned his post as a consultant anaesthetist. We wish him a happy and healthy retirement!

There have been no new consultant appointments but congratulations are due to Suzie Dempster on her promotion to Associate Specialist. We welcome Julian Kennedy to his staff post - at least there's now no excuse for computer illiteracy in the department! At long last the Acute Pain Team is off the ground (albeit with dubious funding) thanks to the efforts of Jacqui Howe - we are grateful to be entering the 20th. century shortly before we reach the 21st!

There are no staff changes in Fort William but much discussion continues over the future organisation of services in Skye. The sole surgeon on the island finally retired in October (not to be replaced) and two of the three proposed staff doctors for the Mackinnon Memorial Hospital have taken up post despite the absence of cover and with doubt over their expected duties. The problem of patient retrieval has yet to be resolved!

Conversely, there have been major changes up in Caithness. Drs. Gadiyar & Kumar moved to pastures new, leaving Alex Abraham in charge. Brian Campbell took up one of these posts and runs the Wick & Golspie Pain Service (Wick 1 Raigmore 0)! He was quickly followed by Len Henderson, who returns to God's Own Country after 19 years in the Army. We're not sure what tactics Len used to escape Her Majesty's clutches but we welcome him to the British Military Hospital, Highland Region and hope he brings us his expertise on Friday evening L.E.N. (Liquid Enteral Nutrition). Congratulations to the Caithness Team for successfully getting both their Day Case Unit and H.D.U. up and running since last year.

DR. GRAY'S, ELGIN Colin McFarlane

We are now reconfigured into Grampian University Hospitals Trust and our integration with Aberdeen is just getting started. We do have positive vibes about the future though. George Duthie is doing an excellent job as clinical co-ordinator for the whole hospital, at speed!

We narrowly missed losing Chris Taylor to Kosova, Iain Macdonald has finally bought his country idyll, Ian Harper has gone fluorescent and Janet Trythall is crossing the Atlantic in July on a Tall Ship, which means that none of us are getting any summer holidays this year. I do the rota and am therefore to blame for it all!

ABERDEEN Gordon Byers

The department continues its expansion - at the last count we had a total of 81, with 37 consultants. The new management structure has produced changes for us. Richard Davidson-Lamb has given up his role as Clinical Director and we thank him for all his hard work on our behalf. This post, now called Clinical Group Coordinator, has now been taken on by Donald MacLeod. Bertie Dundas retired this summer and we wish him well in his retirement.

Three new consultants have taken up post this year, two of them moving from London. Karen Cranfield came from a Consultant post at Charing Cross and Colin Reid rejoined following a spell as a Fellow in Cardiac Anaesthesia at the Brompton. Colin was previously an SpR in Aberdeen. Andrea Harvey has been appointed with an interest in Maxillofacial & Dental Surgery and she will take up post in December.

On the trainee front we have had a significant number of globetrotters. Brian Cuthbertson & Peter Shirley have returned from Australia, while Rona Dickson has gone there. Colin McCartney received his CCST, then left for a year in Toronto, while Trevor Armstrong is at Boston Children's Hospital for a year. John Hunter has returned to Anaesthesia following two years as an SpR in Intensive Care.

With regards to new developments, the Childrens Hospital has been approved and will be sited in the A & E car park. We look forward to work commencing and having to find another parking place! Plans for a new Ambulatory Care Centre (out patients & day surgery) have been shelved meantime.

Finally we extend our congratulations to Alastair Chambers on his election to the Council of the Association of Anaesthetists.

STRACATHRO Ian Grove-White

It's been a year of uncertainty at Stracathro since the last report. Doubts about the future will not be resolved until the Area Acute Services Review reports and its recommendations will probably still take many months to crystallise. Despite this it has been business as usual for the anaesthetists. The slack resulting from our well publicised problems in general surgery has been taken up by orthopaedics & urology, with both patients & surgeons being diverted from Dundee.

We all broadly welcome the new Trust configuration, as our lot has been thrown in with colleagues we know and trust. Fergus Millar, Willie McClymont & Tom Houston, who runs the pain clinic here, are regular visitors from Dundee. Alban Houghton, Charlie Allison, Donald Thomas and I all have weekly sessions in Dundee. We feel well integrated and look forward to even closer co-operation.

My circumnavigation earlier this year seems to have started something. Alban is planning an antipodean trip in 2000 to visit his daughter in New South Wales. Annie Donald takes time from seemingly endless orthopaedic encounters to undertake much of the department's administration. She's just returned from island holidays in Guernsey & Mauritius. Jan Beveridge, our Staff Grade, though not taking part in the on-call rota, works like a Trojan during the day and gives us a flexibility without which we would be unable to meet our commitments. Donald, our newest recruit, has settled in well and has now taken up residence in a castle between here & Forfar. He looks after I.T. matters - we trust 1st. January justified our confidence! Charlie manages to do his share of the work while helping fuel the local campaign to keep us all in jobs. In his spare time he's taken over the editorial desk of this organ.

Finally for myself, now the oldest anaesthetist still employed in N.E. Scotland, everyone keeps asking me about retirement. I'm making no promises, except that I shall do nothing further to destabilise the staffing of Stracathro Hospital until its future has been clarified. If I'm asked to contribute again next year, I hope I'll have news of a more settled environment.

NINEWELLS Eddie Wilson

Restructuring of health care in Scotland (again!) means a new Tayside-wide Trust incorporating Perth, Stracathro & Dundee has evolved. Iain Gray is now Clinical Group Director of Anaesthesia, Theatres, ICU, HDU, Renal Medicine, Day Surgery & Pharmacy. Jonathan Bannister is Clinical Leader in anaesthesia/theatres with Farquhar Hamilton in a similar role for ICU/HDU. Alastair McDiarmid, Willis Peel & Phil Lacoux have all been awarded CCST. Alastair has moved up to Aberdeen, Willis is now established as a consultant in Dumfries, while Phil intends to spend some time pursuing his activities with Medicins sans Frontieres. We wish them all well.

On a Scottish Society front, Iain Gray has been an excellent President. His superb Address was one of the highlights of a very successful Peebles weekend. The election of Neil Mackenzie, Jon Bannister & Charlie Allison as office bearers will, I am sure, guarantee the continued efficient running of Society matters.

In the area of postgrad. training, John Colvin is our new R.E.A. Eddie Wilson takes over as programme director from John, with Fergus Millar assuming responsibility for S.H.O. education. Willie McClymont continues as College Tutor. The University Department continues to flourish with Tony Wildsmith occupying the same office for over a year now! The department makes integrated contributions to our medical & dental undergraduate courses and the main research projects are well established. Carol Macmillan continues as Clinical Lecturer, Cameron Weir remains in his B.J.A. sponsored Research Fellowship and Jonathan Whiteside has replaced Judith Kendell as the Astra sponsored Clinical Research Fellow.

PERTH Arthur Ratcliff

There have been no changes in senior anaesthetic personnel in Perth & Kinross since the last Annals. Life continues as usual although the spectre of change looms large on the horizon. As part of the new Tayside University Hospitals Trust, we have just combined forces with our new anaesthetic colleagues in Dundee & Stracathro. Those of us who managed to attend a recent Tayside Consultant Anaesthetists' "Retreat" at Crieff Hydro in early October will recognise that we have much more in common with our new colleagues than we have differences.

Visitors to our department offices in recent years will be anxious to hear about the progress of our tropical fish. Only half survived a critical incident last Spring when high chlorine levels in the water supply were blamed for the fatalities. Members of the Department were asked to contribute towards even more colourful, exotic replacements. Michael Forster has developed an interest in aquatic life & the fish are currently thriving!

KIRKCALDY Arthur Davis

Since the amalgamation of the two Fife trusts, the anaesthetic departments are now one big happy family. There are not as yet many signs of us sharing things around, though our Queen Margaret based C.D. John Emery-Barker does a weekly list in the Victoria so that he can keep an eye on the 'eastern branch'. We are awaiting far-reaching decisions by the Health Board about the future configuration of services. As one of a series of public consultation meetings had to be broken up by the police, it looks as though Fifers are in a mood to resist change.

The event of the year has been the retiral of Dick Bowie. His 33 years in this one post is close to the theoretical maximum - is this a record? The three events held for Dick bore witness to the esteem in which he was held and we wish him a long & happy retirement. In his place we welcome Jill Duguid, who joins with an obstetric interest - and she's Glasgow-trained too!

The status of the department has been enhanced by Jenny Meek becoming Secretary of the Scottish Standing Committee. However this has brought its responsibilities too, in the form of hosting the Study Day held in Kirkcaldy in December.

A new Fife Community Dental Centre recently opened on the Victoria campus, replacing the previous facility at Cupar - that means one less isolated anaesthesia site. A full range of anxiety managing treatments using sedation or G.A. is available, making it a popular allocation for experience-seeking trainees.

We had to do without the valuable contributions of Joyce Stuart for several months, but it was all in a good cause, as Joyce and her husband have adopted two little girls aged four & two. She's now back at work part-time.

DUNFERMLINE Neil Malcolm

Since Paul Nicholas' last report, life continues ad nauseam in the Queen Margaret's Anaesthetic Department. We have a new additional Consultant in the form of Philip Roddam who, along with Steve Gilbert, runs the Chronic Pain Service. This was previously led by Keith Birkinshaw, who now has a more general workload. Halina Anderson & Peter Curry have a vascular interest and Paul Nicholas, Alasdair Mackenzie & I look after ICU. John Emery-Barker is Clinical Director for Anaesthetics & Theatres for the Fife Acute Hospitals Trust or FAHT (like that famous tribe of African pygmies the 'FAKAWI').

Hany Mina continues his role as organiser extraordinaire along with an interest in Acute Trauma. Fiona Annan & Ruth Cruickshank successfully organise Dental Anaesthesia, while Farida Rahman continues to charm us all as a generalist.

We continue to be increasingly overworked & underpaid though this is evidently not just a local phenomenon. It would seem integration with our fellow anaesthetists in the East has been much more successful than Fife Health Board's public hearings into their Acute Services Review - one led to police involvement for brawling and the chairwoman's resignation! It thus seems positively benign to report we've had a delightful joint meeting socially, christened ourselves FAGs (Fife Anaesthetists Group) to which John McClure, our speaker, requested honorary membership, such was the hospitality!

FALKIRK Alan Semple

The past year has seen no movement in the consultant ranks at Falkirk. Carolyn Smith has however left her staff grade post to join Dundee as an SpR and our best wishes go with her. She's been replaced by Sabu James. Unfortunately uncertainty continues with regard to future acute services in Forth Valley.

Life continues much as normal with considerable expansion of chairside dentistry carried out in the hospital as the community service is gradually withdrawn. This year should see the start of a long-awaited acute pain service and a pilot chronic pain management programme which is due to start in November.

STIRLING Crawford Reid

It is the end of an era with the "retirement" of Hamish Finlay, although we will still be seeing Hamish at the Simulator Centre with his many improvisations to the "dummy" Stan McMann.

We recently welcomed Colin Lang from Edinburgh and Andy Longmate has now joined our happy throng - we wish them well. We lost Jamie McDonald to Dundee - good luck Jamie! Congratulations to Mark & Nikki Worsley on the recent arrival of their son and also to granddad Alistair Trench on the arrival of his first grandchild - a girl.

On other fronts, we've not seen much of an impact of the single Forth Valley Trust, but we're looking forward to a united and strong anaesthetic Department with our colleagues in Falkirk.

EDINBURGH ROYAL David Watson

The Anaesthetic department seems more empty as the very informative fire-side chats from Professor Spence are missing. There is no tangible progress to fill his boots.

An update on the New Royal Infirmary at Little France:

2001 - First Phase Hospital opens (incorporating reproductive medicine)
2002 - Medical School block opens.
2003 - Remainder of Hospital opens.
2004 - University Research Institute opens.

There have been edge-of-the-seat changes at Trust level with the inevitable alterations in that very important area of headed notepaper. We have outlived the green stripe with the adoption of the purple band. Next?

Continuing where we left off last year, 8 babies (that I know of) have been born. Special congratulations go to David Semple and his twins! Life events tend to come in threes, as he's succeeded in obtaining an Edinburgh Consultant post. He says most nights are a 1:2 (1 asleep, 1 awake). Applause also to Jeremy Thomas, now married to St. John's Hospital & his wife. Other appointments are Duncan Henderson (St John's), John Wedgwood & Keith Kelly (Western General), Christine Cox (Salisbury), David Findlow (Kettering), Colin Lang & Andy Longmate (Stirling) and Patrick Hopton (Doncaster).

Attempted emigrations continue, some more successful than others, with Rob Forbes (Melbourne), Jane Olday (Perth), Ishrat de Beaux & Merv Atkinson (Adelaide). Simon Deehan (not long back) returns to Sydney for more XXXX (something we said?) Some great side-steps (unlike Scottish Rugby) as Steven Moise (Glasgow) & Sheena Miller (Papworth) undertake further specialist cardiothoracic anaesthesia training. Lucky them! Our very own Fiona Kelly embarks on her PhD. We warmly welcome a new batch of trainees & our first Anaesthetics JHO, Vidarshi Karunaratne. Best wishes to everyone who has left our department (but not if it's before 2 o'clock on a Friday!)

WESTERN, EDINBURGH Nick Gordon

This year has seen Jim Jenkinson's retirement & the re-retiral of Ivor Davie & Brian Slawson, who have been supporting us part-time. Iain Levack has moved north to Ninewells following his wife's appointment to a post in Dundee. All will be missed.

Keith Kelly, Joe Fitzgerald & Jon Wedgewood are welcome arrivals as new consultants. A new Chronic Pain post has been created - Joe, Murray Carmichael & Margaret Cullen provide this service. Margaret is soon to return from maternity leave, and we enjoyed having Aftab Ahmed as her locum. A number of JHOs are now appointed to Surgery/Anaesthesia and rotate through Anaesthesia & H.D.U. for training in Critical Care.

The major building work is on-schedule for completion in 2001 and will provide a new Anaesthesia Department, H.D.U. & eight operating theatres. Charles Wallis & Irwin Foo are being kept busy with details of design and new equipment. When the C.C.U. moves to the new building, the I.C.U. should expand into the vacated space, providing additional intensive care beds.

The new trust, combining as it does the Royal Infirmary & the Hospital for Sick Children with the Western will lead to changes for the better, we hope. Watch this space for further news!

ST. JOHN'S LIVINGSTON Duncan Henderson

West Lothian Healthcare NHS Trust is unique in Scotland as a combined Primary & Secondary Care Trust. This format will be formally assessed in 18 months time.

The department is now ably run by the Watsons - Karen (CAR) & Elaine (rotameister). Last year's appointments Jeremy Thomas & Elaine Watson have now settled in and Duncan Henderson started in June. Jeremy remains the youth of the department by 4 days and Mike Shaw is doing a good job of organising obstetrics after Colin Small's retiral last year. A baby daughter arrived for Mike Brockway, our elderly prim - he really coped well with the labour! Donald Galloway's EDD is January 2000.

Ken Stewart is now the fastest guy in the department with an Edinburgh marathon time of just over 3 hours. Elaine Watson has found an alternative career as a stand-up comedienne, but isn't planning to give up the day job yet! Finally, we're hoping to produce a Mike Fried clone to help with his workload - I.C.U. Director, Edinburgh & East of Scotland Society secretary, 'nutrition group' & 'transport of the critically ill' coordinator and organiser of the Primary Course for South East Scotland.

LAW HOSPITAL John Martin

The plea for a contribution from darkest Lanarkshire has not fallen on deaf ears. On surveying my meticulously indexed Annals, I see it's been two years since our carrier pigeons last made it through. In the meantime, much has changed. . . . .

Nicola Willis has graced our consultant ranks and is now Lead Clinician in I.T.U. Alan Morrison, recently returned from the Antipodes, joined us as a Locum pending a definitive consultant appointment which will take us to a full house. Dr. Jagannathan has been re-graded as Associate Specialist and Drs. Jabbal, Fouad, Basu & Sharma hold Staff Grade Posts.

Administrative & managerial changes continue in their usual schizophrenic fashion. Terry Nunn, until recently C.D., has been appointed Associate Medical Director to the Law section of the Lanarkshire Acute Hospitals Trust. George Harvey has taken over the Directorate reins meantime. Almost immediately however, further re-structuring threatens the precarious stability of our seemingly ever-changing managerial structure.

Finally, another new structure on the horizon is our quickly evolving, PFI-driven new hospital, due for completion in May 2001. A tremor of disbelief has met the decision to call it WISHAW GENERAL HOSPITAL. Now that we hail from such a drably named workplace, any remaining street credibility of our long-standing members must now surely be in doubt.

MONKLANDS David Clough

We have had a busy year here. Vimty Muir & Scott Marshall joined us and are settling in well. Mike Inglis is now Clinical Director as Alastair Naismith has moved on to be Associate Medical Director; Rory MacKenzie has assumed the role of Lead Clinician in Intensive Care. Tracy Dunn continues to do sterling work with service developments at Bellshill Maternity in the run up to the opening of Wishaw General Hospital.

It is a continuing pleasure to be part of the Registrar training programme - Drs. Carragher & Culshaw are with us at present. Several of our SHOs have moved on to greater things in Glasgow & elsewhere and we wish them every good luck. Dr Akhtar has joined us as a staff grade and is very welcome. Service developments continue with the expansion of the pre-assessment programme & the epidural service to meet demand.

In short Monklands continues to have a happy, busy and cohesive anaesthetic department.

GLASGOW ROYAL Alex Patrick

We have a number of new consultants. Alan Millar & Drew Smith were appointed to new posts, while Mike Basler replaces Su Tan and Charlotte Gilhooly fills Bill Anderson's post at last. Of our SpRs, Keith Morley, Mike Hodson & Vimty Muir have moved to consultant positions in other hospitals.

The merger referred to by Liz McGrady in last years *Annals* is now complete and we have joined our colleagues in the Western, Stobhill & the Dental Hospital to form the new North Glasgow University Trust. It has a new organisational structure of course, with one non-clinical & five clinical divisions. We are now part of the Clinical Support Services Division under the chairmanship of a Medical Physicist.

The skeleton of the new Maternity Block is now rising from its long vacant podium on the Q.E.B. site with the new Plastics & Emergency Receiving Unit lagging behind nearby. Just as it seemed all of this Department's clinical activity would finally take place on one site, we now have the uncertainty of reorganisation across the North Glasgow Trust as a whole. Who knows what the future will hold?

SOUTHERN GENERAL Bill Kerr

On the personnel side, Pamela Hannah joined us as a consultant at the beginning of the year, having travelled all the way from the Victoria Infirmary and now she has started working part of her week there again. Split-site working seems to be the coming thing for us south-siders!

As regards improvements in facilities, G.G.H.B. have agreed to fund a high dependency unit here from the beginning of next year and we are currently debating with the surgeons how we will run this facility. Further up the drive, work has started on enlarging the neurosurgery & neurology buildings to allow the transfer of maxillofacial & E.N.T. surgery from Canniesburn & the Victoria Infirmary. Some interesting discussions are commencing about who'll cover the on-call workload for these services and who will cover their new H.D.U.

Wider discussions about the rationalisation of services continue. It seems clear that Glasgow would like to reduce the number of maternity hospitals from three to two and this would mean closure of either the Queen Mother's Hospital or our own maternity unit. There would also be knock-on effects for gynaecological surgery. We await the outcome with interest.

Within the grandly named South Glasgow University Hospitals Trust, matters seem to be coming to a head as regards the future shape of acute services south of the Clyde. Clinicians have made consensus recommendations (not unanimous by any means!) that all inpatient services should be located next to the Shieldhall sewage works & that the Victoria Infirmary should become an ambulatory care centre along north American lines. We are led to believe that the Scottish Executive like this plan because it is bold & cheap, well mainly because it's cheap! We await the outcome of the public consultation process with bated breath. We have a lot of practice at this, on account of our proximity to the aforementioned sewage works.

P.S. I expect this will be the last one of these reports I have to write as I'm hoping to get some other mug to take on the clinical director's job - in fact there may only be one C.D. covering all of south Glasgow.

VICTORIA INFIRMARY Cameron Howie

We have seen dramatic changes in personnel during 1999, with the retirals of Robin Marshall, Dan Thomson & Harvey Maule, all now replaced (if that's possible). The new consultants are Peter Mackenzie, who'll help take on Dr. Maule's chronic pain interest, Fiona McHardy & Keith Morley.

The future of our hospital, and consequently of our department, would seem to be clearly on course for integration with our good colleagues in the Southern General. We have already embarked on this process within the Anaesthetic Department by creating a number of joint appointments. This process will continue with the creation of a new post with a specialist interest in intensive care shared between the two departments.

WESTERN INFIRMARY Colin Runcie

Visceral & thrilling change has been the order of the day at the Western. Unfortunately, a disturbing unease has descended in recent months as the actual date of our merger with the Royal approaches. The pace of the Western's prolonged but previously gradual decline seems to have accelerated alarmingly as we contemplate the reconfiguration of services.

An interesting new development in the department will be the forthcoming appointment of preregistration house officers in anaesthesia. Suggestions as to what they might actually do with their time would be much appreciated.

On the personnel side, Leyla Sanai & Andrew Makin have made the taxing transition from SpR to consultant at the Western. Jill Duguid, Peter MacKenzie & Andrea Harvey have obtained consultant jobs in Kirkcaldy, G.R.I. & Aberdeen respectively.

YORKHILL John Sinclair

The beginning of the year saw us hosting two very successful meetings - one in Paediatric Intensive Care organised by Pauline Cullen and one in Paediatric Anaesthesia organised by Jane Peutrell. Jane is now marshalling us to work towards the E.S.R.A. meeting in 2001 which looks to be equally exciting.

On the personnel side, Douglas Arthur is President of the Association of Paediatric Anaesthetists. John Currie has been appointed R.E.A., and this combined with his growing chronic pain work has forced him (with heavy heart) to give up his position as Clinical Director. Neil Morton has thus added the C.D.'s hat to his already impressive hat stand.

Our new specialist paediatric SpR is Pamela Cupples (welcome back Pam). Graham Bell is working as a Locum Consultant (welcome back Graham) and Alistair Ewen is joining us for six months from Calgary (welcome back to Scotland, Alistair).

After careful & prolonged deliberations in the Scottish Office, the paediatric cardiac surgery contract for Scotland has been awarded to Yorkhill. This should allow us to plan ahead into the new millennium, though this of course assumes that

(a) the resources which accompany this consolidation of services will reach us and (b) Yorkhill remains an independent Trust.

We remain as ever naively optimistic.

INVERCLYDE Moira Simmons

One year further on has seen great changes in Inverclyde Royal. We have reverted back to our old name (officially?) as we're now part of a larger Trust. The change-over was not all doom & gloom. Firstly, there was money tucked away for a rainy day which we spent updating ITU ventilators & monitors. Then the management decided the conditions in which we were managing ITU patients were intolerable. We now officially have two ITU beds funded & staffed, with a four bedded HDU opening soon.

In the summer, Greenock was a weekend host to the Tall Ships Race and thousands of people flocked to the area. We feel we can now cope with whatever the New Year brings. (Note: not the Millennium - the last day of the millennium is actually the 31st. of December 2000, contrary to popular media persuasion).

We have all been pleased to see Fiona & Alison with their new baby daughters, and are grateful to the two long-term locums, Jean & Frazer, who filled in the gaps. Females now out-number the males, but that score will even out again (a bit) when our new consultant takes up post. The biggest disappointment has been withdrawing the hospital-made scones. However no one can withdraw the view from the theatre coffee room window!

ROYAL ALEXANDRA Barbara Scorgie

Following yet another reorganisation, we in Paisley are now part of the megalith Argyll & Clyde Acute Trust, along with our distant neighbours in Greenock, Vale of Leven and Lorne & the Islands (Oban). The "500 mile Trust" might be a more appropriate title! Little has changed at shop floor level, though funding for Intensive Care is the most acute problem and the provision of H.D.U. Beds remains a crying necessity.

January sees the departure of our most senior member of staff, David Steel, whose contribution to developing the service in Paisley is legendary in anaesthetic circles. He will be sorely missed not only for his clinical prowess but also for his wise counsel & ready wit. We in Paisley wish David all the best in his well-earned retirement.

Over the past year we have had two new consultant additions - Gavin Fletcher returning from Glasgow and the evergreen Hilary Aitken, joining us from Redditch. Hilary has run the Association stand at Scientific Meetings for a number of years and was awarded a Pask Certificate for her sterling efforts in September 1999. This Certificate now adorns the Anaesthetic Department, adding to our ever-increasing memorabilia.

We await the millennium with interest & reservation. Rationing & Rationalisation look to be the next minefields to be tackled.

VALE OF LEVEN Bill Easy

We used to be the Lomond Healthcare Trust - a name redolent of craggy hills giving way to rolling green fields, full of healthy white sheep, sweeping down to that great stretch of beautiful recreational water – Loch Lomond. Now we are just an anonymous part of Argyll & Clyde Acute Hospitals Trust. This was nearly not the only change for the worse - we fought off a managerial bid to assimilate our directorate into the surgeons!

Earlier in the year we bade a sad farewell to Fiona Bryden, who left for Rotten Row and welcomed Tim Barber from Inverclyde. To redress the sexual balance our two (male) research fellows departed, Stewart Milne to Glasgow Royal and Craig Carr to an I.T.U. research post at Edinburgh Royal. In their places we welcomed Rachel Hutchinson from the N.W. Thames rotation & Anne-Marie Troy from Dublin. They have already started work on papers about patient-controlled premedication with propofol, and intubation during target controlled remifentanil & propofol. The addition of their skills & feminine charms makes the department an even more enjoyable place to to work!

Adrian Tully, exhausted after two terms as Clinical Director, has demitted to Geoff Douglas who already is beginning to develop that dogged look of those who feel they are kicking against the pricks. Alaistair Cameron, the mastermind of many hospital ski trips, and Bill Easy (orders for farm-assured Scotch lamb may be phoned to the department!) soldier on and Tim Barber is getting his feet under the table. Our staff grades, Eleanor Guthrie, George Kashoulis & Bobby Brennan continue to just fill all the gaps and make the service work.

Over all, we have risen above the politics and continue to be a happy and cohesive department.

CROSSHOUSE Roger White

With amalgamation of the two acute trusts, we have seen reunification Ayrshire style - once again there is one Division of Anaesthesia. In the intervening years (since the Wall was built) the two departments developed in their own ways to meet the needs of their respective trusts, whilst maintaining professional & educational contacts (with SHOs & Registrars carrying news up & down the A77).

Whilst complete reintegration, with anaesthetists passing each other on the aforementioned highway, may not have happened yet, already the seeds of co-operation & working togetherness have been sown; and the green shoots of harmony & common goals are showing through the flood water & tangleweed of H.I.P. & T.I.P. management.

In the last 12 months Dr, Chris Hawksworth has taken up his Consultant post and with his involvement in Intensive Care the the burden on those working in I.C.U. has eased.

We congratulate Paul Wilson on his appointment as Assistant R.E.A. and John Hildebrand on becoming Associate Medical Director for Surgical Services in the acute trust.

We now have video conferencing, which means that divisional meetings can include Sheila McLeod, our consultant colleague on Arran (not Bute). However, we still only have one office for 14 consultants, 3 staff grades, 7 SHOs & 2 SpR's!

AYR Iain Taylor

Hospital Wars in a Newly Formed Trust. Far, Far Away

A meeting was held in the Death Star (Crosshouse) to discuss the war with the Free Republic (Ayr).

The Emporer (J. Hildebrand) was berating his senior staff, Darth Vader (A. Michie), Grand Moff Tarkin (P. Wilson) and General Veers (T. Miller) for failing to completely subjugate the Free Republic and bring them wholly under the sway of the Empire.

"But my Lord" argued Vader, "We are already spending their entire annual budget of imperial credits to further enhance the Death Star"

"Not Good Enough" thundered the Emperor. "You have allowed the princess (R. Jackson) to escape, Admiral Ackbar (D. Ryan) remains a thorn in my side, no-one has sighted Chancellor Velorum (K. MacKenzie) on the Republic's home-world for two decades and those remnants of the Jedai Knights: Yoda (R. McMahon) & the recently deceased Obi-Wan Kenobi (I. MacDiarmid) continue to tutor Luke Skywalker (I.Taylor) in the ways of the force. Why have you not yet converted him to the dark side?

The smuggler Han Solo (B. Meiklejohn) and the irritating protocol droid C3PO (P. Wylie) must be shot on sight. Assemble the stormtroopers (other XH consultants), at least we can always out-vote them when necessary."

Will the members of the Free Republic prevail against overwhelming odds? The war continues!

DUMFRIES David Bennie

Contrary to *Thistle's* prickly comments last year, we continue to adopt a high profile down here and as a result have recently appointed a further two new consultants. Willis Peel has come from Dundee with a special interest in Acute Pain to join the team headed by John Rutherford. Paul Jefferson arrived from Newcastle to join our ITU group led by Dewi Williams.

Further reorganisation and expansion of both consultant and support staff is envisaged when the new Day Surgery Unit opens and Maternity is brought on site in two years time - so all you sensible SpR's out there, watch this space!

BORDERS Janet Braidwood

We are the only general hospital in the region so we have not been required to change our name and remain the Borders General Hospital NHS Trust.

Ian Yellowlees expanded his interest in pain management with a new Acute Back Service for the Borders. Associate Specialist Chris Richard is spending two years as a SpR in Edinburgh to complete CCST. Janet Wilkie has been on maternity leave following the birth of twin girls. Jane Montgomery has returned to work following a period of sick leave. Many colleagues have kindly enquired about her. Many thanks!

Grant Hutchison
HISTORIAN

Eddie Wilson
ACE GOLF SCRIBE

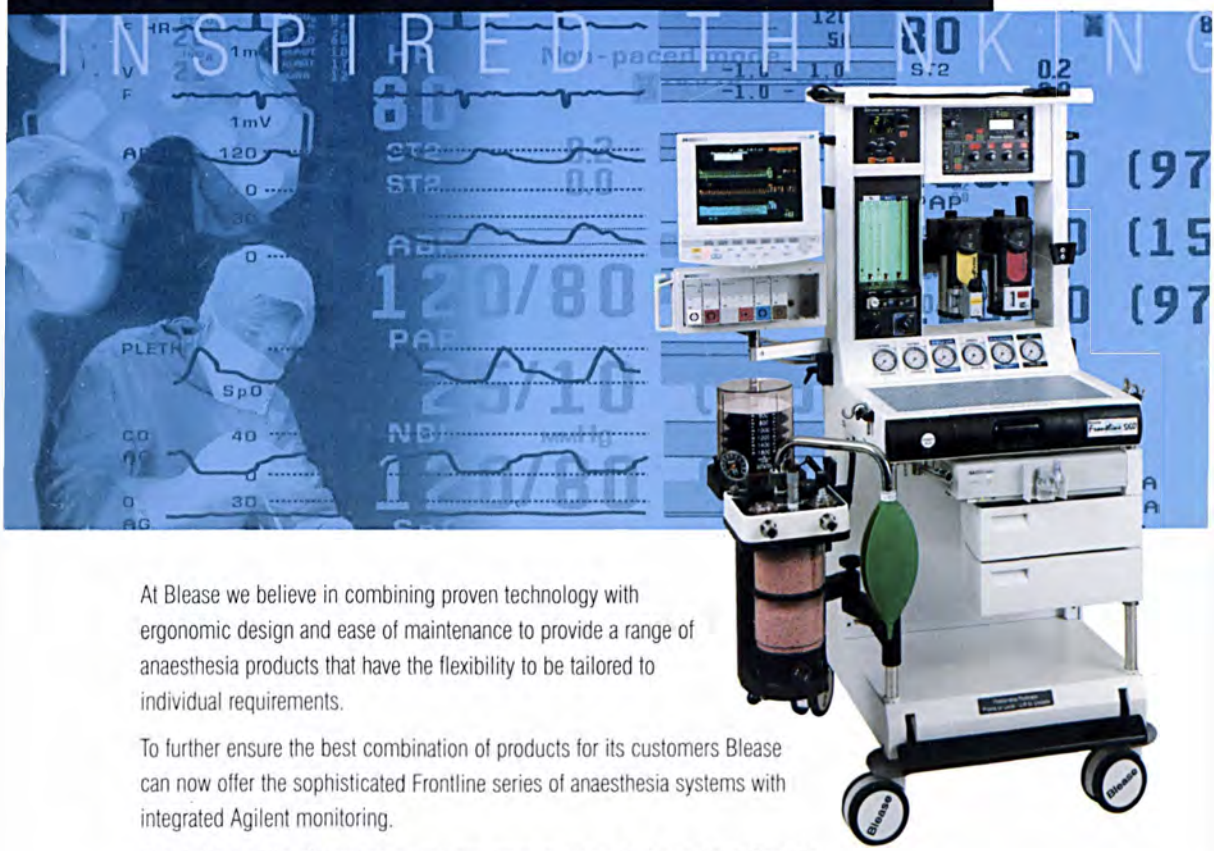
Journal Contributors

Donnie Ross ARTIST IN RESIDENCE

Donnie has chosen four impressions of today's Scotland to illustrate our Millennium cover.

The Skye Hills and the Forth Bridge
are archetypal national images;
Edinburgh's Hogmanay celebrations
have become famous the world over;
and the theatre picture evidently depicts
a very well known Aberdeen surgeon . . . .

Blease
and Agilent Technologies
patient monitoring



At Blease we believe in combining proven technology with ergonomic design and ease of maintenance to provide a range of anaesthesia products that have the flexibility to be tailored to individual requirements.

To further ensure the best combination of products for its customers Blease can now offer the sophisticated Frontline series of anaesthesia systems with integrated Agilent monitoring.

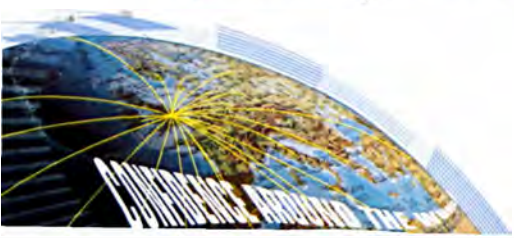
The Agilent ethic of providing modular, open systems that can be defined to user needs mirrors the Blease policy of tailoring its product to the customer now and in the future.

A combined solution for anaesthesia and monitoring

These ethos perfectly combine to produce a range of high performance, user-friendly anaesthesia systems with integrated monitoring.

Blease and Agilent Technologies... Over 50 years of experience in anaesthesia now teamed with monitoring excellence – for when only the best will do.

Experience and excellence – an inspired combination



Blease Beech House Chiltern Court Asheridge Road
Chesham Bucks HP5 2PX England
Telephone: 01494 784422 (International +44 1494 784422)
Facsimile: 01494 791497 (International +44 1494 791497)
e-mail: BleaseSales@Compuserve.com
Web site: www.blease.co.uk

Agilent Technologies is a subsidiary of Hewlett Packard