Core Competencies for Anaesthetic Assistants
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Foreword

NHS Education for Scotland (NES) is responsible for providing educational support for the NHS workforce. By doing this, we help staff of all disciplines to improve care and deliver even better outcomes for patients.

The Scottish Executive Health Department commissioned NES to take forward a number of recommendations made in relation to the important role that Anaesthetic Assistants play within healthcare.

The recommendations include:

- Staff providing anaesthetic assistance should achieve a nationally agreed set of competencies.
- Competencies for anaesthetic assistance should preferably be placed within a wider set of peri-operative competencies.
- All programmes for the preparation of Anaesthetic Assistants should meet this set of nationally agreed competencies.

This document addresses all of the above recommendations and provides an excellent education resource for staff within the anaesthetic department. NES has worked with colleagues from across Scotland to produce general and speciality-specific competencies that should guide the learning and personal development of Anaesthetic Assistants.

Finally, I would like to congratulate the development group on producing such a succinct framework for an area as complex as anaesthesia.

Malcolm R Wright
Chief Executive
NHS Education for Scotland
Introduction

In the UK, anaesthesia is administered under the supervision of a medically trained anaesthetist. The profession has a good safety record, with morbidity and mortality figures which compare favourably with other first-world countries. The anaesthetist is either a fully qualified specialist or an experienced anaesthetist working under supervision.

Hospitals must provide a safe working environment for the practice of anaesthesia. Hospitals which have trainees may be subject to inspection by the Royal College of Anaesthetists to ensure that appropriate standards are maintained. Both the Royal College of Anaesthetists and the Association of Anaesthetists of Great Britain and Ireland would expect such standards to be maintained in all hospitals where anaesthesia is provided regardless of who administers it and recognise the competencies within this document as appropriate for this group of Health Professionals.

The provision of a suitably trained Anaesthetic Assistant (AA) is an essential safety standard, as published in the NHS Quality Improvement Scotland (NHS QIS) document ‘Anaesthesia: Care Before, During and After Anaesthesia – Standards 1.4.1 and 1.4.2’.

AAs are members of the theatre team. They are essential for the safe delivery of anaesthesia which requires two practitioners with complementary skills and knowledge. AAs are involved in many routine aspects of peri-operative care and play an important role in the safe management of unforeseen clinical adverse events.

Training for AAs in Scotland is not unified. There are two streams:

- Operating Department Practitioners (ODPs), who complete a nationally recognised programme leading to the Diploma (HE) in Operating Department Practice and are regulated by the Health Professions Council
- AAs, who are Registered Nurses regulated by the Nursing and Midwifery Council.

Training recognised by NHS QIS can either be a registered ODP qualification or completion of Core Competencies 1 - 10 defined in this document.

Following the publication of the Core Competencies for Anaesthetic Assistants in 2006, a group was formed by NHS Education for Scotland and the Advisory Board to the Royal College of Anaesthetists in Scotland to address the issues of endorsement of nursing courses and ensuring uniformity of standards across Scotland. This group advised the setting up of the Scottish Multiprofessional Anaesthetic Assistants Development (SMAAD) Group. Key to this process is the role of nominated Consultant Anaesthetists in every hospital in Scotland who perform a final sign-off and apply for certificates to be awarded by the SMAAD Group to all AAs who complete their competencies. Registers are held of both Nominated Anaesthetists and assistants who have completed their competencies by this Group.

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1 As from 1 April 2011, NHS QIS will become Healthcare Improvement Scotland (HIS)
Nurses in Scotland, working as AAs, should possess a certificate of competency, signed by a nominated Consultant Anaesthetist for each competency required in their workplace. Certificates are issued either after completion of a recognised course provided by a Health Education Institution or by completion of a portfolio following an in-house programme under clinical supervision.

This structure addresses the issues relating to quality and consistency of education and training raised in the Scottish Medical and Scientific Advisory Committee (SMASAC) report ‘Anaesthetic Assistance – A Strategy for Training, Recruitment and Retention and the Promulgation of Safe Practice’ (2002).

The purpose of this document
The following pages set out a framework of 20 competencies for AAs; 10 of them are general and 10 are speciality-specific. It is intended that the framework should form an overall level equivalent to level 9 of the Scottish Credit and Qualifications Framework (SCQF). See Box 1.

The competencies meet the needs of the Association of Anaesthetists of Great Britain and Ireland referred to in the publication ‘The Anaesthesia Team 3’ (2010) and the current NHS QIS healthcare governance standards (2010).

The competencies do not include a number of mandatory training courses, such as moving and handling; basic life support; immediate life support; venepuncture and cannulation; intravenous therapy; safe blood transfusion and medical devices. This document is intended to build on such aspects of induction and orientation, rather than replace them.

Box 1. The Scottish Credit and Qualifications Framework (SCQF)

The SCQF is central to all external accreditation activity for NHSScotland. It has been devised to:

- provide a national framework for recognising all learning, provided it can be subject to valid, reliable and quality-assured assessment
- clarify relationships between different Scottish qualifications, and between Scottish qualifications and those of the rest of the UK, Europe and beyond
- enhance flexibility by building more credit links between different kinds of qualifications
- provide a common means of describing and recording all individual learning achievements.

This descriptive framework is based on a 12-level scale that reflects the current Scottish system of education and training. Levels 2-12 each have a descriptor which sets out their general outcomes under five headings:

- knowledge and understanding
- applied knowledge and understanding (practice)
- cognitive skills – evaluation and critical analysis, for instance
- communication, numeracy and IT skills
- autonomy, accountability and working with others.

The SCQF assists staff to plan, with their manager or supervisor, a learning path that will meet their needs and minimise the prospects of duplication of learning. Any short programme or work-based learning activity, provided it is appropriately assessed, will have the potential to be incorporated into the framework.

Attitudes and values
The framework is underpinned by the NHS QIS healthcare governance standards (2005), to ensure that:

- patients’ views and experiences are taken into account in the planning and delivery of services
- patients are involved in, and informed about, all decisions made during their journey of care
- systems are in place to ensure that patient safety is a core principle underpinning all aspects of healthcare delivery
- information is used appropriately to maximise benefit in all sectors of healthcare
- policies and procedures are in place to encourage and enable continuous quality improvement
- staff from across NHS Scotland are fully supported and adequately trained, both personally and professionally, to provide high quality health services
- quality systems are in place to enable employees to play a full and active role in providing effective and efficient healthcare services for patients
- structures and processes are in place for the adequate review of service delivery.

Document structure
This document presents the competencies in two parts. Part one presents 10 competencies which form the essential core of AA education and training. These are broadly ordered as follows:

- background knowledge / core skills
- walk-through: pre-operative, intra-operative, post-operative
- emergency management.

Part two comprises further groups of competencies which are specific to certain anaesthetic specialities. To practise independently in one of these specialities an AA will need to have achieved – and maintained where relevant – the corresponding competencies. Individual competencies are presented as a pair of statements: the competency itself (either a practical skill or an item of knowledge), followed by a short statement describing the educational content which applies.

Timeframe
These competencies should be used in tandem with a personal development plan, linked to Flying Start and the NHS Knowledge and Skills Framework.

Under normal circumstances it is expected that education and training follows the timeframe suggested by the SMASAC, with a further consolidation period undertaken during independent practice.

Month 1-3  Supernumerary and supervised daytime work as appropriate
Months 3-9 Supervision as required during the day, supervised night work.
Months 9 on Confirmation of competencies, completion of training (including moving and handling, ILS and in-house practical skills training). Independent practice.

The following core competencies are subject to local guidelines and assessment and should be completed during supervised practice:

- immediate life support (ILS) (10.7)
- insertion of an IV cannula (3.3)
- IV drug administration / PCA (8.10 et seq)
- the siting of an LMA in an adult patient (4.15).
Maintaining competency

The SMAAD Group expects that where an AA’s time spent in clinical practice falls below a threshold (e.g. eight hours per week or 360 hours annually, on average) then regular CPD should be undertaken to ensure that clinical competency is maintained. The timing and content of this would depend on individual circumstances. AAs who intend to work in tertiary specialist centres may need to acquire a considerable number of speciality-specific competencies in addition to the general competencies in part 1. They will have a greater requirement for CPD activities. Those who work in rural or remote hospitals may be occasionally called on to assist with anaesthesia for emergencies without the benefit of regular elective practice in that speciality. They may therefore wish to acquire the competencies in the appropriate sections in part 2. For some specialities it may be appropriate to set up refresher courses which address the management of occasional emergencies.

Scottish Multiprofessional Anaesthetic Assistants Development Group (SMAAD Group)

This multiprofessional group with representatives from key-stakeholders across Scotland meets regularly to endorse programmes of education offered by Higher Education Institutions and maintain registers of Nominated Anaesthetists, Clinical Supervisors and anaesthetic assistants who have gained certificates of competency. The Group also undertakes regular review of both this document and the Portfolio which supports this document. The group is supported by NES, the Advisory Board in Scotland to the Royal College of Anaesthetists and the Scottish Standing Committee of the Association of Anaesthetists of Great Britain and Ireland. Further information on the group is available on the NES website.

Glossary

ASA  American Society of Anaesthesiologists
BMI  Body Mass Index
CAVG  Coronary artery vein graft
CO₂  Carbon dioxide
DLT  Double-lumen tube
ECG  Electrocardiogram
ET  Endotracheal
HCP  Healthcare professional
HIV  Human Immunodeficiency Virus
HSE  Health and Safety Executive
IPPV  Intermittent Positive Pressure Ventilation
IV  Intravenous
ILS  Immediate Life Support
LA  Local Anaesthesia / Anaesthetic
LMA  Laryngeal Mask Airway
MRSA  Methicillin Resistant Staphylococcus Aureus
NIBP  Non-invasive blood pressure
NMJ  Neuro-muscular junction
RAE  Ring, Adair Elwin (type of ET tube)
SaO₂  Oxygen saturation

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Next review date 2016
Part 1: General core competencies
Section 1: Preparation of patients for theatre

Fitness for anaesthesia and surgery

Many clinical factors identified pre-operatively have a bearing on peri-operative anaesthetic care. The anaesthetic assistant (AA) must be aware of the factors which affect patient care, and should be able to outline how these factors might influence choice of anaesthetic technique.

Pre-operative investigations are part of the peri-operative safety net: clinically significant abnormal values should be identified by the AA and their risks understood. The AA should be able to identify many pre-operative risks (e.g. a missed ranitidine pre-med) and bring these to the attention of the anaesthetist.

The concept of the American Society of Anaesthesiologists’ (ASA) scoring system is international, and a foundation for assessing fitness for anaesthesia and surgery. Airway assessment is an important part of anaesthetic assessment, and because the AA assists in securing the airway it is important that they understand how the anaesthetist anticipates difficulty with airway manipulations. Fasting protocols are designed to help protect patients from aspiration of gastric contents. These are part of routine pre-operative assessment, and the AA should be aware of those situations where the benefits of fasting are unpredictable, or where fasting is inappropriate. Transferring, positioning and protecting the obese patient represents a shared challenge for the AA and the anaesthetist, as all aspects of local and general anaesthesia are made more difficult and more prone to complications.

1.1 Competency

Understands the assessment, significance, and limitations of the ASA score.

Knowledge and skills

The ASA score, including its correlation with operative mortality. The anaesthetist may present a patient as ‘ASA 4’; the AA must understand the important clinical implications of this.

1.2 Competency

Aware of anaesthetic factors in the pre-operative clinical assessment of patients.

Knowledge and skills

Basic clinical assessment of cardiovascular, respiratory, renal, neurological, haematological, hepatic, endocrine and GI systems with emphasis on factors which have a bearing on anaesthetic care. The AA should recognise important factors affecting anaesthesia (see the checklist-related competencies 2.1 and 2.2) and know the more important clinical implications.
1.3 Competency
Aware of principles involved in assessing airway for potential difficulty with intubation and / or ventilation.

Knowledge and skills
Clinical assessment of potential difficulty with intubation. Techniques, scoring / grading. The AA must understand the important clinical implications of Mallampati Score / Cormack & Lehane Grading.

1.4 Competency
Can state fasting guidelines and clinical aspects of these.

Knowledge and skills
Fasting protocols, their clinical rationale, fasting risks, times when fasting is inappropriate. Essential to minimise risk of acid aspiration. The AA must know when fasting may not achieve its goal and anaesthetic implications of this.

1.5 Competency
Understands the anaesthetic consequences of obesity.

Knowledge and skills
Definition of obesity, concept of BMI. Anaesthetic risks of obesity. Safely providing peri-operative care to obese patients.

1.6 Competency
Understands the significance of pre-operative investigations, and can demonstrate a basic level of interpretation.

Knowledge and skills
Pre-operative investigations. Clinical aspects of normal and abnormal values of: blood haemoglobin, platelets, white cell count, clotting studies, serum potassium, urea and creatinine, blood sugar, arterial blood gases. Takes appropriate action by highlighting clinically significant abnormal values. Basic ECG interpretation.

1.7 Competency
Understands principles involved in pre-medication and pre-operative therapy.

Knowledge and skills
Understands the purpose, basic pharmacology and clinical aspects of pre-medicant drugs (including topical LA cream) and therapies (including physiotherapy). Paediatric pre-medication.

Theatre team and individual roles
An emergency can occur at any time. The AA must know the roles of each member of the theatre team, and when and how to enlist senior assistance if required.

1.8 Competency
Aware of roles and responsibilities of theatre personnel.

Knowledge and skills
Theatre team members, roles and responsibilities in routine care and during emergencies. Knowledge of clinical ability of theatre personnel is an important factor during clinical emergencies.
Core Competencies for Anaesthetic Assistants
Section 2: Aspects of patient care

Pre-Operative Checklist

The local checklist applies, but must include the following categories of information: patient identification, fasting, patient preparation for theatre suite, consent, pre-operative investigations, known hazards, allergies, pre-medication. The AA should understand the principles of obtaining or amending consent in pre-medicated patients, and should know the protocol for patients who are unable to give informed consent. The AA must understand infection risks and use standard precautions and appropriate additional precautions where relevant.

2.1 Competency
Able to complete routine pre-operative checklist.

Knowledge and skills
Accurately acquires information required to complete pre-operative checklist. Avoids leading questions. Correctly identifies those situations when accuracy of information is likely to be compromised. Can highlight important aspects of checklist information and bring these to the attention of relevant team members – including where routine drug therapy has been given or withheld inappropriately. Systematically identifies the proposed site of operation and reports discrepancies to the appropriate person.

2.2 Competency
Understands legal issues surrounding informed consent for anaesthesia and surgery.

Knowledge and skills
Legal issues relevant to informed consent for anaesthesia and surgery. The AA has an important role confirming the validity of consent to current legal standards. Demonstrates the ability to act as the patient’s advocate and to support the patient appropriately in informed choices (Adults with Incapacity (Scotland) Act 2000). Understands consent issues for minors (Consent for Children, GMC document). Understands consent requirements for Jehovah’s Witnesses.

General patient care

The AA must provide safe, holistic patient care which is, as far as possible, evidence-based. The professional practice of the AA must have a sound ethical and legal basis.

2.3 Competency
Assesses, plans, implements and evaluates peri-operative care.

Knowledge and skills
Demonstrates the ability to plan and accurately document all aspects of a peri-operative care plan for all patient groups. Is able to modify a care plan in response to changes in a patient’s condition.
2.4 Competency
Able to maintain patient’s comfort and dignity throughout the peri-operative period.

Knowledge and skills
Shows an ability to maintain privacy, comfort and dignity as far as possible throughout the peri-operative period.

2.5 Competency
Recognises signs of anxiety, their effects on anaesthesia and offers reassurance

Knowledge and skills
Can assess a patient’s level of anxiety, offers appropriate reassurance. Recognises where anxiety may lead to patient harm, and acts appropriately to reduce anxiety where possible. Clinical effects of anxiety including altered drug dosages and increased risk of cardiac arrhythmias. Anxiety is common and may be distressing; the AA should ensure that they recognise anxiety and respond appropriately.

2.6 Competency
Demonstrates personal and professional accountability in relation to the role of an AA.

Knowledge and skills
Demonstrates the principles of accountability in professional practice. Practises within limitations of own scope of professional practice.

Care for specific patients
Confused or demented patients, those with learning disabilities and those whose first language is not English represent a challenge for the anaesthetic team. Management is highly individualised, and the AA must be able to play an appropriate part in assisting the anaesthetist. Carers, relatives or interpreters may be permitted into the anaesthetic room and must be supported appropriately.

2.7 Competency
Aware of management of confused patients or patients with incapacity.

Knowledge and skills
Shows an ability to assess the requirements of confused patients or patients with incapacity, and to protect them from undue distress. Is patient and caring at all times.

2.8 Competency
Able to assess and manage patients with learning disabilities.

Knowledge and skills
Shows an ability to assess the requirements of patients with learning disabilities, and to protect them from undue distress. Is patient and caring at all times.

2.9 Competency
Knows standard precautions for known or suspected infection risks (e.g. HIV / Hep B / serious or resistant organism infection).

Knowledge and skills
Understands the risks associated with serious viral infections. Can describe the management of these. Staff and patient safety in respect of potentially fatal infective disorders. Knows principles of managing patients with resistant organism infection (e.g. MRSA) including the prevention of cross-infection.

2.10 Competency
Able to assess and manage elderly patients or children under 16 (as relevant to scope of normal practice).

Knowledge and skills
Shows an ability to assess the requirements of elderly patients or children under 16 (as normal practice), and to protect them from undue distress. Is patient and caring at all times.
Section 3: Involvement in common anaesthetic procedures

Securing IV access
Anaesthetised patients usually require peripheral IV access. The AA must be able to assist effectively in informing patients, and in the management of failed IV cannulation and those factors which improve the success rate of this procedure. Inadvertent loss of IV access may be life-threatening.

3.1 Competency
Can assist anaesthetist during establishment of peripheral IV access.

Knowledge and skills

3.2 Competency
Able to secure an IV cannula or local anaesthetic catheter.

Knowledge and skills
Demonstrates ability to secure a cannula, local anaesthetic catheter or infusion line to minimise the possibility of accidental displacement.

3.3 Competency
Can site a peripheral intravenous cannula.

Knowledge and skills
Can select an appropriate vein, prepare the skin, site a peripheral intravenous cannula and confirm that it is patent.

Invasive Monitoring
Invasive monitoring is most often required during major surgery or where patients have severe systemic disease. The AA must be able to assist the anaesthetist in establishing invasive monitoring. This is an essential part of the management of emergencies and may be the routine care of ASA 3, 4 and 5 patients.

3.4 Competency
Can assist anaesthetist during establishment of invasive monitoring.

Knowledge and skills
Able to prepare all required equipment. Assists in positioning and supporting the patient, skin preparation and helping to prevent inadvertent movement during the procedure. Knowledge of complications and risks of procedures. Ability to recognise complications and act appropriately.

Sedation
Many procedures are performed under sedation by a practitioner other than an anaesthetist. The responsibility for the conduct of the procedure lies with the registered practitioner. However, the AA must be able to ensure patient safety and comfort during these procedures and communicate with the registered practitioner. Inadvertent oversedation may result in loss of airway.
3.5 Competency
Understands the principles and hazards of IV sedation.

Knowledge and skills

3.6 Competency
Can assist in the care of a patient during a procedure under sedation.

Knowledge and skills
Shows the ability to monitor depth of sedation and takes appropriate action on actual or impending over-sedation. Can monitor vital signs during sedation and notify the registered practitioner of any adverse trends.

Regional Anaesthetic Blocks
Regional anaesthetic blocks may be performed as the sole anaesthetic technique, or in combination with sedation or general anaesthesia.

3.7 Competency
Knows basic anatomy relevant to spinal, epidural and other regional analgesia / anaesthesia.

Knowledge and skills
Relevant anatomy of spinal canal, nerve plexuses and important individual nerves, including those to the eye, which may be usefully blocked. The AA must be able to position patient appropriately, maintain immobility at critical times and follow the progress of the block. Knowledge of symptoms and signs of local anaesthetic toxicity and of AAGBI Safety Guideline: Management of Severe Local Anaesthetic Toxicity.

3.8 Competency
Able to assist anaesthetist during establishment of regional anaesthesia.

Knowledge and skills
Preparation of equipment, preparation of nerve stimulator, patient positioning, communication with the patient at all stages. Understands need for routine monitoring, IV access and accessibility of standard resuscitation equipment. Recognition of symptoms and signs of local anaesthetic toxicity. Ability to assist in management of patient with symptoms and signs of local anaesthetic toxicity. Able to locate 20% lipid emulsion for lipid rescue.

3.9 Competency
Understands principles of assessment of extent of regional anaesthetic block.

Knowledge and skills
Knowledge of dermatomes. Testing using cold / pinprick. Should be able to assess extent of a block where this might be the cause of compromised respiratory function. Should be able to measure the degree of block where this may compromise tissue viability or herald signs of cord compression.
### Section 4: Involvement in airway management

#### General
Securing the airway is an important and occasionally very difficult part of the anaesthetist’s work. The AA plays an important complementary role in this.

#### 4.1 Competency
Recognises the complementary role of the AA in airway establishment.

**Knowledge and skills**
The role of the AA in airway establishment.

#### 4.2 Competency
Knows the anatomy of the upper airway.

**Knowledge and skills**
Those aspects of the anatomy of the upper airway which are relevant to laryngoscopy, intubation and the placement of LMAs and other airways.

#### 4.3 Competency
Can clear the airway where upper airway obstruction is present.

**Knowledge and skills**
Can recognise upper airway obstruction. Can perform manoeuvres to clear the airway: effective head extension, jaw-thrust, oropharyngeal suction, insert an appropriate size of Guedel airway or nasopharyngeal airway. May have first-line involvement with management of upper airway obstruction in the theatre suite.

#### Airway Equipment
A large number of pieces of equipment have been developed to assist in safely securing the airway. The AA must be familiar with both the common and less common equipment that may be required, and be able to produce that equipment on request. The AA must be familiar with the features, mode of use and hazards associated with these items.

#### 4.4 Competency
Can set up for, and assist the anaesthetist with, routine intubation of the trachea.

**Knowledge and skills**
Sets up intubation equipment tray / trolley. Able to test the equipment. Positions the patient appropriately and assists the anaesthetist with routine intubation of the trachea.

#### 4.5 Competency
Understands features of oxygen delivery equipment.

**Knowledge and skills**
Face masks: types, design features, including fixed and variable performance designs. Nasal cannulae. Wall \( \text{O}_2 \) flowmeters.
4.6 Competency
Detailed knowledge of airway equipment, features, role and mode of use.

Knowledge and skills
Straight and curved bladed laryngoscopes; specialised laryngoscopes for difficult intubation (McCoy / Bullard or similar); forceps; bougies and introducers; ET tubes (including DLT / RAE / Microlaryngeal); intubating LMA; jet insufflation equipment; fibreoptic intubating equipment.

4.7 Competency
Can calculate endotracheal tube sizes and lengths.

Knowledge and skills

4.8 Competency
Can describe features of self-inflating bags, and can set up and use these.

Knowledge and skills
Ambu valves, self-inflating bags. Key part of emergency management within theatre suite / recovery area and during intra-hospital patient transfer.

4.9 Competency
Can set up difficult intubation equipment.

Knowledge and skills
Can list the important equipment required for a difficult intubation trolley. Is able to prepare the equipment for use.

4.10 Competency
Knows protocol for unexpected difficult intubation / failed intubation drill.

Knowledge and skills

Assisting during the securing of the airway
Two-person bag-mask ventilation and cricoid pressure are important interventions in which the AA must be competent. The AA must be practised and skilled at assisting the anaesthetist throughout the period before the airway is secured. Awake fibreoptic intubation or emergency cricothyroidotomy may have to be performed at any time as the safest way to secure the airway.

4.11 Competency
Participates in Rapid Sequence Induction, including effective cricoid pressure.

Knowledge and skills
Sets up equipment, prepares environment and patient for Rapid Sequence Induction. Identifies cricoid cartilage. Applies appropriate pressure at the appropriate time. Is able to implement the safe procedure for its release. Minimises risk of acid aspiration.
4.12 Competency
Demonstrates ability to perform either role in two-person bag-mask ventilation.

Knowledge and skills
Can hold a face mask in position, ensuring a gas-tight seal, or perform manual IPPV. Can identify suitable breathing systems.

4.13 Competency
Can set up and assist the anaesthetist with establishing local anaesthesia for awake fibreoptic intubation and can assist in the performance of awake fibreoptic intubation.

Knowledge and skills
Can assemble equipment and drugs needed for awake fibreoptic intubation and assist with all aspects of this procedure.

4.14 Competency
Can assist with inhalation induction.

Knowledge and skills
Can communicate effectively with the patient. Anticipate and manage inadvertent patient movement during induction. Inhalation induction of anaesthesia may have to be performed at any time (including periods with out-of-hours levels of support) as the safest way to achieve anaesthesia.

4.15 Competency
Demonstrates ability to place a laryngeal mask airway (LMA) in an adult patient.

Knowledge and skills
Can place a laryngeal mask airway in an adult patient to ILS course standard. The AA may be asked, during emergency management, to site an LMA – and should be practised in this.

4.16 Competency
Can assist during cricothyroidotomy.

Knowledge and skills
Can identify and set up the equipment required for cricothyroidotomy, and knows how to assist the anaesthetist during this procedure. Can rapidly connect this to an appropriate oxygen supply.

4.17 Competency
Can assist in management of patient with unstable cervical spine.

Knowledge and skills
Can appropriately position the patient with an unstable cervical spine and assist the anaesthetist in management of the patient and the airway.
Section 5: Care of anaesthetic machine, monitoring and related equipment

Anaesthetic machine (including all anaesthetic delivery systems)

The AA has a major role to play in systematically preparing and checking the anaesthetic machine. This important piece of equipment is central to the administration of general anaesthesia, and the AA must be able to assist the anaesthetist in solving problems. Patient safety depends on a correctly set up anaesthetic machine.

5.1 Competency
Able to set up an anaesthetic machine, check it, pass it as safe to use and record this information appropriately. Includes routine between-case checks.

Knowledge and skills
Demonstrates ability to set up an anaesthetic machine, and check it to Association of Anaesthetist's Guidelines and the manufacturer's guidelines (including between-case checks). Demonstrates awareness of importance of vaporizer seating and suction.

5.2 Competency
Knows the safety features of the anaesthetic machine.

Knowledge and skills
Can demonstrate the safety features of the anaesthetic machine, including gas specific components, oxygen failure alarms, back-up gas supplies, emergency oxygen flush, blow-off pressure valves, scavenging, anti-hypoxic mixture features.

5.3 Competency
Can identify common breathing systems, state their Mapleson classification and their functional characteristics, check them and pass them as safe to use.

Knowledge and skills
Mapleson functional classification of breathing systems. Circle system set-up and features. Checking system patency and integrity.

5.4 Competency
Understands purpose and features of an Anaesthetic Machine Ventilator.

Knowledge and skills
Purpose and detailed function of ventilators. Clinical aspects of the use of these.

5.5 Competency
Can identify gas cylinders. Knows how to safely handle and store gas cylinders.

Knowledge and skills

5.6 Competency
Can safely connect and disconnect gas supplies. Can operate emergency shut-off valves.

Knowledge and skills
Able to attach and detach connectors. Aware of site of emergency shut-off valves, the circumstances when these may need to be used and who to inform when they are used.
5.7 Competency
Can identify and correct anaesthetic machine problems which may occur during use.

Knowledge and skills
Can identify and correct, where possible, breathing system leaks, high pressure within patient circuit, vaporizer malfunction, failure of gas supply, electrical power failure, suction failure, CO₂ absorption failure.

Monitoring
The AA needs to be able to understand monitor values in the context of chart trends. The AA should be able to chart physiological data if required.

5.8 Competency
Demonstrates ability to correctly establish routine monitoring.

Knowledge and skills
Able to establish routine monitoring of SaO₂, ECG, NIBP and Capnography, and nasopharyngeal temperature probe and urimeter as appropriate.

5.9 Competency
Able to understand anaesthetic charting and trends, perform charting of physiological data and describe monitoring status appropriately to the anaesthetist.

Knowledge and skills
Able to chart monitoring values using standard symbols. Can recognise adverse trends which indicate risk. Can identify common artefacts. Can describe monitoring details to the anaesthetist. Able to alert staff to adverse monitoring trends, which may prevent the development of life-threatening emergencies.

5.10 Competency
Can describe principles of monitoring depth of anaesthesia, including clinical aspects of prevention of awareness.

Knowledge and skills
Clinical depth of anaesthesia monitoring principles. Risk of awareness. Responds appropriately to clinical signs of light anaesthesia.

5.11 Competency
Can describe principles of calculating intra-operative blood loss.

Knowledge and skills
Intra-operative blood loss calculation, including worked examples.

Electrical equipment
The AA sets up and manages electrical equipment in the theatre and must understand the dangers involved and how to avoid patient and staff harm.

5.12 Competency
Knowledge of electrical safety (see 6.13).

Knowledge and skills
Electrical safety, including mains power, earthing, applied parts, microshock.

5.13 Competency
Can describe and implement safety measures required during surgical use of lasers or x-ray equipment.

Knowledge and skills
Knows safety measures required during surgical use of lasers or x-ray equipment.
Section 6: Care of equipment relevant to anaesthesia

This section should be read in conjunction with the sections on the airway (Section 4), the anaesthetic machine (Sections 5.1 to 5.7) and intra-operative care (Section 7).

General care of equipment

The anaesthetist and the AA have at their disposal a wide range of equipment. They must know in detail how to use it effectively and safely. The AA has a role in factors affecting a team’s ability to provide anaesthetic services.

6.1 Competency

Knows how to manage the systematic introduction and care of new anaesthetic equipment.

Knowledge and skills

Knows local policies which apply to the introduction of new equipment, including features, pitfalls, clinical relevance, set-up, checks, documentation, dissemination of clinical warnings, manuals (storage availability and updates).

6.2 Competency

Can implement standard precautions for infection control during the handling of anaesthesia equipment.

Knowledge and skills

Shows ability to manage equipment in a way that does not pose an infection risk to either patient or staff. Understands importance of traceability of instruments.

6.3 Competency

Understands factors to be considered when arranging routine maintenance of equipment.

Knowledge and skills

Factors involved in equipment maintenance, including impact on services, back-up equipment. Liaison with Medical Physics.

6.4 Competency

Can identify and manage faulty or broken equipment.

Knowledge and skills

Demonstrates ability to identify faulty or unsafe equipment, remedy this where possible and report the fault appropriately. Knows local policy regarding equipment requiring cleaning before re-use. Liaison with Medical Physics.
IV equipment

6.5 Competency
Knows features and management of syringes, needles and other sharps.

Knowledge and skills
Demonstrates knowledge of the features of safe handling of, disposal of, and clinically relevant problems associated with the following equipment: syringes, needles, sharps. Local needlestick management protocol.

6.6 Competency
Can set up IV infusion equipment.

Knowledge and skills
Able to set up IV infusions, including fluid-warming devices and pressure bags. Volumetric pumps.

6.7 Competency
Knowledge of the equipment associated with blood and blood product transfusion.

Knowledge and skills

Equipment associated with monitoring

6.8 Competency
Can set up a pressure transducer.

Knowledge and skills
Able to set up, attach and zero pressure transducers.

6.9 Competency
Can describe the principles associated with train-of-four NMJ assessment.

Knowledge and skills
Basic NMJ physiology, facilitation, fade. Clinical aspects of train-of-four measurement. Surface anatomy of ulnar, common peroneal, facial, radial and tibial nerves.

6.10 Competency
Is able to set up and apply a train-of-four stimulator.

Knowledge and skills
Identifies appropriate site, attaches train-of-four stimulator.

6.11 Competency
Knows principles of nerve stimulation during local anaesthesia.

Knowledge and skills
Nerve stimulators for locating nerves, insulated needles, principles of their use. Is able to assist the anaesthetist when this equipment is being used.
6.12 Competency
Can measure blood glucose and describe risks associated with abnormal values.

Knowledge and skills
Demonstrates ability to measure blood glucose and describe risks associated with abnormal values. Can calibrate a blood glucose machine (using manufacturer’s guidelines).

Equipment associated with surgery

6.13 Competency
Can safely apply a diathermy return electrode and remove it when no longer required.

Knowledge and skills
Safe choice of site, skin inspection and preparation, application of diathermy return electrode, cable siting and final check. Removal and inspection. Understands basic principles of electrocautery.

6.14 Competency
Can describe anaesthetic aspects of pacemakers and implantable cardiac defibrillators (ICD).

Knowledge and skills
Anaesthetic aspects of pacemakers and ICDs. Management of patients with pacemakers and ICDs.

6.15 Competency
Can assist with the positioning of nasogastric tubes.

Knowledge and skills
Shows ability to assist with the positioning of nasogastric tubes in conscious or unconscious patients.

6.16 Competency
Can prepare, apply and monitor the use of arterial tourniquet equipment.

Knowledge and skills
Able to safely prepare, apply and monitor the use of arterial tourniquet equipment (including exsanguinators). Notifies surgical operator of tourniquet time.
Section 7: Participation in intra-operative patient care
(including transfer and positioning)

Patient temperature
7.1 Competency
Knows principles of, and participates in, maintaining normothermia in
intra-operative patient.

Knowledge and skills
Patients at risk of hypothermia. Principles of heat loss in intra-operative
patient. Strategies for maintaining normothermia. Implementation of
these strategies. Prevention of inadvertent hypothermia.

Fluid balance
7.2 Competency
Understands principles of, and participates in, maintaining fluid balance
in intra-operative patient.

Knowledge and skills
The principles of maintaining fluid balance in intra-operative patient.
Demonstrates ability in accurately recording fluid balance, recording of
fluid losses and administration of IV and other fluids.

Moving and handling: The operating table, attachments
and patient positioning
7.3 Competency
Can use the operating table and its attachments.

Knowledge and skills
Understands the features of the operating table and its attachments,
and has the ability to use them correctly and safely.

7.4 Competency
Knows anatomy relevant to, and shares knowledge of, the risks of patient
positioning.

Knowledge and skills
Anatomy relevant to patient positioning. The risks of patient positioning,
including eye protection, nerve protection and cardiorespiratory
consequences of patient position and prolonged anaesthesia.

7.5 Competency
Can position patients safely for surgery, including transfer to the
operating table using appropriate equipment.

Knowledge and skills
Able to position patients safely in a wide range of positions. Satisfies
requirements of moving and handling training (and regular updates of
this).
7.6 Competency
As part of the peri-operative team, can safely return patient to supine or lateral decubitus position.

Knowledge and skills
As part of the peri-operative team, is able to safely return patient to supine or lateral decubitus position.

Deep Venous Thrombosis risk / Pressure Area care
7.7 Competency
Understands the risks of deep venous thrombosis, the principles of prophylaxis and the equipment involved.

Knowledge and skills
The risks of deep venous thrombosis, the principles of deep venous thrombus prophylaxis, assessment of risk for each patient and implementation of strategies to reduce that risk, including equipment which may be involved. The risks of compartment syndrome. Prolonged anaesthesia The AA has a role to play in pressure area care, should know a risk scoring system and should be able to demonstrate the ability to reduce the risk.

7.8 Competency
Able to quantify tissue viability, and can implement appropriate strategies to reduce risk.

Knowledge and skills
Assesses tissue viability using a current scoring system. Describes and implements strategies to reduce that risk. Understands the hospital team’s role in reducing the incidence of post-operative pressure sores in an increasingly elderly population. Increased risks with prolonged anaesthesia.
Core Competencies for Anaesthetic Assistants
Section 8: Involvement with routine drugs / fluid therapy

Underpinning knowledge

8.1 Competency
Adheres to approved policies for the secure storage and management of medicines, including controlled drugs.

Knowledge and skills
Classes of drugs. Policies for the secure storage and management of medicines. Legal and practical issues relating to the management of controlled drugs. The AA’s role includes providing drugs to the anaesthetist without any undue delay, from a registered ‘key holder’ if required.

8.2 Competency
Understands principles of rotating drug stocks to minimise waste.

Knowledge and skills
Drug stock management.

8.3 Competency
Knows the hazards of anaesthetic agent pollution.

Knowledge and skills
The hazards of anaesthetic agent pollution and importance of scavenging. Routine monitoring of background levels of anaesthetic agents. Appropriate action in the event of a spillage.

8.4 Competency
Understands the clinical difference between crystalloids and colloids.

Knowledge and skills
Pathophysiology of body fluid compartments. Principles of fluid therapy.

8.5 Competency
Understands the principles involved in the safe administration of blood and blood products.

Knowledge and skills

General management of drugs

8.6 Competency
Can maintain clear, accurate and complete records of drug use.

Knowledge and skills
Able to maintain clear, accurate and complete records of drug use.

8.7 Competency
Can calculate dosages and concentrations appropriate for clinical use.

Knowledge and skills
Able to calculate dosages and concentrations appropriate for clinical use (as per local policy). The AA may usefully prepare drugs for administration during emergencies, and must be familiar with safe practice.

8.8 Competency
Understands basic pharmacological principles.

Knowledge and skills
Basic pharmacology, including drug interactions and side effects. The AA must have a working understanding of the pharmacology of anaesthetic drugs.
8.9 Competency
Understands the clinical indications, storage requirements, clinical preparation, labelling and disposal requirements of drugs relevant to anaesthetic practice.

Knowledge and skills
The clinical indications, storage requirements, clinical preparation, labelling and disposal requirements of current drugs in the following categories: volatile agents, anaesthetic gases, intravenous induction agents, opioids, sedatives, suxamethonium, non-depolarising neuromuscular junction blockers, neuromuscular junction reversal agents including sugammadex, inotropes, pressor agents, vasodilators, anti-arrhythmics, anticholinergics, local anaesthetic agents, non-steroidal analgesics, antiemetics, antacids, bronchodilators, respiratory stimulants, steroids, antibiotics, anticoagulants and dantrolene.

Equipment associated with drug delivery
8.10 Competency
Understands principles of target controlled infusion anaesthesia and sedation. Programming of medical devices is the responsibility of the anaesthetist.

Knowledge and skills
Principles of target controlled infusional anaesthesia and sedation.

8.11 Competency
Able to set up and prepare equipment for target controlled infusion equipment.

Knowledge and skills
Able to set up target controlled infusion equipment. Aware of safety features.

8.12 Competency
Understands the principles of patient controlled analgesia.

Knowledge and skills
Opioid pharmacology with respect to patient controlled analgesia, monitoring, hazards.

8.13 Competency
Can set up patient controlled analgesia equipment.

Knowledge and skills
Able to set up patient controlled analgesia equipment, including documentation. Aware of safety features. Responsibility for setting dosage, infusion rates and lock-out period lies with the anaesthetist.

8.14 Competency
Can set up equipment to deliver nebulised drugs.

Knowledge and skills
Able to set up equipment to deliver nebulised drugs (e.g. bronchodilators).

8.15 Competency
Can set up equipment for epidural infusion.

Knowledge and skills
Able to set up equipment designed to deliver drugs by epidural infusion. Aware of safety features.
Section 9: Participation in post-operative patient care

Routine care of the post-operative patient

9.1 Competency
Can handover a patient in recovery, summarising relevant clinical features of the patient’s pre- and intra-operative care.

Knowledge and skills
Effectively communicates all relevant details to the recovery staff.

9.2 Competency
Can systematically assess a patient in recovery using the ABC headings and appropriate monitoring.

Knowledge and skills
Can assess a patient with respect to: airway adequacy, respiratory sufficiency and cardiovascular function. Can summarise the assessment.

9.3 Competency
Can assess post-operative pain.

Knowledge and skills
Demonstrates ability to assess the nature and severity of post-operative pain.

9.4 Competency
Can assess post-operative nausea and vomiting.

Knowledge and skills
Demonstrates ability to assess post-operative nausea and vomiting and arrange appropriate action in adherence with local protocols.

9.5 Competency
Understands the important conditions which must be met before a patient can be discharged on the day of anaesthesia.

Knowledge and skills
Knows the medical and social factors involved in the early discharge of patients who have had general or local anaesthesia.

Interventions in the post-operative patient

9.6 Competency
Can insert an oropharyngeal airway when indicated, and confirm its effectiveness.

Knowledge and skills
Recognises the indications for insertion of an oropharyngeal airway. Able to insert it safely, and confirm its effectiveness.

9.7 Competency
Can remove laryngeal mask airway.

Knowledge and skills
Able to remove laryngeal mask airway safely.

9.8 Competency
Can assist in removal of endotracheal tube.

Knowledge and skills
Understands the principles of safe endotracheal tube removal and can assist in endotracheal tube removal.
Section 10: Involvement in emergency management

Role of AA in emergencies

Emergencies can occur during the conduct of anaesthesia. The anaesthetist may need the AA to recognise and respond to a rapidly changing situation. The anaesthetist may ask the AA to get help or it is possible that the anaesthetist may be taken ill while caring for a patient. Skilled help must be called for without delay, and the AA may be required to manage the situation until help arrives (within the Professional Code of Practice).

The AA must also familiarise themselves with the surgical emergencies that are likely to present for surgery in the specialities in which they work. The nature of these may have great significance for the anaesthetic techniques employed and appropriate monitoring.

10.1 Competency
Knows how to contact senior anaesthetic staff for assistance.

Knowledge and skills
Aware of the importance of rapidly requesting help when required.

Knowledge of relevant emergency conditions

10.2 Competency
Understands the principles of managing the shocked patient.

Knowledge and skills
Types of shock, grades of shock, their significance, and the principles of managing them. Anaphylactic Shock Management guidelines published by the Association of Anaesthetists.

10.3 Competency
Understands management of: cyanosis, stridor / laryngeal spasm, bronchospasm, cardiac dysrhythmias, pneumothorax, masseter muscle spasm.

Knowledge and skills
The significance, possible causes and management of: cyanosis, stridor / laryngeal spasm, bronchospasm, cardiac dysrhythmias, pneumothorax, masseter muscle spasm.

10.4 Competency
Can implement local protocol for management of sudden life-threatening haemorrhage.

Knowledge and skills
Local protocol for management of sudden life-threatening haemorrhage, including use of rapid infusors / warmers where available.
10.5 Competency
Can describe detailed management of patient with latex allergy.

Knowledge and skills
Pathophysiology and clinical management of latex allergy. Setting up a tray with equipment which is safe for use in patients with latex allergy. Local protocols for management of these patients.

10.6 Competency
Understands malignant hyperpyrexia.

Knowledge and skills
The clinical features, and principles of management, of malignant hyperpyrexia. Guidelines published by the Association of Anaesthetists. Adheres to local protocols. Knows location of dantrolene, ice and local policy for obtaining more stocks as needed.

10.7 Competency
Can perform Immediate Life Support.

Knowledge and skills
Can perform Immediate Life Support. Attendance at local course: ILS Resuscitation Council (UK). Knows local protocols for access and use of defibrillators and support.

10.8 Competency
Can set up an underwater drain (or flutter valve) for the treatment of pneumothorax.

Knowledge and skills
Able to set up an underwater drain (or flutter valve) for the treatment of pneumothorax.

10.9 Competency
Knows how to recognise a critical incident or near miss and follow local reporting mechanisms.

Knowledge and skills
Critical incidents: definition, action, worked examples.

10.10 Competency
Understands importance of being familiar with speciality-specific emergency conditions, and has a systematic approach to this.

Knowledge and skills
A systematic approach to developing a good working understanding of the management of important problems specific to the specialities in which the AA practices, e.g. penetrating eye-injury surgery, orthopaedic cement hypotension, TURP syndrome.

10.11 Competency
Can describe the principles of safe transfer of patients for investigation or treatment within the hospital.

Knowledge and skills
See Section 20

10.12 Competency
Can assist the anaesthetist in the management of an emergency thoractomy.

Knowledge and skills
The use and placement of double lumen endotracheal tubes and anaesthetic aspects of one lung anaesthesia. See Competency 14.1 and 14.3
To practise independently, AAs must have all of the knowledge and skills described in Part 1. In addition, they must have all of the knowledge and skills described in Part 2 that apply to specialities in which they practise. An AA who does not possess the appropriate Part 2 knowledge base and competencies for a speciality must be supervised when working in that speciality.
Section 11: Obstetrics

11.1 Competency
Awareness of physiological effects of pregnancy and labour

**Knowledge and skills**
Physiological effects during pregnancy and labour with particular reference to cardiorespiratory changes. Basic Life Support in the pregnant patient.

11.2 Competency
Analgesia in labour.

**Knowledge and skills**
Effects of epidurals, systemic and epidural opioids, equanox (Entonox) analgesia, PCA and PCEA and use of 15° lateral wedge.

11.3 Competency
Antacid prophylaxis in the pregnant patient and drugs acting on the uterus.

**Knowledge and skills**
Pharmacology and physiology of drugs in the pregnant patient, including antacid prophylaxis, clinical pharmacology of oxytocic, tocolytic and vasopressor drugs.

11.4 Competency
Obstetric operative delivery under spinal, epidural and combined spinal epidural anaesthesia.

**Knowledge and skills**
Anaesthetic aspects of obstetric operative delivery under spinal, epidural or combined spinal epidural anaesthesia. Anaesthesia for forceps / ventouse assisted delivery. Use of 15° lateral wedge.

11.5 Competency
Obstetric operative delivery under general anaesthesia including rapid sequence induction.

**Knowledge and skills**
Anaesthetic aspects of obstetric operative delivery under general anaesthesia. Knowledge of rapid sequence induction. Awareness of increased incidence of failed intubation and knowledge of specific equipment used in obstetric practice.

11.6 Competency
Indications for urgent delivery.

**Knowledge and skills**
Indications for urgent delivery, including foetal distress, antepartum haemorrhage, prolapsed cord and malpresentation. Knowledge of classification of urgent delivery (I – IV) and importance of decision to delivery time.

11.7 Competency
Pregnancy induced hypertension / eclampsia.

**Knowledge and skills**
Anaesthetic aspects of pregnancy induced hypertension / eclampsia.
11.8 Competency
Management of obstetric haemorrhage

Knowledge and skills
Local protocol for management of sudden life threatening major obstetric haemorrhage including the use of invasive monitoring, rapid infusion devices, warming devices and cell salvage equipment when available. See Competency 10.4

11.9 Competency
Anaesthesia for other obstetric interventions such as cervical suture insertion, management of 3rd and 4th degree tears, evacuation of vulval haematoma and manual removal of placenta.

Knowledge and skills
Anaesthetic management for other obstetric interventions using epidural, spinal or general anaesthetic techniques

Section 12: ENT

12.1 Competency
Can describe the anaesthetic management of the shared airway including the surgical use of lasers.

Knowledge and skills
The anaesthetic management of the shared airway. Awareness of shared airway techniques used locally. Surgical use of lasers (see Section 5.13)

12.2 Competency
Can describe the features, mode of use and complications associated with the Boyle-Davis gag.

Knowledge and skills
Features, mode of use and complications associated with the Boyle-Davis gag.

12.3 Competency
Can describe the anaesthetic management of tracheostomy, including the features of cuffed / uncuffed tracheostomy tubes.

Knowledge and skills
The anaesthetic management of tracheostomy, including the features of cuffed / uncuffed tracheostomy tubes.

12.4 Competency
Can describe the anaesthetic aspects of major laryngeal surgery, including Montandon tubes.

Knowledge and skills
Laryngectomy resections, neck dissections and Montandon tubes.
12.5 Competency
Can set up equipment for minor laryngeal surgery (laryngoscopy and biopsy)

Knowledge and skills
Able to set up equipment for laryngoscopy and biopsy. Understands the features of this equipment.

12.6 Competency
Can describe anaesthetic aspects of middle-ear surgery.

Knowledge and skills
Anaesthetic aspects of middle-ear surgery.

Section 13: Cardiac

13.1 Competency
Knows anaesthetic aspects of cardio-pulmonary bypass.

Knowledge and skills
Anaesthetic aspects of cardio-pulmonary bypass.

13.2 Competency
Describe the therapeutic / diagnostic techniques used where applicable, e.g. transoesophageal echocardiography, intra-aortic balloon counterpulsation therapy.

Knowledge and skills
Principles of therapeutic / diagnostic techniques.

13.3 Competency
Can describe the features and management of major arrhythmias.

Knowledge and skills
The features and management of major arrhythmias.

13.4 Competency
Can describe invasive monitoring for cardiac surgery.

Knowledge and skills
Principles of invasive monitoring for cardiac surgery.

13.5 Competency
Can describe the principles of anticoagulation during cardiac surgery, including monitoring and reversal.

Knowledge and skills
The principles of anticoagulation during cardiac surgery, including monitoring and reversal.
Section 14: Thoracic

14.1 Competency
Can describe anaesthetic aspects of one-lung anaesthesia.

Knowledge and skills
Anaesthetic aspects of one-lung anaesthesia, including lateral position.

14.2 Competency
Can describe anaesthetic aspects of thoracic analgesia, e.g. epidural, paravertebral and intercostal blocks.

Knowledge and skills
Anaesthetic aspects of thoracic analgesia.

14.3 Competency
Can identify and describe the features of double-lumen tubes and specialist equipment required for endobronchial intubation.

Knowledge and skills
Is able to identify and describe the features of a variety of commonly used double-lumen tubes and other specialist equipment.

14.4 Competency
Describe techniques and equipment required for minor thoracic surgery, e.g. rigid bronchoscopy.

Knowledge and skills
Implications of undertaking minor thoracic surgery such as venturi principle, mode of ventilation and absence of airway monitoring.
Section 15: Neurosurgery

15.1 Competency
Can describe principles involved in raised intra-cranial pressure management.

Knowledge and skills
Principles involved in raised intra-cranial pressure management.

15.2 Competency
Can describe strategies for the prevention of secondary injury to brain.

Knowledge and skills
Strategies for the prevention of secondary injury to brain.

15.3 Competency
Can describe anaesthetic issues relevant to intracranial surgery

Knowledge and skills
Strategies in the management of possible complications
Section 16: Paediatrics

Paediatric anaesthesia differs from adult anaesthesia in many ways, and is a major anaesthetic sub-specialty. Many of the competencies in Part 1 include paediatric aspects – which all AAs must know. This section includes specific competencies which are required for assistance of the paediatric anaesthetist.

16.1 Competency
Understands paediatric aspects of airway management.

Knowledge and skills
Clinical management, protocols and guidelines relating to paediatric airway management. Management of the difficult paediatric airway.

16.2 Competency
Understands paediatric aspects of anaesthetic machine, the principles of use of the Ayre’s T-Piece, the features of, and principles of use of, paediatric ventilators.

Knowledge and skills
Knows paediatric aspects of the anaesthetic machine. Understands the principles of use of the Ayre’s T-Piece. Knows the features and principles of use of paediatric ventilators.

16.3 Competency
Understands paediatric aspects of monitoring.

Knowledge and skills
Can select appropriate sized applied parts (e.g. blood-pressure cuffs). Can set up, and understands clinical reasons for, oesophageal or precordial stethoscopes. Knows normal monitoring values in paediatric patients of different ages. Can describe techniques for maintaining normothermia in neonates.

16.4 Competency
Understands clinical aspects of fluid management in paediatric patients.

Knowledge and skills
Understands the reasons for using burettes. Can describe the risks associated with over-transfusion. Understands the rationale for routine antihypoglycaemic fluid regimes.

16.5 Competency
Understands anaesthetic aspects of important neonatal surgical emergency conditions.

Knowledge and skills
Can describe basic principles of management of neonatal emergencies (including Pyloric Stenosis, tracheo-oesophageal fistula and exomphalos).
Section 17: Anaesthesia in remote locations (Interventional radiology (a) and ECT (b))

17.1 Competency
Can describe the problems associated with anaesthesia in an isolated site.

Knowledge and skills
The problems associated with anaesthesia in an isolated site.

17.2 Competency
Can describe the principles of anaesthesia for magnetic resonance imaging.

Knowledge and skills
The principles of anaesthesia for magnetic resonance imaging.

17.3 Competency
Can describe principles of safety during x-ray procedures.

Knowledge and skills
The principles of safety during x-ray procedures.

17.4 Competency
Aware of increased risk to patient in remote areas with regard to oxygen supply

Knowledge and skills
Aware of use of oxygen provided by cylinders alone in the absence of pipeline supply. Understand necessity for immediate back-up supply of oxygen.

17.5 Competency
Can describe principles of safety during x-ray procedures.

Knowledge and skills
The principles of safety during x-ray procedures

17.6 Competency
Is aware of the Mental Health (Care and Treatment) (Scotland) Act (2003)

Knowledge and skills
Voluntary patient, consenting. Detained patient, consenting. Detained patient, not consenting. Ability to treat once with ECT under the Act as an emergency. Aware of patients rights when incapacitated or detained.

17.7 Competency
Understands the physical risks for a patient receiving ECT

Knowledge and skills
Aware of risks of ECT to tongue, lips and teeth, neck, vertebrae and limbs

17.8 Competency
Understands physiological response to ECT treatment

Knowledge and skills
Aware of autonomic effects of ECT on blood pressure and heart rate. Aware of requirement to have atropine, glycopyrrolate and short acting beta blocker drugs available

17.9 Competency
Demonstrate awareness of Scottish ECT Accreditation Standards (SEAN)

Knowledge and skills
Aware of Scottish ECT Accreditation Network (SEAN) Standards.
Section 18: Maxillo-facial surgery

18.1 Competency
Knows relevant anaesthetic aspects of facial injury surgery.

Knowledge and skills
Anaesthetic aspects of facial injury surgery.

Section 19: Burns

19.1 Competency
Can describe the patho-physiology of burns (including smoke inhalation).

Knowledge and skills
The patho-physiology of burns (including smoke inhalation).

19.2 Competency
Understands the principles of delivering analgesia to burns patients.

Knowledge and skills
The principles of delivering analgesia to burns patients.

19.3 Competency
Can describe the principles of fluid management in burns patient.

Knowledge and skills
The principles of fluid management in burns patient.
Section 20: Inter-hospital and intra-hospital adult patient transfer

The AA may be required to assist the anaesthetist in preparing an adult patient for inter-hospital transfer and the safe transfer of patients for investigation or treatment within the hospital. The AA must be familiar with the principles involved.

20.1 Competency
Can describe principles of adult patient preparation and stabilisation prior to transfer.

Knowledge and skills.
The principles of adult patient preparation and stabilisation prior to transfer.

20.2 Competency
Can describe principles and difficulties of monitoring the critically-ill adult patient during inter-hospital and intra-hospital transfer.

Knowledge and skills
The principles and difficulties of monitoring the critically-ill adult patient during inter-hospital and intra-hospital transfer.

20.3 Competency
Can describe anaesthetic principles of patient transfer by road.

Knowledge and skills
Anaesthetic principles of patient transfer by road, including role of police escort.

20.4 Competency
Can describe anaesthetic principles of patient transfer by air.

Knowledge and skills
The anaesthetic principles of patient transfer by helicopter or fixed-wing aircraft.

20.5 Competency
Understands importance of communication associated with inter-hospital patient transfer.

Knowledge and skills
Communication associated with inter-hospital patient transfer.
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Appendix 2: References


ILS Resuscitation Council: one-day course and annual half-day refresher. http://www.resus.org.uk


Scottish ECT Accreditation Network (SEAN) Standards at www.sean.org.uk/Standards/Main.html

