Royal College of Anaesthetists

Chapter 8

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidelines for the Provision of Regional Anaesthesia Services 2024

Chapter 8: Guidelines for the Provision of Regional 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 conflict and then, if necessary, to remove themselves from the discussion of that particular piece of evidence and any recommendation pertaining to it.

Medico-legal 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 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 regional anaesthesia services throughout the patient pathway. The guidance is intended for use by anaesthetists with responsibilities for service delivery and healthcare managers.

This guideline does not comprehensively describe clinical best practice in regional anaesthesia services 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 regional anaesthesia services 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 these services.

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 anaesthesia service provision. 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.

Scope

Target audience

All staff groups working in regional anaesthesia, including (but not restricted to) anaesthetists, staff grade, associate specialist and specialty (SAS) anaesthetists, anaesthetists in training, operating department practitioners, anaesthesia associates (AAs), nurses, allied health professionals and pharmacy staff.

Target population

Groups that will be covered:

- all ages of patients undergoing regional anaesthesia.

Groups that will not be covered:

- provision of regional anaesthesia services provided by a specialty other than anaesthesia. Where non-anaesthetists provide such services, they are advised to follow the guidance of their own College.

Healthcare setting

All settings within the hospital in which regional anaesthesia services are provided.

Clinical management

Key components needed to ensure provision of high-quality regional anaesthesia services.

Areas of provision considered:

- Service organisation and administration
- Staffing requirements
- Equipment, services and facilities
- Preoperative assessment, intraoperative monitoring and the postoperative period
- Training and education
- Areas of special requirement
- Research, audit and quality improvement
- Patient information
- Implementation support.

Exclusions

Issues that will not be covered:

- Clinical guidelines specifying how healthcare professionals should care for patients
- Issues that can only be implemented on a national-level

Introduction

Regional anaesthesia (RA) is an important component of anaesthetic practice. It includes neuraxial and peripheral nerve block techniques which may be used for either perioperative anaesthesia or analgesia, as well as other non-surgical indications such as chronic pain and traumatic rib fractures. The practice of RA has changed significantly, particularly over the past three decades[1]. The introduction of ultrasound technology has stimulated both a renaissance in popularity and the development of many new blocks, most notably fascial plane blocks[2,]. More importantly, ultrasound has improved the safety and effectiveness of RA techniques, albeit that finite risks still remain[3,4]. The availability of newer local anaesthetics with an improved safety profile and advances in managing local anaesthetic toxicity have enhanced the safety of RA further[5,6,]

RA is a recommended analgesic strategy for many surgical procedures, either alone or as a component of multimodal analgesia[7]. It generally provides superior analgesia compared with other pain medications in the immediate postoperative period; it is opioid sparing and reduces opioid-related side effects. Improved analgesia with fewer adverse effects can reduce the surgical stress response and can facilitate improved mobilisation. As a result, regional anaesthesia has a role in many enhanced recovery after surgery programmes and day surgery pathways[8,9,10]. Regional anaesthesia may also reduce morbidity[8]. Neuraxial anaesthesia alone and, to a lesser extent when combined with general anaesthesia, is associated with decreased odds of pulmonary complications and possibly also surgical site infection, blood transfusion, thromboembolic events and it may also be associated with reduced intensive care admissions and a shorter length of

hospital stay[11]. Peripheral nerve blocks may also have benefits beyond superior analgesia, although these benefits are less well studied compared to neuraxial anaesthesia and analgesia[12,13].

As well as benefitting patients, regional anaesthesia may also have institutional benefits. It can reduce the length of stay and reduce readmission rates in ambulatory surgery. Perineural catheters provide prolonged postoperative pain relief and can enable earlier discharge of patients who otherwise would need to remain in hospital. 'Block rooms' can increase theatre productivity by reducing turnover time between cases and potentially also reduce staffing costs if the block room services multiple theatres where patients undergoing surgery under regional anaesthesia are supervised by non-anaesthetists[14,15,16]. Regional anaesthesia is also attractive from an environmental point of view although there is little evidence as yet that it is any less 'green' than other forms of anaesthesia.

This guidance makes recommendations on leadership, governance arrangements, staffing, equipment and training in providing services specific to regional anaesthesia. The provision of high-quality services throughout the perioperative journey of patients is covered. This includes information shared with patients, informed consent, and shared decision-making. The availability of the required number of anaesthetists trained in regional techniques in every hospital to develop RA services and provide the necessary clinical input has been emphasised. Policies and procedures to support high-quality clinical care have been recommended. Some specialities with significant RA workload and patient groups with specific considerations in regional anaesthesia have been addressed separately. The provision of a high standard of RA services throughout the perioperative journey of surgical patients and for analgesia in non-surgical patients will significantly enhance the standard of care provided in acute hospitals.

Recommendations

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

1 Service organisation and administration

Leadership structure

1.1 Every anaesthesia department should have a designated clinical lead (see Glossary) for regional anaesthesia services. This lead role should be recognised in job plans and be allocated dedicated time. Regional anaesthesia leads should be involved in multidisciplinary service planning and governance related to regional anaesthesia[2].

1.2 Anaesthetists should actively engage in planning services with significant regional anaesthesia requirements. They should be actively involved in policy decisions, service improvements and equipment purchasing related to regional anaesthesia.

1.3 Every anaesthesia department should aim to provide a high-quality regional anaesthesia service. This should be reflected in the published departmental plans and resources provided to support this aim.

1.4 Every anaesthesia department should have sufficient anaesthetists with expertise in regional anaesthesia to provide a timely regional anaesthesia service. When this is not possible, a consultant anaesthetist with expertise in regional anaesthesia should be identified daily to support other anaesthetists with regional anaesthesia procedures.

1.5 Where indicated patients should be offered the choice of regional anaesthesia either as the sole anaesthetic or in conjunction with general anaesthesia.

Clinical governance

1.6 Clinical governance is covered in detail in Chapter 1: Guidelines for the Provision of Anaesthesia Services: The Good Department. The principles of governance described in the chapter apply to the provision of regional anaesthesia services.

1.7 Every anaesthesia department should have systems to report, investigate, discuss and learn from adverse events occurring during regional anaesthesia[17].

1.8 Departments should consider having tools for the collection of data on outcomes and the safety of regional anaesthesia procedures. These data should be regularly discussed at governance meetings to improve the performance of the service.

1.9 Hospitals should regularly review local standards and policies related to regional anaesthesia and ensure they are harmonised with national safety standards and guidelines[18].

Policies and pathways

1.10 General policies detailed in Chapter 2: Guidelines for the Provision of Anaesthesia Services for Perioperative Care of Elective and Urgent Care Patients are relevant to the provision of regional anaesthesia services.

1.11 A multidisciplinary team, including all relevant healthcare professionals as appropriate, should develop local policies pertinent to regional anaesthesia.

1.12 Local policies should be in agreement with relevant published national guidelines.

1.13 Local policy on consent should have a section dedicated to regional anaesthesia.

1.14 National guidelines adopted locally should be easily accessible to all staff caring for patients undergoing regional anaesthesia. These include but are not limited to:

- Regional anaesthesia in patients with abnormalities of coagulation[19]
- LocSSIPS (Local Safety Standards for Invasive Procedures) for regional block performed without surgery
- Standardised operating procedure for stop before you block – Prep, Stop, Block[20]
- Performance of regional techniques by non-physician practitioners[21,22]
- Intraoperative supervision of patients during peripheral regional anaesthesia[16]
- Postoperative monitoring of patients with regional anaesthesia[23]
- Management of nerve injury associated with regional anaesthesia[24,25]
- Management of compartment syndrome[26,27]
- Management of local anaesthetic toxicity[5]

1.15 Children, pregnant women, elderly people, those with comorbidities (e.g.; renal failure, cardiac dysfunction or liver insufficiency) and critically ill patients are at higher risk of Local Anaesthetic Systemic Toxicity (LAST). Clear guidelines on the management of LAST in this population including the administration of lipid emulsion therapy, should be immediately available[6].

1.16 In establishing local guidelines, departments may wish to consult the RA-UK website for examples of good practice in relation to regional anaesthesia.

2 Staffing requirements

2.1 There should be a dedicated trained assistant (i.e. an ODP, anaesthetic nurse or equivalent) who holds a valid registration with the appropriate regulatory body, immediately available in every location in which regional anaesthesia care is being delivered[28].

2.2 Practitioners performing regional anaesthesia should have undergone adequate training. Such practice should be in the setting of an appropriate local training programme, with strict adherence to governance protocols and regular review of quality and safety[15].

2.3 Local policies should be in place to define the scope of intraoperative monitoring by non-anaesthetist health care workers. These policies should meet the criteria proposed by RA-UK[16].

2.4 Appropriately trained healthcare workers monitoring patients who have undergone regional anaesthesia should be specifically trained with their competencies clearly defined according to the Association of Anaesthetists' requirements for post-anaesthesia care unit (PACU) recovery nursing[29]. This individual should be able to recognise symptoms and signs of local anaesthetic toxicity[25].

2.5 A 'block room' utilising a parallel processing method is a cost-effective model for providing regional anaesthesia in a theatre environment. Staffing numbers may be determined locally depending on how many beds are in the block room but there should be sufficient numbers of trained staff to both assist the anaesthetist and monitor patients. Staffing in the block room should be adequate to safely manage all patients if anaesthetists are required to attend to a patient urgently in the operating theatre[30].

3 Equipment, services and facilities

The environment in which regional anaesthesia is undertaken should be adequately equipped to facilitate the safe conduct of the procedure and management of any immediate complications. It is recognised that while most regional anaesthesia is carried out within the theatre or block room environment, there are clinical areas such as the Emergency Department, the Intensive Care Unit and Labour wards that may require local trust review of how best to ensure safe delivery in line with the following recommendations

Equipment and monitoring

3.1 The following equipment is required as a minimum standard for the safe delivery of regional anaesthesia:

- Regional anaesthesia needles (spinal, epidural and peripheral nerve block) that have yellow colour coded NRFit connections.
- Syringes and pumps used for bolus or continuous use of local anaesthesia (LA) that are NRFit compatible, yellow colour coded with a visible yellow colour sticker attached close to the patient end[31].
- Sufficient portable ultrasound machines with linear and curved probes, probe covers and nerve stimulators that are readily available to avoid any delay in waiting for machine availability.
- A safe supply of oxygen either using wall mounted oxygen outlets or provided by cylinders.
- Appropriate facemasks for oxygen delivery.
- All emergency equipment outlined in Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients 2024[28].
- Cardiac defibrillator

3.2 When performing neuraxial anaesthesia, or where there is any possibility of a regional anaesthetic technique needing to be converted to general anaesthesia, all appropriate

equipment for safe induction, maintenance and monitoring of general anaesthesia must be available as outlined in Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients 2024[28].

3.3 There should be facilities for hand washing and to ensure asepsis; sterile gowns and gloves, caps, masks and chlorhexidine sprays should be available[28].

3.4 The standard of monitoring equipment while performing regional anaesthesia should comply with Association of Anaesthetists' standards of monitoring during anaesthesia and recovery document[32].

3.5 Other appropriate monitoring equipment should be available when sedation or general anaesthesia is administered along with regional anaesthesia as outlined in Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients 2024.

3.6 All regional anaesthesia equipment (nerve stimulators, ultrasound machine and infusion pumps) should have user manuals and should be checked prior to use in accordance with the Association of Anaesthetists' published guidelines alongside regular maintenance and replacement programmes[33]. A planned maintenance and replacement programme should be in place.

3.7 All anaesthetists and anaesthetic assistants as well as ODPs should receive systematic training in the use of new regional anaesthesia equipment. Provision and receipt of training should be clearly documented. Staff should not use regional anaesthesia equipment unless appropriately trained. There should be a suitable induction policy for new staff and when new equipment is introduced, with a record of training kept within the department[34].

Support services

3.8 Pharmacy services should be available for advice and dispensing of take-home medication for patients scheduled for day-case regional anaesthesia.

Facilities

3.9 There should be an adequate supply of all commonly used local anaesthetic (LA) agents in different concentrations and formulations in all clinical areas where regional anaesthesia is performed.

3.10 There should be facilities for keeping all LA agents in a separate storage unit or cupboard from intravenous infusion solutions, to reduce the risk of accidental intravenous administration of such medication[35,36,37].

3.11 Storage units should be located and designed for timely access to LA agents when required, while also maintaining the integrity of the medicines and aiding organisations in compliance with safe and secure storage requirements.[35,36,37].

3.12 All local anaesthetic medications and additives prepared for infusions should be clearly labelled and delivered via yellow colour coded syringes (or bags) or tubing in accordance with local medicine management committee guidelines[35,36,37].

3.13 All drugs required for safe delivery of anaesthesia, including emergency drugs, should be available.

3.14 Lipid emulsion therapy should be easily accessible near all clinical locations where local anaesthetics are being administered.

3.15 There must be a system for ordering, storage, recording and auditing of controlled medicines (such as local anaesthetics with opioids for epidural infusions) in all areas where they are used, in accordance with legislation[38,39].

3.16 Robust systems should be in place to ensure reliable medicines management, stock review and supply, expiry checks, and access to appropriately trained pharmacy staff to manage any medicine shortages.

3.17 All staff involved in the prescribing, dispensing, preparing, administering and monitoring of LA infusions must be appropriately trained with access to resources on safe preparation and administration of LA drugs and access to a pharmacy service for advice[40].

3.18 Electronic or paper copies of patient records should be available at all sites prior to the procedure. Patient data should be updated in a timely manner after performing the regional block[41].

4 Preoperative assessment, patient information and consent

4.1 Patients undergoing regional anaesthesia should be assessed and preoperative investigations carried out as appropriate[42].

4.2 There should be arrangements or standing orders in place for agreed preoperative laboratory investigations. Support from laboratories or clinical testing services for risk assessment and optimisation of patients, will maximise the use of regional anaesthesia[42].

4.3 Multidisciplinary support for preoperative assessment staff from other physicians, medical specialists, anaesthetists, surgeons and pain management teams should be available.

4.4 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[42].

4.5 Policies pertaining to regional anaesthesia, alerts and recommendations could be made available using electronic information systems as well as poster displays in all clinical areas.

4.6 Patients undergoing regional anaesthesia should undergo preoperative preparation, where there is the opportunity to assess medical fitness and impart information about the procedure. An individualised risk-benefit assessment and discussion should occur with every patient considering regional anaesthesia. Relevant guidance should be followed where appropriate based on the patient, the procedure and the specific regional technique e.g. Association of Anaesthetists guidance on compartment syndrome, coagulation etc

4.7 Association of Anaesthetists Consensus guidelines on regional anaesthesia for patients at risk of lower limb compartment syndrome should be followed. Discussion of risk with the patient should occur where possible.

4.8 In patients with abnormalities of coagulation it is essential to consider the risk-benefit balance associated with regional anaesthesia. Both the risk and potential consequence of bleeding should be considered versus any alternative techniques. Recommendations relating to the drugs used to modify coagulation, abnormalities of coagulation and the relative risk of individual regional anaesthetic techniques should be followed[43].

Patient information and consent

The RCoA has a comprehensive suite of patient information resources to aid discussions on risks and explain different types of anaesthetics. Most of these resources are also translated in

the 25 most spoken languages in the UK. More information at https://www.rcoa.ac.uk/patients/patient-information-resources

4.9 Consent may be obtained by the practitioner performing the regional anaesthetic technique but can also be discussed in advance (eg in the preoperative assessment clinic) by a person not performing the nerve block. The person obtaining consent for a regional anaesthetic procedure should be able to communicate the practicalities of the nerve block, the intended benefits, the risks involved and any alternatives available.

4.10 Patients who have a disability or sensory loss and those who need access to an interpreter, advocate or other communication professional should be provided with information in a way they can access and understand[44].

4.11 Shared decision making based on patients' preferences and informed discussions around risks and benefits are vital in regional anaesthesia practice. Information leaflets (or other forms of information such as online videos) describing benefits, risks and alternatives to regional anaesthesia may be provided at the time of preoperative assessment.

4.12 In the elective setting, the option for regional anaesthesia should ideally be discussed with the patient prior to the day of surgery. A 'patient information leaflet' may help inform this discussion and, where used, should be written in language easy to understand by the patient, with a translation available if required.

4.13 If regional anaesthesia is not considered as an option prior to the day of surgery, consent may be obtained on the day of surgery, provided that adequate time is given in the pre-operative consultation for the patient to understand the information provided, consider alternative options and to ask any questions they may have.

4.14 Consent should only be obtained in the anaesthetic room under exceptional circumstances, such as in the case of emergency surgery.

4.15 The consent process should include a discussion of the process of the regional anaesthesia technique including whether this will occur while the patient is awake, sedated or under general anaesthesia. All common risks and side effects of the intended block should be outlined together with serious risks.

4.16 Patients should be told what to expect following a particular nerve block, including advice on how to protect a limb to prevent damage while it remains insensate and the risk of falls or pressure sores related to a motor block of the lower limb.

4.17 All discussions about the intended regional anaesthetic technique should be documented in the patient's notes. A separate formal, written consent is not required when the nerve block is used to facilitate a surgical procedure, but should be obtained when regional anaesthesia is the sole therapeutic procedure eg. erector spinae plane (ESP) block for rib fractures. In this circumstance, the laterality of the block must also be clearly marked as part of the consent process.

Patient choice

4.18 Where regional anaesthesia is an option, this should be offered to and discussed with the patient along with the alternatives.

4.19 Hospitals should consider providing specific regional anaesthesia lists for awake procedures, staffed by an anaesthetist with a special interest in regional anaesthesia. However, alternative lists for patients unable or unwilling to undergo awake surgery should be available.

4.20 Where regional anaesthesia is chosen, and where appropriate, patients should be offered the option of sedation to supplement a regional anaesthetic technique. The relative benefits of undergoing an awake procedure as compared with sedation or general anaesthesia (with or without regional anaesthesia) should be considered.

5 Intraoperative monitoring

Co-ordination and communication

5.1 RA-UK/ Safe Anaesthesia Liaison Group (SALG) national 'Prep, Stop, Block' guidance should be followed for all regional anaesthetic procedures involving laterality. Wrong-sided block is defined as a never event by NHS England[45].

Availability of expertise

5.2 RA-UK recommend that, under certain strict criteria and as defined in RA-UK supervision guidelines, intraoperative patient monitoring may be delegated to a suitably trained health care worker who has been specifically trained in patient monitoring according to Association of Anaesthetists guidelines. This recommendation pertains to awake surgery under peripheral regional anaesthesia but excludes patients undergoing shoulder surgery in the deck chair position.

5.3 When using the block room model, where work occurs in parallel, the anaesthetist should be immediately available for the first 15 minutes after siting the block and then immediately contactable and able to attend within 2 minutes for the duration of the procedure[16].

6 The postoperative period

6.1 Following day surgery procedures performed under general or regional anaesthesia, a responsible adult should escort the patient home and should provide support for the first 24 hours after surgery. A carer at home may not be essential if there has been good recovery following a brief or non-invasive procedure (under short duration local anaesthetic) and where any postoperative haemorrhage is likely to be obvious and controllable with simple pressure.

6.2 Transport home following day surgery should be by private car or taxi; public transport is not normally acceptable following general or regional anaesthesia.

6.3 Patients who are discharged from hospital prior to resolution of a nerve block should be provided with written information about the expected duration of the block, who to contact should they experience any issues related to the nerve block and clear instructions regarding appropriate analgesia around the time of block resolution.

6.4 Departments should have clear, written guidance relating to peripheral nerve block follow-up and initial management of unexpected or persistent neurological dysfunction. A nationally agreed joint RA-UK/British Orthopaedic Association guideline is available[25].

7 Training and education

7.1 All anaesthetists should be aware of the potential benefits and risks of regional anaesthesia and be able to discuss these options with patients where appropriate as part of an individual patient anaesthetic management plan[46].

7.2 All anaesthetists completing the 2021 RCoA curriculum should be able to deliver a range of safe and effective central or peripheral regional anaesthetic techniques to cover the upper and lower limb, chest and abdominal wall independently[47].

7.3 Structured training in regional anaesthesia should be provided to all anaesthetists in training and any other anaesthetists who wish to learn any of these techniques. The training should include an understanding of the relevant anatomy, physiology, pharmacology, ultrasound physics, non-technical skills and the prevention and management of complications. Part-task trainers may be used to improve practical skills[48].

7.4 All anaesthetists should have access to adequate time, funding and facilities to undertake training in, and update or advance their regional anaesthesia knowledge and skills relevant to their clinical practice[2,18].

7.5 Trainees should be appropriately clinically supervised at all times[49].

7.6 There should be a nominated anaesthetist responsible for training in regional anaesthesia, with adequate programmed activities allocated for these responsibilities.

7.7 Anaesthetists with a specific interest in regional anaesthesia should deliver regular appropriate theatre sessions to ensure the maintenance of their skills and experience.

7.8 All anaesthetists and the wider theatre team should be aware of the serious complications of regional anaesthesia including wrong sided block and local anaesthetic systemic toxicity. Anaesthetists should help organise and participate in regular multidisciplinary training aimed at reducing risk, recognition and management.

7.9 Staff in the recovery area and in the wards who monitor and care for patients after surgery with epidural infusions, spinal anaesthesia, intrathecal opioids and single shot or continuous nerve blocks should have received up to date training in caring for such patients[50].

7.10 Staff expected to provide medication to top up epidurals and continuous nerve infusions should be trained in the administration of such medications.

8 Areas of special requirement

Paediatric patients

8.1 Anaesthetists and other health professionals who care for children having regional anaesthesia techniques, must have received appropriate training and should ensure that at annual appraisals, competence is deemed adequate[47,51].

8.2 Equipment suitable for each age group should be available and checked.

8.3 Regional anaesthesia should be considered in the pre-operative preparation of patients. Families and patients should be provided with information about the benefits, risks, and side effects of RA techniques in a way that they understand. This includes verbal and written instructions on how to manage pain when the block wears off and what to do and who to contact in the event of a problem or concern when patient is discharged[52,53].

8.4 Hospitals should have pathways in place for major surgery that include the use of regional techniques.

8.5 Ultrasound equipment should be available, as its use to guide central (e.g. caudal) and peripheral blocks is encouraged to increase efficacy and safety. This is particularly relevant in younger children, infants and neonates where the effect size is inversely proportional to the patient size[5].

8.6 Processes should be recognised that the PREP STOP BLOCK moment will probably occur with the patient under general anaesthesia and therefore the ability to confirm with the patient at

this point will be lost; ensuring that this standard operating procedure (SOP) is performed correctly will help to reduce the risk of wrong-sided block.

8.7 Guidelines relating to the appropriate maximum doses of local anaesthetic should be considered. It should be recognised that infants and neonates are at increased risk of LAST[27].

8.8 Staff managing LA infusions (peripheral nerve infusions or epidural infusions) should be appropriately trained in the recognition and management of LAST. The risk of LAST associated with infusions is increased in younger patients and therefore the duration of LA infusions should be considered to reduce this risk.

8.9 LA boluses (e.g. epidural top ups) should be performed by appropriately trained individual.

Further detailed recommendations for anaesthetic care in paediatric population can be found in Chapter 10: Guidelines for the Provision of Paediatric Anaesthesia Services 2024

Pregnant and breastfeeding patients

8.10 All anaesthetists involved in the care of pregnant and breastfeeding women should be competent to deliver high-quality and safe anaesthetic care in this population[54].

8.11 Guidelines for anaesthetising pregnant patients should be followed[55]. Local or regional techniques are preferable where feasible in pregnant and breastfeeding women[53,54].

8.12 In pregnant women having non obstetric surgery and regional anaesthesia, the decision to monitor fetal heart rate during surgery is specific to the patient and is often based on institutional guidelines. Informed consent should include consideration of fetal wellbeing, the possibility of caesarean delivery and any risks for mother and child.

8.13 Guidelines for the management of pregnant women receiving anticoagulation, and for the recognition and management of complications of regional analgesia/anaesthesia should be available, including access to appropriate imaging facilities if neurological injury occurs.

Further detailed recommendations for anaesthetic care in obstetric and non-obstetric surgery for pregnant women can be found on Chapter 9: Guidelines for the Provision of Anaesthesia Services for an Obstetric Population 2024 and Chapter 5: Guidelines for the Provision of Emergency Anaesthesia Services 2024

Frail and older patients

8.14 Guidelines on perioperative care of elderly patients should be available[56].

8.15 Multidisciplinary communication about the nature of surgical intervention is necessary to provide adequate anaesthesia care in this high-risk population and an analgesia plan should be available.

8.16 Older patients should be assessed for risk of postoperative cognitive dysfunction and preoperative interventions undertaken to reduce the incidence, severity and duration. While the use of regional anaesthesia alone without sedation might be considered, there is a lack of strong quality evidence suggesting that this practice reduces the overall risk[56].

8.17 In patients deemed to be lacking in capacity, proxy information should be sought to determine what treatment, if any, is in the patient's best interests and this treatment should be clearly documented[56].

Patients living with obesity

8.18 Experienced anaesthetists should manage patients living with obesity. Regional anaesthesia in this group of patients can be challenging and should be undertaken/supervised by experienced anaesthetists[57].

8.19 Additional specialised equipment might be necessary to perform regional anaesthesia techniques on these patients. Equipment such as extra-long spinal or epidural needles should be available.

8.20 Ultrasound equipment should be available, as its use to guide central and peripheral techniques is encouraged to increase success rates.

Critically ill patients

8.21 Critically ill patients are complex and hold unique particularities that makes them more susceptible to side effects and complications of regional anaesthesia techniques. Experienced regional anaesthetists should perform/supervise regional anaesthesia techniques in these patients.

8.22 Regional anaesthesia complications in sedated patient are less easily recognisable, and a high index of suspicion is required, which should be recognised in local policies and procedures.

8.23 In the patient receiving epidural analgesia or other continuous LA infusions the site of injection should be checked at least once a day. Patients should be monitored for early signs of complications.

Trauma and Orthopaedics

Benefits of RA in Trauma and Orthopaedics include good pain control, improved theatre efficiency, early recovery, reduction in PACU stay and bypassing the first stage recovery in some cases. Institutions are encouraged to incorporate RA and Enhanced Recovery After Surgery (ERAS) into daily practice.

8.24 Early multidisciplinary assessment including surgeons, pain services, critical care and physiotherapy should determine the optimal analgesia management for chest wall injuries including provision for early epidural, fascial plane or peripheral nerve blocks in patients with multiple rib fractures[58].

8.25 Establishing pathways that lead to early identification and timely management of injured nerves is key to optimal patient outcome. There should be a clear and accessible pathway for suspected peripheral nerve injuries including a single point of contact to guide further management[58].

8.26 Patients at risk of acute compartment syndrome should be identified on admission to hospital or at the time of surgery, and the condition should be managed within agreed multidisciplinary protocols. Single-shot or continuous peripheral nerve blocks using lower concentrations of local anaesthetic drugs without adjuncts have not been associated with delays in diagnosis provided post-injury or postoperative surveillance is appropriate and effective[27].

Further detailed recommendations for anaesthetic care in trauma and orthopaedic surgery can be found on Chapter 16: Guidelines for the Provision of Anaesthesia Services for Trauma and Orthopaedic Surgery 2024

Emergency Department patients

8.27 Patients receiving any regional anaesthesia/analgesia care in a non-theatre location should be cared for by an adequately trained health professional with appropriate supervision[59].

8.28 Guidelines for recognising and managing complications including local anaesthetic toxicity, and intralipid, should be immediately available and should be located in all areas where large amounts of LA is administered[60].

8.29 After performing a fascial plane or peripheral nerve block in the emergency department, patients should be closely monitored (for a minimum of 1 hour) during and after the procedure; for both signs of local anaesthetic toxicity and sedation effects of other analgesia that may have been administered[61].

8.30 Hospitals providing care for hip fracture patients should have a formal pathway that includes prompt provision of analgesia with regional block such as Fascia Iliaca Block (FIB) in emergency departments. FIB should be undertaken only by clinicians who have completed a competency assessment in this skill[62].

8.31 Regional anaesthesia procedure should be clearly documented and easily accessible in the patient's notes.

Ophthalmic patients

8.32 Anaesthesia for ophthalmic surgery is a specialised area of anaesthesia. Practitioners should be competent in performing ophthalmic blocks and be able to recognise and manage any complications.

8.33 Sharp needle-based blocks (e.g. peribulbar) should only be administered by medically qualified personnel.

8.34 Intravenous access should be established prior to performing sharp needle-blocks.

8.35 Patients who require regional anaesthesia should undergo preoperative preparation.

8.36 Units where ophthalmic surgery is performed should be provided with guidelines, drugs and equipment to deal with complications and emergencies such as cardiac arrest, anaphylaxis and local anaesthesia toxicity.

Further detailed recommendations for anaesthetic care in ophthalmic surgery can be found on Chapter 13: Guidelines for the Provision of Ophthalmic Anaesthesia Services 2024

Day surgery

8.37 Medical, surgical and social suitability for day surgery should be assessed as part of pre-operative assessment. This should ideally be within a day-case specific pre-operative assessment service[53].

8.38 All components of safe regional anaesthesia service delivery should be adhered to within day surgery environments to the same standards as within an inpatient facility.

8.39 Departments should have 'awake surgery' pathways, which can increase efficiency of list turnover and may reduce resources required. A 'block room' service delivery model where locally appropriate could facilitate this process.

8.40 Policies should acknowledge that patients who undergo surgery under regional anaesthesia without GA may be suitable to bypass the acute/stage 1 recovery area after surgery and may proceed directly to secondary recovery prior to discharge home[63].

8.41 Locally agreed same-day discharge pathways should consider incorporating local anaesthesia infusion devices and catheters where follow up systems and protocols allow this to be done safely. There should be appropriate staff and patient education in their use and in the detection and management of complications.

8.42 Where spinal anaesthesia is used in day-surgery, nursing staff should be trained in the safe mobilisation of patients after spinal anaesthesia prior to nurse-led discharge. Information on post-dural puncture headache and what to do if this occurs should be included in the patients discharge instructions.

8.43 Post-operative patient education and written information should be provided prior to discharge as described in section 6: the 'postoperative period' section in this document, regarding care of the insensate limb, expected sensation and motor recovery trajectory, pre-emptive analgesia plan, and how and when to seek help.

8.44 Staff undertaking day surgery patient follow up or answering patient helpline calls should be aware of local departmental guidance related to peripheral nerve block follow up and initial management of unexpected/persistent neurological dysfunction.

Further detailed recommendations for anaesthetic care in ophthalmic surgery can be found on Chapter 6: Guidelines for the Provision of Anaesthesia Services for Day surgery 2024.

9 Quality improvement, audit and research

9.1 There should be effective governance systems and processes in place to assess, monitor and improve the quality and safety of services with particular reference to local guidelines, national policies such as Prep Stop Block, reviews of adverse events, and record keeping. The Royal College of Anaesthetists has issued quality improvement topics relating to regional anaesthesia[64].

9.2 Regional anaesthesia should be included in departmental audit programmes. Audit topics should be developed locally but may include patient satisfaction, anaesthetic record keeping including documentation of consent, patient follow up, information provision, pain on block resolution, complications and adverse events[65].

9.3 Research in regional anaesthesia should be encouraged. Research must follow strict ethical standards as stated by the GMC and Good Clinical Practice guidelines[66,67]

10 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

Areas for future development

Following the systematic review of the evidence, the following areas of research are suggested:

- Management of pain as regional anaestheisa wears off
- Effective delivery of regional anaesthesia training
- Use of regional anaesthesia to reduce chronic postsurgical pain
- Assessing the clinical effectiveness of fascial plane blocks
- Use of regional anaesthesia in reducing long-term opioid use
- Assessing the risks and benefits of using adjuncts to local anaesthetics
- Use of novel technologies to improve regional anaesthesia

Abbreviations

ACSA	Anaesthesia Clinical Services Accreditation
CDG	Chapter Development Group
GPAS	Guidelines for the Provision of Anaesthetic Services
PACU	Post-anaesthesia care unit
RCoA	Royal College of Anaesthetists
SAS	staff grade, associate specialist and specialty

Glossary

Autonomously practising anaesthetist – a consultant or a staff grade, associate specialist or specialty (SAS) doctor who can function autonomously to a level of defined competencies, as agreed within local clinical governance frameworks.

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

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

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	GPP	Strong
1.2	C	Strong
1.3	C	Moderate
1.4	GPP	Strong
1.5	C	Strong

Recommendation number	Level of evidence	Strength of recommendation
1.6	C	Strong
1.7	C	Strong
1.8	GPP	Strong
1.9	GPP	Strong
1.10	C	Strong
1.11	C	Moderate
1.12	GPP	Strong
1.13	GPP	Strong
1.14	C	Strong
1.15	GPP	Strong
1.16	GPP	Moderate
2.1	M	Mandatory
2.2	C	Strong
2.3	C	Strong
2.4	GPP	Strong
2.5	A	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	GPP	Strong
3.9	C	Strong
3.10	C	Strong
3.11	C	Strong
3.12	C	Strong
3.13	C	Strong
3.14	M	Mandatory
3.15	C	Strong
3.16	C	Strong
3.17	C	Strong
3.18	C	Strong
4.1	C	Strong
4.2	C	Strong
4.3	GPP	Strong
4.4	GPP	Strong
4.5	GPP	Aspirational
4.6	GPP	Strong
4.7	C	Strong
4.8	C	Strong

Recommendation number	Level of evidence	Strength of recommendation
4.9	GPP	Moderate
4.10	C	Strong
4.11	GPP	Moderate
4.12	GPP	Moderate
4.13	GPP	Moderate
4.14	GPP	Strong
4.15	GPP	Strong
4.16	GPP	Strong
4.17	GPP	Strong
4.18	GPP	Strong
4.19	GPP	Strong
4.20	GPP	Moderate
5.1	C	Strong
5.2	GPP	Moderate
5.3	C	Strong
6.1	GPP	Strong
6.2	GPP	Strong
6.3	GPP	Strong
6.4	B	Strong
7.1	M	Mandatory
7.2	C	Strong
7.3	B	Strong
7.4	C	Strong
7.5	M	Mandatory
7.6	B	Strong
7.7	C	Aspirational
7.8	GPP	Strong
7.9	C	Strong
7.10	C	Strong
8.1	M	Strong
8.2	C	Strong
8.3	C	Strong
8.4	GPP	Moderate
8.5	B	Strong
8.6	C	Strong
8.7	C	Strong
8.8	C	Strong
8.9	C	Strong
8.1	C	Strong
8.2	C	Moderate
8.3	C	Mandatory
8.4	GPP	Strong

Recommendation number	Level of evidence	Strength of recommendation
8.5	B	Strong
8.6	C	Strong
8.7	C	Strong
8.8	GPP	Strong
8.9	GPP	Strong
8.10	C	Strong
8.11	C	Strong
8.12	GPP	Strong
8.13	GPP	Strong
8.14	C	Strong
8.15	GPP	Strong
8.16	GPP	Moderate
8.17	M	Mandatory
8.18	C	Strong
8.19	C	Strong
8.20	GPP	Strong
8.21	GPP	Strong
8.22	GPP	Strong
8.23	GPP	Strong
8.24	C	Strong
8.25	C	Strong
8.26	C	Strong
8.27	C	Strong
8.28	C	Strong
8.29	C	Strong
8.30	C	Strong
8.31	GPP	Strong
8.32	C	Strong
8.33	C	Strong
8.34	GPP	Strong
8.35	GPP	Strong
8.36	C	Strong
8.37	C	Strong
8.38	C	Strong
8.39	GPP	Moderate
8.40	GPP	Moderate
8.41	GPP	Moderate
8.42	C	Strong
8.43	C	Strong
8.44	GPP	Strong
9.1	C	Strong
9.2	GPP	Strong

Recommendation number	Level of evidence	Strength of recommendation
9.3	GPP	Moderate

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 current best practice for the delivery of inpatient pain management by anaesthesia services.

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 January 2024.

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 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 Editor 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 Guideline development and review 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 was reviewed by the College's 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 05 April 2024 to 7 May 2024. 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 1 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 Standards Committee, which includes individuals responsible for the various internal stakeholders (see above for membership). On the inclusion/exclusion of specific recommendations within each chapter, the Standards Committee 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 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 2026.

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 2029.

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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