Chapter 12

Guidelines for the Provision of Anaesthesia Services (GPAS)

Guidance on the provision of anaesthesia services for head and neck surgery 2017

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When considering the provision of anaesthesia, the Royal College of Anaesthetists recommends that the following areas should be addressed. The goal is to ensure a comprehensive, quality service dedicated to the care of patients and to the education and professional development of staff. The provision of adequate funding to provide the services described should be considered. These recommendations form the basis of the standard expected for departmental accreditation.
Summary

- Patients undergoing urgent head and neck procedures to relieve a compromised airway resulting from trauma or tumours, or after surgery, must have quick access to a dedicated emergency theatre at all times.\(^1\)\(^2\)
- Upper airway problems are common and can be challenging to manage. Head and neck anaesthetic services should therefore be provided by anaesthetists who are skilled in the management of complex airway problems.\(^3\)
- Anaesthetists should always work with appropriately trained and skilled assistants, and have access to a range of apparatus for difficult airways, including fibreoptic intubation equipment and trans-cricothyroid jet ventilation.\(^3\)\(^4\)
- Access to a critical care facility must be available when required.\(^5\)
- Patients undergoing elective head and neck surgery should be assessed pre-operatively by appropriately trained staff, and dedicated anaesthetic pre-assessment sessions should be available for patients undergoing complex head and neck surgery, and those with potentially difficult airways.\(^6\)\(^7\)
Introduction: the importance of head and neck anaesthesia services

- Head and neck surgery includes a wide spectrum of surgical interventions, ranging from short day case procedures to very long and complex operations.
- The requirements for providing anaesthesia services for routine head and neck surgery, such as tonsillectomy, will be different to those required to provide anaesthesia for major or complex surgery. There should be recognition that routine head and neck surgery may include patients with complex and difficult airways because of disease or previous treatment.
- Anaesthesia for surgery of the head and neck is likely to include the disciplines of ear, nose and throat, maxillofacial and dental surgery. In some instances, such as surgery on the base of skull and for craniofacial surgery, formal integration with a neurosurgical and plastic surgical service may be required. Owing to the broad scope of patients requiring anaesthesia for head and neck surgery, multidisciplinary team working is essential.
- The patient population undergoing head and neck surgery ranges from neonates and young children to the elderly.
- Patients requiring major head and neck surgery frequently have extensive and debilitating comorbid problems and may need repeated admissions for treatment.
- Conditions that require head and neck surgery affect patients of all ages, and a significant proportion are children. The treatment of neonates, young children with significant co-morbidity and children with complex surgical conditions should take place in units with specialist paediatric facilities, unless immediate emergency care is required prior to transfer to a specialist paediatric facility. Simple procedures such as teeth extraction, the removal of tonsil or adenoid tissue and the insertion of grommets can be carried out on children in a general hospital setting.
- The indications for head and neck surgery vary widely, from minor infective and inflammatory disorders to extensive malignant disease. In the latter case, surgical excision and reconstruction, often using free tissue transfer, requires complex peri-operative anaesthetic management. This kind of surgery often takes time that is not easily accommodated within the time constraints of a normal operating list.
- Cancers of the upper aerodigestive tract form the majority of head and neck oncology, and these patients are typically older and commonly have serious co-existing cardiovascular and respiratory disease, reflecting the social risk factors for their malignancy.
- Adequate facilities should be available for pre-operative assessment.
- Appropriately trained staff should undertake pre-assessment. Dedicated anaesthetic sessions should be available for the pre-operative assessment of complex or high-risk patients.
- Patients undergoing long and complex surgery, and those with significant underlying medical problems, will need the provision of postoperative level 2 or 3 critical care.
- Many patients with intra-oral malignancy, craniofacial disorders and traumatic facial injuries present with a predicted difficult intubation. This aspect of the service mandates that the full range of human and other resources necessary to manage difficult airways, including equipment for fibreoptic intubation and trans-nasal high flow oxygenation, are always available.
- It is common for head and neck surgery to encroach upon the airway or to require changing of the airway during surgery. It is therefore essential that there is close liaison and good teamwork between surgeons, anaesthetists and anaesthetic assistants.
- All theatre team members must participate in the World Health Organization’s Surgical Safety Checklist. National safety initiatives such as the Five Steps to Safer Surgery and the National Safety Standards for Invasive Procedures should be implemented.
- Patients presenting with impending airway obstruction may need emergency surgery. The ability to provide this service dictates that a dedicated, appropriately staffed and equipped theatre be available 24 hours a day.
- All community dental work requiring general anaesthesia is now carried out in a hospital setting. There are estimated to be 65,000 children and young people with severe learning disabilities in the UK, and a significant proportion of those needing dental treatment will be referred for general anaesthesia.
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A significant proportion of head and neck surgery is of a routine nature and much of the service is ideally provided for by a dedicated day case facility. Routine surgery can include patients with complex or difficult airways, and therefore appropriately trained anaesthetists should be available to provide anaesthesia for these patients. Appropriate equipment, such as advanced airway equipment, should also be available for these day case lists. Adequate postoperative recovery facilities must be available for patients with potentially complex airways undergoing day case surgery.

Levels of provision of service

1 Staffing requirements

1.1 Anaesthesia for head and neck surgery should be consultant led. One or more named senior anaesthetists with appropriate training and experience, and with an interest in head and neck surgery should be responsible for directly or indirectly overseeing all major head and neck operations. All other regular sessions should have a named consultant or Staff Grade, Associate Specialist and Specialty (SAS) doctor assigned to them, with appropriate skills.

1.2 A clinical lead for head and neck anaesthesia should be appointed in each hospital providing anaesthesia services for head and neck cancer surgery.

1.3 Where scheduled operations cannot be accommodated within normal list times, anaesthesia departments should make arrangements to allow anaesthetists to be relieved by a colleague or PA(A) to allow for appropriate rest periods, both during and following such procedures.

1.4 Anaesthetists must always be supported by dedicated, appropriately skilled assistants, and the recovery facilities should be staffed during all operating hours and have appropriate anaesthetic support, until the patient meets agreed discharge criteria.

1.5 There should be an appropriately trained theatre team including an on call consultant anaesthetist, 24 hours a day to provide emergency head and neck surgery in head and neck cancer centres and in hospitals with an Emergency Department. Clear care pathways must exist for patients undergoing day case procedures such as tonsillectomy in isolated units should the need arise for a return to theatre or unexpected admission.

1.6 Where a paediatric service is being provided medical, nursing and theatre staff, for example recovery nurses with direct responsibility for patient care must have relevant and up to date training in paediatric anaesthesia and resuscitation.

2 Equipment, support services and facilities

2.1 There should be a full range of equipment relating to the management of the difficult airway available within the head and neck theatre suite. In particular, equipment for fibreoptic intubation and trans-cricothyroid jet ventilation must always be available.

2.2 An adequate range of tracheostomy tubes, including adjustable flange tubes with inner tubes, must be stocked.

2.3 All anaesthetic departments should have an explicit policy for the management of difficult or failed intubation (for example, formal adoption of the Difficult Airway Society guidelines as departmental policy) and clear written guidelines for the management of other airway problems such as the paediatric obstructed airway, extubation, laryngospasm and bronchospasm.

2.4 The use of lasers during head and neck surgery is common, and therefore training and safety equipment including laser-protected endotracheal tubes, goggles and theatre door screening need to be provided.

2.5 Patients returning to the ward, who have had a tracheostomy or other airway surgery, should be cared for by adequate levels of nursing staff who are skilled in the care of the surgical airway. The location of this ward should also facilitate quick return to theatre should the need arise.
2.6 Patients who have undergone complex head and neck surgery may require transfer to an appropriate level of critical care facility. Additional equipment necessary to achieve this safely, including portable non-invasive and invasive monitoring, emergency transfer packs and portable ventilators, may also be required.

2.7 Adequate facilities should be available for the pre-operative anaesthetic assessment of all patients undergoing head and neck surgery.

2.8 Patients with suspected or known head and neck cancer should be pre-assessed by an experienced head and neck anaesthetist. Pre-operative nasendoscopy and imaging should be available, to aid identification of the difficult airway.9

2.9 Adequate administrative support should be available, for example to obtain previous anaesthetic records from other hospitals.

3 Areas of special requirement

3.1 When providing head and neck anaesthetic services for children, there will be a number of special requirements as covered in the guidance on the provision of paediatric services (see Guidelines for the Provision of Paediatric Anaesthesia Services 2017).

3.2 The community dental service will need to cater for patients with learning disabilities undergoing general anaesthesia for dental procedures. This vulnerable group of patients requires access, communication and peri-operative care appropriate for their individual needs. (Further information about anaesthesia for community dentistry is available in Guidance on the Provision of Services for Anaesthetic Care in the Non-theatre Environment 2016).

3.3 Particular emphasis should be placed on the need for specialist postoperative ward care. Wherever possible, patients who have had airway-related surgery should be looked after in the early post-operative period on dedicated head and neck surgery wards with adequate levels of medical and nursing staff who are familiar with the recognition and management of related airway problems.

3.4 Where major head and neck surgery is carried out, there may be a regular requirement for elective postoperative high-dependency and intensive care. This should be available in the same hospital for those trusts providing complex reconstructive procedures.12

4 Training and education

4.1 Patients requiring head and neck procedures should be managed by anaesthetists who have had an appropriate level of training in this field, and who have acquired the relevant knowledge and skills needed to care for patients undergoing head and neck surgery.

4.2 In order to maintain the necessary repertoire of skills, consultant anaesthetists and SAS doctors providing a head and neck service should have a regular commitment to the specialty, and adequate time must be made for them to participate in a range of relevant continuing medical education activities.

4.3 Head and neck surgery provides an excellent opportunity for the formal and systematic training of anaesthetists in the use of advanced methods for airway management, including fibreoptic intubation techniques. Where possible, additional equipment such as monitors, video recorders and airway simulators should be made available to facilitate this important aspect of anaesthetic education.

4.4 All hospitals should have a protocol and mandatory training for tracheostomy care. Head and neck anaesthetists are ideally placed to support education in this area.13
5 Research, audit and quality improvement

5.1 In addition to routine audit and the reporting of critical incidents, any morbidity relating to airway management should be presented at departmental clinical governance meetings, and documented for audit purposes.

5.2 Head and neck anaesthetists should actively engage and contribute to regional and national head and neck outcome databases and audit.¹⁵

6 Organisation and administration

6.1 There should be at least one three-session day per week dedicated for head and neck surgery in the host hospital for those providing head and neck cancer and complex non-cancer surgery.¹²

6.2 There should be a pre-operative assessment clinic with the facility to arrange pre-admission anaesthetic consultation for those patients with complex airway problems or severe co-morbidity.

6.3 Where necessary, integration with other surgical specialties, such as neurosurgery and plastic surgery, may be needed to formalise joint operating lists.

6.4 The ability of anaesthetists with other specialist interests, such as neuroanaesthesia and intensive care medicine, to contribute towards the provision, planning and implementation of the service should be recognised.

6.5 Any daytime emergency lists should be organised and staffed by senior anaesthetists and surgeons working to a fixed sessional pattern, who have no conflicting clinical commitments.

6.6 Where major elective head and neck surgery requiring postoperative critical care is undertaken, the funding for and provision of these beds must be planned to meet the demands of the service, so that unnecessary cancellations can be minimised and the use of theatre resources optimised.

6.7 When very long operations are scheduled on a regular basis, it will be necessary to arrange the funding and resources to support long-duration lists.

7 Patient information

7.1 It is not uncommon in head and neck anaesthesia to use techniques such as inhalational induction, transcricoid or transtracheal cannulation and awake fibreoptic intubation. As for all anaesthetic techniques it is important to inform patients of exactly what to expect. The use of written information may be particularly useful.

7.2 Specific information regarding what to expect in the immediate post-operative period is also particularly relevant to head and neck surgery. Examples would include the need to breathe through the mouth in nasal surgery, the inability to open the mouth when wires are used for dental occlusion, and blurred vision following the administration of topical eye preparations. Such procedure-specific explanations should ideally be supported by written information.

7.3 As part of a difficult airway follow-up, patients should be informed in writing about any airway problem encountered and be advised to bring it to the attention of anaesthetists during any future pre-operative assessment.

Further reading

Guidelines for the Provision of Anaesthesia Services (GPAS) 2017

References