Scottish Intensive Care Society
NEWSLETTER
January 1998

SICS Annual Scientific Meeting 1997

Thanks to the efforts and expertise of Dr Ian Armstrong and Dr Ian Grant, last year's meeting was again very successful. It was the society's sixth annual scientific meeting and was held on 31st January in Stirling University. The 161 who attended the meeting enjoyed an interesting and topical programme with excellent speakers.

Dr Cameron Howie demonstrated his ability to improvise by coping with a faulty slide projector and also expanding his talk to cover for the absence of the advertised co-speaker on "Quality of ITU Care In Scotland". The material which he presented was of obvious interest to the audience. With interim results from the current Scottish audit project, he used the relationship between predicted and observed mortality to compare scoring systems. As the APACHE II system seemed to fit the Scottish data best, it was used for calculation of standardised mortality ratio to compare the outcome of intensive care in different hospitals, none of which actually differed significantly from the mean. It was interesting that correcting for errors identified in the validation process brought the hospitals with the highest and lowest SMRs closer to the mean. The mean SMR for Scotland was lower for patients admitted to ICU from theatre in the same hospital. It was high for those in the neurological diagnostic category and low for those classified as gastrointestinal. Apart from outcome of intensive care, he reviewed other methods of assessing quality of care and went on to present Scottish data on:- the use of pulmonary artery catheters; percutaneous tracheostomy; and patients admitted with asthma. He discussed possible plans for the SICS audit project with reference to further analysis, utilisation and disclosure of data, as well as future funding and data collection.

This was followed by two runs of four different concurrent workshops. Delegates therefore had a chance to attend any 2 of the four. Dr Richard Beale from Guys Hospital in London tried to answer the question, "Intrathoracic Blood Volume And Lung Water Measurement - Better Than The Conventional Approach?". This was chaired by Dr Nigel Leary and was an excellent introduction to the COLD system. Dr Ian Grant chaired a session on "Nitric Oxide" by Dr Keith Kelly from Edinburgh and Dr Duncan Young from Oxford who outlined the pharmacology and provided valuable practical advice on the use of this still controversial therapy. Dr Saxon Ridley from Norwich gave a very clear outline of the methodology involved in the study of "Quality Of Life After ITU Care" and presented the results to date emphasising the importance and difficulties of assessing QOL before the acute illness episode requiring intensive care. "Metabolic Monitoring", chaired by Dr Ian Armstrong, was a workshop on the Deltatrac system. Dr Pekka Merilainen from Finland who is the chief scientist with Datex explained the theory behind the apparatus and Dr Tim Walsh from Edinburgh presented the practical implications.

There was no difficulty staying awake after lunch as we were enlightened on "Ecstasy - What Is The Problem?" by three very good talks. Detective Sergeant Mike O'Reilly from Lothian and Borders Police Force gave a fascinating outline of the drugs-of-abuse scene in Scotland. This was an entertaining presentation with a very serious message and it had considerable impact on the audience. Dr Alison Jones from the Poisons Unit in Edinburgh gave a detailed

account of the pathological effects and treatment of ecstasy intoxication, including consideration of the use of dantrolene and 5HT antagonists. Dr Susan Nimmo from the Department of Anaesthetics at Edinburgh Royal Infirmary presented a case of ecstasy poisoning and the results of a survey of the experience in other ICUs in Scotland. Detective Sergeant O'Reilly added further impact with a video of a rave at Ingliston illustrating the scale of the problem and what is being done to control the situation.

Professor Iain Ledingham introduced the final speaker of the day, Dr Felicity Hawker from the Royal Prince Alfred Hospital in Sydney, Australia. Starting with an outline of the many functions of the liver, she comprehensively covered "Liver Failure In The ITU", meticulously reviewing all aspects of fulminant hepatic failure, including transportation of patients, temporising hepatectomy, transplantation, including auxiliary liver transplantation, and liver regeneration. She also gave an interesting account of the familiar ICU problem of liver dysfunction in critical illness.

The poster competition attracted a record of 15 entries which were judged by Professor Iain Ledingham and Dr Felicity Hawker. Because of the diversity of topics it was decided to award two prizes:- the choice for best scientific poster was "Ciprofloxacin modulates interleukin-6 and interleukin-8 in an endothelial cell model of sepsis" by H.F. Galley and N.R. Webster from the University of Aberdeen; and the best audit poster prize was awarded to F. MacKirdy, M. Livingston and C. Howie of the Scottish Intensive Care Society Audit Group for "An examination of the relationship between the presence of pulmonary artery catheters and casemix-adjusted outcome of patients admitted to Scottish intensive care units".

A.J. Shearer

Poster Exhibits

The following is a list of the posters exhibited at the SICS Annual Scientific Meeting at Stirling University on Friday, 31st January 1997:-

Intensive care management of acute liver failure. Philips BJ, Armstrong IR, Mackenzie S, Pollock A, Lee A. Intensive Care Unit and Scottish Liver Transplantation Unit, Royal Infirmary, Edinburgh.

Quality of life after intensive care. Rattray J, Johnston M, Wildsmith JAW. School of Nursing and Midwifery, University of Dundee; Department of Psychology, University of St Andrews; and Department of Anaesthesia, University of Dundee.

Early graft function following orthotopic liver transplantation: a retrospective comparison of three surgical techniques. Muthusamy B, Walsh TS, Forrest G, Garden OJ, Lee A. Scottish Liver Transplant Unit, Royal Infirmary, Edinburgh.

Increase in number of bedspace transfers from 1993 - 1996. Cupples PA, McKinon SS, Storey ND, Makin AP, Runcie CJ. Research Fellows, Glasgow Clinical Shock Study Group, Department of Anaesthetics, Western Infirmary, Glasgow.

An examination of the relationship between the presence of pulmonary artery catheters and case-mix adjusted outcome of patients admitted to Scottish intensive care units. MacKirdy F, Livingston M, Howie C. Scottish Intensive Care Society Audit Group.

Experience with the Licox™ catheter microprobe system in liver transplantation. Forrest G, Garden OJ, Lee A. Department of Anaesthetics, Scottish Liver Transplant Unit, Royal Infirmary, Edinburgh.

Ciprofloxacin modulates interleukin-6 and interleukin-8 in an endothelial cell model of sepsis. Galley HF, Webster NR. University of Aberdeen.

The expanded role of the intensive care nurse - a national survey. Sherreffs CM, Scott SA. Academic Department of Anaesthesia and Department of Intensive Care, University of Aberdeen and Aberdeen Royal Infirmary.

Pulmonary lactate production as a marker of lung dysfunction in critically ill patients. Scott SA, Cuthbertson BH, Galley HF, Webster NR. Academic Department of Anaesthesia and Department of

Intensive Care, University of Aberdeen and Aberdeen Royal Infirmary.

Inhaled nitric oxide in British ITU. Cuthbertson BH, Scott S, Webster NR. Intensive Therapy Unit, Aberdeen Royal Infirmary.

The effects of exogenous nitric oxide and superoxide on interleukin-8 accumulation from human neutrophils. Cuthbertson BH, Galley HF, Webster NR. Anaesthesia and Intensive Care, University of Aberdeen.

The autopsy and intensive care: a postal survey. Wright JC, Grant IS. Western General Hospital, Edinburgh.

Death in the intensive care unit: the value of the autopsy. Wright JC, Grant IS, Lessels AM. ICU, Western General Hospital, Edinburgh.

Amiodarone induced lung toxicity. Donaldson L, Naysmith MR, Grant IS, Thomas JStJ. Intensive Care Unit, Western General Hospital, Edinburgh.

Tracheostomy use in Scottish intensive care units: a survey. Nimmo SM, Kinsella J, Howie JC, Nimmo GR. Anaesthetics Department, Edinburgh Royal Infirmary; Intensive Care Unit, Glasgow Royal Infirmary; Intensive Care Unit, Victoria Infirmary, Glasgow; and Acute Receiving Unit and Intensive Care Unit, Western General Hospital, Edinburgh.

Transport Of The Critically Ill In Scotland

Transport of the critically ill has been a topical issue for the last few years. Various organisations such as the Neuro-anaesthesia Society, Association of Anaesthetists and Intensive Care Society have produced guidelines, and it was clear that there was no place for the Scottish Intensive Care Society to produce more. Nevertheless, discussions involving Andrew Marsden, Consultant Medical Director of the Scottish Ambulance Service, suggested that we could improve the situation in Scotland by publicising and helping implement various guidelines. To that end, under the auspices of the SICS, Peter Wallace organised a meeting of representatives from most hospitals in Scotland, both medical and nursing, at the Western Infirmary, Glasgow on 25 June 1997.

After a scene setting lecture from Peter himself, Andrew Marsden presented the Ambulance Service perspective, dealing with the organisation and practical aspects of both road and air transfers. The second session saw Colin Runcle dealing with safe transport guidelines, discussing their translation into local protocols, which will vary in Scotland on account of variations in population distribution, the distance involved, and the presence of a retrieval team for the West of Scotland. He stressed the importance of preparation prior to transfer, irrespective of the time available and the urgency of transfer. This talk was followed by Paul Wilson's lecture on equipment for monitoring and ventilation during transport. There was much discussion on this area, particularly concerning the design of the trolley/rack to carry the equipment. It was clear that many hospitals have designed their own trolley with all the shortcomings that this entails. One could not avoid thinking that a standard Scottish transfer system would be an advantage.

The afternoon involved talks on special situations, air transfers by George Smith, head injuries by Sue Midgley, and paediatric transfers by David Hallworth. The urgency of transfer of patients with head injury or subarachnoid haemorrhage to regional neurosurgical centres means that in general the referring hospitals are required to conduct the transfers. This involves each acute hospital in having transport equipment and staff trained in such transfers.

Lastly Ian Grant presented information gathered by the society on numbers of transfers throughout Scotland, and on equipment available for transfer at each hospital. Unfortunately the information on the number of critically ill transfers was incomplete, but an estimate of around 900 adult critically ill patients moved between hospitals in Scotland each year is a reasonable one, with just over 300 of these moved by the West of Scotland Shock Team, and the rest moved by ICU and anaesthetic staff. The urgent head injury transfers are generally conducted by staff from the referring hospitals while the other transfers are carried out generally by the staff of the receiving hospital. As far as equipment is concerned, our survey confirmed that virtually all hospitals now have dedicated transport ventilators and monitors.

The ensuing discussion was extremely lively, and it was clear that no single organisational arrangement was going to be appropriate for the whole of Scotland. District General Hospital consultants were

extremely unhappy with the recommendations from the Neuro-anaesthesia Society and Association of Anaesthetists that anaesthetists should have two year's experience before conducting critically ill transfers. This recommendation was clearly not practical in many situations. It was agreed that more basic education in transport medicine was important, and it is extremely pleasing to report that the Scottish Ambulance Service, in conjunction with members of the Scottish Intensive Care Society (George Smith, Louis Plenderleith and Sue Midgley) as well as ICU nursing representatives including Graham Percival, is in an advanced state of preparation for a one day practical course. This will be held regularly in Edinburgh, Glasgow and Aberdeen, and I am sure trainees in anaesthesia and other relevant acute specialties should attend.

The Society will continue to review this subject with the Scottish Ambulance Service and encourage education, standardisation of transport equipment, and the implementation of transport guidelines in each hospital by a consultant with responsibility for the supervision of critically ill transfers.

I.S. Grant

Intensive Care Medicine Courses

In 1997 the Scottish Intensive Care Society held two courses in intensive care medicine. They each lasted 2 days and were held in Glasgow and Edinburgh. Some 30 students attended each course, with some half dozen taking advantage of the complementary content of the courses to attend both.

The course in Edinburgh on 13-14 November 1997 had some similarity to the one held there in 1996, while the one on 21-22 May was a new course run for the first time in Glasgow. The latter was held in the Ebenezer Duncan Centre in the Victoria Infirmary and there were 33 participants from all over Scotland and England. A wide range of topics were covered from ARDS to audit and virtually all were well received. Despite some hiccups with the catering, necessitating a mass exodus to a local Italian restaurant, the course ran smoothly and Dr Cowan would like to extend thanks to all the speakers, and to Charlotte Gilhooly who did most of the work.

The purpose of the courses is to concentrate the minds of the trainees on solutions to common clinical problems in intensive care. Such teaching of clinical management is reinforced by reference to the relevant literature and each student is provided with a book of abstracts to allow further study.

The format of teaching is varied. There are a few lectures, but the emphasis is on small workshops and symposia to encourage student participation. The teachers all work in Scottish Intensive Care Units and have been hand-picked for both their knowledge and teaching skills. They are to be complimented on the effort they have made to ensure that the students find the courses worthwhile.

We are planning to run 3 courses in 1998. These will be held in Glasgow, Aberdeen and Edinburgh in the spring, early summer and autumn. They will be particularly useful to those planning to sit the Diploma in Intensive Care Medicine, in that their content follows the syllabus in both range and, hopefully, depth.

Further details may be obtained from:-

Dr David Swann
Intensive Care Unit, Ward 15
Royal Infirmary Edinburgh
Lauriston Place
Edinburgh EH3 9YW

D.G. Swann
B.N. Cowan

Annual Audit Meeting

The Society's third Annual Audit Meeting was held on Friday, 28th November 1997. The venue was the Isle of Skye Hotel in Perth.

The first presentation was by Dr Nigel Leary who gave us a taste of the information which can be derived by combining daily TISS data with the individual ICU costings derived from Fiona MacKirdy's "brief" questionnaire. A number of us had been aware for some time of the inadequacy of ICU data published in the "blue book". Dr Leary's comparison of the SICS data with that published by the Scottish Office demonstrated this to remarkable effect.

Dr Colin Selby presented data on patients with acute asthma set against the background of total asthma admissions to Scottish hospitals during the same time period. This demonstrated a mortality rate that was somewhat higher than would have been predicted by the severity of illness scores. Interestingly, there was a preponderance of women among ICU admissions as a whole.

Dr Simon MacKenzie then presented persuasive data to support a change in the rules governing the use of the GCS score for the APACHE scoring systems. Currently, sedation and/or paralysis during the first twenty four hours of ICU care preclude incorporation of the GCS score into the APACHE II and APACHE III scores. He clearly demonstrated that where no valid score can be made during admission, use of the GCS score, assessed prior to ICU admission (currently allowed for SAPS II), improved the ability of both APACHE II and APACHE III to discriminate survivors and non-survivors. It also improved the calibration characteristics of both scores for neurological patients. Congratulations to Simon on winning the free paper competition at the winter meeting of the Intensive Care Society in December, with this presentation. Mark Livingston and Fiona MacKirdy are hoping for a percentage of the winnings.

Ms Mhairi Gordon, after a brief introduction by Dr David Simpson, described the progress of the Scottish Paediatric Intensive Care Audit, which involves on-site collection of Paediatric ICU data from both general and specialist paediatric ICUs throughout Scotland. This is an extremely labour-intensive process and it may be in the future that we will undertake a collaborative exercise in data collection for paediatric patients admitted to SICS Intensive Care Units.

As many of the audience were preparing themselves physiologically to accommodate lunch, Dr Leary presented data on pre-operative optimisation which demonstrated a dramatic improvement in outcome for high risk surgical patients following the institution of "Shoemaker-style" resuscitation protocols prior to surgery.

The afternoon session started with a review of outcomes for patients having prolonged periods of intensive care (more than 30 days). The message from Fiona MacKirdy was almost entirely positive in that this group of patients demonstrated an hospital mortality nothing like as high as would have been anticipated by the majority of the audience. The major uncertainty is the extent to which the high hospital survival rate is maintained in the early months following hospital discharge and the extent to which this survival is associated with a satisfactory quality of life. It is for this reason that Fiona intends to focus her quality of life research on such patients.

Dr Stephen Noble, an SpR in Anaesthetics, then presented even more encouraging results from an analysis of hospital survival in patients who required both renal and respiratory support during their ICU admission. He presented a brief literature review demonstrating the well-recognised high mortality which is associated with this particular patient population and compared this with the relatively lower mortality which we appear to have identified in Scottish Intensive Care Units. There was considerable discussion on the issue of how we confirmed the accuracy of these observations, which are derived from TISS data entered daily. Consequently, we have undertaken to carry out extensive on-site validation of the intervention data for these patients. An interim report of this work is being passed on to the Renal Group of Sir David Carter's Acute Services Review.

After Dr Howie gave a brief overview of the performance of the severity of illness scores within the SICS database, he and Brian Millar led an audience discussion on the extent to which the current data set should be reduced in forthcoming years. There was a remarkable consensus that we should not use the ICNARC data set, which is larger than our own current data set, and that we should restrict the obligatory collection of physiology data to that required to generate APACHE II and SAPS II scores.

There was some discussion around the limitations of the diagnostic codes used by the severity of illness scores. It was agreed by all present that they were of limited use as descriptors of a patient's illness, although there is clear acceptance that they are required to provide the coefficients to generate mortality predictions. Consequently, Dr Simon MacKenzie has agreed to convene a group to examine the possibility of Scottish intensive care units using a common set of clinical diagnostic categories. There seemed general acceptance of making the proposed limited list of ICU interventions for daily entry a part of the minimum data set. As many units as possible were encouraged to collect daily TISS data as well. This would be particularly valuable in view of Dr Leary's presentation on its use in cost adjustment.

My impression of the meeting overall was that it had far greater clinical relevance than previous annual audit meetings of the society and that this was in no small part due to the lack of emphasis on severity of illness scores and standardised mortality ratios.

J.C. Howie

SICS Audit Project

Funding for the current project from CRAG runs out in April 1998. It was my belief that by this time agreement would have been reached on funding from health boards on a long-term basis. This was the recommendation of the National Projects Committee. At present however, this has not been agreed with representatives of the health boards and it may be that we will require interim extension of CRAG funding while this is resolved. I am acutely aware of the disadvantages of this uncertainty, both in maintaining the confidence of the Audit Group staff, and in underpinning the purchase of new hardware in each hospital as well as the commitment of funds for the Bed Bureau software. You can be assured that, as soon as I know what is happening, you will all be informed.

In addition to the work presented at the annual audit meeting, Mark Livingston is currently working on the development of coefficients for the major scoring systems derived from our database. This work is separately funded by a research grant until July 1998.

As we begin a process of examining discrete aspects of the database, I am delighted to acknowledge the involvement of an increasing number of our colleagues, in both suggesting areas of investigation and in helping with the writing up of the work. If you wish to be involved feel free to offer your services.

Lastly, you may not yet have met Sandra Donaldson who took up a part-time post with us in July. She has taken over the validation work performed previously by Fiona MacKirdy. Most recently this has involved validation and correction of the data on combined renal and respiratory failure for the study which was reported at the annual audit meeting.

J.C. Howie

South-East Scotland Intensive Care Group

The SESITUG has had a very productive year with good attendances at all the meetings, which were held at the 6 ITU hospitals:- Royal Infirmary, Western General, and Sick Kids in Edinburgh; Borders General, Melrose; Queen Margaret, Dunfermline; and St John's, Livingston. The topics covered ranged from the various interesting/ taxing/ informative/ sleep depriving case histories to interhospital transfers (both adult and paediatric) to training in ITU medicine, to ITU audit, to the dangers of suxamethonium in ITU. The best attended meeting was in May when Dr Owen Boyd, St George's Hospital in London, and Nigel Leary, Borders General Hospital in Melrose, presented "Management of the high risk surgical patient" and "The preoptimisation of the surgically ill patient"

respectively. The meeting was generously sponsored by Speywood Pharmaceuticals.

This past year has also seen a welcomed increase in the number of trainees attending the various meetings.

Lets hope that next year will be as fruitful.

M. Fried

Glasgow And West Of Scotland Intensive Care Society

We now feel established enough to metamorphose from a Group to a Society.

The Committee for this year is:-
Dr Roger Hughes, Chairman
Dr Louis Plenderleith, Secretary
Dr Malcolm Booth, Treasurer
Dr Roger White
Dr Alan Davidson

The programme this winter has already produced a very good talk from Saxon Ridley from Norwich on HDU/ITU bed requirements. On Thursday, 19th February 1998, Dr Peter Nightingale will talk on prone ventilation and on Tuesday, 24th March 1998, our AGM and case presentation night - all at the Victoria Infirmary.

Finally, the Chairman is feeling very pleased with his new six bedded ICU at Stobhill.

R.L. Hughes

The President

The momentum for change in Intensive Care Medicine has continued over the last year. The plans for training laid down by the Intercollegiate Board for Intensive Care Medicine are being translated into action in Scotland. Four local educational advisors (LEAs) have been appointed, Jim Dougall in Glasgow, Ian Armstrong in Edinburgh, Alf Shearer in Dundee and David Noble in Aberdeen. Edinburgh has at last appointed SpRs in Intensive Care Medicine (ICM), Tim Walsh and Barbara Phillips being the first appointees. Glasgow also now has two SpRs, Andrew Inglis and Charlotte Gilhooly, and Aberdeen has one, John Hunter.

The diploma examination has its first sitting in July 1998; trainees wishing to participate this time had to have submitted their dissertation summary by 31 December. Anybody wishing to sit the examination in later sittings should check their eligibility with their LEA, and indeed any trainee wishing to pursue a career involving intensive care should see their LEA, and hence register their interest with the Intercollegiate Board.

Many intensivists will welcome the formalising of training in Intensive Care Medicine, and the imminent recognition of specialty status. Many others will worry about the possible erosion of the role of the anaesthetist in the ICU. Clearly, for many years to come, there will be a continuing need for anaesthetist-intensivists, possibly alongside a few full-time intensivists, and it will be extremely important to balance the training requirements for specialist intensivists with those of anaesthetists in our ICUs.

One worry about putting five (or even six) SpRs through ICM training in Scotland simultaneously will be the availability of suitable posts or even ICU sessions for these trainees. The Scottish Intensive Care Society is about to embark on a survey of both prospective trainees in ICM, and potential vacancies in ICUs. This survey will involve a brief questionnaire channelled through LEAs for trainees, and another to be sent to Consultants with ICU sessions in Scotland. Hopefully we shall get some answers.

The SICS has been reasonably active throughout the year. Last year's Annual Scientific Meeting, reported elsewhere in the Newsletter, was perhaps one of the best yet. The National Audit project, having run for 3 years now, is reporting results in a number of areas including comparison of ICU performance and validation of scoring systems in the Scottish context. The database is being used to

address other questions such as:- the effect on patient outcome of the pulmonary artery catheter; the outcome of asthmatic patients admitted to ICU; and the outcome of combined acute respiratory and renal failure. Furthermore, our possession of accurate ICU data allows us to provide answers to questions posed by the Scottish Office, Health Boards and Trust Managers such as on long stay ICU patients, and local intensive care bed requirements.

It is interesting that in England, Intensive Care is the focus of massive attention from the Department of Health, with the introduction of the Augmented Care Period project, and also another Audit Commission investigation. In contrast, we in Scotland are apparently being left alone by Government, which in the short-term may seem an advantage but which, in this era of scarce resources, hospital bed closures and an acute services review, is worrying. It is essential for all ICUs in Scotland to continue to support the SICS Audit Project so that we continue to provide accurate and comprehensive information on intensive care activity in Scotland to counterbalance often inaccurate Scottish Office figures. Lastly on audit, all who have entered data into the SICS computers will be pleased that we are about to see a significant reduction in compulsory data collected!

In the education field, there have now been three SICS Intensive Care Medicine courses (two in Edinburgh and one in Glasgow), all fully-subscribed, and well received. These will be developed to cover the curriculum for the diploma, and will spread also to Aberdeen. Congratulations to David Swann and Brian Cowan for their efforts in this field.

A further area of involvement of the society has been in the Transport of the Critically Ill. A meeting involving Andrew Marsden of the Scottish Ambulance Service was held in Glasgow in June, and one result of this may be SICS-backed training days for staff involved in transfers of critically ill patients.

I now pass over the reins of the society to Cameron Howie. His stewardship of the audit project gives him an ideal knowledge of the intensive care scene in Scotland to guide the society and to represent the interests of intensive care over the next few years.

Lastly, may I thank the members for giving me the privilege of presiding over the activities of this society for the last two years.

I.S. Grant

The Council

The council of the society comprises:- a president who serves for 2 years; a vice president who becomes president the following year and is replaced by the immediate past president for 1 year; eight regional representatives who, except for the treasurer/secretary, serve for 2 years and may be re-elected for a second term of office, following which they may not be re-elected for a further 2 years; and other non-voting members invited by the council for specific purposes. The treasurer/secretary is elected by the council from amongst its members and serves in office for 3 years and may serve a period of up to 4 years on council. The current council members with date of election in brackets are:-

President: Dr I.S. Grant, Edinburgh Western General Hospital (1996)
Vice president: Dr J.C. Howie, Glasgow Victoria Infirmary (also Audit Organiser SICS & Representative for Anaes & Intens Care on NMAC.)
Treasurer/Secretary: Dr N. Leary, Melrose Borders General Hospital (1994)

Regional representatives

North
Dr I. MacKenzie, Inverness Raigmore Hospital (1994)
Dr G. Smith, Aberdeen Royal Infirmary (1995)
Dr A.J. Shearer, Dundee Ninewells Hospital (1995)

East
Dr D.G. Swann, Edinburgh Royal Infirmary (1996)
Dr A. McKenzie, Dunfermline Queen Margaret Hospital (1997)

West
Dr B.N. Cowan, Glasgow Victoria Infirmary (1996)
Dr R.L. Hughes, Glasgow Stobhill Hospital (1996)
Dr W. Easy, Alexandria Vale of Leven DGH (1997)

Co-opted non-voting member
Dr P.G.M. Wallace, Glasgow Western Infirmary - Intensive Care Society UK