

Chapter 6

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidelines for the Provision of Anaesthesia Services for Day Surgery 2019



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Declarations of interest

All chapter development group (CDG) members, stakeholders and external peer reviewers were asked to declare any pecuniary or non-pecuniary conflict of interest, in line with the Guidelines for the Provision of Anaesthesia Services (GPAS) conflict of interest policy as described in the [GPAS Chapter Development Process Document](#).

Declarations were made as follows:

- two members were authors of two of the items of evidence.

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.

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 successful outcome in every case, nor should they be construed as including all proper methods of care or 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.

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 the need to ensure services are provided in an integrated way where this might reduce health inequalities.

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GPAS guidelines in context

The GPAS documents should be viewed as 'living documents'. The GPAS guidelines 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. Guidelines on the general provision of anaesthetic services are detailed in the following chapters of GPAS:

- chapter 2: guidelines for the provision of anaesthesia services for preoperative assessment and preparation
- chapter 3: guidelines for the provision of anaesthesia services for intraoperative care
- chapter 4: guidelines for the provision of anaesthesia services for postoperative care

These guidelines apply to all patients who require anaesthesia or sedation, and are under the care of an anaesthetist. For urgent or immediate emergency interventions, this guidance may need to be modified as described in chapter 5: guidelines for the provision of emergency anaesthesia.

The rest of the chapters of GPAS apply only to the population groups and settings outlined in the 'Scope' section of these chapters. They outline guidance that is additional, different or particularly important to those population groups and settings included in the 'Scope'. Unless otherwise stated within the chapter, the recommendations outlined in chapters 2–5 still apply.

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.

Aims and objectives

The objective of this chapter is to promote current best practice for service provision in vascular anaesthesia. The guidance is intended for use by anaesthetists with responsibilities for service delivery and by healthcare managers.

This guideline does not comprehensively describe clinical best practice in vascular anaesthesia, but is primarily concerned with the requirements for the provision of a safe, effective, well-led service, which may be delivered by many different acceptable models. The guidance on provision of vascular anaesthesia applies to all settings where this is undertaken, regardless of funding arrangements. All age groups are included within the guidance unless otherwise stated, reflecting the broad nature of this service.

A wide range of evidence has been rigorously reviewed during the production of this chapter, including recommendations from peer reviewed publications and national guidance where available. However, both the authors and the CDG agreed that there is a paucity of level 1 evidence relating to service provision in vascular anaesthesia. In some cases, it has been necessary to include recommendations of good practice based on the clinical experience of the CDG. We hope that this document will act as a stimulus to future research.

The recommendations in this chapter will support the RCoA's Anaesthesia Clinical Services Accreditation (ACSA) process.

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Scope

Clinical management

Key components for the provision of anaesthesia services for day surgery or to ensure provision of high quality anaesthetic services for day surgery.

Areas of provision considered:

- levels of provision of service, including (but not restricted to) staffing, equipment, support services and facilities
- areas of special requirement, such as children, prisoners, surgery on isolated sites
- training and education
- organisation and administration
- research and audit
- patient information.

Target audience

All staff groups working in vascular procedures, including (but not restricted to) consultant anaesthetists, staff grade, associate specialist and specialty (SAS) anaesthetists, anaesthetists in training, operating department practitioners and nurses.

Target population

All ages of patients undergoing day surgery.

All staff groups working in day surgery, including (but not restricted to) consultant anaesthetists, staff grade, specialty and associate specialist (SAS) anaesthetists, trainee anaesthetists, ODPs and nurses.

Healthcare setting

All settings within the hospital in which day surgery is provided.

Exclusions

'True day surgery' patients are those undergoing day surgery requiring full operating theatre facilities and/or a general anaesthetic. This chapter encompasses the anaesthetic service provision for 'true day surgery' patients who are admitted and discharged on the day of their surgical treatment. It does not include 'short-stay', endoscopy or outpatient procedures.

Many hospitals perform a variety of day surgery work, such as dental and ophthalmic surgery, in specialised units. This chapter encompasses standards of provision of anaesthetic services for day surgery in these sites. However, standards of provision of anaesthesia in imaging suites, standalone dental departments and psychiatric units are outlined in a later chapter of this document 'Guidance on the provision of anaesthetic care in the non- theatre environment'.¹

Clinical guidelines specifying how healthcare professionals should care for patients.

National level issues.

Provision of day surgery services provided by a specialty other than anaesthesia.

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Introduction

Day surgery is the planned admission of a surgical patient for an elective or semi-elective procedure where the patient is admitted, undergoes surgery and is discharged on the same calendar day.² If the patient remains in a hospital bed overnight on the day of their surgery they are classed as having undergone inpatient surgery. The term '23-hour stay' surgery, which is more commonly used in the United States, has caused confusion among some UK practitioners. This is short-stay inpatient surgery and is not included in the UK definition of day surgery. The NHS Plan (2000) stipulated that at least 75 per cent of elective surgery should be undertaken on a day case basis.³ In 2004, the Department of Health NHS Modernisation agency in its *10 high impact changes for service improvement and delivery* stated that day surgery rather than inpatient surgery should be treated as the norm for elective surgery.⁴ In the intervening years, huge strides have been made in the development of day surgery across the country; however, there is wide variation.⁵ The top performing units are achieving very high day case rates; however, others struggle to reach the 75 per cent target as set out in the NHS plan. While absolute day case rates for an individual hospital may reflect differences in case mix, there is still wide variation across the country when comparing individual procedures.

Day surgery encompasses a spectrum of surgical procedures that allows the patient to go home on the day of surgery, usually after a few hours. It represents high-quality patient care using surgical techniques resulting in reduced tissue trauma, enhanced recovery, effective analgesia, minimal adverse events, provision of appropriate information and postoperative support. Improvements in the provision of anaesthesia and analgesia and the introduction of minimal-access surgical techniques allow a range of procedures to be undertaken on a day case basis, which formerly would have required inpatient services.^{2,6}

Day surgery outcomes can be measured in terms of quantity (percentages of procedures undertaken on a day case basis) and quality (for example unplanned admission rates, patient satisfaction, postoperative symptoms). For a hospital to have successful day surgery outcomes, a variety of clinical and managerial processes are required. There should be a multidisciplinary management team responsible for the strategic development and running of the day surgery unit and a dedicated clinical lead or clinical director with allocated programmed activities to allow them to lead service development. Consultant anaesthetic involvement is essential in the development of policies, protocols and guidelines designed to facilitate smooth running of the day surgery unit and preoperative assessment processes.^{7,8,9,10,11}

There should be a clear day surgery process for all day surgery patients treated within the trust whether through dedicated facilities, which is the ideal scenario, or through the inpatient operating theatres, which should only be supported if the development of dedicated facilities is either not a viable option or there is insufficient capacity to accommodate all day surgery activity.

Processes should be in place to ensure that all appropriate patients are considered for day surgery management. This includes adopting the British Association of Day Surgery (BADs) directory of procedures and ensuring that all recommended procedures default to day surgery management where clinically appropriate.⁶ Preoperative assessment processes, which enable the majority of patients to be safely managed within day surgery pathways, are essential. This includes children, the elderly, and patients with complex medical conditions.

Anaesthesia for day surgery should be consultant-led and all anaesthetists delivering day surgical care must be trained, experienced and skilled in the practice of anaesthesia for day surgery. This is in order to provide the high quality anaesthesia pivotal to successful outcomes.⁹ The day surgery unit provides an ideal training opportunity and training in anaesthesia for day surgery is essential. However, less experienced anaesthetists should not be the sole provider of anaesthesia.^{2,12} During their day surgery training, anaesthetists need to develop techniques that permit their patients to

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undergo surgical procedures with minimum stress and maximum comfort, and optimise their chance of early discharge.

Effective audit is essential in the provision of quality anaesthesia for day surgery.^{5,8,9,13}

Some day surgery units or 'treatment centres' may be sited in a geographically separate location from the main hospital building. Self-contained units must be sufficiently equipped and have access to all the necessary perioperative support services. Patient selection should consider the availability of additional help in an emergency, and ease of overnight admissions if required. Patients deemed unsuitable for anaesthesia or surgery in these isolated locations may very well still be appropriate for a day surgery pathway managed through the main hospital facilities.

Anaesthetists play a pivotal role in achieving successful outcomes for day surgery patients. Working as part of the multidisciplinary team, anaesthetists can and should contribute in more ways than solely providing anaesthesia.

Recommendations

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

1 Staffing requirements

- 1.1 Day surgery should be a consultant led service (surgical and anaesthetic) with a dedicated clinical lead or clinical director who has programmed activities allocated to the role within their job plan.^{7,8,9}
- 1.2 High quality anaesthesia is pivotal to achieving successful outcomes following day surgery. The majority of anaesthesia for day surgery should be delivered by consultant anaesthetists.^{14,15} staff grade, associate specialist and specialty doctors (SAS) grade doctors and experienced trainee anaesthetists may also provide anaesthesia for day surgery. However, these doctors should be suitably experienced and skilled in techniques appropriate to the practice of day surgery^{1,4,16} and have undertaken appropriate training in the provision of anaesthesia for day surgery.¹²
- 1.3 Anaesthetists should have been trained in this field to the standards required by the Royal College of Anaesthetists.¹²
- 1.4 Physician assistant (anaesthesia) (PA(A)s) should work under the supervision of a consultant anaesthetist at all times as required by the RCoA.¹⁷
- 1.5 Preoperative assessment clinics should have a nominated consultant or SAS lead, and be delivered by a team specifically trained in preoperative assessment and preparation for day surgery.⁶
- 1.6 The secondary recovery area in the day surgery unit should be staffed to match patients' needs and consideration should be given to the skill mix as well as numbers of staff.¹⁸
- 1.7 The secondary recovery area in the day surgery unit should be staffed with adequate numbers of registered nurses trained in nurse-led discharge.¹⁸
- 1.8 When children are present on the unit, there should be a registered paediatric nurse present at all times. The Royal College of Nursing standards recommend two registered paediatric nurses at all times.¹⁹
- 1.9 When children are present on the unit, support workers and health play specialists should play a key role within day surgery provision.¹⁹

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1.10 The day surgery unit should have appropriate administrative support.

2 Equipment, services and facilities

Facilities

- 2.1 The minimum operating facility required is a dedicated operating session in a properly equipped operating theatre.
- 2.2 The ideal day surgery facility is a purpose-built, self-contained day surgery unit (DSU), with its own ward, recovery areas and dedicated operating theatre(s). This may be contained within a main hospital or in its grounds, to facilitate access to inpatient or critical care facilities, or it may be a freestanding unit remote from the main hospital site.
- 2.3 A viable alternative is for patients to be admitted to and discharged from a dedicated day surgery ward, with surgery undertaken in the main theatre suite. This arrangement may be more flexible for complex work and avoids duplicating theatre skills and equipment.
- 2.4 Every effort should be made to avoid mixing day cases and inpatients on the same operating list to maintain quality of care and efficiency.²⁰
- 2.5 Day case patients should only be managed through inpatient wards in rare circumstances, as this greatly increases their chance of an unnecessary overnight stay.^{9,20}
- 2.6 Facilities for privacy and confidentiality during preoperative discussion and examination should be provided.⁹ Preoperative discussions with patients in crowded waiting rooms should be avoided.
- 2.7 Adequate time and facilities should be provided within the DSU to enable the multidisciplinary clinical team to undertake all aspects of the admission process; including clinical assessment, further discussion about the procedure and delivery of information.
- 2.8 Each DSU should have a fully equipped recovery area, staffed by recovery personnel trained to defined standards.^{8,9,12}
- 2.9 Dedicated day surgery secondary recovery areas should be provided, which are not part of an inpatient ward area. This area should ideally be separated into male and female wards.
- 2.10 Children should be separated from and not managed directly alongside adults throughout the patient pathway, including reception and recovery areas. Where complete separation is not possible, the use of screens or curtains, while not ideal, may provide a solution.^{21,27}
- 2.11 The secondary recovery area should provide essential close and continued supervision of all patients, who should be visible to the nursing staff while maintaining privacy and dignity.
- 2.12 The secondary recovery area should have single-sex patient toilet facilities and ability to provide drinks and snacks.²¹
- 2.13 The secondary recovery unit should not accept inpatient activity and even at times of severe hospital escalation, every effort should be made to avoid this as it will significantly affect the day surgery activity and quality of the care provided to the day surgery patients.
- 2.14 Secure storage for patients' belongings and medications should be available.
- 2.15 Waiting areas should be available for parents and carers who need to be available to support patients immediately after surgery.

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Equipment

- 2.16 Theatre and anaesthetic related equipment should always be equivalent to that provided for inpatient surgery. It should be regularly maintained and where possible standardised across all theatre suites within a hospital.²²
- 2.17 The recommended Association of Anaesthetists standards of anaesthetic monitoring should be met for every patient.²³
- 2.18 Full resuscitation equipment and drugs should be provided as outlined by the Resuscitation Council and hospital policy.²⁴
- 2.19 Peripheral nerve blocks, spinal/epidural blocks and intravenous regional anaesthesia often provide excellent conditions for day surgery.^{25,26} Equipment to facilitate these techniques, such as nerve stimulators and ultrasound machines, should be available.
- 2.20 Short acting anaesthetic drugs and appropriate equipment to facilitate their delivery should be available in day surgery units.
- 2.21 The use of operating trolleys for the entire patient pathway rather than theatre tables and hospital beds should be considered to maximise efficiency and reduce manual handling risk.

Support services

- 2.22 Support services including radiology, pharmacy and investigative laboratories should be available.
- 2.23 The facility to perform a 12-lead electrocardiogram and other point of care tests, such as international normalised ratio, should be available within the DSU itself.

Information technology

- 2.24 Information technology systems in the DSU should be designed to record all elements of the day surgery pathway and allow for paperless records.
- 2.25 All information systems used in inpatient theatres should be available in day surgery theatres.
- 2.26 Information systems should allow for regular reporting and locally customised reporting to support quality improvement work.

3 Areas of special requirement

Children

Day surgery is particularly appropriate for children.

- 3.1 The lower age limit for day surgery depends on the facilities and experience of staff and the medical condition of the infant. Ex-preterm neonates should not be considered for day surgery unless medically fit and beyond 60 weeks post conceptual age.²⁷
- 3.2 For children, a staff member with an advanced paediatric life support qualification or an anaesthetist with paediatric competencies should be immediately available.^{28,29}
- 3.3 Infants with a history of chronic lung disease or apnoeas should be managed in a centre equipped with facilities for postoperative ventilation.
- 3.4 Infants, children and young people should, where possible, be managed in a dedicated paediatric unit, or have specific time allocated in a mixed adult/paediatric unit, where they are separated from adult patients.²⁷

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- 3.5 Nursing staff caring for children should be skilled in paediatric and day surgical care and trained in child protection.
- 3.6 There should be access to a paediatrician. Where the DSU does not have inpatient paediatric services, robust arrangements should be in place for access to a paediatrician and transfer to a paediatric unit if necessary.²⁷
- 3.7 A preadmission programme for children should be considered, to decrease the impact and stress of admission to the DSU on the day of surgery.^{30,31}

Prisoners

- 3.8 Pathways for the treatment of prisoners as day cases should be agreed with the local prison services.
- 3.9 The hospital should ensure that prisoners have adequate access to postoperative analgesia.
- 3.10 Some prisons do not have the facility to provide analgesia if the medical officer is not on duty. Special arrangements may be required to allow certain medications to be available within the prisoner's cell or for additional arrangements to be made to enable patients to receive overnight postoperative analgesia.
- 3.11 The hospital should consider making an agreement on the safe provision of privacy and dignity for prisoners with the local prison governor with regard to the use of restraints.

Emergency day surgery

- 3.12 Consideration should be given to the provision of theatre time dedicated to emergency day surgery.
- 3.13 Suitable cases for treatment as day cases should be identified by the surgical team.
- 3.14 Preoperative assessment should when possible be provided to the same standard as that used for elective day surgery.

Morbidly obese patients

- 3.15 There should be no restriction to treating a patient as a day case based on weight alone. Even morbidly obese patients can safely be managed in expert hands with appropriate resources.³²
- 3.16 Super morbidly obese patients (BMI >50) should be assessed on an individual basis to ascertain whether additional equipment or staffing are required for their safe management.
- 3.17 Patients should be assessed for their risk of sleep apnoea using tools such as STOP BANG.³³
- 3.18 Whilst even morbidly obese (BMI >40) patients can be managed through a day surgery pathway, it may be inappropriate to operate upon them in an isolated environment. In this case, their surgery could be undertaken through a day surgery pathway using the main hospital operating theatres if this environment has the specialist equipment required for obese patients. The patient should where possible be transferred to the day surgery unit for subsequent secondary recovery and discharge.

Isolated sites

- 3.19 Where day surgery is performed in isolated units, practice should comply with the RCoA guidelines on anaesthetic services in remote sites.^{1,34}

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3.20 There should be agreed pathways for patients who require admission to hospital following their day surgery procedure.

4 Training and education

4.1 All day surgery staff should receive appropriate training for post anaesthesia and postsurgical care. Training should be tailored to meet the needs of the individual staff member and the day surgery unit.^{7,8}

4.2 Standards and training for clinical staff working within the primary recovery area should be as defined within chapter 4.³⁵

4.3 Training should be multidisciplinary, with the use of simulation encouraged.³⁶

4.4 Appropriate and comprehensive training in this subspecialty should be given according to current standards as defined by the RCoA.¹⁷

4.5 Training needs to emphasise the following aspects:

- patient selection and optimisation for day surgery
- provision of effective postoperative pain relief
- strategies for the prevention of postoperative nausea and vomiting (PONV)
- the necessity of a multidisciplinary team approach in day surgery care
- the requirement for 'street fitness' on discharge
- the postoperative management of patients in the community.

5 Organisation and administration

5.1 Each DSU should have a clinical director or specialty lead. This will often, but not always, be an anaesthetist with some management experience. The role of the clinical director is to champion the cause of day surgery and ensure that best practice is followed. This role may involve the development of local policies, guidelines and clinical governance and should be recognised by adequate programmed activity allocation and provided with appropriate administrative support.^{7,9}

5.2 Day surgery should ideally be represented at board level.^{7,50}

5.3 There should be a senior nurse manager who, with the clinical director, can provide the day to day management of the unit.

5.4 Many larger units, especially those that are freestanding, may find it helpful to have a separate business manager to support the clinical director and senior nurse.

5.5 The clinical director should chair a management group and liaise with all those involved in day care. This will include representatives from surgery, anaesthesia, nursing, pharmacy, management, finance, community care both nursing and medical, audit, professions allied to medicine and representatives of patient groups.

5.6 Each unit should have a multidisciplinary operational group that oversees the day to day running of the unit, agrees policies and timetables, reviews operational problems and organises audit strategies.⁵⁰

5.7 Effective preoperative assessment and patient preparation, performed as early as possible in the planned patient pathway, is essential to the safety and success of day surgery.^{8,10,11}

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- 5.8 Local preoperative assessment guidelines and protocols should be established. These should be in line with current national recommendations from the Preoperative Association.^{37,38}
- 5.9 Protocols should be available to maximise the opportunity for patients with significant co-morbidities (e.g. diabetes, morbid obesity, sleep apnoea) to be safely managed via a day case pathway.
- 5.10 Consultant anaesthetic advice should be available to comment on an individual patient's suitability for day surgery and to assist with preoperative optimisation.
- 5.11 Clinical investigations rarely inform the suitability for day surgery or influence subsequent management or outcome.^{3,39} Those that are appropriate should be ordered at preassessment, according to a locally agreed protocol. A mechanism for review and interpretation of the results of tests ordered before the day of surgery should be developed.
- 5.12 The patient should be provided with written information outlining the day surgery pathway, planned procedure and anaesthetic, and expectation of postoperative recovery.
- 5.13 Mixed inpatient and day surgery lists may increase flexibility, but this practice should be minimised, as conflicting priorities can compromise the care of both groups.²⁰
- 5.14 If it is occasionally necessary to undertake day case surgery on inpatient operating lists, the day cases should be prioritised at the beginning of the list to allow time for postoperative recovery and timely discharge.
- 5.15 Day case patients should ideally be managed on dedicated day case ward areas, to ensure safe and timely discharge.^{20,40}
- 5.16 There should be agreed protocols for the management of patients who require unplanned hospital admission following their day case procedure.
- 5.17 If day surgery is being undertaken in an isolated site, protocols should define finding an inpatient bed and mechanism of transport for a patient requiring an overnight stay.
- 5.18 Locally agreed written discharge criteria should be established.
- 5.19 Discharge should be delegated to nursing staff trained in nurse-led discharge, according to local protocols.⁴¹
- 5.20 If a patient does not satisfy the agreed discharge criteria, a member of the medical team should be informed and the patient assessed if required.⁴¹
- 5.21 Locally agreed policies should be in place for the management of postoperative pain after day surgery. This should include pain scoring systems in recovery and a supply of pain relief medication on discharge, with written and verbal instructions on how to take medications and what to take when the medications have finished.
- 5.22 Patients may be discharged home with residual sensory or motor effects after nerve blocks or regional anaesthesia.²⁵ The duration of the effects should be explained and the patient should receive written instructions as to their conduct until normal sensation returns.
- 5.23 Postoperative short term memory loss may prevent verbal information being assimilated by the patient.⁴⁰ If postoperative analgesia has been provided, clear, written instructions on how and when to take medication should be provided. Other important information should also be provided in writing.^{8,41}

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- 5.24 A 24-hour telephone number should be supplied so that every patient knows whom to contact in case of postoperative complications. This should ideally be to an acute surgical area and should not be an answer phone.
- 5.25 Following procedures performed under general or regional anaesthesia, a responsible adult should escort the patient home and provide support for the first 24 hours after surgery.⁸ A carer at home may not be essential if there has been good recovery after brief or non-invasive procedures and where any postoperative haemorrhage is likely to be obvious and controllable with simple pressure.^{42,43}
- 5.26 Transport home should be by private car or taxi; public transport is not normally appropriate.
- 5.27 Where the patient's general practitioner (GP) may need to provide postoperative care within a short time of discharge, arrangements for this should have been made with the GP in advance of the patient's admission.
- 5.28 The patient's GP should be informed of the patient's procedure as soon as practical, and provided with a written discharge summary, which will usually be completed by the surgeon.
- 5.29 All patients should receive a copy of their discharge summary in case emergency treatment is needed overnight.
- 5.30 For commissioning purposes, suggested indicators of quality of a DSU include: ⁹
- day surgery existing as a separate and 'ring-fenced' administrative care pathway
 - a senior manager directly responsible for day surgery
 - preoperative assessment undertaken by staff familiar with the day surgery pathway
 - provision of timely written information
 - appropriate staffing levels
 - nurse-led discharge
 - provision for appropriate postoperative support including follow-up and outreach after home discharge
 - involvement and feedback from patients, the public and community practitioners.

This list, however, is not exhaustive and other factors such as theatre utilisation, levels of unplanned overnight admissions after day surgery, management of pain relief and postoperative nausea/vomiting, and complication and readmission rates are also important quality indicators that should be audited regularly.

- 5.31 A number of urgent surgical operations (for example, abscess drainage, superficial lacerations or hand trauma) can be managed on a day case basis,⁴⁴ with semi-elective admission to day surgery facilities on the day of operation and discharge later the same day.⁴⁵ In contrast, the accommodation of emergency inpatients within the ward environment of day surgery facilities, without alteration of the surgical pathway, represents a failure of bed capacity planning and causes disruption of effective ambulatory care.⁴²

6 Financial considerations

The recent drive to reduce length of stay and improve quality of postoperative recovery (Enhanced Recovery) is based on day surgery principles.⁴⁶ Probably the biggest driving force for the expansion of day surgery is the potential financial gain from its use.⁴⁷ There are financial incentives to achieve shortened hospital stays (Best Practice Tariff) and early mobilisation to reduce the risk of hospital acquired infections and venous thromboembolism.

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- 6.1 Funding for pathway redesign and facilities has been provided by central government and local commissioners. Cost analysis should take into account all finances, including capital and maintenance costs, staffing and training costs for both the theatre and the ward, as well as costs related to the procedure itself.
- 6.2 When selecting options for anaesthetic techniques within the day surgery unit, consideration should be given not only to the cost of delivering that anaesthetic but to the wider patient outcome costs. High quality anaesthetic techniques and consumables, including drugs, maybe economically viable even if apparently more expensive.⁴⁸
- 6.3 Business planning by hospitals and surgical departments should ensure that the best resources in terms of equipment and staffing are available within the day surgery unit to provide high quality, efficient, cost effective day surgery services.
- 6.4 Investment in senior staff experienced in the practice of day surgery is required to ensure high quality, efficient processes.⁴⁹
- 6.5 A onetime investment may be needed to build a dedicated day surgery unit, setting up admission and discharge lounges, preoperative assessment clinics and allied support staff such as physiotherapy and pharmacy.

7 Research, audit and quality improvement

- 7.1 Outcome measures in day surgery can be:⁵⁰
 - clinical: perioperative clinical adverse events, minor postoperative morbidity pain, nausea and vomiting, sore throat, headache, drowsiness, unplanned return to theatre on same day of surgery, unplanned overnight admission, unplanned return or readmission to day surgery unit or hospital.
 - organisational: proportion of elective surgery performed as day surgery, cancellation of booked appointments, failure to arrive on day of surgery, cancellation on the day of surgery.
 - social: patient satisfaction, functional health status/quality of life.
 - economic: efficiency rate of theatre utilisation.
- 7.2 Each DSU should have a system in place for the routine audit of important basic parameters such as unexpected admissions following surgery, non-attendance (DNA) rates, patients cancelled on the day of operation, postoperative symptoms e.g. pain and PONV and patient satisfaction.⁵⁰ The Royal College of Anaesthetists has also issued guidance for audits in day surgery.⁵¹
- 7.3 Current practice in day surgery includes more complex procedures and more elderly patients. Audit of complications related to wound-healing process and impaired mobility based on risk scores can help improve the safe delivery of day surgery service.¹³
- 7.4 Audits should rely only on procedure specific data and not on overall percentages. Auditors can compare activity by procedure and unit.
- 7.5 Audit and quality improvement should be coordinated and led by designated staff members.
- 7.6 Audit and quality improvement should be integrated into wider areas of anaesthetic and surgical practice.
- 7.7 Audit in clinical practice and patient care in day surgery should involve all staff. A system should exist for the regular feedback of audit information to staff, to reinforce good practice

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and help to effect change and hence drive quality improvement. This feedback may take the form of regular meetings or updates, or a local newsletter.

7.8 Research into best practice day surgery should be encouraged.

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 Patients will be provided with information specific to their condition/indication for surgery in addition to information about day surgery. Clear and concise information given to patients at the right time and in the correct format is essential to facilitate good day surgery practice.⁸ Much of this information may be given to patients at preoperative assessment. Verbal information should always be reinforced with printed material. Alternative means of communication with patients, including the internet, email and text messaging, should be considered.

9.2 Diagrammatic representation of the patient journey through day surgery may help explain the process.

9.3 Information should be arranged in such a way that it is comprehensive and comprehensible, and should be available in a format suitable for the visually impaired and those with other difficulties understanding and considering the information. It may be necessary to provide information leaflets in a number of different languages to accommodate the needs of the local population.³⁷

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- 9.4 Whatever form the information takes, it should be sufficient to allow informed consent and patients should have an opportunity to ask for further information or clarification.^{52,53}
- 9.5 At a minimum, information provided to patients should include:
- the date and time of admission to the unit
 - location of the unit, travel and parking instructions including information regarding parking costs
 - details of the surgery to be undertaken, and any relevant preoperative preparations required of the patient
 - information on the anaesthetic to be provided, including clear instruction for preoperative fasting, and the way in which patients will manage their medication
 - requirement to arrange an escort home and a postoperative carer
 - postoperative discharge information, including details of follow up appointments, management of drugs, pain relief and dressings, and clear instructions on whom to contact in the event of postoperative problems.
- 9.6 Patients must also be made aware at the preoperative assessment visit that conversion to inpatient care is always a possibility and that they should consider how this may impact on their home arrangements, including any dependent relatives.

Areas for future development

The following areas are suggested for future research and development:

- preoperative investigations for day surgery: do they add any clinical value?
- expansion of day surgical emergency procedures.
- do all patients undergoing day surgery under general anaesthesia require a carer for 24 hours postoperatively?
- procedures not currently undertaken as day surgery, which could with developments of surgical an anaesthetic techniques move into the day surgery arena?

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Abbreviations

ACSA	Anaesthesia Clinical Services Accreditation
BADS	British Association of Day Surgery
BMI	Body mass index
CDG	Chapter Development Group
CQC	Care Quality Commission
DNA	Did not attend
DSU	Day surgery unit
GMC	General Medical Council
GP	General practitioner
GPAS	Guidelines for the Provision of Anaesthetic Services
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
PONV	Postoperative nausea and vomiting
PSC	Professional Standards Committee
QMSG	Quality Management of Service Group
RCoA	Royal College of Anaesthetists
RCTs	Randomised controlled trials
SAS	Staff grade, associate specialist and specialty doctors
STOP BANG	Snoring, Tiredness, Observed apnea, high blood Pressure (STOP)-Body mass index (BMI), Age, Neck circumference, and Gender (BANG)

Glossary

Immediately – unless otherwise defined, ‘immediately’ means within five minutes.

Clinical lead - SAS doctors undertaking lead roles should be autonomously practicing 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.

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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	C	Strong
1.7	C	Strong
1.8	C	Strong
1.9	C	Weak
1.10	GPP	Strong
2.1	GPP	Strong
2.2	GPP	Strong
2.3	GPP	Weak
2.4	GPP	Strong
2.5	C	Strong
2.6	C	Strong
2.7	GPP	Strong
2.8	C	Strong
2.9	C	Strong
2.10	GPP	Strong
2.11	GPP	Strong
2.12	C	Strong
2.13	IV	Strong
2.14	GPP	Strong
2.15	GPP	Strong
2.16	C	Strong
2.17	C	Strong
2.18	C	Strong
2.19	C	Strong
2.20	GPP	Strong
2.21	GPP	Strong
2.22	GPP	Strong
2.23	GPP	Strong

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Recommendation Number	Level of Evidence	Strength of Recommendation
2.24	GPP	Strong
2.25	GPP	Strong
2.26	GPP	Strong
3.1	C	Strong
3.2	C	Strong
3.3	GPP	Strong
3.4	C	Strong
3.5	GPP	Strong
3.6	GPP	Strong
3.7	B	Weak
3.8	GPP	Strong
3.9	GPP	Strong
3.10	GPP	Strong
3.11	GPP	Weak
3.12	GPP	Weak
3.13	GPP	Strong
3.14	GPP	Strong
3.15	B	Strong
3.16	C	Strong
3.17	C	Strong
3.18	GPP	Strong
3.19	C	Strong
3.20	GPP	Strong
4.1	C	Strong
4.2	C	Strong
4.3	C	Strong
4.4	C	Strong
4.5	GPP	Strong
5.1	C	Strong
5.2	C	Strong
5.3	GPP	Strong
5.4	GPP	Strong
5.5	GPP	Strong
5.6	C	Strong
5.7	C	Strong
5.8	GPP	Strong

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Recommendation Number	Level of Evidence	Strength of Recommendation
5.9	GPP	Strong
5.10	GPP	Strong
5.11	B	Strong
5.12	GPP	Strong
5.13	C	Strong
5.14	GPP	Strong
5.15	B	Strong
5.16	GPP	Strong
5.17	GPP	Strong
5.18	GPP	Strong
5.19	C	Strong
5.20	C	Strong
5.21	GPP	Strong
5.22	C	Strong
5.23	B	Strong
5.24	GPP	Strong
5.25	C	Strong
5.26	GPP	Strong
5.27	GPP	Strong
5.28	GPP	Strong
5.29	GPP	Strong
5.30	GPP	Strong
5.31	C	Strong
6.1	GPP	Weak
6.2	B	Strong
6.3	GPP	Strong
6.4	B	Strong
6.5	GPP	Strong
7.1	C	Strong
7.2	C	Weak
7.3	GPP	Strong
7.4	GPP	Strong
7.5	GPP	Strong
7.6	GPP	Strong
7.7	GPP	Weak
9.1	C	Strong

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Recommendation Number	Level of Evidence	Strength of Recommendation
9.2	GPP	Weak
9.3	C	Strong
9.4	C	Strong
9.5	GPP	Strong
9.6	GPP	Strong

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. 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 day surgery 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 Cochrane Library, for the literature search strategy, outcomes, databases, criteria for inclusion and exclusion of evidence (for the full day surgery chapter search protocol please contact RCoA). 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 November 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 references.

Inclusion criteria

The literature review considered studies that included the following patient population with all of the inclusion criteria listed below:

- all patients undergoing elective or emergency anaesthesia
- all staff groups working within day surgery anaesthesia, under the responsibility of an anaesthetic clinical director, including (but not restricted to) consultant anaesthetists, staff grade, SAS anaesthetists, anaesthetists in training, nurses, operating department practitioners, surgeons, pharmacists, general practitioners, radiologists and radiographers.

Exclusion criteria

The literature review used the following exclusion criteria:

- provision of day surgery anaesthesia service provided by a speciality other than anaesthesia.
- patients undergoing anaesthesia within a critical care setting.

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Data extraction and analysis

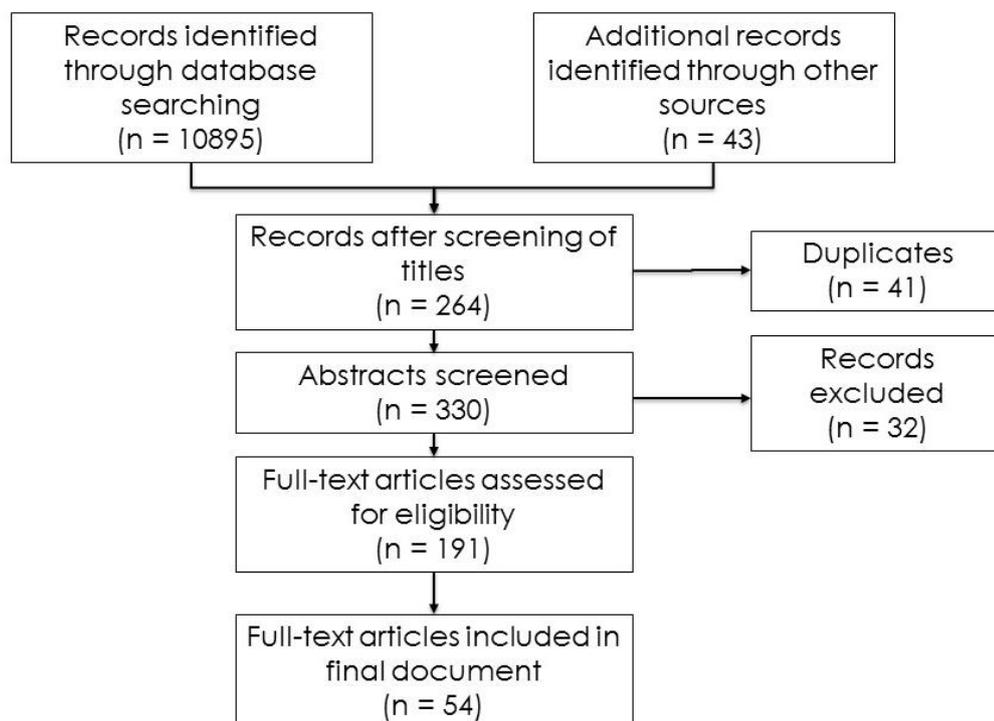
Data were extracted by the authors using a proforma. The study characteristics data included:

- 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
- reviewer's comments.

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

The results of the literature review can be seen below:

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



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The evidence that is included in this chapter has been graded according to a grading system adapted from NICE and 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.*

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Strengths and limitations of body of evidence

Most of the published evidence on day surgery is descriptive. There are publications describing aspects of this process based on expert opinion.

The limitations of the evidence are:

- the 'unmeasurables' (attitudes, behaviour, motivation, leadership, teamwork)
- few randomised controlled trials ; studies frequently use mixed populations of emergency and elective patients, or all emergency patients grouped together despite different underlying diagnoses
- papers often examine a single intervention within 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
- there is no standard definition used of 'high risk'
- use of different risk-scoring systems
- decrease in outcome over time and geography when 'good papers' are used in quality improvement programmes
- application of international studies in systems with either more or less resources than the UK into NHS practice
- older studies may no longer be applicable within the NHS
- very few studies included any analysis of financial implications
- evidence was mainly based on literature graded III and IV.

Methods used to arrive at recommendations

Recommendations were initially drafted based on the evidence by the authors for the chapter. These were discussed with the CDG, and comments were received both on the content and the practicality of the recommendations. The level of evidence that was 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 Development 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 will do more good than harm (or more harm than good)	Wording should be clearly directive 'should' or 'should not'
Weak	The action will do more good than harm for most patients, but may include caveats on the quality or size	Wording should include 'should be considered'

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	of evidence base or patient preferences	
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'

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 [GPAS Chapter Development 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 (PSC). 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 PSC 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 15 January to 12 February 2018. 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 two 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-

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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.

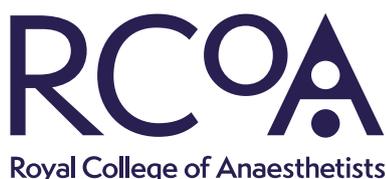
If new evidence contradicts or strengthens existing recommendations, the authors decide whether or not to involve the remainder of the CDG in revising the recommendations accordingly.

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 2023.

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



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