Royal College of Anaesthetists

Chapter 11

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidelines for the Provision of Anaesthesia Services for Inpatient Pain Management 2024

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Patient Voices @RCoA

The guidance has also been reviewed by Patient Voices @RCoA to ensure that the perspective of patients has been taken into account.

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.

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GPAS guidelines in context

The GPAS documents should be viewed as 'living documents'. The development, implementation and review of the GPAS guidelines 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 *GPAS 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 *GPAS Chapter 5: Guidelines for the Provision of Emergency Anaesthesia*.

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

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

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

Aims and objectives

The objective of this chapter is to promote current best practice for the delivery of inpatient pain management by anaesthesia services. The guidance is intended for use by anaesthetists with responsibilities for service delivery, healthcare managers and the wider inpatient pain team.

This guideline does not describe clinical best practice relating to inpatient pain management comprehensively, but is primarily concerned with the requirements for the provision of a safe, effective, well-led service, which can be delivered by many different acceptable models. The guidance on provision of inpatient pain management applies to all settings where this work 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 CDG agreed that there is a paucity of level 1 evidence relating to service provision in inpatient pain management. In some cases, it has been necessary to include recommendations of good practice based on the clinical experience of the CDG.

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

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Scope

Target audience

All staff groups working in inpatient pain services (IPS), including (but not restricted to) consultant anaesthetists, autonomously practising anaesthetists, anaesthetists in training, nurses and other registered healthcare professionals contributing to a multidisciplinary approach to good pain management.

Target population

All ages of patients requiring IPS.

Healthcare setting

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

Clinical management

Key components needed to ensure provision of high quality anaesthetic services for IPS

Areas of provision considered:

- levels of provision of service, including (but not restricted to) staffing, equipment, support services and facilities
- areas of special requirement, including acute on chronic pain, children, emergency department, opioid stewardship, preoperative, management of patients post discharge and specific patient groups
- training and education
- research and audit
- organisation and administration
- patient information.

Exclusions

Specific clinical guidelines specifying how healthcare professionals should manage a particular condition or painful procedure are not covered in this guideline.

General provision of critical care is outside the scope of this document. Further information, including definitions of levels of critical care can be found in the Faculty of Intensive Care Medicine and Intensive Care Society publication, Guidelines for the Provision of Intensive Care Services.

Introduction

From their inception, IPS have provided acute post-surgical pain management to promote a balance of symptomatic relief and early restoration of function to improve patient experience and surgical outcomes. An ongoing and important role of the IPS is the consistent training and education of staff and students across the wider hospital trust. Other responsibilities continue to expand into such areas as acute pain management in medical patients, acute exacerbations of chronic pain, recognition and assessment of evolving transitional pain, opioid stewardship and perioperative patient education and optimisation. As such, the multi-disciplinary formulation of the IPS team expands with this role and might include representatives from pharmacy, psychology, occupational therapy, physiotherapy, addiction services and others, while the day-to-day service

continues to be run by specialist nurses with leadership from appropriately trained and accredited acute pain physicians.

The scope of each IPS will be determined by local requirements, although the standards set out here provide a baseline for attainment. This chapter should be read alongside the Faculty of Pain Medicine's collaborative *Core Standards for Pain Management* Services in the UK (CSPMSUK) document, which provides further recommendations for routine practice in this field.[1]

The remit of GPAS is to supply a framework for how IPSs might be structured, including staffing, resources, equipment, training and development for the performance of their role, particularly in areas of special requirement. This framework also highlights how IPS might engage with quality improvement, audit and research to reflect on current, and inform future, practice. Importantly, this is not a clinical guideline. Historically, a UK survey shows high variability in resources for IPS with, in many places, a staffing deficit and non-concordance with GPAS standards.[2]

The intention for this updated chapter is to evaluate and assimilate new evidence and working practices from relevant literature since the previous iteration. In particular, changes in the curriculum for anaesthesia, credentialling for pain medicine and an increasing body of evidence to support multi/inter-disciplinary working and the use of multi-dimensional assessment tools have led to some key and novel recommendations.[3,4]

It is clear that recovery from the impact of COVID-19 on elective services will be felt across the entire health service IPS are no different and are encouraged to take an active role in national proposals for tackling the backlog.[5] An expanded waiting list is an opportunity to engage patients in preoperative optimisation of established pain complaints, medicines management and active self-management techniques and to provide education and resources to promote more timely and meaningful recovery.

The role of the IPS continues to evolve on a national scale. We encourage teams to use this chapter to assist in their own evolution locally.

Recommendations

The grade of evidence and the overall strength of each recommendation are tabulated in Appendix 1. We hope that this document will act as a stimulus to future research.

1 Staffing requirements

1.1 IPS should be staffed by multidisciplinary teams (MDTs) led by appropriately trained autonomously practising anaesthetists (see Glossary). The minimum training requirement for new appointments to IPS lead roles is stage 3 Special Interest Area Pain Medicine training.[1,3]

1.2 Anaesthetists in an IPS post need to demonstrate an ongoing significant interest in pain management by involvement in continuing professional development (CPD), appraisal and job planning. The minimum training requirement for new appointments of IPS anaesthetists is stage 3 special interest area in acute inpatient pain.

1.3 The IPS should have a clinical/ specialty lead with time identified for leadership and development roles within their job plan. Time, in programmed activities should be allocated proportional to the size of the organisation and service provided.

1.4 Adequate staffing and systems should be in place to provide timely pain management to all inpatients. Out of usual working hours, this may be delivered by appropriately trained IPS nursing staff or anaesthetic staff. A clear point of contact for expert advice should be available at all times.

1.5 Patients under the care of an IPS should be reviewed by the IPS regularly, with patients receiving epidural analgesia or other continuous local anaesthetic infusions being seen at least once daily (including weekends).[6]

1.6 Adequate numbers of clinical nurses in pain medicine should be available to fulfil the following roles within working hours:

- review of patients in pain with appropriate frequency to provide a safe and effective service
- provision of advice to ward staff and other healthcare teams regarding all aspects of pain management
- liaison with an appropriate pain medicine specialist to highlight clinical or systematic problems
- ensuring that systems are in place to support non specialist healthcare staff to safely and effectively manage acute pain overnight and at weekends if the IPS is not immediately available.
- ensuring that systems are in place to support advance pain management techniques for acute pain management.

1.7 The IPS must have dedicated pharmacy resources and should aim to provide multidisciplinary assessment and management of pain where needed. This should involve collaborative working with other registered healthcare professionals including pharmacists, physiotherapists, clinical psychologists, liaison psychiatrists and addiction medicine specialists.[7,8]

1.8 IPS should consider integrating clinical psychologists into their MDT. Areas which could benefit from clinical psychology involvement includes inpatients with complex pain. Certain patients may benefit from preoperative psychological interventions and within the framework of post-discharge transitional pain clinics.[9]

1.9 Outpatient (chronic) pain management teams should be available to provide advice to the IPS during working hours. This activity should be supported through job planning.

1.10 Pain services should be integrated, with collaboration between the inpatient and outpatient (chronic) pain services.[10]

1.11 There should be clear communication between the inpatient and outpatient (chronic) pain services so that patients can be referred directly into the outpatient service post discharge (where appropriate).

2 Equipment and facilities

Equipment

2.1 All equipment and disposables must be compliant with local and national safety policies. There should be an adequate supply of the following: [11,12,13,14]

- infusion pumps for neuraxial analgesia (epidural infusion/patient-controlled epidural analgesia and potentially intrathecal infusions)[15]
- infusion pumps for use with continuous regional analgesia catheters
- patient-controlled analgesia infusion pumps
- infusion pumps for other analgesic drugs

- disposables for the above, including neuraxial and regional block devices e.g., NRFit™.[16]

2.2 Availability of other, non-medical equipment required to provide pain management in specific scenarios and patient groups (e.g., virtual reality during painful paediatric medical interventions, transcutaneous electrical nerve stimulation machine) should be considered.[17,18]

2.3 Ultrasound scanning, nerve stimulators and all equipment and drugs necessary to perform local and regional analgesic techniques should be available.[19]

2.4 Pumps and infusion lines should be single purpose, appropriately coloured or labelled and conform to national safety standards.[11,12,13,14,20]

2.5 All equipment used for regional anaesthesia and regional analgesia should have NRfit connections.[20]

2.6 Drugs for epidural use or for continuous regional anaesthesia infusions should be prepared and stored in compliance with local and national medicines management policies.[11,12,13,14]

2.7 Local anaesthetic drugs should be stored separately from intravenous drugs and other infusion bags to reduce the risk of accidental intravenous administration of such medication.[21,22]

2.8 Controlled drugs must be stored and audited in compliance with current legislation.[23,24,25]

2.9 Arrangements should be in place to minimise the risk of drug administration errors and 'never events' and there should be a robust mechanism through which to learn from these events should they occur.[26,27,28,29,30,31]

2.10 Clinical areas caring for patients receiving analgesic techniques that may result in cardiovascular, respiratory or neurological impairment should have appropriate facilities and adequately trained staff to provide appropriate monitoring.[32]

2.11 Drugs and equipment for the management of the complications associated with analgesic techniques should be readily available.[32]

2.12 Equipment, protocols and training should be in place to allow the safe delivery of regional analgesia. Postoperative pain scores and function may be improved by the use of continuous regional analgesia after appropriate procedures.[33]

2.13 There should be a planned maintenance and replacement programme for all pain management equipment, with agreed local, multi-professional arrangements should be in place to respond in a timely manner to supply shortages of equipment or medicines.

Facilities

2.14 There should be proportionate office space to the size of the IPS and adequate informatics and administrative staff to support all areas of the IPS.

2.15 There should be appropriate storage facilities for analgesic devices and drugs.

3 Areas of special requirement

Acute on chronic pain

Acute exacerbation of chronic pain conditions is a growing problem. Patients with these conditions require more time and resources of the IPS. Patients with such exacerbations require complex MDT planning to facilitate improvement and early discharge.

3.1 National data indicates that patients with exacerbations of chronic pain require high levels of input from the IPS. Outpatient pain services should be collaboratively involved with these patients' care. While they are inpatients, there should be an MDT approach.

Children

Recommendations on the provision of anaesthesia services for children are comprehensively described in *Chapter 10: Guidelines for the Provision of Paediatric Anaesthesia Services*.

3.2 The standard of care for neonates, infants, children and young people should be the same as that for adults, with specific arrangements made for the management of pain in neonates, infants, children and young people.[34,35]

3.3 The children's IPS should be delivered by an appropriately trained and experienced MDT, with specific skills in paediatric pain management and paediatric anaesthesia. The team may include clinical nurse specialists, anaesthetists, paediatricians, surgeons, pharmacists, child psychologists and physiotherapists.

3.4 All tertiary paediatric centres should have access to paediatric chronic pain services to assist in managing complex cases. Other centres should develop a network to provide access to paediatric chronic pain services for advice and guidance.

Emergency department

3.5 IPS should aim to work collaboratively with the emergency department (ED) to improve pain management for patients while they are in the ED.[36]

3.6 Specialist acute pain management advice and intervention should be available in the ED.

3.7 IPS should provide assistance in developing management plans for groups or individuals who attend ED frequently with pain. This should be in the context of a wider MDT including chronic pain services, primary care and clinical psychology. Opioid therapy continuation on ED discharge is associated with risk of tolerance and misuse.[37]

Opioid stewardship

3.8 The IPS should be champions of opioid stewardship across all clinical areas. Trusts could consider setting up an opioid stewardship committee.

3.9 Responsible opioid stewardship should be practiced as described by the Faculty of Pain Medicine Opioids Aware guidelines and Surgery and Opioid: Best Practice Guidelines 2021.[38,39] Patient information material about opioids should be available for patients.

3.10 There should be clear discussions about the risks of opioids with all patients started on opioids. Discussions should include information on safe storage and disposal, safe driving and the anticipated duration of therapy. All discussions should be documented with a clear agreed

plan to de-escalate and stop usage when the acute pain phase is over.**Error! Bookmark not defined.**,38,40

3.11 Patients taking high-dose opioids during pregnancy should be identified and involved in a review in an antenatal obstetric anaesthesia clinic, with referral to specialist pain services as required.**Error! Bookmark not defined.**,41

3.12 Opioid doses should be adjusted accordingly to take into consideration a patient's medical history and any comorbidities.38

3.13 Discharge prescriptions for opioids should be for a maximum of five days to reduce the risk of persistent postoperative opioid use.**Error! Bookmark not defined.**,42,43

3.14 The need for ongoing analgesia may represent a surgical complication such as infection or nerve injury and so a primary care physician should review the patient before re-prescribing these drugs.**Error! Bookmark not defined.**,38

3.15 Initiation of modified release opioids should be avoided for acute pain.**Error! Bookmark not defined.**,38,44

3.16 The service should have access to chronic pain outpatient clinics that specialise in opioid de-escalation.**Error! Bookmark not defined.**,38,40

Preoperative

General guidelines for preoperative assessment and preparation are comprehensively described in *GPAS Chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients*.

3.17 The inpatient pain team should be involved in the perioperative care of patients with complex pain needs, including those at risk of severe pain postoperatively, chronic post-surgical pain and persistent postoperative opioid use.

3.18 Patients at high risk of developing pain complications should be identified preoperatively e.g., patients with preexisting chronic pain and high-dose opioid use (including a recording of their Oral Morphine Equivalent dose per 24 hours). The perioperative care of these patients should be planned in advance.

3.19 Perioperative care of patients at risk of developing pain complications should include prehabilitation to optimise the management of preoperative pain, including psychological preparation, education and expectation management.

3.20 Patients with complex pain requirements should be referred to specialist outpatient pain services to optimise their pain management and where appropriate, opioid tapering should be considered. 45

3.21 All patients (and relatives, where relevant) should be fully informed regarding their planned pain management and should be encouraged to be active participants in decisions concerning their care.

Management of patients post discharge

A gap exists between acute and chronic pain management and there is a need to provide continuity of care for inpatients with complex pain needs after discharge from the hospital. This includes but is not limited to, patients with abnormal trajectories of pain resolution and/or opioid use. Developing post-discharge services linking inpatient and outpatient pain services can bridge this gap.46

3.22 The inpatient pain team should aim to follow up patients identified as high risk of progression from acute to chronic pain post discharge. This could be in the form of a transitional pain clinic and is time limited.

3.23 There should be a mechanism in place for patients who continue to have complex pain requirements beyond the scope of transitional pain services to be referred to specialist outpatient chronic pain services.

Specific patient groups

3.24 Specific arrangements and guidelines should be available, where applicable, for the care of subgroups of patients with additional complexities, including but not limited to:

- patients with acute exacerbations of chronic pain
- patients with opioid tolerance[47]
- patients with multiple trauma or significant blunt chest wall trauma
- critically ill patients
- patients with significant organ dysfunction
- pregnant and breastfeeding patients
- older and/or frail patients[48,49,50]
- patients with dementia
- patients with physical or learning disability
- patients with problem drug and alcohol use[51]
- patients with coexisting mental health problems
- patients who do not speak English.

3.25 The IPS should liaise with relevant anaesthetic colleagues for those patients requiring specific acute pain-related interventional procedures outside the context of immediate surgery e.g. continuous regional anaesthesia for patients with rib fractures.[52,53]

4 Training and education

4.1 IPS should actively contribute to a hospital environment in which education, training and staffing levels ensure the safe care of patients being treated for pain.

4.2 IPS should provide education delivered by appropriately trained individuals.[54] Training should include the recognition, assessment and treatment of pain, which includes using a management plan.

4.3 Training should be provided as part of employment induction and should be repeated at regular intervals thereafter for anaesthetists, ward staff, doctors in training and other registered healthcare professionals.

4.4 All staff should know how to obtain expert advice when required, including being able to access relevant guidelines and protocols.

4.5 Members of the IPS should have access to internal and external CPD appropriate to their roles. Funding and time should be available for staff to attend this training.[55]

4.6 Training for anaesthetists to attain stage 1, stage 2 and stage 3 competencies in pain medicine, as specified within the Royal College of Anaesthetists (RCoA) 2021 curriculum should be provided.[3] Training opportunities can include allied health professional led reviews with appropriate education supervision from a recognised RCoA trainer. Where stage 3 training including Specialist Interest Areas in acute inpatient pain or pain medicine are not feasible within an individual hospital, it should be available within the region.[56]

4.7 Inpatient pain nurse specialists providing education on the wards should have dedicated time for this role distinct from direct clinical duties.

4.8 Training should include consideration of the use of simulation where feasible e.g. role play with the pain team simulating a patient with a failed epidural.

4.9 Simulation training should improve exposure to regional anaesthesia/ analgesia techniques.[57]

4.10 Members of the IPS should engage in outpatient (chronic) pain CPD.

5 Clinical governance, quality improvement and research

5.1 The IPS should be an active part of their organisations quality and safety structure including:

- incident reporting and investigations
- maintaining a risk register
- compliance with their organisation's patient safety and patient experience audits
- compliance with mandatory training and appraisal
- awareness of and benchmarking against national quality and safety standards and guidance
- projects focusing on continuous quality improvement.

5.2 The IPS should have protected time for audit and research activities.[58]

5.3 The IPS should consider facilitating anaesthetists in training to participate in inpatient pain audits and research as part of their training.[58]

5.4 The IPS should maintain a prospective database of activity and outcome data and this should be used for quality improvement and early recognition of potential harm.[15,59,60,]

5.5 The IPS should actively engage in benchmarking against national standards e.g., GPAS, CSPMSUK, ACSA, Raising the Standards: RCoA Quality Improvement Compendium.[58,61,62,63,64]

5.6 Electronic patient records and NHS business intelligence should be considered to improve data collection.

5.7 Where possible, the IPS should encourage engagement in research in pain medicine, including recruitment into well designed national and international multicentre studies.[65] The IPS should be encouraged to be research-aware.[66]

6 Organisation and administration

6.1 Clear lines of communication and close working with other services such as surgical and medical colleagues, outpatient (chronic) pain, palliative care, emergency medicine and primary care should be in place.[67]

6.2 Advice for the management of step-down analgesia should be provided for primary care team where required.

6.3 There should be regular audits of standards of care, guidelines and protocols, and critical incident reporting within locally agreed timeframes to ensure the continued development and improvement of IPS.[68,69]

6.4 There should be mechanisms to disseminate national safety alerts from groups such as the Safe Anaesthesia Liaison Group.[70]

Guidelines

6.5 Analgesia guidelines, including those for specific analgesic techniques, should be widely disseminated and easily accessible.[15,71,72,73]

6.6 All guidelines should have a clearly documented author and review date and should be published in line with local clinical governance policies with appropriate oversight.

6.7 Guidelines for the management of specific patient groups (as listed in recommendation 3.25) should be available.

6.8 Guidelines for the management of side effects and complications including inadequate analgesia should be available.

6.9 Where good evidence exists, consideration should be given to procedure-specific analgesic techniques.

6.10 Where possible, guidelines should be shared locally, between hospitals and nationally.

Assessment and record keeping

6.11 Pain, its management and side effects (including sedation and opioid-induced ventilatory impairment) should be regularly recorded in the patient notes and/or observation chart using validated tools for each clinical setting. Consistent tools should be used throughout the patient pathway.[74]

6.12 The use of functional assessment and goals should be considered to complement pain scoring in assessing analgesic requirement and recovery progress.[38,**Error! Bookmark not defined.**,75,76,77,78]

7 Patient Information

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.

Recommendations for the provision of patient information and obtaining consent are comprehensively described in *Chapter 2: Guidelines for the Provision of Anaesthesia Services for the Perioperative Care of Elective and Urgent Care Patients*. Specific recommendations for IPS are listed below.

All patients (and relatives where relevant) should be fully informed and provided with adequate time and support to understand the information they are provided with so that they can be active participants in decisions concerning their care. Patient information resources, including leaflets, online resources and videos can help facilitate shared decision-making discussions and form part of the informed consent process.[79]

7.1 Patient information should be available in a range of formats that take into account the information needs of patients with additional complexities as listed in recommendation 3.25 and they should be accessible electronically.

7.2 Patient information leaflets should be made available to provide information on analgesia in general, and on specialised analgesic techniques such as epidural analgesia, nerve blocks, specialist drug infusions and patient-controlled analgesia.[80]

7.3 Leaflets should explain pain management after discharge, including a step-down analgesic plan and how further supplies of medicine can be obtained. Patient information should emphasise the need to avoid harm from long-term opioid use and should give clear advice on the impact of analgesics on driving, acknowledging the current Driver and Vehicle Licensing Agency guidance.[39,81,82,83,84]

7.4 Patients should be supported with appropriate information so that they can provide informed consent for invasive analgesic procedures, and this should be documented following the General Medical Council advice on informed consent.[79,85] Details should be explained to the patient in an appropriate setting and in language they can understand.

7.5 Patient education regarding expectation of pain and analgesia after surgery should be given to all patients in the preoperative period.[83]

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: 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:

- transitional pain management[86]
- perioperative pain management
- psychology and inpatient pain[87,88]
- establishment of a national database (organisational and patient level data)
- opioid stewardship and persistent postoperative opioid use
- chronic post surgical pain
- pre-emptive and preventive analgesic strategies.

Abbreviations

ACSA	Anaesthesia Clinical Services Accreditation
CDG	Chapter Development Group
CPD	Continuing Professional Development
CSPMSUK	Core Standards for Pain Management Services in the UK
GPAS	Guidelines for the Provision of Anaesthetic Services
IPS	Inpatient pain service
RCoA	Royal College of Anaesthetists

Glossary

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

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Appendix 1: Recommendations Grading

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

Recommendation Number	Level of Evidence	Strength of Recommendation
1.1	C	Strong
1.2	GPP	Strong
1.3	GPP	Strong
1.4	GPP	Strong
1.5	B	Strong
1.6	GPP	Strong
1.7	C	Strong
1.8	C	Strong
1.9	GPP	Strong
1.10	B	Strong
1.11	GPP	Strong
2.1	C	Strong
2.2	A	Strong
2.3	C	Strong
2.4	C	Strong
2.5	M	Strong
2.6	C	Strong
2.7	C	Strong
2.8	M	Mandatory
2.9	C	Strong
2.10	C	Strong
2.11	C	Strong
2.12	C	Strong
2.13	GPP	Strong
2.14	GPP	Moderate
2.15	GPP	Strong
3.1	GPP	Strong
3.2	C	Strong
3.3	GPP	Strong
3.4	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
3.5	C	Strong
3.6	GPP	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	C	Strong
3.15	C	Strong
3.16	C	Strong
3.17	GPP	Strong
3.18	GPP	Strong
3.19	GPP	Strong
3.20	C	Strong
3.21	GPP	Strong
3.22	GPP	Strong
3.23	GPP	Strong
3.24	C	Strong
3.25	B	Strong
4.1	GPP	Strong
4.2	GPP	Strong
4.3	GPP	Strong
4.4	C	Strong
4.5	C	Strong
4.6	GPP	Strong
4.7	GPP	Strong
4.8	B	Strong
4.9	GPP	Strong
4.10	GPP	Strong
5.1	GPP	Strong
5.2	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
5.3	C	Strong
5.4	C	Strong
5.5	C	Strong
5.6	GPP	Strong
5.7	C	Strong
6.1	B	Strong
6.2	GPP	Strong
6.3	C	Strong
6.4	C	Strong
6.5	C	Strong
6.6	GPP	Strong
6.7	GPP	Strong
6.8	GPP	Strong
6.9	GPP	Strong
6.10	GPP	Strong
6.11	C	Strong
6.12	C	Strong
7.1	GPP	Strong
7.2	B	Strong
7.3	C	Strong
7.4	C	Strong
7.5	C	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 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 October 2022.

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

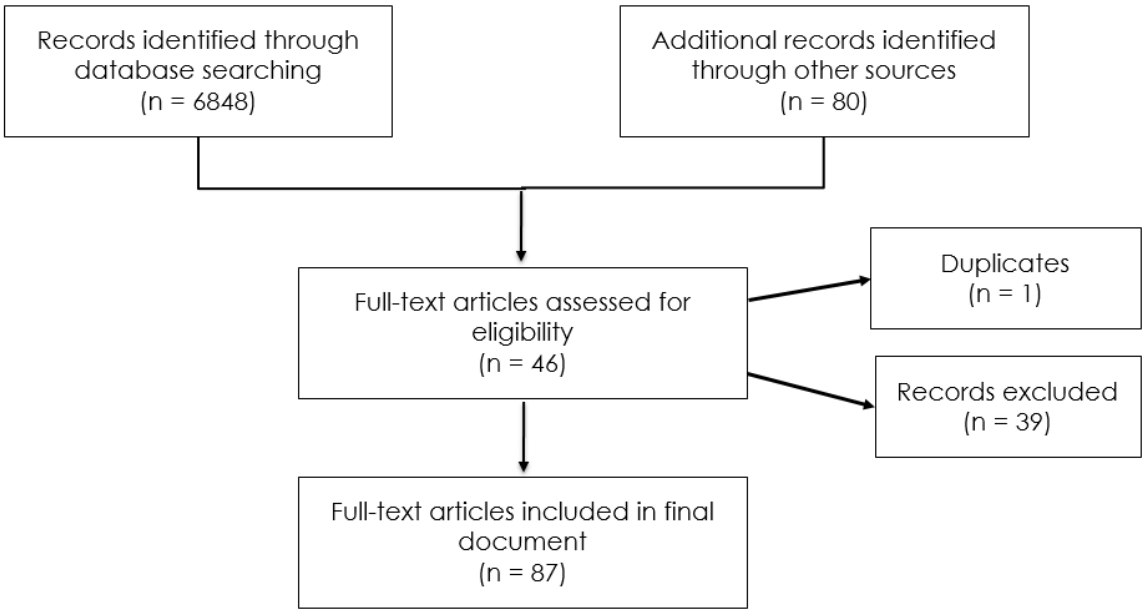
Data were extracted by the authors using a proforma. The study characteristics data included:

- 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:

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



The evidence that is included in this chapter has been graded according to 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

IIa	Evidence obtained from at least one well-designed controlled study without randomisation		levels Ib, II or III); or extrapolated from level Ia evidence
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	Wording should include 'should be considered'

	of evidence base or patient preferences	
Aspirational	While there is some evidence that implementation of the recommendation could improve patient care, either the evidence or the improvement is not proven or substantial	Wording should include 'could'
Equipoise	There is no current evidence on this recommendation's effect on patient care	Wording should include 'there is no evidence of this recommendation's effect on patient care'

Consultation

The chapter has undergone several rounds of consultation. The multidisciplinary CDG formed the first part of the consultation process. The authors and GPAS 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 underwent peer review. Peer reviewers were identified by the GPAS Editor 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 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 15 November 2023 to 13 December 2023. 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 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 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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