Royal College of Anaesthetists

Chapter 1

Guidelines for the Provision of Anaesthesia Services (GPAS)

The Good Department

Chapter 1
Guidelines for the Provision of Anaesthesia Services: The Good Department 2021

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Declarations of interest

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

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

Objectives

To describe current best practice for developing and managing a safe and high quality anaesthesia service across all clinical areas requiring anaesthetic input, for all levels of patient care. To detail the necessary provisions in terms of leadership, strategic and operational service planning, staffing, governance, quality improvement and innovation, and education.

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

The guideline is for:

- clinical directors, medical directors and service leads for anaesthesia
- all staff groups working in anaesthesia service provision including (but not restricted to) consultant anaesthetists, staff grade, associate specialist, specialty and specialist (SAS) doctors, trainee anaesthetists, operating department practitioners (ODPs), Anaesthesia Associates (AAs) and nurses.

Scope

Target population

Groups that will be covered:

- all patients who require anaesthesia or sedation under the care of an anaesthetist

- all staff groups working within the perioperative pathway for anaesthesia services, including (but not restricted to) anaesthetists, SAS doctors, trainee anaesthetists, ODPs, AAs and nurses.

Groups that will not be covered:

- provision of anaesthesia services provided by a specialty other than anaesthesia.

Introduction

The Guidelines for the Provision of Anaesthetic Services (GPAS) supports the development and delivery of high quality anaesthetic services. The ACSA scheme supports departments of anaesthesia to implement the recommendations contained within GPAS. This is achieved through a set of standards, derived from GPAS, against which a department is able to benchmark itself through self-assessment and peer review.

GPAS chapters have previously focused on a particular aspect of clinical service delivery. However, experience gained through the delivery of the ACSA scheme has identified a requirement in GPAS to describe what it is about a department of anaesthesia itself, beyond the different aspects of the clinical service delivery, that contribute to a successful department. These departments are cohesive and are able to provide a high quality service across the totality of the clinical service. What makes a department one in which anaesthetic and support staff want to and feel able to work and stay working, take on extended roles, contribute positively by improving the standards of care for patients and engage in educational activities?

The Good Department chapter has been developed to address this requirement, describing current best practice for developing and managing a safe and high quality anaesthesia service in terms of the non-clinical aspects of the service that underpin the clinical provision. The chapter makes recommendations in terms of: leadership, strategy and management; workforce; education and training; clinical governance; support services, for the good department.

Recommendations

1 Leadership, strategy and management

It is important for organisations within the NHS to embed cultures that encourage safe, high quality and compassionate healthcare that continuously improves. Good anaesthetic departments have a strong culture and leadership that prioritises patient safety, quality of care and improved patient outcomes as well as staff wellbeing. These values are achieved in supportive and functional departments which exhibit good communication strategies, encourage collaboration and teamworking among staff, motivate and engage staff and seek feedback from various stakeholders to enhance patient care.

Culture

1.1 Departments should have a clear and explicit strategy for developing a strong and supportive patient-centred safety culture. The departments strategy should emphasise using a systems based approach where safety systems are put in place that usually prevent accidents from occurring and develop systems that positively improve patient and staff safety.

1.2 Communication within organisations should promote an inclusive culture by promoting two-way communication, promoting the flattening of hierarchies across the organisation and ensuring that all staff feel listened to and valued. An organisation with such a culture uses the ideas of staff to shape the development of the organisation.

1.3 The organisational culture should seek to empower health professionals to implement patients' preferences, informed by discussions around risk and benefit.[1] Healthcare should be run collaboratively, with ownership and decision making in the hands of professionals and patients.[2]

1.4 Staff should recognise and act upon their duty of candour. They should ensure that patients are put first, and that any potentially harmed patients receive ongoing care and support as required.

1.5 A culture of collaboration should be encouraged by ensuring opportunities for clear, open, respectful and non-judgmental communication within the department where staff, irrespective of seniority or role, feel free to comment and challenge to improve care and reduce errors.[3]

1.6 The department should create a culture that promotes high quality care, quality improvement and improved outcomes.

1.7 The anaesthetic team should be empowered to shape their working environment to enhance safety and quality of care.

1.8 The department should establish a culture of collaboration with other specialties that promotes a proactive and planned approach to service development.

1.9 The department should establish and support a culture that promotes the health and wellbeing of staff members.

1.10 The department must establish and maintain a culture of proactively thinking about and questioning equality, diversity and inclusion in all that it does, including recruitment, training, opportunities for extended roles and responsibilities.[4,5,6]

1.11 The anaesthetic team should be empowered to ensure that their workload is appropriately manageable. Discussions concerning workload should be held in an atmosphere of respectful collaboration.

1.12 The department should aim for sustainability in all that it does, in the clinical context, its management and administration and in other activities.

Vision and strategy

1.13 A departmental strategy should be developed jointly by all members of the department with proactive engagement from stakeholders, including patients, with all collaborating to develop their vision and plan for the anaesthetic service, linking this to the organisations overall vision and strategy. An inclusive departmental strategy in line with the wider organisational vision should be developed. All members of the department should be able to contribute to the development of the plan for the anaesthetic service together with proactive engagement from stakeholders.

1.14 Clinical leaders within anaesthetic services should be an integral part of system planning including how to deliver planned care and emergency care. They should have influence in all areas in which anaesthetists contribute to service delivery.[7]

Annual plans

1.15 The department should have a live, regularly reviewed annual plan describing service changes, estates developments, workforce developments and wellbeing, working conditions, capacity demand modelling and other relevant operational improvements. This

will ensure that the department is responsive to requests for additional resources across all areas of activity.

Management structure

1.16 Clinical leadership roles should be designed to be desirable and exciting opportunities for anaesthetists. Appointment processes to clinical leadership roles should be open and transparent.

1.17 The department should have a clinical leader for the whole department. The clinical lead should be part of the wider overall hospital management structure. They should lead with compassion and foster a learning culture within the service they manage.[8]

1.18 There should be anaesthetic clinical leads with clear and agreed responsibilities for different areas or specialties. The number of leads will depend on the size of the anaesthetic department, their areas of specialisation, workload and any ongoing areas of special focus. The list below is not exhaustive and not applicable to all departments:

- preoperative assessment
- perioperative medicine
- emergency anaesthesia
- remote sites
- paediatrics
- obstetrics
- day surgery
- acute pain management
- resuscitation
- airway management[9]
- regional
- critical care (as appropriate)
- SAS
- locally employed doctors'
- procurement
- governance roles including safety, complaints, audit and quality improvement (see section 4)
- equality, diversity and inclusion (see section 2)
- multidisciplinary team training and simulation
- research
- wellbeing

- environmental[10]
- electroconvulsive therapy (if available).

1.19 The department should collaboratively review the structure and performance of the leadership team as a whole on an agreed schedule to ensure that it remains effective and fit for purpose.[7] Clinical leaders should have annual reviews of performance in leadership and management duties. The annual review should by conducted by someone competent to do so with an understanding of the challenges of dual roles.[11]

1.20 The department should have adequate remunerated time allocated to all clinical leaders to perform their roles in integrated governance, which recognises the breadth and depth of their roles within the department and wider hospital management structures.[5,12] Adequate renumerated time may be facilitated through diarising time spent on a role and reviewing this as part of the job planning process.

1.21 Clinical leaders should have processes to work with their team in an iterative way to develop guidance and share these ongoing developments with the team and beyond.

1.22 There should be clarity of leadership and roles in the coordination of the day to day running of theatres, including the emergency anaesthesia service. Those undertaking these roles should be visible, clearly identifiable and easily accessible at all times.

1.23 Appropriate training and development should be offered across all aspects of a leadership role and identified in personal development plans (PDPs) as part of whole practice appraisal.

1.24 Departments should encourage the development of new leaders at all stages during an anaesthetic career.

1.25 Opportunities should be made available for shadowing leaders, coaching and mentorship.[13,14]

1.26 SAS doctors and trainees should be encouraged to engage in leadership opportunities.

2 Workforce

Promoting safe and high-quality anaesthetic care by prioritising wellbeing, equity, diversity and inclusion of anaesthetic staff should form the overarching principles of workforce management. Embedding a caring and supportive culture which promotes wellbeing, flexibility and work-life balance, while protecting staff from fatigue will help to produce a truly safe, effective, diverse and sustainable workforce.

2.1 Departments should have a workforce plan in line with their overall strategy and annual business plan that includes recruitment, opportunities for flexible working and staff retention. The plan should ensure a level of staffing and skill mix that meets current service and educational requirements with sufficient flexibility to ensure staff are not overstretched. It should be reviewed regularly and consider integrated care systems and other regional strategic developments, and the work life balance needs of anaesthetists and other staff as they age and at all stages of their career.[15]

2.2 Departments should ensure that they have the appropriate skill mix for their various clinical activities and that this mix is maintained through appropriate developmental opportunities for their staff.[16]

2.3 Departments should ensure that they undertake succession planning reviews regularly to minimise the risk of disruption to clinical and non-clinical activity when key personnel leave,

retire or change their job plans. Those taking on new roles should have time allocated to allow for a sufficient period of handover with those they replace.

2.4 Opportunities for clinical colleagues to develop skills in non-clinical areas including teaching, mentoring and coaching, examining, research, audit and quality improvement, committee work and leadership and management should be supported, transparent, equitably balanced across the department and incorporated into departmental plans.[17]

2.5 Appropriate time should be allocated for non-clinical roles and the department as a whole should have sufficient funding for appropriate remuneration of those undertaking non-clinical roles as required to deliver departmental plans. [5,12]

2.6 Senior and experienced SAS doctors should be given the opportunity to take on additional roles within the department.[18,39]

2.7 The hospital should have mechanisms in place to support SAS doctors who aspire to achieve a Certificate of Eligibility for Special Registration (CESR), or advance their career in other ways, for example an educational supervisor who has knowledge of the necessary processes. SAS doctors who are preparing for CESR should have this recognised in their job plans and departments should consider making adjustments to their job plan to assist them in the process.

2.8 A support system and guidelines developed in conjunction with occupational health professionals should be in place to help anaesthetists returning to clinical work after a period of absence from clinical practice.[19,20] These could include, but are not limited to, returning after maternity/ parental leave, or returning following long-term illness.[21]

Equality, Diversity and Inclusion

2.9 Departments should have an equality, diversity and inclusion (EDI) policy, strategy or vision in place which develops the trust-wide strategy appropriate to the department and anaesthetic service. This should be available to all staff and regularly reviewed in light of ongoing experience and effectiveness.

2.10 Departments should analyse its EDI data to support staff and measure the impact of its functions/ services.

2.11 Departments should consider the equality impact of their processes, decision-making and services.

2.12 Departments should ensure that all staff undertake equality, diversity and inclusion training. This training should be easily accessible and should provide useful learning points.

2.13 There should be a fair and transparent process for allocation of roles in the department.

Job planning

2.14 Departments should review the responsibilities of anaesthetists as part of job planning. This includes out of hours commitments and the scope of the individual's practice, as well as any additional roles and responsibilities.[16,22,23]

2.15 Anaesthetists should be supported in maintaining the scope of their clinical practice as required for their clinical role, including their out of hours and flexible clinical commitments.[22,23,24]

2.16 Anaesthetists should be provided with adequate time in their job plans, resources and support to help them to complete annual appraisals and achieve revalidation.[5,12]

2.17 Where possible departments should empower employees to make decisions concerning their jobs, regarding task variety and options to develop and learn new tasks.

2.18 Job reviews should take into consideration individual risk assessments for anaesthetists in the context of environmental threats, ill health, pregnancy and breastfeeding, fatigue, and the impacts of ageing. Where relevant advice from an accredited specialist in occupational medicine should be sought.

2.19 Job plans and rotas should be constructed to ensure reasonable rest periods and should be regularly reviewed taking into consideration out of hours work frequency, duration of out of hour's periods and availability of recovery time after being on call.

2.20 Where 'group job plans 'are the norm, there may be specific requirements for individual variation including susceptibility to fatigue. This includes consideration of work intensity before and after out of hours commitments and discussion of strategies to minimise impact.[25,26]

2.21 Feedback should be sought from departmental members about working patterns and their effects on health and wellbeing and adjustments made where working patterns are problematic.

2.22 Departments should encourage flexibility when reviewing job plans to support the changing needs of colleagues over the course of their career. Colleagues should be supported in tailoring their career over time. The impact of change on the rest of the department should be considered.[26]

2.23 Anaesthetists appointed to hospital wide, non-clinical roles should be adequately supported with sufficient time and resources to undertake the role.

2.24 Anaesthetists with commitments to regional and national work should have appropriate support through job planning. Departments should take into consideration both the impact this has on the rest of the department, as well as the considerable benefits local departments gain from having staff undertake anaesthetic regional and national roles.

Efficient rota management

2.25 The workforce plan should include the minimum number of staff to maintain the service without compromising safety, quality, education and training and wellbeing.

2.26 Rostering should allow flexibility and capacity within the system to cover sickness, which may help to protect against staff burnout and build a sustainable workforce.[27]

2.27 If appropriate resources are not available, the level of clinical activity should be adjusted to ensure a safe provision of care while maintaining quality, education and training and wellbeing.

2.28 The department should have a rota with sufficient flexibility in job planning to ensure that the usual day to day changes in urgent and emergency clinical activity can be safely covered by appropriate staff, using a clear prioritisation plan.[16]

2.29 Departments should have a process in place to prioritise clinical service delivery without compromising safety. They should monitor which clinical activity is cancelled and should ensure that cancellations are primarily based on clinical need and where appropriate are spread across the breadth of the department's service.[28]

2.30 Scheduled lists that are planned to take longer than three sessions (e.g. where a patient requires prolonged time in theatre) must be staffed appropriately to ensure that no single

anaesthetist works longer than three elective sessions. Adequate rest periods during sessions must be provided.[29,30,31]

2.31 Arrangements should be considered so that if an elective list overruns this should not delay the start of an emergency list.

2.32 Departments should collect data on duration of both planned two session and three session days and should demonstrate how staffing is managed to maintain safety.

2.33 Departments should ensure that their anaesthetic rotas are working time regulation (WTR) compliant, achieving the minimum 11 hours rest between consecutive periods of work (both direct clinical care and supporting professional activities (SPA).[32] This rest time should be unambiguous, so that clinicians are neither required to self-assess fatigue levels, nor be influenced by the clinical needs of the department.[25] It should be recognised that travelling to and from work is not rest, so should not count in the 11-hour rest period.[33]

2.34 The out of hours rota should be published a minimum of six weeks in advance. If any changes are made to the rota there should be a clear and transparent method of informing staff.[34]

2.35 Departments should ensure that they manage employee absences due to sickness proactively, reasonably and fairly in accordance with hospital procedures, contractual and legal obligations.[19]

2.36 The department should ensure that there are clear and timely procedures for applying for and gaining approval for annual leave and other types of leave including study or professional, carers leave etc. The processes in place should be transparent and should provide equity of access to leave.

Supervision and safe staffing

2.37 Departments should have a nominated anaesthetist immediately available to provide cover in clinical emergencies, as well as advice and support to other anaesthetists.[35]

2.38 Departments should consider having flexibility in the day-to-day rota so that there are more anaesthetists working in a clinical area, such as a theatre suite, than there are procedures being carried out to ensure that this cover is always immediately available. The size of the additional staffing resource is dependent on the number of anaesthetic procedures underway simultaneously and the local geography.

2.39 The department should positively encourage an overt culture of seeking support regardless of grade if working solo, or if a second opinion or some practical help would improve the situation. There should be transparent, robust systems to support this culture.[36]

2.40 Every department should have a named trained SAS mentor who has the responsibility to oversee the wellbeing, career needs, educational and professional needs of the SAS doctors in the department.[37]

2.41 All patients requiring anaesthesia, pain management or perioperative medical or critical care should have a named and documented supervisory autonomously practising anaesthetist (see Glossary) who has overall responsibility for the care of the patient.

2.42 At all times trainees should be supervised at an appropriate level (1-4) of sessional supervision, which varies depending on both the level of the trainee, including their stage of training, their previous experience and capability, and the case or cases for which they are being supervised.[38]

2.43 At all times SAS anaesthetists who are not autonomously practising anaesthetists should be supervised at an appropriate level (1-4) of sessional supervision, varying depending on both their level, including their previous experience and capability, and the case or cases for which they are being supervised doing.[34,39,40]

2.44 AAs should be supervised in accordance with the RCoA and Association of Anaesthetists scope of practice.[41] The Association of Anaesthetists and RCoA currently do not support enhanced roles for AAs until statutory regulation for AAs is in place. Where such role enhancement exists or is proposed, responsibility should be defined by local governance arrangements.[42]

2.45 Where an anaesthetist is supervised by a sessional supervisor, the individual should be aware of their supervisor's identity, location and how to contact them.[34,39]

2.46 Sessional supervisors should know who they are supervising, where their supervisees are and their clinical activity.[34]

2.47 Support, including supervision and shadowing, should be provided to international medical graduates (IMGs) based on their experience and competency for a length of time agreed with the department.[43,44]

Wellbeing

2.48 There should be a health and wellbeing policy in place for all staff.

2.49 Departments should consider having a health and wellbeing lead who has access to adequate expertise and resources.[40,45]

2.50 To promote high job satisfaction departments should strive to achieve good working conditions, strong inter departmental relationships and appropriate resources.

2.51 Departments should promote working conditions known to provide job satisfaction, including varied work, input into individual anaesthetist's job plans and opportunities for colleagues to contribute their ideas and skills to the department.

2.52 Departments should promote a caring and supportive culture, in which every effort is made to identify and support those who may be in difficulty and have a means of offering appropriate support.[14]

2.53 Poor teamwork can impact on the wellbeing of all staff and can lead to lower job satisfaction. Departments should consider providing team-based training to promote cohesiveness and collaboration.

2.54 Departments should encourage a voluntary local mentorship programme with properly trained mentors and informed mentees who know what to expect, and should encourage staff engagement with national mentorship schemes.[14,40,46,47]

2.55 Departments should offer newly appointed consultants and SAS doctors the opportunity to work with a trained mentor to facilitate their development in their new role as well as at key transition points in a consultant's career.[13,47]

2.56 The department should have a policy on providing breaks for anaesthetists working solo which might include discussing breaks as part of the theatre team brief and providing a 'floating' anaesthetist to help with breaks in the theatre suite. If breaks are unavailable, then this should be formally recorded and included in the organisation's risk register.

Physical wellbeing

2.57 Environmental hazards should be considered by staff before the start of each operating list. Pregnant personnel may be particularly at risk in these environments and should follow local occupational health policies.[48,49,50]

2.58 Policies and equipment must be in place to protect patients and staff from cross infection, including the safe disposal of sharps and healthcare waste.[48]

2.59 Departments should have mechanisms in place to clearly communicate personal protective equipment (PPE) requirements to staff, particularly where these vary between specialties and areas of the hospital. Any staff concerns should be escalated to clinical managers.[51]

2.60 There should be a process in place to secure alternative PPE options for those who are unable to pass a face fit test with the standard options. This should include accommodating cultural and religious concerns.[51]

2.61 Where individuals within the department have specific health concerns, reasonable adjustments must be made to an individual's work duties as required in the Equality Act 2010.[4] The department should have procedures in place to ensure that these concerns are discussed with the individual concerned, with support from the consultant occupational physician where appropriate, and should consider tailoring work duties for that individual's circumstances.[52]

2.62 When required departments should ensure that adequate social distancing is possible for non-clinical working. This may include enabling staff to work from home if necessary.

Fatigue

2.63 Departments should openly discuss fatigue and consultants should act as role models by acknowledging their own tiredness and promoting the need for rest and taking rest themselves.[53]

2.64 Education should be provided for all members of the department about fatigue, including sleep hygiene and the legal implications of driving while tired.[53]

2.65 Standardised scoring systems such as fatigue tools identifying team members' level of fatigue should be used at handover and there should be no criticism of the need to rest.[54]

2.66 Facilities should be provided for regular rest breaks and refreshments as well as quiet facilities for sleep during and after shifts for anaesthetists working overnight.[31,40,55,56]

2.67 If anaesthetists finishing a night shift have had no rest, the reasons for this should be explored and they should be offered and encouraged to use hospital rest facilities.[56,57]

Stress and burnout

The acute healthcare environment is often a stressful and challenging environment. Occupational stress has an impact on the health and wellbeing of the individual and the department as a whole. It can impede the goal of having a sustainable workforce and the productivity of the department. In departments where occupational stress is evident, reasons for the stress should be identified and mitigation put in place.

2.68 Departments should have processes in place that promote a sensible work-life balance and should identify and reduce stress and burnout.[58]

2.69 Stress, 'burnout' and mental ill health are major causes of sickness absence. NHS organisations should ensure that those in leadership positions work to promote and protect the health and wellbeing of staff.[59]

2.70 Departments should be aware that colleagues may still attend work even when they do not have the physical or psychological resources to do the job well. Processes should be in place to address these situations sensitively.

2.71 Departments should be aware of the factors that increase the risk of stress, burnout and depression and the impact this may have on sick leave. Departments should make use of tools such as burnout questionnaires to identify departmental wellbeing and focus support.[60] Departments should consider how to support colleagues in opportunities to exercise and provide adequate time to allow completion of non-clinical work.[24]

2.72 Departments should be aware of the increased risk of suicide in healthcare workers, the increased vulnerability due to access to drugs and potential trigger factors including adverse events, litigation and investigation, conflict with colleagues and significant life events.[61,62]

Negative behaviour

2.73 There should be clear guidance on the behaviours expected of all colleagues and a mechanism for colleagues to raise concerns about poor behaviour of colleagues.[11]

2.74 Departments should have a clear policy for responding to challenging or negative behaviours. This may include a step wise remediation and intervention approach depending on the frequency and severity of the negative behaviour.[63,64]

2.75 Departments should encourage conversations about negative behaviours and the delivery of effective feedback to colleagues.[65]

2.76 Training should be provided to identify negative behaviours and assess the impact this has on patient care and other colleagues, and to identify ways of managing colleagues whose behaviour gives cause for concern.[66,67,68]

2.77 Departments should review factors which may contribute to certain behaviours and should promote factors which encourage positive behaviours and address factors that may result in negative behaviours.

2.78 If it occurs, review of negative behaviour should be undertaken promptly and by a neutral colleague following local workforce policies.

2.79 Corrective action should be fair, proportionate, prompt and should involve remediation. Action should exhibit compassion and should acknowledge individual, personal circumstances. Continuing support may be helpful, for example mentorship.

3 Education and training

A good anaesthetic department will identify the importance of, and prioritise, the education and training of all colleagues in the department. This includes those new to the department or in locum positions as well as permanent staff, promoting lifelong learning and continual development. Education and training should be tailored to the needs and interests of individual colleagues as well as being delivered for the multi-disciplinary teams which normally work together. Education and training should be evaluated and improvements made over time.

Induction

3.1 An induction should be provided for all staff whether permanent or locum/agency staff starting in the department.[69,70]

3.2 Inductions should be conducted during normal working hours at times convenient to all concerned.

3.3 The induction should be documented. It should ensure competency in the use of equipment and should act as an opportunity to identify those who require additional support in certain skills or areas of practice.

3.4 Induction for a short-term locum doctor should include as a minimum familiarisation with the layout of the hospital and the location of emergency equipment and drugs, access to guidelines and protocols, information on how to summon support/assistance, and assurance that the locum is capable of using the equipment and IT systems in that hospital.

3.5 Anaesthetists should be given support and time to familiarise themselves with non-theatre locations and different environments prior to solo sessions and out of hours work. This may include undertaking operating lists with a colleague.

3.6 Departments should include requirements for PPE into the induction process including fit testing where appropriate and the appropriate and safe use of PPE.[71]

3.7 Departments should have specific processes in place to support IMGs starting work in the UK for the first time.[70,72] Medical training initiative trainees and other IMGs, should undergo hospital and department induction, specifically tailored for them.[73,74] This may include information and orientation about working in the NHS, accommodation facilities, city, banking etc.

3.8 There should be a named trust/board lead for IMGs.[73,74]

Career long education and Continuing Professional Development

Department wide educational sessions, in addition to the sharing of learning, promotes strong communication and a shared community of practice, key features of good supportive departments.[75]

3.9 Departments should commit to providing the time and resources to educate those who provide anaesthetic care for patients by facilitating access to education and training. Continuing professional development (CPD) and education should be balanced between the individual's clinical and other areas of responsibility.[76]

3.10 Departments should have regular clinical governance time where educational activity and clinical governance activity can take place. Clinical activity should be reduced during clinical governance time to maximise attendance, which should ideally occur monthly.

3.11 Anaesthetists should demonstrate engagement with ongoing education and CPD as required.[77]

3.12 All staff should have access to adequate time, funding and facilities to undertake and update training that is relevant to their clinical and non-clinical practice, including annual mandatory training.

3.13 The department should have a structured educational training programme for anaesthetists covering updates on new techniques and practice developments.

3.14 All anaesthetists should complete training in adult and paediatric life support, safeguarding and consent, appropriate to their clinical practice and case load (emergency as well as elective). Knowledge and skills in these domains should be maintained through CPD and planned as part of annual appraisal and personal development plans (PDP).

3.15 Anaesthetists who provide out of hours cover to areas of practice that they do not provide in working hours, should be able to demonstrate the maintenance of appropriate skills and knowledge through regular clinical involvement and CPD. This should be facilitated during working hours where possible.

3.16 All anaesthetists should receive non-clinical training and education, which should be reflected in job plans and job planning. The list of topics should be agreed by the department according to local need, but is likely to cover management, education, EDI and communication skills.

3.17 Staff should have regular training in the application of the legislation determining mental capacity in the part of the UK in which they are working and have defined access to patient advocates. This is a rapidly changing area and clinicians should have access to expert advice.

Team working

3.18 Teamwork is fundamental to the safe delivery of patient care. Organisations should ensure, as far as possible, that theatre teams are consistent and coherent, familiar with the procedure and therefore able to provide a consistent standard of care safely and efficiently.[35]

3.19 Multidisciplinary theatre teams that work together should train together. Teams should undergo regular, multidisciplinary training that promotes teamwork, with a focus on human factors, effective communication and a flattened hierarchy in which supportive challenging is normalised for patient safety.[3]

3.20 When new members join teams, particular care should be taken to introduce them to the team and to support them both to integrate and work with the team and bring their fresh insights to the team.

Multidisciplinary training and simulation

3.21 Regular, simple, in situ, multidisciplinary team training should form part of everyday practice. As well as enabling the rehearsal of standard operating procedures (SOPs) for serious, complex and rare emergencies, of untoward events and new processes, such training can help to identify system process gaps, leading to longer term improvements in safety and efficiency.

3.22 Multidisciplinary teams should have regular, more in-depth simulation exercises, moving the focus to the understanding of human factors and effective communication.[78]

3.23 Simulation based learning techniques should be used to assist the department and organisation to identify areas of existing positive practice and areas requiring improvement, as well as supporting the development of technical and non-technical skills.[78]

3.24 Simple and more in-depth team training exercises should include structured feedback.[78]

3.25 The outcomes of these team training exercises should lead to change in practice where needed.[78]

3.26 The anaesthetic department should have a lead for multidisciplinary team training and simulation.[78]

3.27 The department should have access to the resources to support a comprehensive system of multidisciplinary team training in all clinical settings to achieve enhanced patient care.[78]

4 Clinical governance

Clinical governance is an important part of any trust process and every anaesthetic department should be well represented in any wider hospital governance processes. Anaesthetic departments should have their own internal, clear and effective process, with all the subdivisions of governance coming together into one overarching strategy. This section will discuss learning from practice, standards for guideline development, promoting a safety culture, participating in national safety initiatives, risk management and the development of regular quality improvement programmes, as well as information governance. There is much overlap between clinical governance and recommendations relating to education and workforce, which are covered elsewhere in this document.

General

4.1 There should be transparent processes in place to facilitate ownership by the department of aspects of clinical governance specific to anaesthesia. This should link with the wider Trust governance processes, especially where there is overlap with other services.

4.2 The organisation of clinical governance in the department should bring all different aspects so that it is managed as a whole.

4.3 Departments should consider establishing a clinical governance committee/group which covers all aspects of governance pertinent to the anaesthetic service and can feed into the wider trust/board governance structures.

4.4 The clinical governance workload for all but the smallest department is such that the governance leadership should be divided into subsets, for example leads for guidelines, incidents, quality improvement, ACSA.

4.5 There should be effective processes for communication within the anaesthetic department and between other departments in the trust to ensure that any learning to improve safety or quality is embedded in practice, excellent practice is recognised and poor behaviour is addressed. Systems should be established that minimise the opportunities for human error.

4.6 The departmental ethos should foster an open safety culture in all aspects of the service.[79,80]

4.7 All members of the anaesthetic department should promote a safety culture, engaging in collaborative team working with a flattened hierarchy. All team members should be positively encouraged to: reflect and debrief, challenge negative behaviours, acknowledge positive behaviours, reflect on decision making and performance, report, document and review actual incidents and near misses and excellence.

Guideline development and review

4.8 There should be a clear process for the identification, development and regular review of guidelines, SOPs and clinical pathways. This review should take into consideration their use and effectiveness.

4.9 There should be a reliable mechanism for sharing guidelines and SOPs and providing ready access to guidelines at the point of use.

4.10 Departments should have a clear process to consider national guidance from recognised bodies. This should include a review of the guidance and a decision on whether these require local implementation and endorsement.

Document management

4.11 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.

Patient records

4.12 Relevant patient information should be recorded and kept up to date.

4.13 All anaesthetic records should contain the relevant portion of the recommended anaesthetic data set for every anaesthetic and should be kept as a permanent document in the patient's medical record.

4.14 The use of electronic anaesthetic records in the perioperative period should be considered.[81] Departments that currently do not have access to electronic anaesthetic records should link with wider hospital plans for the development of electronic patient records.

4.15 If electronic health records are in use there should be a clearly labelled anaesthetic record section so that documentation can be easily accessed.

Safety

Safety should be the priority in everything that an anaesthetic department and its members do and promoted by learning from both positive and negative episodes of care.

4.16 Departments should have a culture of capturing learning and sharing it within and beyond the department to support further improvement in the future, building a robust system to ensure that learning is embedded in clinical practice.

4.17 The culture should proactively promote safety, by emphasising what goes right rather than what went wrong (Safety 1 and Safety 2, see Glossary).[82] The emphasis of the anaesthetic department should be on incident prevention rather than solely focusing on making changes after an incident has occurred.

4.18 Learning from negative episodes should be promoted within an ethos of support and avoidance of blame. This approach should be embedded throughout the department and the organisation as a whole.[83,84]

Incidents: reporting, feedback and embedding learning

4.19 The department should have a system for reporting, investigating, sharing learning and regular audit of critical incidents.[40,85,86,87] The methodology should be explicit and should identify underlying relevant factors to inform learning and development of safe systems, as well as enabling thematic analysis, continuous monitoring and evaluation.

4.20 The department should have a process to disseminate learning from incidents widely, both within the department and elsewhere in the organisation where appropriate.

4.21 Within the process for dealing with critical incidents, positive feedback should be emphasised and changes made to avoid recurrence.

4.22 It is the organisation's responsibility to ensure that patient safety concerns are addressed. An organisation with an effective safety culture should engage the team involved with working out where improvements might come rather than investigating at a distance and recommending the introduction of a change to be implemented by others.[88]

4.23 It is important that local reporting systems should feed into national reporting systems, where relevant.[87] Anaesthetists should contribute data as required, with the support of their Trust.

4.24 There should be multi professional involvement in the review of critical incidents and near misses and in reviewing and learning from clinical excellence.[88]

4.25 Colleagues involved in reviewing significant adverse events should have appropriate education and training which includes an understanding of human factors and the complexity of healthcare systems.[88]

4.26 All staff should recognise and act upon their duty of candour and should foster a culture for reporting incidents and concerns with confidence that the focus of the organisation is on learning and improvement rather than blame.[13,79] Adequate information sharing and feedback, as well as avoidance of blame, are essential to encouraging staff to value and therefore engage with the system.[88]

Impact of adverse events on wellbeing

Adverse events can have a significant impact on the wellbeing of the staff involved. For anaesthetic staff this can sometimes be exacerbated by working in a solitary and challenging environment that may compound the psychological impact experienced. There is evidence that involvement in a patient safety incident may therefore result in a second victim (see Glossary).[89] The symptoms experienced can contribute to burnout and negatively impact team working and patient care. It is important that departments support staff with formal, sympathetic and structured support.

4.27 Departments should consider having a means of identifying those colleagues who have been involved in a patient safety incident and providing an opportunity for them to talk about what has happened and the impact it has had on them in a confidential and supportive environment.[89,90]

4.28 Departments should have a clear and readily available plan accessible to all members of the anaesthetic team to manage adverse events both for a patient and beyond for a colleague/s or the department. This might include exploring the possibilities of interdepartmental peer support groups, and strategies to reduce the emotional burden on staff after adverse events.[91,94,92]

4.29 The department should provide training and education in dealing with adverse events including: what to do after an adverse incident, potential problems, appropriate communication skills, the law surrounding adverse incidents and where to find expert support. [40,93,94,96]

4.30 Following an adverse event, those involved should be supported appropriately. Expert support services should be signposted and made easy to access, and there should be a regular 'check in' from a trusted senior colleague known to and accepted by the anaesthetist or staff affected.[95,96,97]

4.31 Arrangements to handover duties easily and swiftly should be made promptly and sympathetically to enable the anaesthetist or staff member to have time away from the workplace following a major adverse event. Additional support should be provided on return to work and also when the anaesthetist is presented with similar clinical scenarios.[98]

4.32 Departmental procedures should be in place to facilitate a voluntary debrief, using a structured, and validated approach.

4.33 The emotional health of caregivers should be taken into consideration in incident investigation with advice and support available for dealing with hospital investigations, coroners' inquests and possible legal proceedings. Resulting action and further psychological support should be available to individuals to enable recovery.[99]

4.34 If a member of staff is excluded from work, the department should ensure that the staff member continues to receive all appropriate emotional support including contact from colleagues and members of the department if requested.

Learning through excellence

4.35 The anaesthetic department should encourage and focus on learning through positives including what goes well. One key area for doing this on a daily basis is through the end of list debrief. There should be allocated time for the debrief to take place and this should be attended by all members of the theatre team.[100]

4.36 Anaesthetic departments should consider a system for documenting and sharing success with colleagues or the department as a whole.

National safety initiatives

4.37 There should be mechanisms to disseminate and use national safety alerts from groups such as the Safe Anaesthesia Liaison Group.

4.38 The anaesthetic department should engage with national safety initiatives such as 'Stop Before You Block' and audit practice, and should measure effectiveness against these initiatives.[101]

4.39 Decision support systems for crisis scenarios should be available, for example the Association of Anaesthetists Quick Reference Handbook.[102]

Quality

4.40 The anaesthetic department should develop and document a quality improvement (QI) plan in accordance with operational aims and objectives and in consultation with staff members. The QI plan should include all potential areas for improvement and adoption of innovation.[40]

4.41 The anaesthetic department should have a comprehensive and collaborative programme of engagement with QI initiatives locally, including audit of local guidelines and SOPs and improvements made following learning from incidents or near misses.[103]

4.42 The anaesthetic department should have a comprehensive and collaborative programme of engagement with QI initiatives at national level,[103] for example ACSA, the RCoA Raising the standards : QI Compendium,[40] national audit projects such as NELA, PQIP, SNAP and GIRFT. This should include embedding learning and improvement from these national initiatives.

4.43 The anaesthetic team should be provided with time and opportunity to engage with these QI projects.[104]

4.44 A departmental lead, with time identified for the role within their job plan, may help to provide oversight of these improvement projects within the totality of clinical governance activity of the department.

4.45 The department should use QI methodology to design, test and implement changes in care and monitor their impact using continuous live data to provide sustained improvement, as well as, where appropriate, engaging in a more formal cycle of assessment against defined standards, improvement and repeated further assessment.[103]

4.46 Specific, measurable, attainable, relevant and time bound (SMART) QI initiatives and safety measures should be embraced to improve patient and staff safety and wellbeing and to develop perioperative anaesthesia services.[105]

4.47 Anaesthetists should participate in departmental audit and should adhere to the standards and principles outlined in the RCoA 'QI Compendium.[40]

4.48 Anaesthetic departments should have a method for capturing and reviewing patient outcome data and quality metrics for their clinical service including patient feedback and complaints.[103] QI plans should be developed based on the review of such metrics and data.

4.49 The department should engage with local networks, such as paediatric, simulation and safety networks, to ensure collaboration at regional level and that learning is shared.[106]

Record keeping, information governance

4.50 The anaesthetic department should agree a set format for staff to maintain contemporaneous detailed records of patient care. There should be periodic audits performed on the quality of record keeping to ensure that quality is being maintained.[107]

4.51 The anaesthetic department should provide training on record keeping and information governance policies in their department, which addresses relevant legislation such as the Data Protection Act 2018 and adheres to the Caldicott principles.[108,109]

Patient Feedback

4.52 Feedback including concerns, complaints and compliments should be captured, recorded and reviewed.

4.53 The anaesthetic department should have confidential procedures in place that enable patients to feed back their views on their experience within the clinical service.[110]

4.54 The anaesthetic service should collaborate with the hospital governance team to collate patient feedback.[111]

4.55 Information should be freely available to all patients on how to make suggestions for improvements.

Complaints

4.56 All complaints should be acknowledged and appropriately reviewed in a timely fashion in line with local policy.[112]

4.57 Any learning points from feedback and complaints should be identified and shared with all team members and other clinical services where relevant.

4.58 Feedback and learning points should be used to direct improvement plans where relevant.[112] These learning points should ensure that the objectives of these plans are met within an agreed timescale.

4.59 Support and advice should be provided to members of staff who are involved in a complaint to mitigate the negative impact that a complaint can have on staff.

4.60 Those who have made a complaint should be informed about changes made as a result of their complaint, and if appropriate, should form part of the review process.[113]

Whistleblowing

An open and supportive culture leads to continuous improvement which should minimise the need for whistleblowing.

4.61 The department should encourage all staff to highlight concerns if they arise.

4.62 There should be clear processes on how to raise concerns, and how to escalate those concerns, for example, to the Freedom to Speak Up Guardian.[114] It should also be clear how concerns raised will be investigated, and what will happen with the findings following review.[36]

4.63 Departments should ensure this process allows for an inclusive, positive, supportive, just culture, which includes demonstrated learning.[115]

4.64 Departments should ensure that staff who whistle blow are treated with respect and not disadvantaged by their action either by members of the department or the wider organisation.

4.65 The department should undertake appropriate review of concerns that have been highlighted, and should take timely and proportionate action.[116,117,118,119]

Risk management

4.66 The anaesthetic department should review clinical and operational risk on a regular basis. This should be done by using information obtained from other sources (e.g. literature and lessons learned from other clinical services) as well as communicating and discussing information they have identified to staff members and other clinical services.[120,121]

4.67 The anaesthetic department should identify and agree plans to address and mitigate those risks identified in their risk register. The risk register should be a dynamic and responsive document that is regularly reviewed to ensure that all risks are being actively managed and should be disseminated appropriately. Members of the anaesthetic department should be educated in the benefits of using a risk register proactively to improve patient safety.[120]

4.68 The anaesthetic department should escalate those risks that are identified as being beyond the control of the clinical service to those charged with overall hospital/trust risk management. The department should receive a response and regular update if the risk is not satisfactorily mitigated against.

5 Support services

A good anaesthetic department requires strong non-clinical support services to be successful. This section will outline the physical facilities, electronic facilities and administrative support that should be available.

Office space

5.1 An anaesthetic office space located in close proximity to relevant departments (e.g. theatres, ICU and labour ward) should be available to allow local supervision of trainees. The size of this space should be proportionate to the size of the department.[122]

5.2 Private office spaces should also be available for CPD, to conduct assessments and for confidential meetings such as appraisals.

5.3 The department should have access to appropriately sized and resourced meeting facilities for education, training and clinical governance activities.

5.4 Departments should consider providing staff with access to virtual meeting software to facilitate remote attendance at meetings or education activities.

5.5 Mechanisms should be in place to enable staff to access hospital systems remotely to work from home, as local circumstances dictate.

Administrative support

5.6 There should be sufficient administrative staff and facilities to support all aspects of the anaesthesia service to enable it to perform its duties safely and efficiently.

Contact point for patients

5.7 The department should have a process in place to deal with ad-hoc patient queries about their treatment. Patients should be advised how to access this process.[123]

Wi-Fi/computer access

5.8 Departments should have reliable access to wi-fi, in clinical areas to ensure checklists, standard operating procedures, national guidelines and other electronic systems can be securely accessed by computers and other handheld electronic devices.

5.9 Information systems should allow for regular reporting and locally customised reporting tools to support QI work.

5.10 Information from the patient's preoperative assessment should be readily available, ideally as part of an electronic patient record so that information is easy to transfer between locations and to enable data collection for later analysis.

5.11 Facilities to allow access to online information, such as electronic patient records, local guidelines and clinical decision aids, should be provided in the theatre suite.

Equipment

5.12 Equipment must be properly maintained and replaced in a timely and planned fashion.[124]

5.13 Hospitals must ensure that all members of the anaesthetic team including locums are trained and competent to use the relevant equipment provided.[40,124]

5.14 All staff should be provided with opportunities to familiarise themselves with all equipment by way of documented formal training sessions.

6 Financial considerations

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

The vast majority of the recommendations are not new recommendations; rather they are a synthesis of already existing recommendations. The current compliance rates with many of the recommendations are unknown and so it is not possible to calculate their financial impact when widely accepted into future practice. It is impossible to make an overall assessment of this financial impact with the currently available information.

7 Implementation support

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

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

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

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

Areas for future development

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

- sustainability[40]
- research into requirements for office space and administrative support
- information governance
- staff wellbeing.

Glossary

Autonomous practicing anaesthetist - an SAS doctor who can function autonomously to a level of defined competencies, as agreed within local clinical governance frameworks, or with consultants.

Just culture - the Professor Sir Norman Williams's Review into gross negligence manslaughter in healthcare report stated that 'A just culture considers wider systemic issues where things go wrong, enabling professionals and those operating the system to learn without fear of retribution'. The report goes on to say ''…generally in a just culture inadvertent human error, freely admitted, is not normally subject to sanction to encourage reporting of safety issues. In a just culture investigators principally attempt to understand why failings occurred and how the system led to sub-optimal behaviours. However a just culture also holds people appropriately to account where there is evidence of gross negligence or deliberate acts'.

Staff – in line with the scope of this document where the term staff is used this refers to members of the anaesthetic department unless specified.

Safety 1 and Safety 2 – The definition of safety 1 states that as few things as possible go wrong and if things do go wrong the safety management principle is one of reactivity. Safety 2 suggests that as many things as possible go right, with a proactive stance which continuously monitors developments and anticipates events. In the clinical setting a combination of safety 1 and safety 2 is used, but the specific balance depends on many things such as nature of work, the experience of people, management and patient pressures.[82]

Second victim – healthcare workers who suffer emotionally when the care they provide leads to harm.

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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	GPP	Strong
1.2	GPP	Strong
1.3	C	Strong
1.4	GPP	Strong
1.5	C	Strong
1.6	GPP	Strong
1.7	GPP	Strong
1.8	GPP	Strong
1.9	GPP	Strong
1.10	M	Mandatory
1.11	GPP	Strong
1.12	GPP	Strong
1.13	GPP	Strong
1.14	C	Strong
1.15	GPP	Strong
1.16	GPP	Strong
1.17	C	Strong
1.18	C	Strong
1.19	C	Strong
1.20	C	Strong
1.21	GPP	Strong
1.22	GPP	Strong
1.23	GPP	Strong
1.24	GPP	Strong
1.25	C	Strong
1.26	GPP	Strong
2.1	C	Strong
2.2	C	Strong
2.3	GPP	Strong
2.4	C	Strong
2.5	C	Strong
2.6	C	Strong
2.7	GPP	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
2.8	C	Strong
2.9	GPP	Strong
2.10	GPP	Strong
2.11	GPP	Strong
2.12	GPP	Strong
2.13	GPP	Strong
2.14	C	Strong
2.15	B	Strong
2.16	C	Strong
2.17	GPP	Strong
2.18	GPP	Strong
2.19	GPP	Strong
2.20	C	Strong
2.21	GPP	Strong
2.22	C	Strong
2.23	GPP	Strong
2.24	GPP	Strong
2.25	GPP	Strong
2.26	B	Strong
2.27	GPP	Strong
2.28	C	Strong
2.29	C	Strong
2.30	M	Mandatory
2.31	GPP	Strong
2.32	GPP	Strong
2.33	C	Strong
2.34	C	Strong
2.35	C	Strong
2.36	GPP	Strong
2.37	C	Strong
2.38	GPP	Strong
2.39	C	Strong
2.40	C	Strong
2.41	GPP	Strong
2.42	C	Strong
2.43	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
2.44	C	Strong
2.45	C	Strong
2.46	C	Strong
2.47	C	Strong
2.48	GPP	Strong
2.49	C	Strong
2.50	GPP	Moderate
2.51	GPP	Strong
2.52	C	Strong
2.53	GPP	Strong
2.54	C	Strong
2.55	C	Strong
2.56	GPP	Strong
2.57	C	Strong
2.58	M	Mandatory
2.59	C	Strong
2.60	C	Strong
2.61	M	Mandatory
2.62	GPP	Strong
2.63	C	Strong
2.64	C	Strong
2.65	C	Strong
2.66	C	Strong
2.67	C	Strong
2.68	C	Strong
2.69	C	Strong
2.70	GPP	Strong
2.71	C	Strong
2.72	C	Strong
2.73	C	Strong
2.74	C	Strong
2.75	B	Strong
2.76	C	Strong
2.77	GPP	Strong
2.78	GPP	Strong
2.79	GPP	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
3.1	C	Strong
3.2	GPP	Strong
3.3	GPP	Strong
3.4	GPP	Strong
3.5	GPP	Strong
3.6	C	Strong
3.7	C	Strong
3.8	C	Strong
3.9	C	Strong
3.10	GPP	Strong
3.11	C	Strong
3.12	GPP	Strong
3.13	GPP	Strong
3.14	GPP	Strong
3.15	GPP	Strong
3.16	GPP	Strong
3.17	GPP	Strong
3.18	C	Strong
3.19	C	Strong
3.20	GPP	Strong
3.21	GPP	Strong
3.22	C	Strong
3.23	C	Strong
3.24	C	Strong
3.25	C	Strong
3.26	C	Strong
3.27	C	Strong
4.1	GPP	Strong
4.2	GPP	Strong
4.3	GPP	Strong
4.4	GPP	Strong
4.5	GPP	Strong
4.6	C	Strong
4.7	GPP	Strong
4.8	GPP	Strong
4.9	GPP	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
4.10	GPP	Strong
4.11	GPP	Strong
4.12	GPP	Strong
4.13	GPP	Strong
4.14	C	Strong
4.15	GPP	Strong
4.16	GPP	Strong
4.17	C	Strong
4.18	C	Strong
4.19	C	Strong
4.20	GPP	Strong
4.21	GPP	Strong
4.22	C	Strong
4.23	C	Strong
4.24	C	Strong
4.25	C	Strong
4.26	C	Strong
4.27	B	Strong
4.28	B	Strong
4.29	C	Strong
4.30	C	Strong
4.31	B	Strong
4.32	GPP	Strong
4.33	C	Strong
4.34	GPP	Strong
4.35	C	Strong
4.36	GPP	Strong
4.37	GPP	Strong
4.38	C	Strong
4.39	C	Strong
4.40	C	Strong
4.41	C	Strong
4.42	C	Strong
4.43	B	Strong
4.44	GPP	Strong
4.45	C	Strong

Recommendation Number	Level of Evidence	Strength of Recommendation
4.46	C	Strong
4.47	C	Strong
4.48	C	Strong
4.49	C	Strong
4.50	B	Strong
4.51	C	Strong
4.52	GPP	Strong
4.53	C	Strong
4.54	C	Strong
4.55	GPP	Strong
4.56	C	Strong
4.57	GPP	Strong
4.58	C	Strong
4.59	GPP	Strong
4.60	C	Strong
4.61	GPP	Strong
4.62	C	Strong
4.63	C	Strong
4.64	GPP	Strong
4.65	C	Strong
4.66	C	Strong
4.67	C	Strong
4.68	GPP	Strong
5.1	C	Strong
5.2	GPP	Strong
5.3	GPP	Strong
5.4	GPP	Strong
5.5	GPP	Strong
5.6	GPP	Strong
5.7	C	Strong
5.8	GPP	Strong
5.9	GPP	Strong
5.10	GPP	Strong
5.11	GPP	Strong
5.12	M	Mandatory
5.13	M	Mandatory

Recommendation Number	Level of Evidence	Strength of Recommendation
5.14	GPP	Strong

About these guidelines

Methodology

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

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

Search strategy

Searches were performed on Embase (1980 to 2015), Ovid MEDLINE (1946 to present), CINAHL and Cochrane Library, for the literature search strategy, outcomes, databases, criteria for inclusion and exclusion of evidence (for the full perioperative care chapter search protocol please contact the RCoA). A hand search of the literature was also conducted by the authors using the reference lists of relevant original articles and review articles.

The literature search was performed in March 2019.

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:

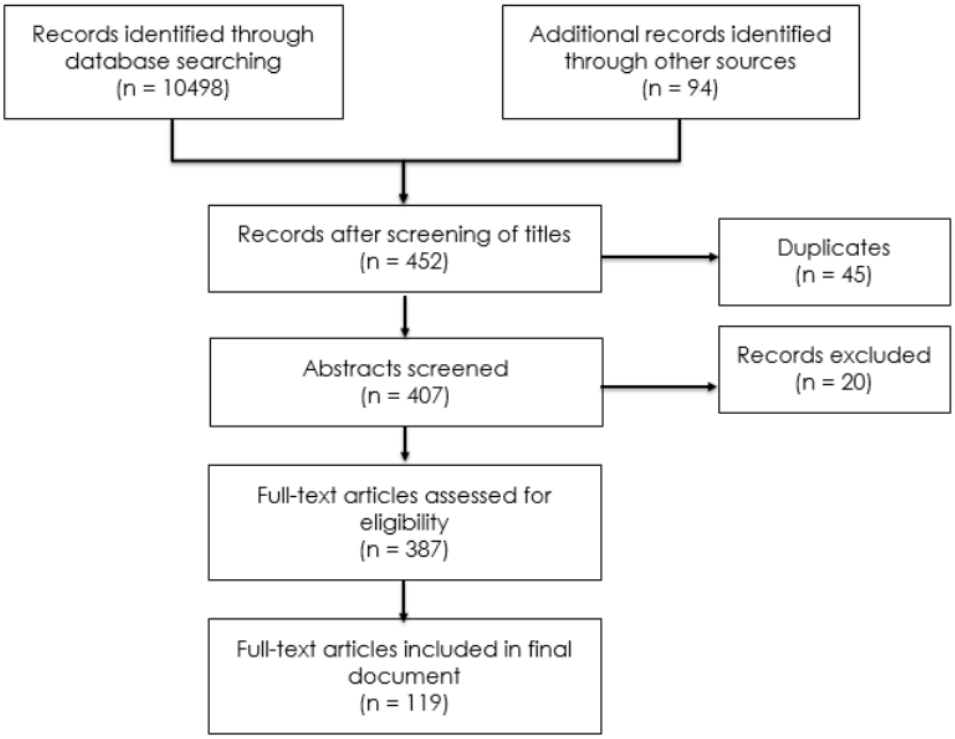
- the journal and country of publication

- 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 levels Ib, II or III); or extrapolated from level Ia evidence
IIa	Evidence obtained from at least one well-designed controlled study without randomisation		
IIb	Evidence obtained from at least one well-designed quasi-experimental study		
IIc	Evidence obtained from case control or cohort studies with a high risk of confounding bias		
III	Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation studies and case studies		
IV	Evidence obtained from expert committee reports or opinions and/or clinical experiences of respected authorities	**C**	Expert committee reports or opinions and/or clinical experiences of respected authorities (evidence level IV) or extrapolated from level I or II evidence. This grading indicates that directly applicable clinical studies of good quality are absent or not readily available.
UG	Legislative or statutory requirements	**M**	This grading indicates that implementation of this recommendation is a statutory requirement, or is required by a regulatory body (e.g. CQC, GMC)
		GPP	Recommended good practice based on the clinical experience of the CDG.

Adapted from Eccles M, Mason J. How to develop cost-conscious guidelines. *Health Technology Assessment* 2001;5(16) and Mann T. Clinical guidelines: using clinical guidelines to improve patient care within the NHS. *Department of Health*, London 1996.

Strengths and limitations of body of evidence

Most of the published evidence on perioperative care anaesthesia services is descriptive. There are publications describing aspects of this process based on expert opinion.

The limitations of the evidence are:

- the 'unmeasurables' (attitudes, behaviour, motivation, leadership, teamwork)
- few randomised controlled trials (RCTs); studies frequently use mixed populations of emergency and elective patients, or all emergency patients grouped together despite different underlying diagnoses
- papers often examine a single intervention within complex system or bundle
- papers are often examining small numbers and/or patients from a single centre
- poor use of outcome measures, frequently concentrating on easily measured short-term outcomes which are not patient centred
- generally, a paucity of long-term follow up
- there is no standard definition used of 'high risk'
- use of different risk-scoring systems
- decrease in outcome over time and geography when 'good papers' are used in quality improvement programmes
- application of international studies in systems with either more or less resources than the UK into NHS practice
- older studies may no longer be applicable within the NHS
- very few studies included any analysis of financial implications
- evidence was mainly based on literature graded III and IV.

Methods used to arrive at recommendations

Recommendations were initially drafted based on the evidence by the authors for the chapter. These were discussed with the CDG, and comments were received both on the content and the practicality of the recommendations. The level of evidence that was the basis for each recommendation was graded according to a grading system, and the recommendation was then graded taking into account the strength of the evidence and the clinical importance using a recommendations criteria form.

Recommendations were worded using the following system of categorisation:

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

Consultation

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

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

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

The consultation draft of this chapter was circulated for public consultation from 26 May 2021 to 24 June 2021. As well as being made available on the College's website and promoted via Twitter and the President's newsletter to members, the draft was also circulated to all key stakeholder

groups identified by the authors and the College. A list of organisations contacted by the College is available from the GPAS team at the College: GPAS@rcoa.ac.uk.

The editorial independence of GPAS

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

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

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

The role of the GPAS Editorial Board and CQRB

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

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

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

Updating these guidelines

This chapter will be updated for republication in January 2022.

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.

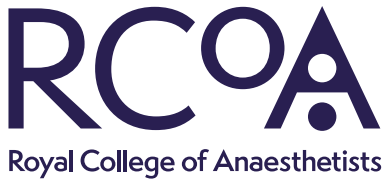
If new evidence contradicts or strengthens existing recommendations, the authors decide whether or not to involve the remainder of the CDG in revising the recommendations accordingly.

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 2026.

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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