Royal College of Anaesthetists

Chapter 4

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidelines for the Provision of Postoperative Care 2019

NICE accredited
www.nice.org.uk/accreditation

NICE has accredited the process used by the Royal College of Anaesthetists to produce its Guidance on the Provision of Anaesthesia Services. Accreditation is valid for five years from 2016.

More information on accreditation can be viewed at www.nice.org.uk/accreditation.

Chapter 4
Guidelines for the Provision of Anaesthetic Services for Postoperative Care 2019

Authors

Dr Gautam Kumar
Consultant Anaesthetist
University College Hospital
Lead Author

Dr David Walker
Consultant Anaesthetist
University College Hospital

Dr Mevan Gooneratne
Consultant Anaesthetist
Royal London Hospital

Dr Caroline Moss
Perioperative Fellow
University College London

Dr Catalina Stendall
Anaesthetic registrar
Kings College Hospital

Professor Monty Mythen
Consultant Anaesthetist
University College Hospital

Dr Marta Campbell
Anaesthetic Registrar ST7
Royal London Hospital

Dr Ravin Mistry
Consultant Anaesthetist
Salford Royal NHS Foundation Trust

Dr Ramai Santhirapala
Honorary Consultant Anaesthetist
Royal Surrey County Hospital

Chapter development group members

Mr Shafi Ahmed
Consultant General Surgeon
Royal College of Surgeons
London, UK

Mrs Ann Conquest
Day surgery ward manager
Bedford Hospital NHS trust
Association for Perioperative Practice

Dr Andrea Kelleher
Consultant Anaesthetist
Clinical Director Network
London, UK

Mr Bob Evans
Lay Committee Representative
RCoA Lay Committee

Dr Thomas Mount
Anaesthetic Registrar
North West School of Anaesthesia

Mr Peter Rees
Lay Committee Representative
RCoA Lay Committee
Winchester, UK

Ms Anna Gordana Babic-Illman
Clinical nurse specialist
Age Anaesthesia
London, UK

Ms Manda Dunne
Senior Anaesthetic and Recovery Sister
British Anaesthetic & Recovery Nurses Association
London, UK

Dr Suganthi Joachim
Consultant Anaesthetist
Clinical Director Network
Boston, UK

Dr Nicholas Levy
Consultant Anaesthetist
West Suffolk NHS Foundation Trust

Professor Rupert Pearse
Professor of Intensive Care Medicine
Faculty of Intensive Care Medicine
London, UK

Dr Mark Rockett
Consultant Anaesthetist
Faculty of Pain Medicine
Plymouth, UK

Ms Pat Smedley
BARNA Education Lead
British Anaesthetic & Recovery Nurses Association

Dr Carolyn Smith
Consultant Anaesthetist
Association of Paediatric Anaesthetists
Edinburgh, Scotland

The Chapter Development Group was convened according to the recruitment process outlined in the GPAS Chapter Development Process Document.

Acknowledgements

Mr Markku Ahtiainen
British Anaesthetic & Recovery Nurses Association

GPAS Editorial Board

Peer reviewers

Chapter development technical team

Promoting equality and addressing health inequalities

The Royal College of Anaesthetists is committed to promoting equality and addressing health inequalities. Throughout the development of these guidelines we have:

- given due regard to the need to eliminate discrimination, harassment and victimisation, to advance equality of opportunity, and to foster good relations between people who share a relevant protected characteristic (as cited under the Equality Act 2010) and those who do not share it

- given regard to the need to reduce inequalities between patients in access to, and outcomes from healthcare services and to ensure services are provided in an integrated way where this might reduce health inequalities.

GPAS guidelines in context

The Guidelines for the Provision of Anaesthetic Services (GPAS) documents should be viewed as 'living documents'. The GPAS guideline development, implementation and review should be seen not as a linear process, but as a cycle of interdependent activities. These in turn are part of a range of activities to translate evidence into practice, set standards and promote clinical excellence in patient care.

Each of the GPAS chapters should be seen as independent but interlinked documents.

Each chapter will undergo yearly review, and will be continuously updated in the light of new evidence.

Guidelines alone will not result in better treatment and care for patients. Local and national implementation is crucial for changes in practice necessary for improvements in treatment and patient care.

Medicolegal implications of GPAS guidelines

GPAS guidelines are not intended to be construed or to serve as a standard of clinical care. Standards of care are determined on the basis of all clinical data available for an individual case, and are subject to change as scientific knowledge and technology advance and patterns of care evolve. Adherence to guideline recommendations will not ensure a successful outcome in every case, nor should they be construed as including all proper methods of care or as excluding other acceptable methods of care aimed at the same results. The ultimate judgement must be made by the appropriate healthcare professional(s) responsible for clinical decisions regarding a particular clinical procedure or treatment plan. This judgement should only be arrived at following discussion of the options with the patient, covering the diagnostic and treatment choices available. It is advised, however, that significant departures from the national guideline or any local guidelines derived from it should be fully documented in the patient's case notes at the time the relevant decision is taken.

Declarations of interest

All chapter development group members, stakeholders and external peer reviewers were asked to declare any pecuniary or non-pecuniary conflict of interest, in line with the GPAS conflict of interest policy as described in the GPAS chapter development process document.

Declarations were made as follows:

- one co-author held positions on the GPAS Editorial Board and on the Royal College of Anaesthetists' Council
- two members of the chapter development group were authors of one of the items of evidence
- one member of the chapter development group was a council member of the Royal College of Surgeons.

The nature of the involvement in all declarations made above was not determined as being a risk to the transparency or impartiality of the chapter development. Where a member was conflicted in relation to a particular piece of evidence, they were asked to declare this and then, if necessary,

removed themselves from the discussion of that particular piece of evidence and any recommendation pertaining to it.

Aims and objectives

The objective of this chapter is to describe current best practice for service provision in postoperative patient care following anaesthesia. This will be supported by research evidence and national recommendations where available. The guidelines are intended for anaesthetists with responsibilities for service delivery and healthcare managers. The guidance applies to all clinical facilities where patients receive general and regional anaesthesia and sedation provided by anaesthetists from the time they are admitted to a post-anaesthesia care unit until the time they are discharged from there. For standards on postoperative pain management services, please refer to the Core Standards for Pain Management Services in the UK.

This guideline does not comprehensively describe clinical best practice in immediate postoperative care, but is primarily concerned with the requirements for the provision of a safe, effective well-led service. Some examples of clinical practice are given as supporting evidence for inclusion of the recommendations for service provision.

This chapter differs from previous recommendations (Guidance on the provision of anaesthesia services for postoperative care 2014) in that the literature search and the review process was much more rigorous than previously undertaken. It includes recommendations from more recent sources including the 5th National Audit Project (NAP 5) and the Association of Anaesthetists guidelines.[1,2]

The recommendations in this chapter will support the Royal College of Anaesthetists (RCoA) Anaesthesia Clinical Services Accreditation process.

Scope

Clinical question

The key questions covered by this guideline are:

- what are the key components for the provision of anaesthesia services within the postoperative period of care?
- what are the key components needed to ensure provision of high quality anaesthetic services within the immediate postoperative phase?
- areas included are:
  - levels of provision of service, including (but not restricted to) staffing, equipment, support services and facilities
  - areas of special requirement, such as paediatrics, critical care, resuscitation, interventional radiology and the emergency department
  - training and education
  - research and audit
  - organisation and administration
  - patient information
  - quality improvement.

Target population

The target population that is covered in this chapter will include patients of all ages undergoing elective or emergency anaesthesia being cared for by staff groups working within the postoperative phase of care, including (but not restricted to) consultant anaesthetists, staff grade, associate specialist and specialty (SAS) doctors, anaesthetists in training, and nurses. Provision of

postoperative services provided by a specialty other than anaesthesia is not covered in this chapter, i.e. when an anaesthetist is not involved in the intraoperative patient care.

Postoperative anaesthesia provision is defined in this chapter as the care that is given from the time of admission to the post-anaesthesia care unit (PACU) until the patient is drinking, eating and mobilised.

Target audience

The target audience for this chapter is anaesthetists with responsibilities for service delivery and healthcare managers.

The complete definition of the scope of this chapter is available in the scoping document.

Introduction

All patients who have undergone anaesthesia are at risk of postoperative complications including compromise to the airway, breathing and circulation. Therefore, management and transport of patients immediately after anaesthesia can potentially be hazardous. If adequate standards of care are not provided, it is quite likely serious complications can occur. When considering the provision of anaesthesia, the Royal College of Anaesthetists recommends that specific areas should be addressed to reduce these complications and harm, improve outcomes and promote patient wellbeing. These areas include appropriate staffing, equipment, services and facilities; training and education; research and quality improvement; financial management, and appropriate organisation and administration.

Ultimately, the goal of these guidelines is to ensure a comprehensive, high-quality service dedicated to the care and wellbeing of patients at all times and to the education and professional development of staff.

Recommendations

The grade of evidence and the overall strength of each recommendation are tabulated in Appendix 1.

1 Staffing requirements

Emergence from anaesthesia is potentially hazardous, with patients requiring close observation until recovery is complete.[3] The responsibility of anaesthetists for the care of their patients extends into the postoperative period until their discharge from recovery or handover of care to another clinician such as an intensivist. Appropriately staffed recovery facilities must be available during whatever hours of the day elective and emergency surgery is undertaken.[3]

1.1 Patient care should be transferred to staff who have been specially trained in recovery procedures and reached locally or nationally agreed prescribed competencies,[3] such as the UK National Core Competencies for Post-Anaesthesia Care 2013.[4]

1.2 On many occasions, patients will be handed over to the recovery practitioner with a laryngeal mask airway or other supraglottic airway device in place. The person taking over direct clinical care should be specifically trained in the management of these patients and in the safe removal of the airway device.[5]

1.3 If a patient is transferred to the post-anaesthesia care unit (PACU) with a tracheal tube in place, the anaesthetist remains responsible for the removal of the tube but may delegate its removal. Delegation should be to an appropriately trained member of the PACU staff who is prepared to accept this delegated responsibility.[4]

1.4 An anaesthetist should have overall responsibility for the transport of patients from theatre to the PACU. [6]

1.5 Anaesthetists should formally handover the patient, stay if their input is needed and leave the patient in a stable condition.[5,7,8]

1.6 The patients' anaesthetist should retain overall responsibility for the patient during the recovery period and should be readily available for consultation until the patient is able to maintain their own airway, has regained respiratory and cardiovascular stability and is able to communicate, unless this care has been handed over to another named anaesthetist

1.7 Until the patient is able to maintain their own airway, has regained respiratory and cardiovascular stability and is able to communicate, continuous individual observation and care of each patient should be performed on a one to one basis. All PACUs should be staffed to a level that allows this to be routine practice (this could be assessed using queuing theory or other models of staffing)[9] and the recovery staff should not have any other duties during this time.[6,10]

1.8 A minimum of two members of staff should be present (of whom at least one should be a registered practitioner) when there is a patient in the PACU who does not fulfil the criteria for discharge to the ward. If this level of staffing cannot be assured, an anaesthetist should stay with the patient until satisfied that the patient fulfils discharge criteria.[10]

1.9 There should be an anaesthetist or a professional with suitably qualified airway skills who is available for patients in the PACU within three minutes.[10,11]

1.10 Adequate provision should be made for an anaesthetist led acute pain service.[12]

1.11 Adequate provision should be made for a member of the anaesthetic team to visit the following groups of patients within 24 hours following their operation:

- those graded as 'American Society of Anesthesiologists (ASA) Physical Status 3, 4 or 5'
- those receiving epidural analgesia in a general ward
- those discharged from recovery with invasive monitoring in situ
- those for whom a request is made by other medical, nursing or other clinical colleagues
- those for whom there is any other appropriate need.

2 Equipment, Services and Facilities

All patients who have had an anaesthetic affecting central nervous system function and/or a loss of protective reflexes should remain where anesthetised until recovered or be transported safely (with care and monitoring as indicated below) to a specifically designated recovery location for post-anaesthesia recovery.[6]

2.1 In the main operating theatre complex, a dedicated post-anaesthesia care unit (PACU) is required. This should be located in the operating theatre department and be separate from the department's admission area and with a separate access for transfer of patients to the ward.[10,13]

2.2 The size, design and facilities of the PACU must meet the Department of Health guidelines.[13]

2.3 It is recommended that a minimum of two recovery beds per operating theatre be provided, depending on local knowledge of the clinical specialties and the number of patients.[9,13]

2.4 The bed spaces should allow unobstructed access for trolleys, x-ray equipment, resuscitation carts and clinical staff. The facility should be open plan, allowing each recovery bay to be observed but with the provision of curtains for patient privacy.[10]

2.5 Oxygen and suction should be present in every recovery bay and ideally delivered by pipeline.[10]

2.6 An emergency audible and visible call system should be in place, checked regularly to maintain functionality and understood by all staff.[14]

2.7 Drugs, fluid and equipment required for resuscitation and the management of postoperative complications should be available within three minutes and regularly maintained.[10,11]

2.8 There must be a system for ordering, storage, recording and auditing of controlled drugs in all postoperative areas in which they are used, in accordance with statutory legislation.[15]

2.9 An individualised post-anaesthesia care plan should be implemented for each patient.[16]

2.10 Careful records including instructions, patient observations and drug administration should be maintained (increasingly in electronic form) and recovery staff should be able to interpret the information and initiate appropriate action where necessary.

2.11 Clinical observations should be supplemented by pulse oximetry and non-invasive blood pressure monitoring until the patient is fully recovered from anaesthesia. An electrocardiograph, nerve stimulator, thermometer, glucometer and capnograph should also be readily available.[6,16,17]

2.12 Capnography has the potential to aid early detection of airway obstruction and should be available in recovery and used in high risk cases. If patients remain intubated or they have their airways maintained with a supraglottic or other similar airway device, continuous capnography should be used.[5,10,18]

2.13 A brief interruption of monitoring during transfer of the patient from theatre is only acceptable if the recovery area is immediately adjacent to the operating theatre. Otherwise monitoring should be continued during transfer to the same degree as any other intra or inter hospital transfer.[17]

2.14 Supplementary oxygen should be available for transport after general anaesthesia.[5]

2.15 Airway adjuncts should be available in the post-anaesthesia care unit to minimise the incidence of upper airway obstruction that may lead to post obstructive pulmonary oedema and severe hypoxaemia.[5]

2.16 Patient information should be continuously recorded and updated (in electronic or written format). Anaesthetic Information Management Systems, a specialised form of electronic health record, should be considered as electronic patient charts in the perioperative and recovery period as they provide a more accurate and complete reflection of the patient's perioperative physiologic parameters.[19]

2.17 Locally devised protocols should be available for discharge criteria.[10,20]

2.18 Protocols and equipment should be available for the postoperative management of various symptoms, signs and conditions deemed locally appropriate. Such examples include the management of postoperative nausea and vomiting, pain relief of patients with chronic pain,[21] hypothermia, blood transfusion, fluid therapy, diabetes,[22,23] acute coronary syndrome,

the deteriorating and dying patient,[24] delirium, respiratory diseases, hypotension, hypertension and vulnerable adults and children.

2.19 If a patient has known visual or hearing impairment or wears dentures, then their corrective lenses/hearing aid/dentures should be readily accessible and available postoperatively. [25]

3 Areas of Special Requirement

Children

Recommendations for children's services, including the postoperative phase of anaesthesia, are comprehensively described in chapter 10.

3.1 Hospitals should ensure that appropriate pathways and networks exist to enhance the hospital experience for children during the immediate postoperative period.[26,27]

3.2 A designated separate recovery area for children and young people should be available in the paediatric anaesthesia location. This should have sufficient capacity for children to recover, be child friendly and staffed by suitably trained and qualified recovery practitioners to look after babies, children and young people.[10]

3.3 If this is not available, in the absence a dedicated PACU for children, a discrete segregated area in the general PACU should be available. The environment should be made as child friendly as possible.[13]

3.4 Children should never be left unattended in the recovery area.[28]

3.5 A designated area for parents/guardians should be located in an area close to theatre, where they can be contacted or wait until they are invited by the clinical staff to the recovery area to be reunited with their child as soon as they are awake.[10,13]

3.6 Departments should consider making comforters and favourite toys available for children upon emergence from anaesthesia, to reduce anxiety. [29]

3.7 Children have an increased incidence of postoperative delirium. Recovery staff should have an increased awareness and there should be local protocols for its management.[29]

3.8 Children with learning difficulties should ideally be recovered in an area with lower levels of noise and lighting and a familiar presence, such as their carer.[29]

3.9 The presence of learning disability practitioners in recovery when a patient with learning disability is being recovered should be considered.[29]

3.10 All staff working in paediatric recovery should be trained and competent in protocols, and familiar with the relevant procedures and personnel if there are safeguarding or child protection concerns that arise while the child is in theatre.[30]

3.11 There should be a minimum of one member of the recovery staff, or an anaesthetist, with advanced training in paediatric life support on duty and all members of recovery staff should have up-to-date paediatric competencies including resuscitation.[10]

3.12 Paediatric equipment to cover all ages should be available in recovery, including a full range of sizes of facemasks, breathing systems, airways, nasal prongs and tracheal tubes. Essential monitoring equipment includes a full range of paediatric non-invasive blood pressure cuffs and small pulse oximeter probes. Capnography should also be available.[10]

3.13 Parents and children should be appropriately educated and equipped with information to address common issues they may face postoperatively, in recovery and on discharge. This information should include leaflets for common procedures highlighting risks and these should be developed locally with support from area networks.[31]

3.14 Guidelines and commonly used algorithms for paediatric emergencies should be readily available and regularly rehearsed.[10]

3.15 Guidelines for fluid management specific to children, and equipment for accurate fluid delivery, should be available.[32]

3.16 Pain assessment tools used should differ, depending on the age and ability of the child. Self-reporting tools should be used where possible, with behavioural or composite tools for those unable to self-report.[33,34]

3.17 Protocols for the use of epidural infusions, morphine infusions, patient controlled analgesia infusions and nerve catheter local anaesthesia infusions should be available and specific for children.[33,34]

Frail, older patients

Increasing numbers of elderly patients are undergoing an increasing variety of surgical procedures. There is an age related decline in physiological reserve and the elderly are at relatively higher risk of mortality and morbidity after both elective and emergency surgery. Therefore, specific provision should be made for the care of elderly patients in the postoperative period.[2,35]

3.18 Cross specialty teams, including surgeons, anaesthetists, geriatricians and allied health professionals should be initiated to provide quality postoperative care to frail older surgical patients.[2]

3.19 Guidelines should be developed for the prevention, recognition and management of common postoperative geriatric complications and/or syndromes, including delirium, falls, functional decline and pressure areas.

3.20 In elderly patients undergoing surgery the institution of delirium prevention interventions should be considered. These include early mobilisation, avoidance of dehydration and avoidance of delirium triggering medications.[25,36]

3.21 Provisions should be made for the assessment and management of pain in older people, and more specifically in those with dementia.[37]

3.22 All staff managing patients in the postoperative period must be familiar the arrangements determining mental capacity in the part of the UK in which they are working and pathways of care for patients with dementia.[38,39,40]

3.23 Mechanisms for the early recognition of patients requiring specialist postoperative input from geriatrician led services and/or critical care should be developed. These should include patients at risk of or presenting with delirium, multiple medical complications, functional decline or complex discharge planning.

Obese patients

Particular provision should be made for the care of morbidly obese patients and care should meet the Association of Anaesthetists guidelines.[41,42]

3.24 In the postoperative period, the safety of obese patients may be improved by supplemental oxygen, non-invasive ventilation (continuous positive airway pressure), monitoring of sedation,

and ideally continuous pulse oximetry and the post-anaesthesia care unit should have the necessary equipment and staff to provide this.[43]

3.25 Patients with obstructive sleep apnoea have a higher incidence of postoperative complications including hypoxia, renal failure, unplanned intensive care unit (ICU) stay, and delayed discharge. Therefore, consideration should be given to monitoring such patients in an high dependency unit (HDU) environment postoperatively.[44]

Obstetric patients

Particular provision should be made for the care of obstetric patients. Specific recommendations are covered in chapter 9.

Critically Ill Patients

The care of critically ill and high risk patients may be influenced by perioperative medicine services, overnight intensive recovery or PACU. Therefore, postoperative critical care impacts on the provision of core anaesthetic services. The Faculty of Intensive Care Medicine and the Intensive Care Society have produced Guidelines for the planning and delivery of UK Intensive Care Services.[45] Although critical care is largely outside the scope of GPAS, the following recommendations are highly relevant to immediate postoperative patient management.

3.26 When critically ill patients are held in the recovery area because of a lack of availability of appropriate facilities elsewhere, this should only occur if recovery staff are appropriately trained, and the recovery area is appropriately equipped to enable monitoring and treatment to the standard of a level 3 critical care unit. In some circumstances, such as a flu pandemic or a major incident involving mass casualties, this may not be possible due to a huge surge in demand, but this should be seen as exceptional rather than the accepted norm. Non-critical transfer to another hospital should be considered where necessary. It cannot be assumed that it is safe to use the recovery facility as an extension of critical care, and local policies and procedures should govern this issue.[46]

3.27 Excellent nursing care with prompt access to medical support will ensure that many key aspects of care are proactively managed to ensure good patient outcomes. Nurse-led, protocol driven care of frequently occurring problems for high risk surgical patients (such as pain, fluid imbalance, nutrition and mild cardiorespiratory compromise) can often be provided in a level 2 critical care unit or specifically developed post-anaesthetic care unit (PACU). This can provide some but not all the organ support treatments available in a level 3 critical care unit, e.g. invasive ventilation, low dose inotrope support.

3.28 Where the postoperative destination is a level 2 critical care unit, consideration should be given to initial care in a standard PACU until the patient has fully regained consciousness. This is of particular importance for critical care units that are not staffed with airway trained doctors.

3.29 All hospitals should have a clear policy describing the safe triage of surgical patients considered to need postoperative critical care, with guidance on which patients should be admitted immediately to critical care, and which can wait in a standard PACU for a short period while a critical care bed becomes available. Staff in critical care and PACUs should develop procedures to ensure safe and effective patient care during this transition. While the patient is located in the PACU, their care should be the primary responsibility of the staff and doctors working in that location.

3.30 Hospitals should have written policies on the management of patients whose surgery is sufficiently urgent that this proceeds when postoperative critical care is desirable but not available; this situation should be considered exceptional.

4 Training and education

4.1 All recovery staff should receive appropriate training recognised for post-anaesthesia care.[4] Training should be tailored to meet the needs of the individual staff member and the PACU.[10]

4.2 Continued professional development and the training of other staff should be facilitated by activities such as the establishment of lead practitioners.

4.3 Members of clinical staff working within the recovery area should be certified to a standard equivalent to immediate life support providers, and training should be provided.

4.4 At all times, at least one advanced life support provider or an anaesthetist should be immediately available.

4.5 For children, a staff member with an advanced paediatric life support qualification or an anaesthetist with paediatric competencies should be immediately available.[4]

4.6 Core competencies should be updated according to local and national guidelines.

4.7 Wherever possible, training should be multidisciplinary.[16]

5 Organisation and administration

5.1 All institutions should have protocols and the necessary facilities for managing postoperative care and should review and update these regularly.[16]

5.2 Immediate postoperative management involves multidisciplinary care but overall responsibility is the named consultant anaesthetists.

5.3 There should be a named anaesthetist clinical lead (see glossary) for recovery.[10]

5.4 Standardisation of the handover process can improve patient care by ensuring information completeness, accuracy and efficiency (the use of checklists should be considered). Staff should comply with the local standardised handover processes.[16]

5.5 Staff should complete urgent tasks before information transfer, limiting conversations while performing tasks (adopting a 'sterile cockpit' approach).[47,48]

5.6 If responsibility for care is transferred from one anaesthetist to another, a 'handover protocol' should be followed, during which all relevant information about the patient's history, medical condition, anaesthetic status, and plan should be communicated.[6]

5.7 Patients should be transferred to the ward accompanied by two members of staff, at least one of whom should be suitably trained to locally agreed standards. The anaesthetic record, recovery and prescription charts together with the postoperative plan, should accompany the patient and be clearly communicated to the receiving ward nurse.

5.8 Processes for the communication and implementation of patient safety alerts should be in place.

6 Financial considerations

Part of the methodology used in this chapter for developing recommendations is a consideration of the financial impact for each of the recommendations. However, very few of the literature sources from which these recommendations have been drawn have included financial analysis. Therefore, it is difficult to make many recommendations on the financial impact of these recommendations with the current available information.

6.1 The introduction of clinical pathways that encompass the entire perioperative period from the preoperative evaluation to the post discharge disposition should be considered, with the aim of reducing healthcare cost while improving outcomes.[19]

7 Research, audit and quality improvement

Regular revision at locally agreed timeframes and audit of standards of care, guidelines and protocols and critical incident reporting are essential in the ongoing development and improvement of post-anaesthetic patient care.[10]

7.1 Use of patient reported outcome measures (PROMs) to assess physiological and other recovery domains after surgery could be considered.[49]

7.2 Specific, measurable, attainable, relevant and time-bound (SMART) quality improvement initiatives and safety measures could be embraced in order improve safety and develop perioperative anaesthesia services.[50]

7.3 Nurturing a safety culture, learning from mistakes, preventing harm and working as part of a team are all part of the discipline of safety. To this end, shared learning and quality improvement that contribute towards improvements in safety, such as critical incident reporting with thematic analysis, and communication through morbidity and mortality meetings, could be undertaken.

7.4 Anaesthetists should participate in departmental audit throughout a full audit cycle. This participation should adhere to the standards and principles outlined in the College's Compendium of audit recipes.[50]

7.5 Postoperative care audits and quality improvement projects from the College's *Compendium of audit recipes* could be considered.[50]

8 Implementation support

The Anaesthesia Clinical Services Accreditation (ACSA) scheme, run by the RCoA, aims to provide support for departments of anaesthesia to implement the recommendations contained in the GPAS chapters. The scheme provides a set of standards, and asks departments of anaesthesia to benchmark themselves against these using a self-assessment form available on the RCoA website. Every standard in ACSA is based on recommendation(s) contained in GPAS. The ACSA standards are reviewed annually and republished approximately four months after GPAS review and republication to ensure that they reflect current GPAS recommendations. ACSA standards include links to the relevant GPAS recommendations so that departments can refer to them while working through their gap analyses.

Departments of anaesthesia can subscribe to the ACSA process on payment of an appropriate fee. Once subscribed, they are provided with a 'College guide' (a member of the RCoA working group that oversees the process), or an experienced reviewer to assist them with identifying actions required to meet the standards. Departments must demonstrate adherence to all 'priority one' standards listed in the standards document to receive accreditation from the RCoA. This is confirmed during a visit to the department by a group of four ACSA reviewers (two clinical reviewers, a lay reviewer and an administrator), who submit a report back to the ACSA committee.

The ACSA committee has committed to building a 'good practice library', which will be used to collect and share documentation such as policies and checklists, as well as case studies of how departments have overcome barriers to implementation of the standards, or have implemented the standards in innovative ways.

One of the outcomes of the ACSA process is to test the standards (and by doing so to test the GPAS recommendations) to ensure that they can be implemented by departments of anaesthesia and to consider any difficulties that may result from implementation. The ACSA committee has committed to measuring and reporting feedback of this type from departments engaging in the scheme back to the CDGs updating the guidance via the GPAS technical team.

9 Patient Information

9.1 The written and verbal information given to patients before their admission to hospital should explain the purpose and nature of their recovery and the recovery department. *You and your anaesthetic,* published by the Royal College of Anaesthetists and the Association of Anaesthetists is an example of this.[51] Further details on information to be given preoperatively can be found in the chapter 2.

9.2 Some patients, both adults and children, may need interpreters, parents or other members of their family to be with them. This need is best determined at preassessment, so that sensitivities can be taken into account in the operative process.[52]

9.3 Patient information regarding postoperative and post-discharge care, including contact details and protocols if complications arise, should be provided.

Areas for future development

There is a large gap in the evidence on the provision of service and most appropriate level of care after anaesthesia and surgery, particularly major surgery in the high risk patient. Further research is ideally needed to address this uncertainty, so all patients receive the most appropriate post-anaesthetic care available.

Glossary

Clinical lead – SAS doctors undertaking lead roles should be autonomously practising doctors who have competence, experience and communication skills in the specialist area equivalent to consultant colleagues. They should usually have experience in teaching and education relevant to the role, and they should participate in quality improvement and CPD activities. Individuals should be fully supported by their clinical director and be provided with adequate time and resources to allow them to effectively undertake the lead role.

Immediately available – unless otherwise defined, 'immediately' means within five minutes.

Post-anaesthesia care unit – may also be referred to as PACU, post-anaesthetic recovery unit, theatre recovery, recovery or recovery unit. It is an area, normally attached to theatres, designed to provide care for patients recovering from general anaesthesia, regional anaesthesia, or local anaesthesia.

Responsibility – refers to being accountable and ensuring completion of the specified action rather than physically completing the action yourself.

SMART objectives – SMART is an acronym, giving criteria to guide in the setting of objectives standing for specific, measurable, attainable, relevant and time-bound.

Sterile cockpit – distraction-free period during which only essential and urgent tasks are performed.

Abbreviations

ACSA	Anaesthesia Clinical Services Accreditation
ASA	American Society of Anesthesiologists
CCT	Certificate of completion of training
CDG	Chapter Development Group
CPD	Continuing professional development
CQC	Care Quality Commission
EEG	Electroencephalography
GMC	General Medical Council
GPAS	Guidelines for the provision of anaesthetic services
HDU	High dependency unit
ICU	Intensive care unit
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
PACU	Post-anaesthesia care unit
PROMs	patient reported outcome measures
RCoA	Royal College of Anaesthetists
SAS	Specialty and Associate Specialist
SMART	Specific, measurable, attainable, relevant and time-bound
WHO	World Health Organization

References

1 Pandit JJ, Andrade J, Bogod DG *et al.* The 5th National Audit Project (NAP5) on accidental awareness during general anaesthesia: summary of main findings and risk factors. *Anaesth* 2014; 69: 1089–101

2 Association of Anaesthetists of Great Britain and Ireland. Peri-operative care of the elderly 2014. *Anaesth* 2014; 69(s1): 81–98

3 Association of Anaesthetists. *The Anaesthesia Team,* London 2018 (bit.ly/2COYKKK)

4 Association of Anaesthetists of Great Britain and Ireland. *UK National Core Competencies for Post-Anaesthesia Care. Immediate Post-Anaesthesia Recovery 2013 Supplement*, 2013 (bit.ly/1MlmEXU).

5 Cook TM, Woodall N, Frerk C. *Major complications of airway management in the United Kingdom. 4th National Audit Project of the Royal College of Anaesthetists and the Difficult Airway Society. Report and findings,* 2011 (www.rcoa.ac.uk/nap4).

6 Merry AF, Cooper JB, Soyannwo O, Wilson IH, Eichhorn JH. An iterative process of global quality improvement: The International Standards for a Safe Practice of Anesthesia 2010. *Can J Anesth* 2010; 57: 1021–6

7 Milby A, Böhmer A, Gerbershagen MU, Joppich R, Wappler F. Quality of postoperative patient handover in the post-anaesthesia care unit: A prospective analysis. *Acta Anaesthesiol Scand* 2014; 58: 192–7

8 Smith AF, Pope C, Goodwin D, Mort M. Interprofessional handover and patient safety in anaesthesia: Observational study of handovers in the recovery room. *BJA* 2008; 101: 332–7

9 Doyle C, Howe C, Woodcock T *et al.* Making change last: applying the NHS institute for innovation and improvement sustainability model to healthcare improvement. *Implement Sc.* 2013; 8: 127

10 Immediate Post-anaesthesia Recovery 2013. *Anaesth* 2013;68(3):288–297.

11 Resuscitation Council (UK). *Quality Standards*, 2014 (bit.ly/1TRI4l6).

12 Faculty of Pain Medicine. *Core Standards for Pain Management Services in the UK (CSPMS UK),* 2015 (bit.ly/1k6uvly)

13 Department of Health. *HBN 26 Facilities for Surgical Procedures. NHS Estates,* 2004 (bit.ly/1RtwFu0).

14 Royal College of Anaesthetists. *Guidelines for the provision of emergency anaesthesia services*, London 2019

15 Department of Health. *Safer Management of Controlled Drugs*, London 2007 (bit.ly/2kHHhOa)

16 Whitaker DK, Brattebø G, Smith AF, Staender SE. The Helsinki Declaration on Patient Safety in Anaesthesiology: Putting words into practice. *Best Pract Res Clin Anaesthesio*. 2011; 25: 277–90

17 Association of Anaesthetists of Great Britain and Ireland. Recommendations for standards of monitoring during anaesthesia and recovery 2015. *Anaesthesia* 2016; 71: 85-93

18 European Board of Anaesthesiology. Recommendations for minimal monitoring during Anaesthesia and Recovery. (bit.ly/1NBDsf6)

19 Bartels K, Barbeito A, Mackensen G. The anesthesia team of the future. *Curr Opin Anaesthesiol* 2011; 24: 687–92

20 Phillips NM, Street M, Kent B, Cadeddu M. Determining criteria to assess patient readiness for discharge from postanaesthetic care: An international Delphi study. *J Clin Nurs* 2014:3345–55

21 Scottish Intercollegiate Guidelines Network. *Management of chronic pain (SIGN 136),* 2013 (bit.ly/2kiZ5Py)

22 Dhatariya K, Levy N, Flanagan D *et al*. Management of adults with diabetes undergoing surgery and elective procedures:improving standards Summary. *NHS Diabetes*, 2016 (bit.ly/1n1D9UF).

23 Association of Anaesthetists of Great Britain and Ireland. Peri-operative management of the surgical patient with diabetes 2015. *Anaesthesia* 2015; 70: 1427-40

24 Scottish Intercollegiate Guidelines Network. *Care of deteriorating patient (SIGN 139)*, 2014 (bit.ly/2lQRp7g)

25 McGory ML, Shekelle PG, Rubenstein LZ, Fink A, Ko CY. Developing quality indicators for elderly patients undergoing abdominal operations. *J Am Coll Surg* 2005; 201: 870–83

26 Ensuring the provision of general paediatric surgery in the district general hospital children's surgical forum: Guidance to commissioners and service planners. *Roy Coll Surg*, 2010. (bit.ly/2lJc65b)

27 Mason DG, Wilkinson K, Gough MJ *et al*. Are we there yet? A review of the organisational and clinical aspects of children's surgery. *NCEPOD*, 2011 (bit.ly/1mrKJrh)

28 Royal College of Nursing. *Health care service standards in caring for neonates, children and young people*, 2014

29 Royal College of Anaesthetists. *Your Child's General Anaesthetic*, London 2017

30 Royal College of Paediatrics and Child Health. *Safeguarding Children and Young people: roles and competences for health care staff. Intercollegiate document*, 2014 (bit.ly/PX7CCF)

31 Stanko D, Bergesio R, Davies K, Hegarty M, von Ungern-Sternberg BS. Postoperative pain, nausea and vomiting following adeno-tonsillectomy – a long-term follow-up. *Paediatr Anaesth* 2013; 23: 690–6

32 National Institute for Health and Care Excellence. *Intravenous fluid therapy in children and young people in hospital.* NICE NG29, 2015 (bit.ly/2tuVZM5).

33 Ready LB, Edwards WT. Management of acute pain: a practical guide. *IASP*, Seattle 1992.

34 National Institute for Health and Care Excellence. *Sedation in under 19s: using sedation for diagnostic and therapeutic procedures.* NICE CG112, 2010 (bit.ly/2tywWrh)

35 National Confidential Enquiry into Patient Outcome and Death (NCEPOD): An Age Old Problem. *NCEPOD*, 2010 (bit.ly/1OAR3Do)

36 Stone P, Doherty P. Anaesthesia for elderly patients. *Anaesth Inten Care Med* 2007; 8: 361–4

37 Aubrun F. Management of Postoperative Analgesia in Elderly Patients. *Reg Anesth Pain Med* 2005; 30: 363–79

38 Mental Capacity Act 2005. *HMSO*, 2005 (bit.ly/1Hz3HDZ)

39 Adults With Incapacity (Scotland) Act 2000 (bit.ly/2lzgZJY)

40 Mental Capacity Act (Northern Ireland) 2016 (bit.ly/2lzflYZ)

41 Association of Anaesthetists of Great Britain and Ireland. Peri-operative management of the obese surgical patient. *Anaesthesia* 2015; 70: 859–76

42 Association of Anaesthetists of Great Britain and Ireland. Peri-operative management of the obese surgical patient 2015. *Anaesthesia* 2015; 70: 859–76

43 Schug SA, Raymann A. Postoperative pain management of the obese patient. *Best Pract Res Clin Anaesthesiol* 2011; 25: 73–81

44 Kaw R, Pasupuleti V, Walker E, Ramaswamy A, Foldvary-Schafer N. Postoperative complications in patients with obstructive sleep apnea. *Chest* 2012; 141: 436–41

45 Faculty of Intensive Care and Intensive Care Society. *Guidelines for the Provision of Intensive Care Services,* 2016 (bit.ly/2kheueK)

46 Intensive Care Society. *Managing Patient Flow; Levels of Care Definitions*, 2008 (bit.ly/1PdxJkf)

47 Segall N, Bonifacio AS, Schroeder RA *et al.* Can we make postoperative patient handovers safer? a systematic review of the literature. *Anesth Analg* 2012; 115: 102–15

48 Campbell G, Arfanis K, Smith AF. Distraction and interruption in anaesthetic practice. *BJA* 2012; 109: 707–15

49 Royse CF, Chung F, Newman S, Stygall J, Wilkinson DJ. Predictors of patient satisfaction with anaesthesia and surgery care: a cohort study using the Postoperative Quality of Recovery Scale. *Eur J Anaesthesio*. 2013; 30: 106–10

50 Royal College of Anaesthetists. *Raising the Standard : A Compendium of Audit Recipes*, 2012 (bit.ly/1IYHMsb)

51 Royal College of Anaesthetists. *You and your anaesthetic*, London 2014

52 Royal College of Anaesthetists. *Guidance on the Provision of Anaesthesia Services for Preoperative Assessment and Preparation*, 2018

Appendix 1: Recommendations grading

The grading system is outlined in the methodology section of this chapter. The grades for each of the recommendations in this chapter are detailed in the table below:

Recommendation number	Level of evidence	Strength of recommendation
1.1	C	Strong
1.2	C	Strong
1.3	C	Strong
1.4	C	Strong
1.5	C	Strong
1.6	GPP	Strong
1.7	C	Strong
1.8	C	Strong
1.9	C	Strong
1.10	C	Strong
1.11	GPP	Weak
2.1	M	Mandatory
2.2	M	Mandatory
2.3	M	Mandatory
2.4	C	Strong
2.5	C	Strong
2.6	C	Strong
2.7	M	Strong
2.8	M	Mandatory
2.9	C	Strong
2.10	GPP	Strong
2.11	C	Strong
2.12	B	Strong
2.13	C	Strong
2.14	B	Strong
2.15	B	Strong
2.16	C	Strong
2.17	C	Strong
2.18	GPP	Strong
2.19	C	Strong
3.1	C	Strong
3.2	M	Mandatory
3.3	M	Mandatory

Recommendation number	Level of evidence	Strength of recommendation
3.4	C	Strong
3.5	C	Strong
3.6	C	Weak
3.7	C	Weak
3.8	C	Weak
3.9	C	Weak
3.10	M	Mandatory
3.11	C	Strong
3.12	C	Strong
3.13	C	Strong
3.14	C	Strong
3.15	C	Strong
3.16	C	Strong
3.17	C	Strong
3.18	C	Aspirational
3.19	GPP	Strong
3.20	C	Strong
3.21	C	Strong
3.22	M	Mandatory
3.23	GPP	Strong
3.24	C	Strong
3.25	C	Strong
3.26	C	Strong
3.27	GPP	Weak
3.28	GPP	Weak
3.29	GPP	Weak
3.30	GPP	Weak
4.1	C	Strong
4.2	GPP	Strong
4.3	C	Strong
4.4	C	Strong
4.5	GPP	Strong
4.6	GPP	Strong
4.7	C	Strong
5.1	C	Strong
5.2	GPP	Strong

Recommendation number	Level of evidence	Strength of recommendation
5.3	C	Strong
5.4	C	Strong
5.5	C	Strong
5.6	C	Strong
5.7	GPP	Strong
5.8	GPP	Strong
6.1	C	Strong
7.1	C	Aspirational
7.2	C	Aspirational
7.3	GPP	Aspirational
7.4	C	Strong
7.5	C	Aspirational
9.1	C	Strong
9.2	C	Strong
9.3	GPP	Strong

The completed recommendation grading forms are available on request.

About these guidelines

Methodology

The process by which this chapter has been developed has been documented within the GPAS Chapter Development Process Document.

The evidence included in this chapter is based on a systematic search of the literature (Embase, Ovid MEDLINE, CINAHL, Cochrane Library). Abstracts were independently screened by two investigators and reviewed against inclusion and exclusion criteria. Data were extracted by one investigator in accordance with predefined criteria. The review objective was to determine the key components needed to ensure provision of high quality post-anaesthetic services for patients who have undergone surgery and/or interventions which involve anaesthesia.

Search strategy

Searches were performed on Embase (1980 to 2015), Ovid MEDLINE (1946 to present), CINAHL and the Cochrane Library, for the literature search strategy, outcomes, databases and criteria for inclusion and exclusion of evidence; please see GPAS Supporting Documents for the Postoperative Anaesthesia Chapter Search Protocol. A hand search of the literature was also conducted by the authors using the reference lists of relevant original articles and review articles.

The literature search was performed in March 2015. An updated search was performed in August 2016.

The authors and researcher independently reviewed the abstracts and titles of the studies found in the initial search. After agreement on the primary selection of papers, full text versions were accessed and reviewed against the following predefined inclusion and exclusion criteria. The full

text papers were also reviewed by the CDG for suitability, the final list of publications used can be found in the reference list.

Inclusion criteria

This review considered studies that included the following criteria:

- patients of all ages undergoing elective or emergency anaesthesia
- all staff groups working within the postoperative phase of anaesthesia, including (but not restricted to) anaesthetists, nurses, physician's assistants in anaesthesia (PA(A)s), operating department practitioners, surgeons, pharmacists and general practitioners
- all settings in which postoperative anaesthetic services are provided including (but not restricted to) operating theatres, day-surgery units, endoscopy, radiology, labour ward, electroconvulsive therapy, dentistry.

Exclusion Criteria

- Studies that investigated the provision of a postoperative anaesthesia service provided by a speciality other than anaesthesia were excluded.
- Publications that duplicated data that had been reported in an earlier publication were also excluded.

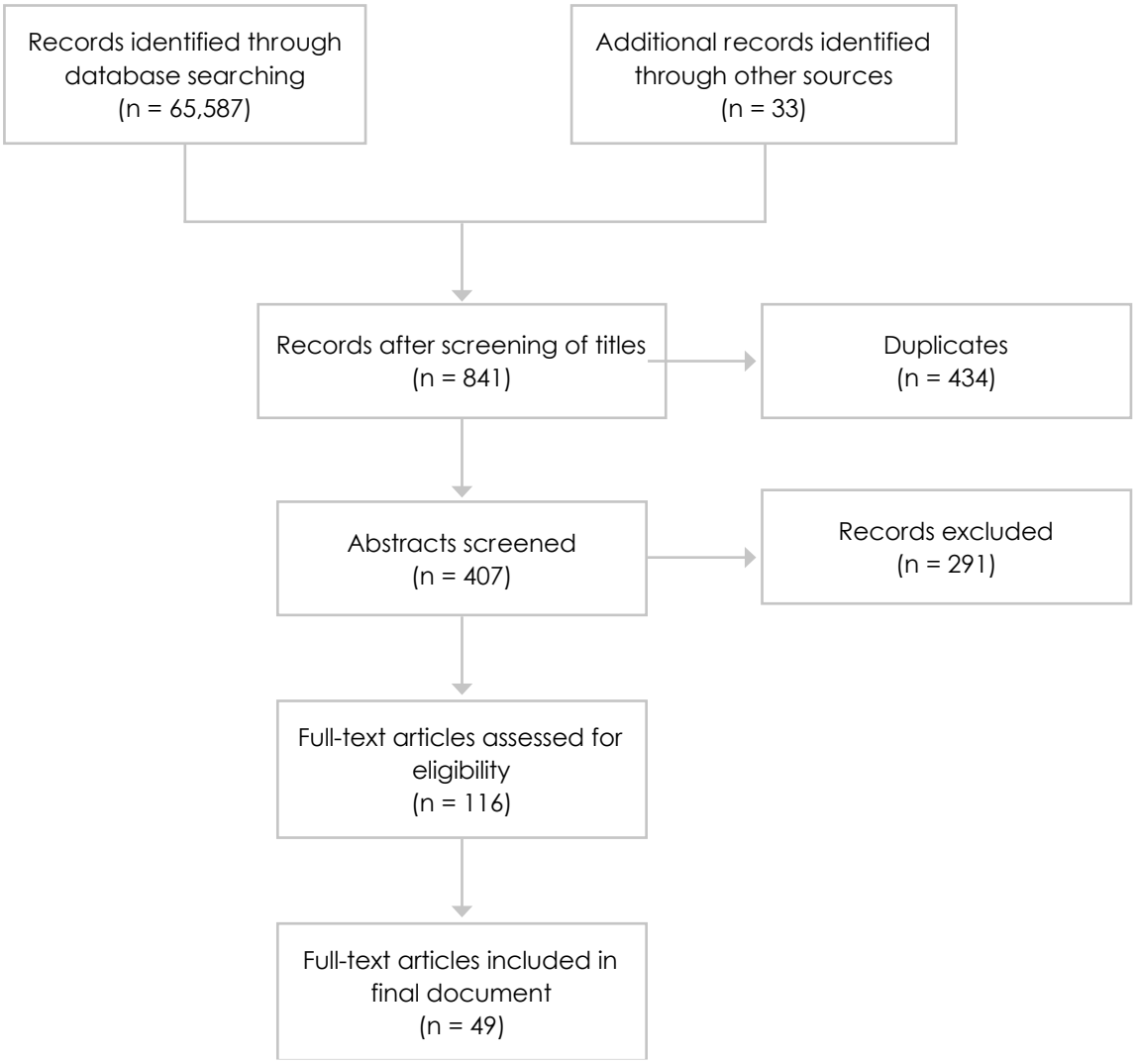
Data extraction and analysis

Data were extracted by the authors using a proforma. The study characteristics data included; the Journal and country of publication, the number of patients recruited into the study, the study design, patient characteristics, outcome data, the logic of the argument, author's conclusions and reviewer's comments.

The patient characteristics data extracted were age, sex and type of surgery. The analysis considered studies that included any clinical outcome, including (but not restricted to) survival, length of stay in critical care and hospital, morbidity, adverse effects and complications.

The results of the initial literature review can be seen below:

Preferred Reporting Systems for Systematic Review and Meta-analysis (PRISMA) flow chart



The evidence that is included in this chapter has been graded according to an adapted version of the National Institute for Health and Care Excellence (NICE) 'Hierarchy of evidence and recommendations grading scheme', outlined below:

Level	Type of evidence	Grade	Evidence
Ia	Evidence obtained from a single large/multicentre randomised controlled trial, a meta-analysis of randomised controlled trials or a systematic review with a low risk of bias	**A**	At least one randomised controlled trial as part of a body of literature of overall good quality and consistency addressing the specific recommendation (evidence level I) without extrapolation
Ib	Evidence obtained from meta-analyses, systematic reviews of RCTs or RCTs with a high risk of bias	**B**	Well-conducted clinical studies but no high-quality randomised clinical trials on the topic of recommendation (evidence levels Ib, II or III); or extrapolated from level Ia evidence
IIa	Evidence obtained from at least one well-designed controlled study without randomisation		
IIb	Evidence obtained from at least one well-designed quasi-experimental study		
IIc	Evidence obtained from case control or cohort studies with a high risk of confounding bias		
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies		
IV	Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities	**C**	Expert committee reports or opinions and/or clinical experiences of respected authorities (evidence Level IV) or extrapolated from level I or II evidence. This grading indicates that directly applicable clinical studies of good quality are absent or not readily available
UG	Legislative or statutory requirements	**M**	This grading indicates that implementation of this recommendation is a statutory requirement, or is required by a regulatory body (e.g. CQC, GMC)
		GPP	Recommended good practice based on the clinical experience of the CDG
Adapted from Eccles M, Mason J. How to develop cost-conscious guidelines. *Health Technology Assessment* 2001;5(16) and Mann T. Clinical guidelines: using clinical guidelines to improve patient care within the NHS. *Department of Health*, London 1996.			

Limitations of the body of evidence

The limitations of the evidence are:

- the 'unmeasurables' (attitudes, behaviour, motivation, leadership, teamwork)
- poor or limited outcome measures
- small numbers in studies
- decrease in outcome over time and geography when 'good papers' are used in Quality Improvement programmes
- few RCTs; evidence was mainly based on opinion (e.g. editorials)
- papers often examine a single intervention within a complex system or bundle
- papers are often examining small numbers and/or patients from a single centre
- poor use of outcome measures, frequently concentrating on easily measured short-term outcomes which are not patient-centred
- generally a paucity of long-term follow-up.

Methods used to arrive at recommendations

Recommendations were initially drafted based on the evidence by the lead authors for the chapter. These were discussed with the chapter development group, and comments were received on both the content and the practicality of the recommendations. The level of evidence that formed the basis for each recommendation was graded according to a grading system, and the recommendation was then graded taking into account the strength of the evidence and the clinical importance using a recommendations criteria form (see GPAS Chapter Process Document). Recommendations were worded using the following system of categorisation:

Strength	Type of evidence	Wording
Mandatory	The evidence supporting the recommendation includes at least one with an 'M' grading	Wording should reflect the mandatory nature of the recommendation, i.e. *'must'*
Strong	Confidence that for the vast majority of people, the action is more likely to benefit the patient than cause harm	Wording should be clearly directive *'should'* or *'should not'*
Weak	The action is more likely to benefit the patient than cause harm for most patients, but may include caveats on the quality or size of evidence base or patient preferences	Wording should include *'should be considered'*
Aspirational	While there is some evidence that implementation of the recommendation could improve patient care, either the evidence or the improvement is not proven or substantial	Wording should include *'could'*
Equipoise	There is no current evidence on this recommendation's effect on patient care	Wording should include *'there is no evidence of this recommendation's effect on patient care'*

Limitations and any potential bias of the guideline

- there is a wide variety of National Health Service (NHS) hospitals (size, population)
- the sustainability and acceptability of applying new findings has not been tested.

Consultation

The chapter has undergone several rounds of consultation. The multidisciplinary CDG formed the first part of the consultation process. The authors and GPAS Editorial Board identified key stakeholder groups. Where stakeholders are represented by an association or other medical college, they were asked to nominate delegates to join the CDG. The Chapter Process Document explains the recruitment process for those CDG members who were not directly nominated. The CDG members were involved in drafting the recommendations, and were provided with an opportunity to comment on all subsequent drafts of the chapter.

The chapter underwent peer review. Peer reviewers were identified by the GPAS Editorial Board or Professional Standards Committee. Nominees were either anaesthetists of consultant grade or were nominated by a key stakeholder group. Nominees had not had any involvement in the development of GPAS to date and were asked to comment upon a late draft of the chapter.

Following peer review, the chapter was reviewed by the College's Professional Standards Committee and the College's Lay Committee. Comments from all groups were considered and incorporated into a consultation draft.

The consultation draft of this chapter was circulated for public consultation from 23rd November to 21st December 2015. As well as being made available on the College's website and promoted via Twitter and the President's newsletter to members, the draft was also circulated to all key stakeholder groups identified by the authors and the College. A list of organisations contacted by the College is available from the GPAS team at the College: GPAS@rcoa.ac.uk.

The Editorial Independence of GPAS

The development of GPAS is wholly funded by the Royal College of Anaesthetists. However, only the GPAS technical team and the GPAS researcher are paid directly by the College for their work on GPAS: the GPAS Editors' employing organisation receives 2 programmed activities (PA) backfill funding. All funding decisions by the College are made by the chief executive officer, in collaboration with the senior management team and College Council.

The authors of the chapters are all fellows of the Royal College of Anaesthetists. Members of College Council cannot act as chair of any CDG, as this individual has the deciding vote under the consensus method of decision making used in the chapters. Where College Council members have been involved in chapter development, this has been declared and recorded.

All persons involved in the development of GPAS are required to declare any pecuniary or non-pecuniary conflict of interest, in line with the GPAS conflict of interest policy as described in the GPAS Chapter Development Process Document. Any conflicts of interest are managed on a case-by-case basis to maintain the transparency and impartiality of the GPAS document. The conflicts, and the way they were managed, are outlined at the beginning of the chapter.

The role of the GPAS Editorial Board and CQRB

The overall development of the entire GPAS document is overseen by the CQRB of the Royal College of Anaesthetists, which includes representatives from all grades of anaesthetist and from clinical directors, and which also has lay representation.

Responsibility for managing the scope of the document and providing clinical oversight to the project technical team is delegated by the CQRB to the GPAS Editorial Board, which includes individuals responsible for the various internal stakeholders (see above for membership). On the inclusion/exclusion of specific recommendations within each chapter, the Editorial Board can only provide advice to the authors. In the event of disagreement between the authors, the majority rules consensus method is used, with the GPAS Editor holding the deciding vote.

Both of these groups, along with the College's Lay Committee, review each chapter and provide comment prior to public consultation and are responsible for signoff before final publication. In the event of disagreement, consensus is reached using the majority rules consensus method, with the chair of CQRB holding the deciding vote.

Updating these guidelines

This chapter will be updated for republication in January 2020.

Guidelines will be updated on an annual basis. The researcher will conduct the literature search again using the same search strategy to uncover any new evidence, and members of the public will be able to submit new evidence to the GPAS project team. Where new evidence is uncovered, the lead author will decide whether the recommendations that were originally made are still valid in light of this new evidence.

If new evidence contradicts or strengthens existing recommendations, the authors will decide whether or not to involve the remainder of the CDG in revising the recommendations accordingly.

If new evidence agrees with existing recommendations, then a reference may be added but no further action is required.

If there is no new evidence then no action is required.

This chapter is due to be fully reviewed for publication in January 2022.

Every five years guidance will be submitted to a full review involving reconvening the Chapter Development Group (or appointment of a new, appropriately qualified Chapter Development Group), and the process described in the methodology section of this chapter begins again.

Royal College of Anaesthetists

Royal College of Anaesthetists, Churchill House, 35 Red Lion Square, London WC1R 4SG
020 7092 1500 | www.rcoa.ac.uk/gpas | gpas@rcoa.ac.uk