Royal College of Anaesthetists

Chapter 13

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidelines for the Provision of Ophthalmic Anaesthesia Services 2024

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Chapter 13
Guidelines for the Provision of Ophthalmic Anaesthesia Services 2024

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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 anaesthetic services (GPAS) conflict of interest policy as described in the GPAS chapter development process document.

The nature of the involvement in all declarations made 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, remove 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 based on 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 (RCoA) 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 defined in 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 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:

- chapter 1: Guidelines for the Provision of Anaesthesia Services: The Good department
- chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients.

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 1–5 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 ophthalmic anaesthesia. The guidance is intended for use by anaesthetists and healthcare managers with responsibilities for service delivery.

This guideline does not comprehensively describe clinical best practice in ophthalmic 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 ophthalmic anaesthesia applies to all settings where this is undertaken, regardless of funding. 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 chapter development group (CDG) agreed that there is a paucity of level 1 evidence relating to service provision in ophthalmic 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 process.

Scope

Research question

The key question covered by this guideline is:

- 'What are the key components, within the perioperative period of care, for the provision of anaesthesia services in ophthalmic surgery and/or interventions?'

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 paediatric, resuscitation, obstetrics, care of the pregnant patient, frailty, vulnerable adults and children, dementia patients, satellite sites and eye casualties in the emergency department
- training and education
- research and audit
- organisation and administration
- patient information.

Target population:

- All ages of patients undergoing elective or emergency anaesthesia for ophthalmic surgery or intervention.
- Anaesthetic departments caring for patients in the above group.

Healthcare setting:

- All settings within the hospital or other healthcare facility in which ophthalmic anaesthetic services are provided.

Exclusions:

- neonates
- clinical guidelines specifying how healthcare professionals should care for patients
- national level issues.

Introduction

The discipline of ophthalmic surgery encompasses the following areas: intraocular surgery, extraocular surgery, oculoplastic surgery, nasolacrimal surgery and orbital surgery. Ophthalmic surgery is undertaken in a wide variety of different settings, including multispecialty general hospitals, isolated units and large, single-specialty centres. All environments require appropriate staffing levels, skill mix and facilities. The ophthalmic anaesthetist has a key role in the organisation and management of the preoperative assessment of patients; the administration of local anaesthesia, sedation or general anaesthesia; the monitoring, prevention and management of adverse events; and efficient service delivery.

Anaesthesia for ophthalmic surgery is a specialised area of anaesthesia practice, providing care for a wide range of patients, from neonates to the very elderly.[1] In addition, the quality of anaesthetic provision can have a direct impact on surgical outcome. Close team working with surgical colleagues is therefore essential.

Ophthalmic surgery is often required for ocular manifestations of systemic disease; patients exhibit a high incidence of comorbidity and uncommon medical conditions. Ophthalmic preoperative assessment clinics are essential in optimising and preparing these patients for surgery.

The majority of ophthalmic procedures are now performed as day cases and the use of local anaesthesia is widespread. Not all patients are suitable for this approach and general anaesthesia or local anaesthesia with sedation should be available as an option. All techniques have specific risks and benefits. Decisions regarding the type of anaesthesia should be made individually for each patient and each procedure.

Recommendations

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

1 Staffing requirements

1.1 Appropriate staffing levels and skill mix should be provided in all units: multispecialty general hospitals, isolated units and large single-specialty centres delivering ophthalmic anaesthesia. For most operating sessions this should include surgeon, anaesthetist, two theatre-trained scrub practitioners, one trained nurse or operating department practitioner to assist with local anaesthesia/patient monitoring and one theatre support worker/runner.[2,3]

1.2 Dedicated, skilled assistance for the anaesthetist should be available in every situation where anaesthesia or sedation is employed.[4,5]

1.3 Each department or facility that provides ophthalmic anaesthesia services should have a clinical lead (see Glossary) with nominated responsibility for ophthalmic anaesthesia.[2]

1.4 There should be an identified group of senior anaesthetists who manage and deliver a comprehensive ophthalmic anaesthesia service, including the use of orbital regional anaesthetic techniques.[2]

1.5 Many ophthalmic patients have significant comorbidities that may require optimisation and coordination prior to surgery. There should be a lead anaesthetist (with an appropriate number of programmed activities in their job plan and appropriate secretarial support) for preoperative assessment, who works closely with an appropriately trained preoperative assessment team.[6,7]

1.6 All ophthalmic surgery should be carried out in a facility that is appropriately staffed and equipped for resuscitation.[2,8]

1.7 Staff should be trained in basic life support and there should be immediate access to a medical team with advanced life support capabilities.[8]

1.8 In isolated units where no anaesthetist or medical emergency team is immediately available, there should be at least one person with advanced life-support training or equivalent. [2,9] A clear and agreed pathway should be in place for isolated units to enable the patient to receive appropriate advanced medical care, including intensive care, in the event of it being required. Patients should be assessed preoperatively to ensure that they can be expected to be suitable for surgery in such an isolated unit.[2]

1.9 If no anaesthetist is present in theatre, an appropriately trained anaesthetic nurse, ophthalmic theatre nurse or operating department practitioner should be present to monitor the patient during establishment of local anaesthesia and throughout the operative procedure. This should be their sole responsibility.[2]

1.10 Wherever possible, anaesthesia in remote ophthalmic surgical sites should be delivered by an appropriately experienced consultant or autonomously practising anaesthetist. Where a trainee or non-consultant grade is required to provide anaesthetic services at a remote site, the recommendations of the Royal College of Anaesthetists should be followed.[10]

1.11 If inpatients are cared for in isolated/single-specialty units, there should be medical cover and nursing care appropriate to the medical needs of the patients.[11]

1.12 Where inter- or intrahospital transfer is necessary, patients should always be accompanied by appropriately trained staff.[12]

1.13 All members of clinical staff working within the recovery area should be certified immediate life support providers and mandatory training should be provided.[7,13]

1.14 For children, staff should hold an equivalent paediatric life-support qualification.[7,13]

Anaesthesia associates

The RCoA and Association of Anaesthetists have acknowledged that development of enhanced roles for anaesthesia associates (AAs) is taking place, and have stated that they would only consider supporting role enhancement, including the performance of regional blocks, when statutory regulation is in place.[14] Therefore, where such role enhancement exists, responsibility currently lies with the local institution.[15]

1.15 It is the responsibility of those leading departments of anaesthesia, together with their constituent consultants or autonomously practising anaesthetists, to ensure that AAs work

under the immediate supervision of a consultant or autonomously practising anaesthetist at all times.[15]

1.16 Only individuals who appear on the voluntary register, currently administered by the Royal College of Anaesthetists, should be employed in AA roles.[15]

1.17 Where an AA is primarily responsible for the provision of anaesthesia, a named anaesthetic consultant or autonomously practising anaesthetist should have overall responsibility for the care of the patient during anaesthesia.[15]

1.18 There should be a dedicated trained assistant (i.e. an operating department practitioner or equivalent) in every theatre in which anaesthesia care is being delivered by AAs.[15]

1.19 Clinical governance is the responsibility of individual institutions and, for AAs, this should follow the same principles that apply to medically qualified anaesthetists, ensuring:[15]

- training that is appropriately focused and resourced
- supervision and support in keeping with practitioners' needs and practice responsibilities
- practice centred audit and review processes.

2 Equipment, services and facilities

General recommendations for equipment, services and facilities are described in *GPAS Chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients.*

2.1 In areas where ophthalmic surgery is performed, resuscitation equipment and drugs should be immediately available, including a standardised resuscitation trolley and defibrillator. The manufacturer's instructions must be followed regarding use, storage, servicing and expiry of equipment and drugs.[8]

2.2 Where paediatric ophthalmic surgery is performed, appropriate paediatric anaesthetic equipment and monitoring should be available. Equipment should be checked regularly.[16]

2.3 Anaesthetists should be trained in the use of, and be familiar with, all equipment that they use regularly. The anaesthetist has a primary responsibility to check such equipment before use.[17]

2.4 Where lasers are in use for ophthalmic surgery, the correct safeguards must be in place.[18,19]

Services

2.5 Patients having ophthalmic surgery should undergo preoperative preparation, where there is the opportunity to assess medical fitness and impart information about the procedure.[7]

2.6 Patients who require general anaesthesia or intravenous sedation should undergo preoperative anaesthetic assessment.[7]

2.7 As part of preoperative preparation, the plan for the perioperative management of any existing medications, such as anticoagulant drugs and diabetic treatment, should be agreed, taking into account the relative risks of stopping any medication in the light of the patient's medical condition and the anaesthetic technique required. Advice should be sought from the multiprofessional team (e.g. medical colleagues, clinical pharmacists, specialist nurses) as required, in particular for complex patients.[7,20,21]

2.8 The majority of ophthalmic surgery is performed as a daycase procedure under local anaesthesia.[22] Preoperative assessment should identify those patients who are not suitable for this approach and who might require general anaesthesia or intravenous sedation.[2,23]

Facilities

2.9 Where ophthalmic surgery is performed as a daycase procedure, the facilities should conform to best practice guidance. Day surgery operating theatres should meet the same standards as inpatient operating theatres.[24,25,26] Room should be available for patients to be seen in private by the anaesthetist and surgeon on the day of surgery.[2] There should be a designated supervised recovery area and provision of reclining chairs for patients recovering from local anaesthesia should be considered.

2.10 In units where ophthalmic surgery is performed, including locations that may be isolated from main theatre services, facilities provided should allow for the safe conduct of anaesthesia and sedation. This would include monitoring equipment, oxygen, availability of opioid and benzodiazepine antagonist drugs, a recovery area, and drugs and equipment to deal with emergencies such as cardiac arrest, anaphylaxis and local anaesthesia toxicity.[27,28 29,30]

2.11 All areas in which ophthalmic anaesthesia is performed should have a reliable supply of the medicines required to deliver safe anaesthesia and sedation. Storage arrangements should be such that there is prompt access to them if clinically required, maintains integrity of the medicines, and ensures compliance with safe and secure storage of medicines regulations.[31] In addition, anaesthetists and anaesthetic assistants should have access to pharmacy services, both for urgent supply of medicines when required and for clinical advice on medicines management, medicines administration or prescribing issues.

2.12 Facilities should be available or transfer arrangements should be in place to allow for the overnight stay of patients who cannot be treated as day cases or who require unanticipated admission.

2.13 Optimal patient positioning is critical to the safe conduct of ophthalmic surgery and for patient comfort. Adjustable trolleys/operating tables that permit correct positioning should be available.[32]

2.14 Some patients, for example those with restricted mobility, may require specific equipment such as hoists to position them. Preoperative planning should ensure that such equipment is available and should allow for the extra time and staff needed to position these patients safely.

3 Areas of special requirement

Children

Recommendations for children's services are comprehensively described in Chapter 10.[16]

Pregnant patients

3.1 Where possible, ophthalmic surgery should be postponed until after delivery. When this is not possible, guidelines on anaesthetising pregnant patients should be followed (e.g. use of left lateral tilt after 16 weeks of gestation).[7] Local anaesthesia, with or without anxiolytic sedation, is usually preferable to general anaesthesia.

Frail elderly patients

3.2 Much of the ophthalmic surgical population is elderly and frail. Guidelines on perioperative care of elderly patients should be followed.[1,21]

3.3 Very frail patients may not benefit from some types of ophthalmic surgery, and a conservative approach should be considered.[21]

3.4 Dementia is a growing problem; it is estimated there will be 1.5 million people in the UK with dementia by 2040. Evidence suggests there is a benefit in performing early cataract surgery in these patients, maximising cognitive improvement and minimising post-operative cognitive dysfunction.[21]

3.5 Services should be streamlined to make preoperative assessment, surgery and postoperative care as simple and effective as possible. Travel and repeated hospital attendance may be especially difficult for these patients.[1,21]

3.6 Special care should be taken to assess social circumstances when discharging elderly patients into the care of an equally frail and elderly spouse. Home support from family or social services may be required; for instance, to ensure that postoperative eye drops are administered in an appropriate and timely fashion. These needs should be identified at preoperative assessment and support arranged in advance.[1,21]

3.7 Older patients should be assessed for risk of postoperative cognitive dysfunction and preoperative interventions undertaken to reduce the incidence, severity and duration. Hospitals should ensure that guidelines are available for the prevention and management of postoperative delirium and circulated preoperatively to the relevant admitting teams.[33]

3.8 Postoperative cognitive dysfunction is a particular concern and can disrupt otherwise stable home circumstances. The risk should be reduced as far as possible by minimising interventions and using local anaesthesia alone when feasible.[1, 21]

3.9 Patients deemed to be lacking in capacity should have a best interest meeting involving relevant stakeholders prior to booking a date for surgery. Such patients often represent high risk for both surgery and anaesthesia, and careful consideration of the risks should be considered. Conclusions should be clearly documented in the medical records.[3421]

Patients with limited mobility

3.10 Patients with severely restricted mobility pose additional problems when attempting to position for surgery.[32] Time should be spent preoperatively with these patients explaining the surgical requirements and assessing the patients' ability to lie flat before a final decision to operate is taken. For patients unable to lie flat, a multidisciplinary discussion is recommended to consider alternative options for positioning or anaesthetic technique.

3.11 Additional resources may be necessary at the time of surgery, and may include additional personnel, hoists, or extra time allocation on the operating list.

Patients requiring complex surgery

3.12 Complex ophthalmic surgical cases often require specialised anaesthetic input. This may include patients having repeated ophthalmic procedures, long and difficult cases, and those potentially requiring specialist intravenous drug therapy, such as intravenous steroids, acetazolamide or mannitol. An anaesthetist of appropriate experience should have dedicated responsibility for operating lists containing such complex cases.

Patients with systemic illness

3.13 Patients requiring anaesthesia who are systemically unwell should be optimised as far as reasonably practicable beforehand.[35] It is extremely rare for ophthalmic surgery to be so urgent that remedial measures cannot be taken. Arrangements for appropriate perioperative medical care should be made, with specialist input from other services as required.

3.14 Protocols should be in place for the transfer of patients from isolated units who become ill unexpectedly. They should be moved safely and rapidly to a facility which provides an appropriate higher level of care.[12]

Critically ill patients

Ophthalmic theatres tend to deal with high volume, low impact procedures and may not be set up for managing critically ill patients. Local protocols should be in place to facilitate the ophthalmic care of the critically ill patient.

3.15 Where necessary, critically ill patients should be anaesthetised in an emergency theatre suite, taking specialist personnel and equipment to the patient, rather than vice versa.

3.16 When the specialist equipment cannot be moved, all necessary emergency equipment should be immediately available and transfer arrangements to a high dependency or intensive care setting should be in place.

Procedures performed under local anaesthesia only

Ophthalmologists performing local blocks should follow the standards and safeguards required by their own college.

3.17 Sharp needle based blocks (e.g. peribulbar or retrobulbar block) should only be administered by medically qualified personnel, because of the increased risks of life-threatening complications.[2] Intravenous access should be established prior to performing sharp needle blocks and also for any patient deemed to be at high risk due to severe comorbidity.[2]

3.18 All modes of ophthalmic local anaesthesia may result in complications.[22] Practitioners should be fully aware of these risks and should ensure that they know how to avoid and recognise complications. They should also be immediately available and able to safely and effectively manage problems when they do occur.

Patients with significant anxiety

Patients undergoing ophthalmic surgery often present with levels of anxiety disproportionate to the surgical complexity and risks involved. Severe anxiety may have a detrimental effect on the safe outcome of surgery. For example, a patient moving during surgery may suffer a sight threatening complication. Most ophthalmic procedures can be safely performed using local anaesthesia alone, but some patients may benefit from strategies to reduce anxiety such as hand holding, verbal reassurance, adjustment to drapes and administration of anxiolytic or sedative agents. Some anxious patients, following appropriate counselling, might be suitable for LA only surgery.[36]

3.19 Patients exhibit extremely wide variation in response to drugs used for sedation. It is difficult to and undesirable to have to manipulate the airway of an unpredictably over-sedated patient during surgery, and so administration of intravenous sedation during ophthalmic surgery should only be undertaken by an anaesthetist whose sole responsibility for the duration of the surgery is to that patient.[2]

3.20 Patients do not need to be starved when sedative drugs are used in low doses to produce simple anxiolysis.[27] Patients should follow fasting guidelines as for general anaesthesia when deeper planes of sedation are anticipated or sedative infusions employed.[27,37,38]

4 Training and education

4.1 Hospitals should use the training opportunities available in ophthalmic anaesthesia to facilitate anaesthetists in training's acquisition of the learning outcomes of the RCoA 2021 Curriculum.[39]

4.2 Anaesthetists in training may be given the opportunity to train in ophthalmic Anaesthesia as a special interest area of the RCoA 2021 Curriculum if the hospital caseload and capacity for training meet the requirements for this special interest area.[39,40]

4.3 Structured training in regional orbital blocks should be provided to all inexperienced practitioners who wish to learn any of these techniques. This should include an understanding of the relevant ophthalmic anatomy, physiology and pharmacology, and the prevention and management of complications.[2] Where possible, trainees should be encouraged to undertake 'wetlab' training or use simulators to improve practical skills. [41,42,43]

4.4 Intermediate level training as set out in the RCoA 2010 Curriculum[41] should be an essential criterion and higher level training a desirable criterion in the person specification for a consultant or autonomously practising anaesthetist with ophthalmic anaesthetic sessions in the job plan. For candidates who are trained on the RCoA 2021 Curriculum, the special interest area in ophthalmic anaesthesia should be an essential criterion.[39]

4.5 All anaesthetists working in ophthalmic services should have access to continuing educational and professional development facilities for advancing their knowledge and practical skills associated with ophthalmic anaesthesia.[44]

4.6 All staff should have access to adequate time, funding and facilities to undertake and update training that is relevant to their clinical practice, including resuscitation training.[45]

5 Organisation and administration

5.1 In single specialty centres, the anaesthetic department should adopt the generic standards described throughout GPAS. This should include a lead paediatric anaesthetist if children are treated.

5.2 All ophthalmic patients should receive the same standard of preoperative preparation, perioperative care and follow-up, regardless of the type of treatment facility.[6,24]

5.3 Many procedures do not have to be performed out of hours.[35] Anaesthetists and surgeons together should devise departmental protocols for the handling of patients requiring urgent procedures, to allow prioritisation from both surgical and anaesthetic perspectives.

5.4 Patients assessed to be at high risk of serious perioperative complications, such as a cardiorespiratory event, should be carefully stratified for surgical and anaesthetic requirements, and may be unsuitable for surgery in isolated units without immediate access to anaesthetic/medical cover.

5.5 The majority of patients are treated as day cases. Consideration should be given to prescribing suitable analgesics to take home; it may prove useful to use protocols to optimise treatment pathways.[46]

Guidelines and protocols

5.6 National safety standards for invasive procedures should be adapted for local use as local safety standards for invasive procedures.[45] The WHO preoperative team brief and checklist system, for example, could be adapted to incorporate intraocular lens selection to help prevent 'wrong lens' errors.[47]

5.7 There should be a procedure for checking the laterality of the eye to be operated on prior to local anaesthetic block or general anaesthesia. This should include the eye being marked with an indelible mark by the responsible surgical team prior to admission to the operating theatre. 'Stop before you block' protocols should be adhered to.[48] Inadequately performed 'sign-in' is the primary cause of incorrect eye blocks.[49]

5.8 The following local guidelines should be held and easily accessible:

- practice guidelines for the choice of general anaesthesia or local anaesthesia or local anaesthesia with sedation for ophthalmic procedures
- management of patients requiring intravenous sedation
- management of patients requiring urgent ophthalmic surgery
- escalation to higher levels of care and the safe transfer of patients
- management of patients on anticoagulants and antithrombotic agents
- assessment of postoperative cognitive dysfunction risks and the prevention and management of postoperative delirium.

6 Financial considerations

Part of the methodology used in this chapter in making recommendations is a consideration of the financial impact for each of the recommendations. Very few of the literature sources from which these recommendations have been drawn have included financial analysis.

The vast majority of the recommendations are not new recommendations but are a synthesis of already existing recommendations. The current compliance rates with many of the recommendations are unknown, so it is not possible to make an overall assessment of the financial impact of these recommendations with the currently available information.

6.1 Hospitals should consider the following actions to optimise the efficient use of clinical staff and patients' time while maintaining quality of care:[50 36,51,]

- use of integrated pathways to coordinate the patient journey[51]
- use of screening to identify healthy ambulatory local anaesthesia patients for rapid turnover lists. This includes making use of cataract hubs where available. [51]
- immediate, sequential, bilateral cataract surgery (ISBCS) in suitably selected patients[51]
- appropriate counselling of anxious patients who may not require sedation or GA once appropriately informed & consented.[36]
- separation of lists by subspecialty, ideally by procedure (e.g. a full list of cataract procedures) to improve theatre efficiency[51]
- use of some dedicated service lists (no teaching) with experienced clinical staff.

7 Research, audit and quality improvement

7.1 Research in ophthalmic anaesthesia should be encouraged, and time set aside for this activity. Where appropriate, research projects should include patient and care provider involvement.

7.2 Ophthalmic anaesthesia should be included in departmental audit programmes, which may include patient satisfaction, complications and adverse events.[2,44]

7.3 All serious complications of anaesthesia should be reported, should undergo a 'root cause analysis' and dealt with according to locally agreed governance structures.

7.4 Multidisciplinary quality improvement initiatives strengthen joint working and develop a cohesive working environment. Time should be set aside for regular joint governance meetings looking at both morbidity and quality issues.

8 Implementation support

The Anaesthesia Clinical Services Accreditation (ACSA) scheme, run by the RCoA, provides a set of standards based on the recommendations contained in the GPAS chapters. As part of the scheme, departments of anaesthesia self-assess against the standards and undertake quality improvement projects to close the gap. Support is provided by the RCoA in the form of the good practice library, which shares documents and ideas from other departments on how to meet the standards. Further advice can be obtained from the ACSA team and department's assigned College guide.

The ACSA standards are regularly reviewed on at least a three yearly basis to ensure that they reflect current GPAS recommendations and good practice. This feedback process works both ways and the ACSA scheme regularly provides CDGs with comments on the GPAS recommendations, based on departments' experience of implementing the recommendations.

Further information about the ACSA scheme can be found here: https://www.rcoa.ac.uk/safety-standards-quality/anaesthesia-clinical-services-accreditation

9 Patient information

To give valid informed consent, patients need to understand the nature and purpose of the procedure. It is advisable that this includes discussion and documentation of potential adverse outcomes of regional anaesthetic blocks.[52] The demographic includes many patients lacking mental capacity, and capacity levels may fluctuate.[21] Care should be taken to ensure that the patient understands the treatment pathway at all times. Appropriate support from other agencies, such as mental capacity advocates should be sought where necessary. More guidance, including on providing information to vulnerable patients, can be found In *GPAS Chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients*. [34,34,53]

The Royal College of Anaesthetists has developed a range of Trusted Information Creator Kitemark accredited patient information resources that can be accessed from our website. Our main leaflets are now translated into more than 20 languages, including Welsh.

9.1 Information about the different clinical management options should be discussed and suitable literature provided to assist patients in making an informed choice. The patient must have an opportunity to weigh up the available options.[52,54]

9.2 Translations or interpreters should be made available if required.

9.3 Information should be made available to patients that gives details of the surgery and local and general anaesthesia for ophthalmic procedures, as well as advice on what to expect on the day of admission. The Royal College of Anaesthetists and the Royal College of Ophthalmologists have a range of booklets available on their websites to help to inform patients.[55,56,57]

9.4 Written instructions regarding the plan for the perioperative management of existing medications, including if and when to stop anticoagulants, should be given to the patient.

9.5 Written information for patients should be easy to read. It should be available in an appropriate language and format for those patients who are visually impaired.[58,59] It may be necessary to provide translations of patient information booklets into languages suitable for the local population.

Areas for future development

Following the systematic review of the literature, the following areas for future research are suggested:

- the cost effectiveness of ophthalmic anaesthetists, as opposed to other professionals, providing anaesthesia for ophthalmic surgery
- risks to patients of non-anaesthetists providing anaesthesia for ophthalmic surgery
- clinical guidance (e.g. blood pressure thresholds and blood sugar thresholds for patients under local anaesthesia)
- management of postoperative pain following ophthalmic surgery
- training methodologies for ophthalmic anaesthesia (e.g. evaluation of 'wetlab' and simulator training for regional anaesthesia).

Glossary

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

References

1 Association of Anaesthetists of Great Britain and Ireland. Peri-operative care of the elderly 2014. *Anaesthesia* 2014; 1(Suppl 1): 81–98

2 Kumar CM, Eke T, Dodds C *et al*. Local anaesthesia for ophthalmic surgery: Joint guidelines from the Royal College of Anaesthetists and the Royal College of Ophthalmologists. London, 2012 (bit.ly/2dEDxoO)

3 Royal College of Ophthalmologists. *Theatre Facilities and Equipment*. Ophthalmic Services Guidance. London, 2018 (bit.ly/314vlXA)

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

5 Association of Anaesthetists. *Assistance for the Anaesthetist: A report by the Irish Standing Committee*. London, 2007 (bit.ly/2cFOFnT)

6 Association of Anaesthetists. *Pre-operative Assessment and Patient Preparation: The role of the anaethetist 2*. London, 2010 (bit.ly/1ZR54ba)

7 Royal College of Anaesthetists. *Chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients.* London, 2021

8 Resuscitation Council UK. *Quality Standards for Cardiopulmonary Resuscitation Practice and Training*. London, 2013 (bit.ly/2mBa1HN)

9 Koolwijk J, Fick M, Selles C *et al*. Outpatient cataract surgery: incident and procedural risk analysis do not support current clinical ophthalmology guidelines. *Ophthalmology* 2015; 122: 281–7

10 Royal College of Anaesthetists. Anaesthetic services in remote sites. London, 2014 (bit.ly/2dEEspf)

11 Royal College of Anaesthetists and Association of Anaesthetists of Great Britain and Ireland. *Good Practice: A guide for departments of anaesthesia, critical care and pain management*. London, 2006 (bit.ly/2dwpNvG)

12 Association of Anaesthetists. *Interhospital Transfer*. AAGBI Safety Guideline. London, 2009 (bit.ly/1UlMpxJ)

13 Association of Anaesthetists.*UK National Core Competencies for Post-Anaesthesia Care: Immediate post-anaesthesia recovery 2013 supplement*. London, 2013 (bit.ly/1MlmEXU)

14 Royal College of Anaesthetists. Anaesthesia Associates. (bit.ly/3l1EBYx)

15 Royal College of Anaesthetists and Association of Anaesthetists. *Planning the Introduction and Training for Physicians' Assistants (Anaesthesia): Considerations for your anaesthetic department*. London: RCoA, 2016 (bit.ly/1UjdBLS)

16 Royal College of Anaesthetists. *Guidance on the Provision of Paediatric Anaesthesia Services*. London, 2020

17 Association of Anaesthetists of Great Britain and Ireland. *Checking Anaesthetic Equipment*. London, 2012 (bit.ly/1sRK9Gb)

18 Medicines and Healthcare Products Regulatory Agency. *Lasers, Intense Light Source Systems and LEDs: Guidance for safe use in medical, surgical, dental and aesthetic practice*. London, 2015 (bit.ly/2drVSUE)

19 Health and Safety Executive. *Guidance for Employers on the Control of Artificial Optical Radiation at Work (AOR) Regulations*. London, 2010 (bit.ly/2cQemAE)

20 Kumar C. Refresher course: ophthalmic regional anaesthesia in patients on antithrombotics. *Reg Anesth Pain Med* 2015; 40(Suppl 1): e67–9

21 Royal College of Ophthamologists. Cataract Surgery in patients living with Dementia. 2023

22 Lee R, Thompson J, Eke T. Severe adverse events associated with local anaesthesia in cataract surgery: 1year national survey of practice and complications in the UK. *Br J Ophthalmol* 2016; 100: 772–6

23 Keay L, Lindsley K, Tielsch J *et al*. Routine preoperative medical testing for cataract surgery. *Cochrane Database Syst Rev* 2012; 3: CD007293

24 Royal College of Anaesthetists. *Chapter 6: Guidelines on the Provision of Anaesthesia Services for Day Surgery*. London, 2021

25 Association of Anaesthetists. Day Case and Short Stay Surgery. London, 2019 (bit.ly/37FkmpL)

26 Department of Health. *Health Building Note 10-02: Day surgery facilities*. London: Stationery Office, 2007 (bit.ly/3AyaZaF)

27 Academy of Medical Royal Colleges. *Safe Sedation Practice for Healthcare Procedures: Standards and guidance*. London, 2013 (bit.ly/2cFQKQN)

28 Academy of Medical Royal Colleges. *Safe Sedation Practice for Healthcare Procedures: An update*. London, 2021 (bit.ly/3qZEvmQ)

29 Association of Anaesthetists of Great Britain and Ireland. Management of Patient with Suspected Anaphylaxis during Anaesthesia. AAGBI Safety Guideline. London, 2009 (bit.ly/2nhSYMZ)

30 Association of Anaesthetists. *Management of Severe Local Anaesthetic Toxicity*. London, 2010 (bit.ly/2dAyzgr)

31 Royal College of Anaesthetists and Association of Anaesthetists. *Storage of Drugs in Anaesthetic Rooms*. London, 2016 (bit.ly/2FMK80F)

32 Chronopoulos A, Herbert J, Thumann G, Schutz JS. Avoiding complications from patient positioning for intraocular surgery. *Anesth Analg*. 2018;126: 1206–11

33 Callum KG, Gray AJG, Hoile RW *et al*. *Extremes of Age: The 1999 report of the National Confidential Enquiry into Perioperative Deaths*. London: NCEPOD, 1999 (bit.ly/2odDpFQ)

34 Kumar CM, Gopal L, Seet E. Choosing anesthesia options for cataract surgery in patients with dementia. *J Anaesthesiol Clin Pharmacol* 2019; 35: 81–4

35 Cullinane M, Gray AJG, Hargraves CMK *et al*. *Who Operates When? THE 2003 report of the National Confidential Enquiry into Perioperative Deaths*. London: NCEPOD, 2003 (bit.ly/2UboQ3x)

36 Putri CA, Tan JH. *Ophthalmology service recovery with 'general anaesthesia to local anaesthesia conversion' or GALA initiative: a new surgical service pilot*. BMJ Open Quality 2023

37 Popovic M, Schlenker MB, Goldshtein D *et al*. Preoperative fasting for ambulatory cataract surgery: a systematic review. *Can J Ophthalmol* 2019; 54: 145–9

38 Royal College of Anaesthetists and Royal College of Ophthalmologists. *Local Anaesthesia for Ophthalmic Surgery*. London, 2012 (bit.ly/2UP71ud)

39 Royal College of Anaesthetists. 2021 Anesthetists Curriculum. London, 2021 (bit.ly/3x7NpOH)

40 Royal College of Anaesthetists. RCoA Training Programme Update, January 12. (bit.ly/2d0PSCt)

41 Royal College of Anaesthetists. The CCT in Anaesthesia. London, 2010 (bit.ly/2tjxGfL)

42 Mukherjee B, Venkatakrishnan JV, George B, Sivaprakasam M. Evaluation of an ophthalmic anesthesia simulation system for regional block training. *Ophthalmology* 2015; 122: 2578–80

43 Budd JM, Hughes PK. A model for teaching peribulbar anaesthesia. *Ophthal Anaesth* 2015; 5: 6–9

44 General Medical Council. *Good Medical Practice*. London, 2013 (bit.ly/1lDfrXk)

45 NHS England. *National Safety Standards for Invasive Procedures (NatSSIPs)*. London, 2015 (bit.ly/1K6fRY2)

46 McCloud C, Harrington A, King L. A pre-emptive pain management protocol to support self-care following vitreo-retinal day surgery. *J Clin Nurs* 2014; 23: 3230–9

47 World Health Organization. *Implementation Manual: WHO Surgical Safety Checklist 2009*. Geneva, 2009 (bit.ly/3qZEAHa)

48 Royal College of Anaesthetists. *Stop Before You Block*. London, 2011 (bit.ly/2Hy8SHt)

49 Parikh R, Palmer V, Kumar A, Simon JW. Surgical confusions in ophthalmology: description, analysis, and prevention of errors from 2006 through 2017. *Ophthalmology*. 2020; 127: 296–302

50 Strungaru H, Pereira N, Salmonson H *et al*. Optimizing preoperative requirements for outpatient cataract surgery at the Royal Alexandra Hospital. *Can J Ophthalmol* 2019; 54: 306–13

51 Getting it Right First Time. Anaesthesia in Cataract Hubs. 2020 (https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2020/12/Anaesthesia-in-Cataract-Hubs-FINAL.pdf)

52 Department of Health. *Reference Guide to Consent for Examination or Treatment*, 2nd ed. London, 2009 (bit.ly/1RYftOa)

53 Centre for Perioperative Care (bit.ly/3f6hTdU)

54 UK Supreme Court. Montgomery v Lanarkshire Health Board. [2015] UKSC 11. London, 2015 (bit.ly/2f4wJ4z)

55 Royal College of Anaesthetists. *Local Anaesthesia for Your Eye Operation*, 5th ed. Patient information leaflet. London, 2020 (bit.ly/3g16Fas)

56 Royal College of Anaesthetists. *You and Your Anaesthetic* 5th ed. Patient information leaflet. London, 2020 (bit.ly/3AxxqNa)

57 Royal College of Ophthalmologists. Patient information booklets. (bit.ly/32ynqqE)

58 Edmunds M, Barry R, Denniston A. Readability assessment of online ophthalmic patient information. *JAMA Ophthalmol* 2013; 131: 1610–6

59 NHS England. Accessible Information Standard. *NHSE*, 2015 (bit.ly/1IfVRvV).

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	B	Strong
1.8	C	Strong
1.9	C	Strong
1.10	C	Strong
1.11	C	Strong
1.12	C	Strong
1.13	C	Strong
1.14	C	Strong
1.15	C	Strong
1.16	C	Strong
1.17	C	Strong
1.18	C	Strong
1.19	C	Strong
2.1	C	Strong
2.2	C	Strong
2.3	C	Strong
2.4	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
2.5	C	Strong
2.6	C	Strong
2.7	M	Mandatory
2.8	C	Strong
2.9	GPP	Strong
2.10	B	Strong
2.11	C	Strong
2.12	C	Strong
2.13	C	Strong
2.14	C	Strong
2.15	GPP	Strong
2.16	GPP	Strong
2.17	GPP	Strong
3.1	C	Strong
3.2	C	Strong
3.3	C	Strong
3.4	C	Strong
3.5	C	Strong
3.6	C	Strong
3.7	C	Strong
3.8	C	Strong
3.9	GPP	Strong
3.10	GPP	Strong
3.11	GPP	Strong
3.12	B	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
3.13	C	Strong
3.14	GPP	Strong
3.15	GPP	Strong
3.16	C	Strong
3.17	B	Strong
3.18	C	Strong
3.19	C	Strong
3.20	C	Strong
4.1	C	Strong
4.2	C	Strong
4.3	B	Strong
4.4	C	Strong
4.5	C	Strong
4.6	C	Strong
5.1	GPP	Strong
5.2	C	Strong
5.3	C	Strong
5.4	GPP	Strong
5.5	B	Strong
5.6	C	Strong
5.7	B	Strong
5.8	GPP	Strong
6.1	GPP	Strong
7.1	GPP	Strong
7.2	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
7.3	GPP	Strong
7.4	GPP	Strong
9.1	M	Mandatory
9.2	GPP	Strong
9.3	C	Strong
9.4	GPP	Strong
9.5	B	Strong

About these guidelines

Methodology

The process by which this chapter has been developed has been documented within the GPAS Chapter Development Process Document, which is available on request.

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 perioperative 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 perioperative care chapter search protocol please contact the 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 March 2021.

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 perioperative care, under the responsibility of an anaesthetic clinical director, including (but not restricted to) consultant anaesthetists, SAS anaesthetists,

trainee anaesthetists, nurses, operating department practitioners, surgeons, pharmacists, general practitioners, radiologists and radiographers.

Exclusion criteria

The literature review used the following exclusion criteria:

- provision of perioperative care of elective and urgent care patients service provided by a speciality other than anaesthesia.

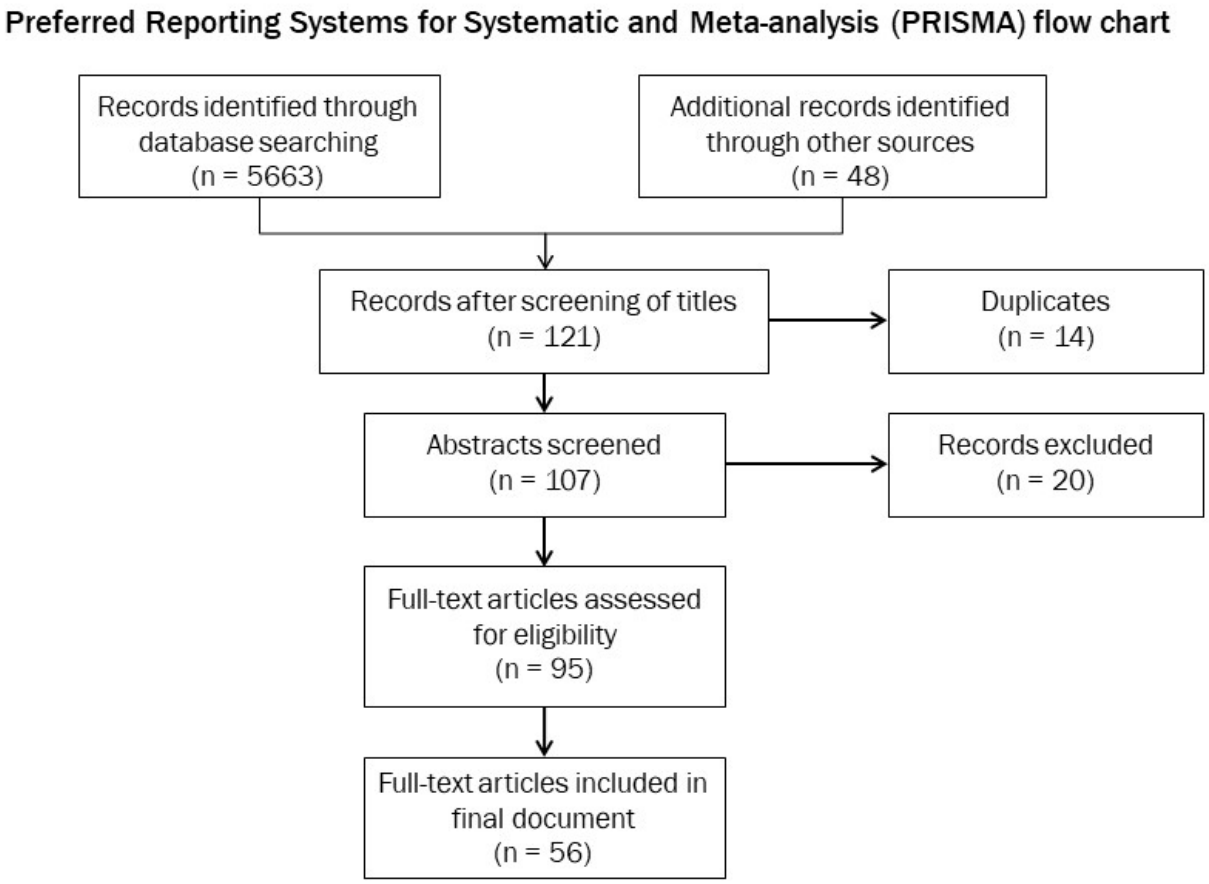
Data extraction and analysis

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:



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.

Strengths and limitations of body of evidence

Most of the published evidence on perioperative care anaesthesia services 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 (RCTs); 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.

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 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'

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 (available on request) 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 Clinical Quality and Research Board (CQRB). 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 CQRB and PatientsVoices@RCoA 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 17 November 2021 to 15 December 2021. 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 (available on request). 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 PatientsVoices@RCoA 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 PatientsVoices@RCoA 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 2025.

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 2027.

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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