The Anaesthesia Team

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Contents

To be reviewed by 2015.

1. Recommendations

Comprehensive peri-operative care can only be provided by an anaesthesia team led by consultant anaesthetists. All members of the team must be trained to nationally agreed standards.

Effective pre-operative assessment of patients for anaesthesia and surgery is vital in the modern setting. It reduces cancellations, promotes efficient bed usage and can allay patients' anxieties. It does not replace the need for the anaesthetist's pre-operative visit.

Anaesthetists must have dedicated qualified assistance wherever anaesthesia is administered, whether in the operating department, the obstetric unit or any other area.

Recovery (post-anaesthetic care unit) areas must have sufficient numbers of trained staff available throughout all operating hours. If operating occurs over the whole of a 24-hour period, the PACU area must be open for the whole 24 hours.

All acute hospitals providing inpatient surgical services must have an acute pain team led by a consultant anaesthetist.

The AAGBI supports the concept of common training schemes for operating department staff that share objectives and lead to the development of common working practices, pay, conditions and career opportunities.

Close monitoring of the development of the physicians' assistant (anaesthesia) role, with particular reference to maintenance of standards, will continue. Only those who have trained and qualified within a recognised UK programme should practice in the role.

The AAGBI believes the recommendations in this document should apply to all nations of the UK.

2. Introduction

It is now over 20 years since the Association of Anaesthetists of Great Britain & Ireland (AAGBI) made recommendations on assistance for anaesthetists. This was the first development of the anaesthesia team concept. The team approach has continued to develop even in the five years since this document was last published.

Anaesthetists increasingly work with non-medical personnel in all aspects of patient care. These relationships within the team are described in this document. In the context of this document, the term 'anaesthetist' includes all grades: consultants, SAS grades, specialist doctors and trainees unless specified.

Pre-operative assessment clinics are now a feature of most hospitals and trusts. These must be effective and efficient if they are to improve the safety and quality of patient care.

As this publication goes to press, most trusts/hospitals have put into place the surgical checking procedures pioneered by the World Health Organization and endorsed by the National Patient Safety Agency (NPSA), the AAGBI and others. This should be a routine team discipline afforded to all patients undergoing surgery and emphasises the importance of teamwork. Anaesthetic aspects are described in this publication.

Devolution of nations within the UK has led to different emphasis in different areas of practice and has sometimes hindered the development of uniform national standards, particularly in the field of assistance for anaesthetists. We believe uniform standards should be the goal.

The role of physicians' assistants (anaesthesia) (PA(A)s) is commented upon in this publication. It is not clear to what extent and how the role of the PA(A) will develop.

3. Organisation and management

Organisation of comprehensive anaesthetic services requires considerable knowledge, effort and expertise.

Each acute hospital facility should have a designated head of anaesthesia services responsible for all activities in which anaesthetists are engaged. This individual will usually be the clinical director and should have managerial and budgetary control of the service. In some hospitals, the clinical director of anaesthesia may be responsible for the whole of the operating services. In some, the department of anaesthesia is part of another directorate. If this is the case, it is necessary to have an identified lead anaesthetist to take responsibility for all aspects of the anaesthesia service. For the sake of simplicity this publication refers to this individual as the clinical director. Whatever the wider directorate structure, the budget for anaesthesia services should be controlled by anaesthetists.

The clinical director's role

The clinical director is responsible to the chief executive for the safety of the local service. He/she must ensure that the recommended national standards of staffing and facilities are in place to provide a high quality anaesthesia service throughout the peri-operative period and in all areas where anaesthesia is performed.

Sufficient resources must be committed to recruiting and training staff and to encourage continued professional development to ensure successful revalidation. The clinical director must be provided with management support, usually in the form of a business manager and clinical service manager, as well as having sufficient contracted time to undertake his/her duties. In addition to management responsibilities, the clinical director must offer support, guidance and encouragement to all members of the department. Recognition of the importance of the training responsibility of the NHS is essential.

The role of other consultants

The clinical director will usually delegate some operational aspects of the anaesthesia team. It is often helpful to have a lead consultant to provide medical supervision in specialist areas such as day surgery, obstetric anaesthesia, training (the College tutor), safety and postoperative pain control. A rota co-ordinator, who has a good knowledge of the local service and skill-mix of anaesthetists should be appointed and supported in the role.

The role of the clinical service manager
Non-medical staff involved in the anaesthesia team are normally managed by a senior operating department practitioner (ODP) or a senior nurse, responsible to a clinical service manager.

Modern anaesthesia services are complex and the clinical service manager will usually work closely with other departments or managers. Responsibilities of the senior manager will include:

- Careful co-ordination of pre-operative assessment that requires communication with surgeons, the medical records department, outpatient clinics and all related departments; the individual leading this service should work closely with a lead anaesthetist,
- Maintaining adequate staffing with trained anaesthesia assistants in the operating department,
- An appropriately staffed PACU,
- Ensuring an adequate skill-mix of staff is available 24 hours a day, 7 days a week. There may be advantages in rotating trained staff with common skills between theatres, PACU and high dependency and intensive care units depending on local circumstances,
- An acute pain service that should be a routine part of the anaesthesia team and adequately staffed by trained nurses working with an anaesthesia lead,
- Regular audit of all components of the anaesthesia service, not only for the efficient use of resources, but also for clinical quality and safety.

There is therefore a need for close communication with all users of the service. A multidisciplinary theatre users' committee is often useful for ensuring common goals, co-operation and motivation across specialties. A theatre governance group should review all clinical incidents and safety guidance and ensure patient safety is seen as a priority by the hospital.

4. Pre-operative assessment

Assessment before anaesthesia is the responsibility of the anaesthetist. However, pre-operative assessment before the date of surgery achieves several desirable objectives. It ensures that patients are *prima facie* fit for anaesthesia and surgery, and that all likely investigations will be completed and available at the time of admission. It thus minimises the disruption caused by late cancellation or postponement and their adverse effects on theatre utilisation and bed occupancy, not to mention the distress and inconvenience to patients and their relatives or carers. It enhances efficiency and ensures a higher level of overall patient care. It also gives an opportunity for patients to express concerns they may have about anaesthesia and surgery.

Good practice dictates that all patients should be seen by an anaesthetist before undergoing an operation that requires the services of an anaesthetist. Ideally, this should be the doctor who is to give the anaesthetic. Although it is the anaesthetist who is responsible for deciding whether a patient is fit for anaesthesia, other professional groups may be involved in the pre-operative assessment process.

Pre-operative assessment is now commonly carried out by a specially trained multidisciplinary team led by, and with access to, a consultant anaesthetist, in the pre-operative assessment clinic. In the clinic, nursing, ODP and other trained staff play an essential role when, by working to agreed protocols, they screen and assess patients for fitness for anaesthesia and surgery [1].

It is important to be clear about the boundaries between the remit of the pre-anaesthesia assessment team and the responsibilities of the anaesthetist. The AAGBI feels that it is inappropriate for a non-anaesthetist to promise a particular type of premedication, anaesthetic technique or postoperative pain management and that the decision to proceed (with anaesthesia) cannot be delegated. It is essential, in all but a dire emergency, that the anaesthetising anaesthetist should see patients pre-operatively in a quiet ward, theatre reception area or theatre admissions unit rather than in a busy operating theatre.

It is not within the remit of this document to go into the details of the running of pre-operative assessment clinics. This is addressed in the AAGBI publication on pre-operative assessment (2010) [1].

5. The operating department

Management
The operating department must have a manager who is responsible for ensuring an efficient and effective service. This individual will be responsible for ensuring the provision of adequately trained staff and ongoing audit of activity, whatever the local directorate structure. Proper use of resources and optimum throughput of patients depends on maintaining good communication between anaesthetists, surgeons and operating department staff.

World Health Organization (WHO) Surgical Safety Checklist [2]
In 2008 the WHO produced a core set of standards for the peri-operative period within the operating department. The NPSA has endorsed these standards and issued guidance on how they should be implemented. An executive and clinical lead is appointed to implement the surgical safety checklist within each organisation where surgery is performed.

The checklist is completed for each patient who undergoes any surgical procedure; this includes those done under local anaesthesia.

An accurate record, either paper or electronic, confirming that the checklist is complete must be entered into the clinical notes by a registered member of the team; this could be a surgeon, anaesthetist, nurse or ODP.

The whole process is designed to reduce the mistakes or omissions that occur during surgical procedures by improving team communication. A briefing and debriefing with all theatre staff should occur at the beginning and end of the list. For individual patients we describe the rest of the process with particular reference to anaesthesia.

Sign in
This is performed before induction of anaesthesia. The anaesthetic equipment must be formally checked in accord with AAGBI machine check guidelines (currently under review) [3]. There must be written verification of this process. Patient monitoring should be attached in compliance with the AAGBI guideline [4].The anaesthesia team should confirm the 'sign in' checks before induction of anaesthesia. They include patient identity, surgical site marking, medication, allergies, airway and risk of blood loss. When the patient is unable to confirm the necessary information, this can be provided by carers or significant others.

Time out
This procedure should be completed before the start of the surgical intervention. All members of the operating department team must introduce themselves to each other, unless already known. The surgeon, anaesthetist and registered practitioners verbally confirm the identity of the patient, the site of surgery and the procedure. At this stage any anticipated adverse events should be discussed. In particular, the anaesthesia team may wish to highlight any patient co-morbidities. The anaesthetist should pay particular attention to monitoring the patient throughout surgery, maintaining normothermia and ensuring that there are no issues with any of the equipment used by the team. The anaesthesia team must pay particular attention to the site of surgery when regional blocks are being performed.

Sign out
This takes place before any member of the team leaves the operating theatre at the end of each case. Of particular concern to the whole theatre team is the checking of swabs and accurate measurement of fluid loss, key concerns for the patient in the recovery period. The postoperative recovery and management plan should be discussed and information relayed to the recovery practitioner.

The WHO checklist is new (as of May 2010) to most units and may be subject to local/minor modification as time progresses.

NB. In Scotland the process is slightly different. Briefing and de-briefing are as above. Then in three parts:

i. Sending for the patient: name, procedure and ward check,
ii. Surgical pause: before the commencement of anaesthesia the anaesthetist and assistant, surgeon operating, and theatre team member check name, date of birth, armband, consent, allergies, thromboprophylaxis, antibiotics and staff competencies,
iii. End of procedure: swab and instrument count.

Assistance for the anaesthetist
Trained assistance for the anaesthetist must be provided wherever anaesthesia is provided.

The safe administration of anaesthesia cannot be carried out singlehandedly; competent and exclusive assistance is necessary at all times.

The clinical director must insist on adequate resources to employ, train and develop sufficient numbers of assistants to ensure a safe anaesthesia service in accordance with good practice.

If appropriate basic resources are not available, the clinical director should limit clinical practice so that safe, quality-based patient care is ensured.

Anaesthetic room
The anaesthetist and trained assistant are joined in some units by a third member of staff to help with any untoward emergency, obese patients, carers in the anaesthetic room, and so on. In any event, a third person should be available in close proximity to the anaesthetic room to help with any unforeseen problem.

The AAGBI recommends that a trained anaesthesia assistant should always be immediately available and present during anaesthesia. Only in extreme emergencies, as judged by the anaesthetist, should anaesthetic intervention proceed without a trained assistant, e.g. acute unforeseen airway/bleeding problems.

The role of the anaesthesia assistant
The current trend is towards multi-skilling where most professionals in the operating department are able to perform many tasks including assisting the anaesthetist, assisting the surgeon, working in the recovery area and undertaking administrative duties. However, patterns of work must ensure that skills are maintained. Staff assigned to the role of anaesthetic assistant should not have any other duties that would prevent them from providing dedicated assistance to the anaesthetist during anaesthesia.

Training
Assistance for the anaesthetist may be provided by ODPs or adequately trained, registered nurses. Whatever the background, the training for all anaesthesia assistants must comply fully with national standards. Employment of staff without a qualification that complies with national standards is not acceptable. Learners are accepted for formal training as anaesthesia

assistants, but they must be supervised at all times by a registered practitioner. There should be a programme of continuing professional development and training for all anaesthesia assistants.

Operating Department Practitioners (ODPs)
There are now 27 universities and colleges providing qualifications for ODPs; these are based in England, Wales and Scotland. ODPs must have completed an approved programme that confers eligibility to apply for registration with the Health Professions Council (HPC). Currently for an ODP to enter the HPC register they must complete a two-year Diploma HE, although a degree programme is under development.

ODPs became a statutorily regulated profession (within the HPC) in October 2004. There are almost 10,000 ODPs registered with the HPC.

Nurses
Qualified nurses are already registered professionals but require additional training before taking on the duties of an anaesthesia assistant. In England until 2002, the recognised national qualification of competency for nurses as anaesthesia assistants was the English National Board qualification (ENB 182).

Universities now provide postgraduate nurse training and have developed theatre courses to replace the ENB 182. At most universities these comprise three core modules and three optional modules, including anaesthesia. There are no standard competencies and the courses may differ in length and content. The AAGBI would like to see the development of nationally recognised competencies for nurses assisting the anaesthetist. However, the courses led by local universities are in the main of a high standard and have some national guidance. A nurse should not assist an anaesthetist until successful completion of such a course.

Qualified nurses can still train as ODPs, either through the NVQ route (until 2008) or by APL (accreditation of prior learning) with a university ODP provider. They cannot complete an award that entitles them to the title of ODP unless they complete the full Dip HE in ODP award.

In Scotland, nurses assisting anaesthetists now have to achieve a series of competencies devised by NHS Education Scotland. The courses to achieve these competencies are administered by individual hospitals.

Professional associations
Continuing education and support is offered by three organisations: the College of Operating Department Practitioners (CODP), the Association for Perioperative Practice (AfPP) and the British Association of Anaesthetic & Recovery Nurses (BARNA).

Physicians' Assistants (Anaesthesia) – PA(A)s [5]
The AAGBI has previously stated that the highest standards of anaesthesia can only be achieved by a physician-only service. However, in response to a potential workforce crisis in 2002 the Royal College of Anaesthetists (RCoA) and Department of Health reported on the potential for development of a non-medical role as part of a consultant-led anaesthesia team to enhance flexibility and service provision whilst maintaining the highest standards of safety. [6] The AAGBI engaged with the pilot project run by the Modernisation Agency to ensure that the model developed would work effectively in NHS practice.

The AAGBI believes that the workforce concerns envisaged in 2002 have not yet materialised but recognises that the full impact of the EWTD and increasingly consultant-based service provision has yet to be determined. Numbers of trained PA(A)s are low and numbers employed in the future will be determined by local departments and their staffing needs. The AAGBI would like to reiterate that all PA(A)s are required to practice within the guidelines of the RCoA/AAGBI (available on both websites), and consultants working with them should ensure that they are supported to the required standard.

In 2009 there were around 70 trained PA(A)s nationally (<1% of the workforce). Trusts/hospitals training and utilising PA(A)s as part of the anaesthesia team have reported that this role can enhance flexibility and service provision [7]. The work of trained PA(A)s has mainly concentrated on a team-based approach to the delivery of anaesthesia with a positive impact on theatre efficiency, and includes some enhanced roles performed by other practitioners in the NHS, such as sub-Tenon's anaesthesia [8] and pre-operative assessment. There are very few examples of working in the 2:1 model as was originally envisaged, either with one consultant supervising two PA(A)s, or one PA(A) and one medical trainee.

Qualified PA(A)s are employed on Agenda for Change band 7 or 8. It is important that standards of training and service set out by the AAGBI/ RCoA are adhered to. To date, PA(A)s are not yet formally registered, but the Association of Physicians' Assistants (Anaesthesia) are working towards

the establishment of a Managed Voluntary Register. Formal registration is currently being sought with the Health Professions Council.

Whether in the NHS or private sector, two PA(A)s to one consultant anaesthetist should remain the maximum, and PA(A)s working in this way should each have their own qualified assistance. There is as yet no equivalence for those wishing to enter the PA(A) profession from abroad. The AAGBI does not recommend employing PA(A)s who have not trained in the UK programme.

It should again be emphasised that at the end of their initial training PA(A)s are not qualified to undertake regional, obstetric or paediatric anaesthesia, or be involved in initial airway management of the acutely ill or injured, as described in the AAGBI/RCoA standards document. [9]

As before, the situation will be monitored continuously by the AAGBI.

6. Recovery post-anaesthetic care unit (PACU)

The AAGBI published guidance on the required facilities for the safe recovery from anaesthesia in 2002 [10]. (This guidance is being reviewed and the revised edition will be published in 2010). There is, however, a need to re-emphasise the principles outlined in that report and to emphasise the recommendations on staffing and training.

The responsibility of anaesthetists for the care of their patients extends into the postoperative period and includes the management of postoperative pain and postoperative nausea and vomiting (PONV). Emergence from anaesthesia is potentially hazardous and patients require close observation until recovery is complete. Care must be transferred to staff who have been specially trained in recovery procedures and reached prescribed competencies. Currently these are often locally devised but the AAGBI is working to promote the development of national competencies. All recovery staff should have achieved their recognised local competencies.

While patients remain in the PACU there must always be a suitably trained anaesthetist (and surgeon) immediately available within the hospital.

Close collaboration between the anaesthetist and the surgeon is particularly important at this time so that clear instructions are given to recovery staff.

Transfer to recovery area
The anaesthetist should be satisfied that the recovery staff are competent to take responsibility for the patient before care is transferred. No fewer than two staff should be present when there is a patient in the PACU who does not fulfil the criteria for discharge to the ward [10]. If this level of staffing cannot be assured, the anaesthetist should stay with the patient until satisfied that the patient is fit to return to the ward.

Recommendations on the transfer of the patient from the operating theatre to the PACU are outlined in the AAGBI's publication referred to above [10].

Immediate recovery
Continuous individual observation of each patient is required on a one-to-one basis until the patient is able to maintain their own airway. The recovery staff, therefore, must not have any other duties at this time. Failure to provide adequate care for patients during this period of vulnerability,

in which the possibility of serious complications is well recognised, may prove catastrophic for the patient and could result in serious medico-legal consequences for the hospital. *In hospitals with an emergency surgical service, appropriately staffed recovery facilities must be available throughout the 24 hours.*

A post-anaesthesia care plan should be implemented for each patient which includes monitoring to ensure satisfactory cardiorespiratory function, fluid, pain and PONV management, and the administration of other drugs to agreed protocols. These have been the subject of previous advice [4]. Careful records must be maintained (increasingly in electronic form) and recovery staff must be able to interpret the information and initiate appropriate action where necessary. Staff must also be able to assess the suitability of transfer of patients to the next level of care.

Dedicated recovery staff must be trained in immediate and advanced resuscitation techniques.

Discharge
The patient should remain in a suitably equipped PACU until all the criteria for discharge have been met. Discharge must be based on a carefully worded protocol or on the personal instructions of the anaesthetist. Recommendations on the criteria for discharge from the recovery area have been published previously and are currently being reviewed [10].

Management
The optimal management structure for the PACU should be influenced by the directorate of anaesthesia. There must be clear lines of communication with other relevant directorates and departments.

Training and qualifications
All staff who work in the recovery area should have received appropriate training and have achieved recognised competencies. The core skills required are summarised in our published work [10].

Personnel who are in training may work in PACUs but must be supervised by trained staff. Staffing levels should not be depleted to fill deficits in other areas of the hospital, although rotation between staff within the operating department should be encouraged to maintain skills. All staff must have access to further professional development and there should be appropriate study leave.

7. Postoperative pain management

Background
All hospitals performing major surgery should have a multidisciplinary acute pain team with an anaesthetist in overall charge (the majority having a sessional commitment by a consultant to acute pain) and a senior nurse running the service on a day-to-day basis, following predefined protocols.

In 1997, an Audit Commission report [11] recommended more effective collaboration between the anaesthetist, surgeon and nurses.

A high quality acute pain management service should include identifying the patient's individual requirements on admission and then 'tracking' the patient from the surgical ward, through recovery, critical care if appropriate and back to the ward.

The acute pain team
Potential members of an acute pain team include:

- A consultant anaesthetist(s) with sessional commitments to the team,
- Trainee anaesthetists, as part of the on-call team and as part of their modular training in pain management,
- SAS and specialist doctors in anaesthesia,
- A nurse team to manage the day to day follow-up of patients made up of specialist nurse/nurse practitioners who have had specific training in the management of acute pain,
- Nurses in training,
- ODPs,
- A pharmacist,
- A physiotherapist,
- Secretarial and audit department support.

Consultant responsibility
It is important that postoperative pain be controlled immediately on recovery from anaesthesia. The pain team must therefore be involved from an early stage with PACU staff and the consultant responsible for the pain service has an obvious role in PACU and other critical care areas. This role will involve the design and implementation of pain management protocols and the education and training of staff.

Roles of non-medical personnel
A lead nurse should be responsible for running the service on a day-to-day

basis within the limits defined by protocols. The lead nurse is responsible for liaison between PACU, critical care areas and the wards, troubleshooting problems and referring problem patients to medical staff. They also have an important role in education. Potential additional roles for the acute pain team are the placing of intravenous cannulae, administering appropriate drugs intravenously and topping up epidurals. The appropriateness of the delegation of any of these tasks is obviously influenced by the location in which they were used, with different roles being appropriate in the HDU, recovery and general ward.

The pharmacy has a role in the provision of drugs for the acute pain team. It should also be involved in maintaining the range of drugs required for the service, the evaluation of new drugs and education. This important role is enhanced by nominating a specific pharmacist to the team.

An important aim of postoperative analgesia is restoration of function and this can be assessed by the ward physiotherapist who should be involved with the acute pain team and may be a source of secondary referrals.

Standards of practice

The majority of pain services are delivered on the basis of protocols that have been drawn up by consultation between anaesthetists, surgeons and staff from PACU and general wards. Because there are local differences in both the role of nurses and the extent of their remit, there will be variations in the protocols between hospitals. The pain team should be responsible for the implementation of a system to introduce, disseminate and review protocols for all grades of staff caring for postoperative patients and for continuing audit of the service.

Educational implications

The educational implications are two-fold: education of the team members and education by the team members.

Anaesthetists must play a major role in educating the members of the acute pain team, in collaboration with the lead nurse. Appropriate aspects of training should also be addressed by other members of the team.

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