

Anaesthesia in Ireland - the provision of a safe service

Prepared by

The Standing Committee - Republic of Ireland,
Association of Anaesthetists of Great Britain and
Ireland

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Preface

The Association of Anaesthetists of Great Britain and Ireland was founded in 1932; the Standing Committee - Republic of Ireland - was formalised on 16th January 1988. The aims and objects of the Standing Committee are those of the Association and include representing and furthering the aims of its members.

The Faculty of Anaesthetists in the Royal College of Surgeons in Ireland is concerned with academic aspects of anaesthesia and training of anaesthetists while that of the Standing Committee of the Association is to look after the more general and political aspects of the specialty. Despite these separate roles there is close liaison and co-operation between the two bodies. The Standing Committee acknowledges the support and co-operation of the Faculty of Anaesthetists of the Royal College of Surgeons in Ireland in the preparation of this document.

The Aims of the Standing Committee in preparing this document are threefold:-

1. To emphasise the importance of anaesthesia and anaesthetists in the provision of modern medical care.
2. To highlight deficiencies in the health service in Ireland in relation to the provision of a safe modern anaesthetic service.
3. To indicate how these deficiencies may be rectified to ensure that a safe and comprehensive anaesthetic service is available to communities throughout the country.

We commend the Minister of Health, his departmental officials and the Health Boards to study this document and to give serious consideration to its contents, particularly at this critical period in the development and rationalisation of health services.

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SECTION I - The role of the anaesthetist	

The role of the modern anaesthetist is much wider than the administration of anaesthesia in the operating theatre. It involves many areas of patient care.

Pre-operative evaluation

Pre-operative evaluation of patients has become an increasingly important aspect of anaesthesia. A significant proportion of patients presenting for surgery have serious underlying medical conditions. Their successful intra-operative and postoperative management depends on a comprehensive preoperative assessment. Where pre-operative resuscitation is required, the skills of the anaesthetist are invaluable.

Intra-operative care

Intra-operative care involves induction and maintenance of anaesthesia. Continuous monitoring of cardiovascular and respiratory function is routine. Mechanical ventilation is frequently employed as are many therapeutic measures to maintain physiological homeostasis. The complexity of intra-operative anaesthetic management is often unrelated to the type and duration of the surgery.

Postoperative care

During the recovery period the patient is still under the supervision of the anaesthetist who is usually also involved in the provision of pain relief in the days following surgery. The anaesthetist is also frequently consulted regarding other aspects of patient care such as fluid and electrolyte therapy.

Day case anaesthesia

Day case surgery is now an essential component of hospital services. A safe service involves the anaesthetist at every stage. Selection of patients, selection of appropriate techniques of anaesthesia and assessment prior to discharge are specific areas where the expertise of the anaesthetist is essential.

Obstetric anaesthesia

There is a growing demand by patients and obstetricians for an epidural service. The anaesthetist must assume responsibility both for the administration and management of patients receiving epidural analgesia. The provision of epidural services has led to a considerable increase in “out-of-hours” work due to the unpredictability of the onset of labour.

Intensive care

The majority of intensive care units are administered and directed by anaesthetists. Critically ill patients in these units require a high level of close supervision and technical skills over very considerable periods of time. This workload must be taken into account when planning consultant anaesthetic posts.

Resuscitation

The skills and clinical experience of the anaesthetist are invaluable in the area of resuscitation. The anaesthetist is a key member of the hospital cardiac arrest team and is also often involved in resuscitation of critically ill patients in the accident and emergency department. Consultation with the anaesthetic department is essential on all matters of policy regarding resuscitation services.

Pain therapy

The relief of chronic pain is a further component of a comprehensive anaesthetic service. The anaesthetist here has a consultative role for both out-patients and in-patients as well as a therapeutic role in the performance of pain therapy procedures.

Teaching

In hospitals which are attached to a medical school, the anaesthetist is actively involved in the teaching of undergraduate medical students. However, even in the smaller non-teaching hospitals anaesthetists have a major role to play in the continuing education of junior medical and nursing staff. This applies in particular to areas such as resuscitation, care of the critically ill and relief of pain. This type of in-house training is essential if standards are to be maintained and staff are to be kept up to date with recent developments.

Research and continuing education

Clinical and basic science research is essential for the continuing improvement of anaesthetic care of patients.

The anaesthetist must keep abreast of current developments. This involves attendance at national and international meetings, seminars and courses. Appropriate study leave must be provided for these purposes and the hospital administration must accept that the hospital and ultimately the patients are the beneficiaries of continuing education.

In this regard we are happy to support the recent proposals of the Faculty of Anaesthetists regarding the introduction of a system of credits for attendance at academic meetings. We welcome this and see it as a very positive development in the field of continuing education

Management

An efficient anaesthetic service is central to the smooth operation of a hospital. As the cost of providing a surgical service is considerable, it is essential that the advice of anaesthetists is sought when planning operating services, which of course, include the provision of postoperative facilities and of intensive care.

The anaesthetic department

The anaesthetic service must be based in a well organised department. This department may be small or large depending on the size of service provided but it must have appropriate secretarial assistance, have adequate means of communication with other members of hospital staff and have access to space for its continuing educational activities.

An understanding of the expanding role of the anaesthetist is essential if the best use of manpower and resources is to be obtained. The many areas of increasing involvement of the anaesthetist in patient care make it vital that very careful consideration is given when consultant posts are planned to enable the best use to be made of the skills and talents of the modern anaesthetist.

SECTION II - Staffing requirements of smaller anaesthetic units

The present situation

Outside the main urban areas of Dublin, Cork, Galway, Limerick and Waterford there are 23 acute general hospitals. Of these, eleven hospitals have an establishment of only two consultant anaesthetists and four have single handed consultants. Five of these very small units have in addition one trainee anaesthetist at either SHO or registrar grade.

It is the view of anaesthetists working in these units that such staffing levels do not provide adequate manpower to cover the demand for the various simultaneous activities which arise. This situation has, therefore, serious implications for patient safety.

The problems of these small units are compounded by the fact that it is difficult to attract staff and many opt to leave for large units either in urban areas in this country or abroad. Since the concept of Higher Professional Training for Anaesthetists was introduced, 96 anaesthetists have been appointed to recognised senior registrar posts (20 are currently in training). Only 14 anaesthetists from this scheme accepted posts outside the urban areas and of these 6 have since left their first post. In addition, 8 consultant anaesthetists who received their training outside the higher training scheme have been appointed to smaller units and of these 4 have left their first post. It is clear that the majority of consultant anaesthetists who accept these posts are soon dissatisfied with the work pattern.

The Standing Committee is very concerned about the implications for patient care and patient safety if the situation is allowed to persist and offers the following guidelines for the staffing of smaller units.

When assessing staffing requirements for small anaesthetic departments the following factors should be identified:-

1. The total clinical workload which the anaesthetic department may be required to cover at any one time:-

e.g. operating lists, dental out-patients, day case surgery, ECT lists etc. These commitments may be on several different sites.

In recent years there has been an increase in the requirement to provide intensive care for patients in smaller units due to an increased incidence of trauma, an increase in the number of older patients undergoing elective surgery and an increase in the sophistication of surgical techniques.

There is an ever increasing need to accompany critically ill patients being transferred to a larger centre for investigation or treatment. As there is rarely junior anaesthetist support available, this can create serious problems particularly at nights and at weekends. There are periods when the anaesthetist is usually single-handed and carries responsibility for the full resuscitation service. When an obstetric unit is also involved the situation becomes untenable.

2. The on-call commitment

As a result of the wide range of services demanded of anaesthetists in the small hospital, the percentage of "on-call" time spent actually working is higher than in most other specialties. The overall aim under the Common Contract should be for an on-call rate which is not more arduous than 1:3.

3. The need for a proper job description

A job description, drawn up by the Health Authority in collaboration with the anaesthetists in the hospital concerned, should be available for every advertised consultant post. Where such a job description does not exist, members are discouraged from making applications for the post in case the duties expected exceed their abilities to provide a safe service.

4. The workload of staff in post

Each small department should have clearly defined guidelines which indicate the amount of elective work which can be undertaken by the available staff. It must be quite clear the arrangements which are to be made when personnel are unavailable due to annual leave, sick leave, study leave or where there are unfilled vacancies. It must be remembered that the emergency workload is paramount and where this cannot be met by the available staff,

arrangements must be made in the interests of patients' safety for the transfer of services to another hospital.

5. Further amalgamation of small units

The Standing Committee endorses the view of Comhairle that further amalgamation of small units may, in certain circumstances, be the only real solution to the present unsatisfactory situation if scarce resources are to be utilised efficiently.

The minimum size of an anaesthetic department in a small unit must be defined. If the consultant staff involved are to have an on-call commitment not more arduous than 1:3 this presupposes that the basic minimum number must be three. However, this does not take into account annual leave, study leave, illness and other legitimate causes of absence. Furthermore it does not provide adequate out-of-hours cover for dealing with simultaneous demands on the service. In the presence of an obstetric unit this number will have to be higher than the minimum proposed.

Whilst appreciating that this staffing does not exist at the present time in many of the smaller hospitals, and that it cannot be achieved overnight, it is essential that the Department of Health jointly with the Standing Committee review all the hospitals throughout Ireland.

This review should identify shortcomings, suggest rationalisation of provision of services where this is appropriate and indicate the time interval over which the situation can be rectified.

References

1. Report of survey undertaken by Dr. Aiden Bourke concerning the problems of Consultant Anaesthetists in County General Hospitals.
1986.
2. Structuring of Consultant Anaesthetist Posts.
Faculty of Anaesthetists. R.C.S.I.
1986.
3. Anaesthetic staffing of a District General Hospital -
Association of Anaesthetists of Great Britain and Ireland.
1986.
4. Senior Registrars Report.
1986.

SECTION III - Assistance for the anaesthetist

1. It is essential that there be adequately trained and skilled assistance for the anaesthetist every time that an anaesthetic is administered, whether this be in the operating theatre, the X-ray department or the labour ward.
2. It is necessary that this assistance be available throughout the whole anaesthetic, from induction, through maintenance and into the recovery period.
3. The assistance must involve staff who are not included in the basic theatre nursing staff establishment.
4. Assistants for anaesthetists must be provided with appropriate training.
5. The Standing Committee together with the Faculty of Anaesthetists is at present holding discussions with An Bord Althranais regarding the setting up of training courses for assistants for anaesthetists.

SECTION IV - Monitoring equipment

The administration of an anaesthetic is a complex activity requiring a combination of clinical judgement and technical skills. There is a growing consensus amongst anaesthetists throughout the world that a considerable improvement in patient safety can be effected by the adoption of better standards of patient monitoring during induction, maintenance and recovery from anaesthesia.

While the technique and conduct of anaesthesia is a clinical decision to be made by the anaesthetist responsible for administering the anaesthetic, the Association of Anaesthetists of Great Britain and Ireland has made recommendations for standards of monitoring during anaesthesia,¹ and urges all anaesthetists to adhere to the recommendations.

To ensure that patients receive optimal care during anaesthesia and to enable the anaesthetist to achieve high standards it is necessary that certain items of monitoring equipment are available for the purpose in every anaesthetising area. Guidelines on this equipment are listed in Appendix I. With the rapid pace of developments in medical technology, it will be necessary to revise these guidelines from time to time.

The present situation in Ireland

The Standing Committee conducted a survey of anaesthetists in Ireland regarding the provision and availability of monitoring equipment and drew the following conclusions:-

1. Anaesthetists agree there is a need to establish guidelines for the minimum level of monitoring which should be available in all hospitals in Ireland.
2. Many hospitals, especially non-teaching hospitals, do not reach the standards set out in Appendix I.
3. Due to the wide variety of monitoring equipment used in Ireland, considerable doubt was expressed by many anaesthetists about the ability of manufacturers to provide adequate back-up and servicing support.

The Standing Committee recommend that every hospital in Ireland providing an anaesthetic service should have available at

least the minimum level of monitoring equipment outlined in Appendix I.

It is also recommended that any monitoring equipment purchased should conform to international standards and should only be purchased from a supplier who can provide a back-up service to the standard set by the manufacturer. Where the equipment has to be returned to the supplier or the manufacturer for repair a replacement item of equipment must be provided for the hospital.

References

1. "Recommendations for Standards of Monitoring during Anaesthesia and Recovery". Association of Anaesthetists of Great Britain and Ireland. 1988.
2. "Standards for Basic Intra-operative Monitoring". Newsletter. American Society for Anesthesiologists: (1986): 50:9.
3. Eichhorn, J.H., Cooper, J.B., Cullen, D.J., Maier, W.R. Philip, J.H., Seeman R.G. "Standards for Patient Monitoring during Anaesthesia at the Harvard Medical School" (1986): 256: 1017-20.
4. Cunningham, A.J. "Anaesthesia in Ireland 1987 - How safe is it?"
Editorial Irish Journal of Medical Science (October 1987).

SECTION V - Postoperative recovery facilities

The Association of Anaesthetists of Great Britain and Ireland published a paper entitled "Post-Anaesthetic Recovery Facilities" in 1985.¹ This section of the present report stresses the need for adequate recovery facilities to be available and encourages the introduction of high dependency units.

The importance of adequate recovery facilities

The recovery period following anaesthesia and surgery can be particularly hazardous for the patient, in that neurological, cardiovascular and respiratory functions may be critically impaired. Serious and sometime life threatening complications are well recognised as occurring during the recovery phase.² It is imperative therefore that the best possible support is provided over this vulnerable period.

Recovery room - summary of recommendations

The recovery room facilities should conform to the standards set out in the paper entitled "Post Anaesthetic Recovery Facilities" (Appendix II).

The high dependency unit

While the above recommendations cover the theatre recovery area, it must be pointed out that in many hospitals a case can also be made for providing a high dependency unit continuing the high level of care further into the postoperative period. In this situation all postoperative patients are gathered together in one area where the necessary equipment together with staff specially trained in caring for patients in the postoperative period can be provided. Specialised monitoring and more effective methods of postoperative pain relief can then be employed.

The introduction of high dependency units leads to a considerable reduction in the workload on the general surgical wards. At the present time a considerable number of patients after major surgery spend 24 hours or more in the intensive care unit for postoperative monitoring. Many of these could be effectively managed in a high dependency unit thus sparing intensive care unit beds for the critically ill. In many larger hospitals the proper use of a high dependency unit will result in better utilisation of available resources and overall efficiency.

Do existing facilities meet the recommendations of the Association?

The majority of the larger teaching hospitals and the regional hospitals do have specifically designed recovery rooms which are reasonable well equipped and staffed. However, in some of the county's smaller hospitals the facilities fall short of the Association recommendations. The anaesthetist working in this situation is left to make do as best as he can with limited facilities. Anaesthetists in many of our smaller hospitals are genuinely concerned about the inadequacy of recovery facilities and the resulting implications of patient care. The Standing Committee urge the Department of Health to recognise the importance of this aspect of patient care and make available the necessary resources to rectify the situation.

1. Post Anaesthetic Recovery Facilities.
Published by the Association of Anaesthetists of Great Britain and Ireland. October 1985.
2. Eltringham R.J., Durkin M.A., Andrews S. Post Anaesthetic Recovery.
Springer-Verlag. Berlin Heidelberg, New York, Tokyo, 1983.
3. Lim Poh Choo v. Camden and Islington Area Health Authority.
The weekly law reports. 1979 **3**: 44-61.

SECTION VI - Anaesthesia and Analgesia in Obstetric Units

Improvements in obstetric anaesthetic services in many countries are recognised as making a major contribution to reducing perinatal mortality rates as well as to providing a comprehensive pain relief service for women in labour. The value of relieving maternal distress in reducing perinatal morbidity has also been clearly shown. However, anaesthetic related complications continue to be an important cause of maternal mortality. There is continuing concern amongst anaesthetists in Ireland over the limited provision of anaesthesia for obstetric units in some hospitals.

The Standing Committee of the Association of Anaesthetists in Ireland have reviewed the report "Anaesthetic Services for Obstetrics - Plan for the Future"¹ as prepared by the Association of Anaesthetists and the Obstetric Anaesthetists Association and support its findings as they apply to Ireland. The main recommendations are summarised as follows:-

1. A named consultant anaesthetist should be responsible for obstetric anaesthetic services in each unit.
2. Each obstetric unit should have continuous designated cover for anaesthetists from an appropriately trained anaesthetist based in the unit, with a consultant on-call and readily available on a 24-hour basis.
3. The anaesthetic facilities in obstetric units should be capable of providing the comprehensive anaesthetic service required by present day anaesthetic and obstetric standards.
4. Skilled assistance for the anaesthetist must be available in all areas of the unit where anaesthetics are administered.
5. An in-service programme should be provided for trainee anaesthetists and midwives.
6. Equipment: The equipment provided in the obstetric unit should be such that it meets the required minimum standards.

7. Recovery facilities: Full recovery facilities should be available where postoperative observations can be carried out. Recovery facilities should also meet the minimum standards set by the Association of Anaesthetists.²
8. Other facilities: Rapidly available blood transfusion services and access to laboratory facilities are essential.
9. An appropriately trained neonatal service must be available at all times in the obstetric unit.

Comment

There are obstetric units in Ireland which do not have an adequate anaesthetic service. In many units the anaesthetist is not available on the premises 24 hours a day. In some units the anaesthetist, as well as providing anaesthesia for the mother, is required also to resuscitate the infant.

Obstetric units which offer a substandard level of anaesthetic service should be closed, amalgamated or relocated. If it is essential on geographical grounds to maintain isolated obstetric units, this should be recognised and recommended levels of anaesthetic staffing allocated to provide the necessary standard of care.

Where an obstetric unit is identified as providing a substandard level of anaesthetic service, the public should be made aware of this and offered an alternative unit where a comprehensive service is provided.

References

1. Anaesthetic Services for Obstetrics - A Plan for the Future. Association of Anaesthetists of Great Britain and Ireland. 1987.
2. Post Anaesthetic Recovery Facilities. Association of Anaesthetists of Great Britain and Ireland. 1985

SECTION VII - Administration of anaesthetics by unsupervised non-consultant grade anaesthetists

In Ireland, the training of anaesthetists is under the control of the Faculty of Anaesthetists of the Royal College of Surgeons in Ireland who set the training standards for all trainee anaesthetists. It is only those trainee anaesthetists who have completed the standard of training set by the Faculty of Anaesthetists, or its equivalent, who are appointed to permanent consultant posts.

The Standing Committee of the Association of Anaesthetists supports the view of the Faculty of Anaesthetists regarding the dangers to patients of allowing anaesthesia to be administered unsupervised by those who fall below these standards. It is for this reason that the Standing Committee supports the principles that:-

1. all junior anaesthetic posts are trainee posts and are under the supervision of the Faculty of Anaesthetists.
2. at consultant level only anaesthetists who have reached the standard set by the Faculty of Anaesthetist should be appointed to permanent or temporary consultant posts.

There is disturbing evidence that local Health Board administrators, when faced with the need to maintain anaesthetic services in Health Board hospitals (in holiday periods or where there are chronic recruitment difficulties) have resorted to potentially dangerous, local, ad hoc arrangements. It is the considered opinion of the Standing Committee that in situations in which a consultant based service is not attainable, the interests of patient safety would best be served by the shutdown of surgical facilities and their transfer to another location within the region which has the capacity to provide a safer service.

It is also clear that in some hospitals where there is an inadequate staffing structure there is a practice of establishing junior anaesthetic posts in an effort to meet the service requirements. These posts are in the main filled by non EEC citizens who are attempting to gain higher qualifications in anaesthesia and who are known to act in a consultant capacity in certain circumstances. These may include acting on the emergency on-call rotas opposite the permanent consultants in a single handed situation; covering holiday periods or when the

consultant has to leave the area at weekends, or being in charge of a list carried out at a location some distance from the theatre block.

This is an unsatisfactory method of maintaining an anaesthetic service. It is known that at the present time almost 60% of claims against anaesthetists which reach the defence organisations have involved junior anaesthetists working without direct supervision. It is disconcerting to note that with few exceptions almost all hospitals outside the main teaching centres and largely voluntary hospitals do not meet the basic criteria laid down by the Faculty of Anaesthetists for Fellowship training. These criteria while quite specific are not unduly rigorous and failure to meet them is a sad reflection on the facilities made available for the practise of anaesthesia in many Health Board hospitals.

It is the view of the Standing Committee that the liability for any misadventures which result must rest largely with the local Health Authorities and members are advised that where cover arrangements are considered to be unsatisfactory they should inform in writing both their local management and their defence organisation of the nature and extent of the problem.

Reference

Medico-Legal Aspects of Anaesthesia. Green, R.A. Anaesthesia Review 4: 147-158.

SECTION VIII - Administrative attitudes to anaesthesia

It is considered necessary to include this section in the report because of recurring comments made by the regional representatives in regard to the attitude of hospital administrators to the specialty and its problems. This situation is widespread and would appear to be due to a lack of knowledge of the scope of the specialty of anaesthesia and its expanding role in the evolution of a modern hospital service.

There is a widespread lack of consultation between administration and the specialty in making planning decisions in relation to the provision of new services, changes in the nature of the workload of the anaesthetist and changes in the nature of the design of theatre and recovery areas. In some cases there is even a failure to consult with the specialty when commissioning these areas. Anaesthetists also frequently encounter difficulties over such matters as a lack of adequate office space and secretarial services and the apparent inability of Health Authorities to fund equipment of immediate benefit to patients.

The Standing Committee wish that the Department of Health give serious consideration to the following proposals as a means of alleviating the situation:

1. Appointment of a National Adviser in Anaesthetics to the Department of Health.
2. Co-operation with the Standing Committee of the Association of Anaesthetists in devising programmes and study days to educate and advise administrators and health care workers generally in relation to the specialty of anaesthesia. This has been done very successfully in the UK with the Association of Anaesthetists and the National Association of Health Authorities acting in concert.

SECTION IX - Conclusion

Throughout Ireland there must be an anaesthetic service of the same high standard regardless of the size or geographical location of the unit.

It is clear from this report that this situation currently does not exist especially in the more peripheral units, where shortcomings are more obvious. There should be an adequate level of staffing and facilities in units which provide an anaesthetic service. Financial and manpower resources are of course limited and place practical constraints on medical staffing levels and facilities. All units should be brought up to a minimum standard of staffing and facilities. However, where it is not economically realistic to achieve adequate levels of anaesthetic care because of their size or geographical location these units should be closed, amalgamated or re-located.

APPENDIX I - Minimal monitoring equipment

	AVAILABLE IN ALL AREAS WHERE ANAESTHETICS ARE ADMINISTERED	AVAILABLE W
Oxygenation	<ol style="list-style-type: none">1. Oxygen failure alarm.3. Pulse oximetry.	<ol style="list-style-type: none">2. Oxygen ana
Ventilation	Manual/automatic <ol style="list-style-type: none">1. Disconnection alarm.2. Ventilation pressure manometer.	<ol style="list-style-type: none">1. Respirator2. End tidal c
Circulation	<ol style="list-style-type: none">1. Pre-Cordial/oesophageal stethoscope.2. Automatic non invasive B.P. Intravascular pressures.3. Continuous display of electrocardiogram.	<ol style="list-style-type: none">1. Direct mea Intravascu
Temperature		Means of meas
Neuromuscular function		Peripheral nerv

APPENDIX II - The Recovery Room - Summary of Association's Recommendations

A) Situation:

Within operating theatre suite close to the theatres.

B) Design:

Adequate size.
1.5 recovery bays per theatre.
Beds and trolleys should have
- oxygen supply.
- trendelenberg and reverse tilt capabilities.
- back rest support.
- removable bed head.
6 electrical outlets per bay.
Room temperature 21-22°C.

C) Basic equipment at every recovery bay:

Oxygen outlet.
Disposable oxygen face masks.
Suction unit with suction catheters.
Self inflating resuscitator bag and/or Mapleson C breathing system.
Sphygmomanometer.
Adequate lighting.
Vomit bowl.
Emergency call system.
Emergency drugs.

D) Equipment which should be readily available:

Oropharyngeal and nasopharyngeal airways.
Full intubation equipment.
Ventilator.
Wrights respirometer.
Cricothyroid puncture set.
Chest drain set.
Intravenous infusion sets.
Blood warmer, filter.
E.C.G. monitor including paper recorder.
Defibrillator.

Thermometers including low reading type.
Peripheral nerve stimulator.

E) Staffing:

Continuous individual nursing is required on a one to one basis until the patient is able to maintain his own airway. There must be a sufficient number of nurses to provide this level of patient supervision. Furthermore the nurses staffing the recovery room must be trained in the management of the patient recovering from anaesthesia. Regular in-theatre teaching sessions are recommended as a way of helping recovery staff attain and develop these skills.