

S⁺ GEORGE'S SCHOOL OF ANAESTHESIA



Higher and Advanced Level Training Record

Curriculum for Anaesthetics 2010

Specialty Trainees Years 5, 6, 7

Trainee name

August 2015

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Airway management	supplement
Head, neck, maxillo-facial and dental surgery	supplement
General, urological and gynaecological surgery	supplement
Hepatobiliary surgery	supplement
Vascular	supplement
Day surgery	supplement
Sedation	supplement
Orthopaedic surgery	supplement
Regional	supplement
Trauma	supplement
Transfer	supplement
Intensive care medicine	recorded separately
Obstetric	supplement
Paediatric	supplement
Pain medicine	supplement
Plastics/burns	supplement

Advanced non-clinical units

Academic & research	supplement
Teaching & learning (additional unit for a fellowship placement)	supplement
Management	supplement

Introduction

This training record book is based on the 'CCT in Anaesthetics [2010 Curriculum]' and is for Specialty Trainees in years 5, 6 & 7 who have already completed their Intermediate Level Training Certificate. It is to be used in conjunction with the RCoA e-portfolio and when signed off will provide supporting evidence that the trainee has covered the higher and advanced level curriculum.

Minimum requirements

All trainees must complete

- Essential Higher clinical units:
 - Neuroanaesthesia, cardiothoracic anaesthesia, paediatric anaesthesia, ICM and
 - At least 8 'general' units – including two compulsory units
- Higher non-clinical units
 - Teaching, academic and research (including audit), and management
- Advanced Training
 - Completing one clinical unit over a year or a combination of units depending upon the needs of the trainee
 - Generic domains which cross all areas of advanced clinical practice

Completing a Unit of Training (Higher or Advanced)

To complete a unit of training the trainee will need to:

1. **Core clinical learning outcomes**
Demonstrate achievement of the core clinical learning outcomes (or learning objectives)
2. **Logbook review**
Perform an appropriate number of cases with a case mix and complexity appropriate for higher/advanced level training
3. **Workplace based assessments**
Complete successfully an appropriate number of WPBAs – these must cover the core clinical learning outcomes. The minimum number is detailed in each unit. ALMATs are generally preferred to A-CEX at this level and DOPS are only relevant for some practical skills.
4. **Multi-source feedback**
Complete an annual MSF

Signing off a Unit of Training as complete

When trainees feel that they have completed a Unit of Training it is up to them to review this with their unit lead, educational supervisor, or College Tutor who will sign off the Unit of Training as complete on the e-portfolio or suggest ways of completing the unit if more training is required.

Summary page

When a unit is signed off also record this on the Higher or Advanced **summary page** of this book.

- Many parts of the curriculum (especially from the general and non-clinical sections) can be covered while in specialist anaesthetic and ICM Units
- WPBAs should be mapped to more than one Unit of Training if appropriate

*Extra notes on **Advanced** training*

All trainees must complete advanced training including the generic domains. Its aim is to develop mastery in specific special interest areas of practice and to extend the non-clinical skills needed for consultant practice. Typically this should be in one or two special interest areas and take about 12 months.

There are six generic domains across all areas of clinical practice in anaesthesia, intensive care and pain medicine:

- | | | |
|---------------------|--------------|--------------|
| ▪ Clinical Practice | ▪ Leadership | ▪ Management |
| ▪ Team working | ▪ Innovation | ▪ Education |

Assessment of the generic domains is best achieved through multisource 360 feedback and should also be considered during WPBAs in specific Units of Training.

Trainees opting for twelve months of advanced level 'general duties' are expected to choose a selection of the units available, as it will be impossible to have gained all the advanced learning outcomes in a twelve month period. Trainees will be expected to complete a minimum of two units. There is also flexibility to combine 'general duties' with another area, e.g. obstetric or paediatric. Some units have overlapping competencies [e.g. airway management and ENT].

Supplementary Training Record book

The following units should be printed out as required from the supplementary higher & advanced training record book which can be obtained from the School administrator.

- Higher clinical units: anaesthesia in developing countries, conscious sedation in dentistry, military anaesthesia, remote & rural anaesthesia
- Advanced clinical units: neuroanaesthesia, cardiothoracic, general (includes airway, ENT/maxillo-facial/dental, general/urology/gynae, hepatobiliary, vascular, day surgery, sedation, orthopaedic, regional, trauma, transfer), obstetrics, paediatrics, pain medicine, plastics/burns
- Advanced non-clinical units: academic & research, additional teaching & learning unit for a fellowship placement, management

Instructions to trainers

- It is the trainees responsibility to ask you to assess them
- Some elements are topics for discussion and others are competencies to be observed
- Any appropriate consultant can sign off individual elements of a unit of training
- Only the College Tutor or an educational supervisor nominated by the College Tutor can sign off completion of a Unit of Training.

If the Educational Supervisor cannot sign off a unit of training / module as expected, they should contact the College Tutor as soon as possible for advice.

Summary of completed **HIGHER** units

Trainee name: GMC no:

Trainer to sign and date when each unit is completed and signed off in the e-portfolio.

Higher clinical units (essential)

	Date signed off in e-portfolio
Anaesthesia for neurosurgery and neurocritical care	
Cardiothoracic anaesthesia , cardiothoracic critical care	
General duties [minimum 8, * = essential for all] Minimum no. of 'general duties' WPBAs completed	
Airway management*	
Day surgery	
NET, maxillofacial and dental	
General, urological and gynaecological surgery	
Management of respiratory and cardiac arrest*	
Non-theatre	
Obstetrics	
Orthopaedic	
Regional	
Sedation	
Transfer medicine	
Trauma and stabilisation	
Vascular surgery	
Intensive care medicine	
Paediatrics	

Higher clinical units (optional)

	Date signed off in e-portfolio
Pain medicine	
Ophthalmic	
Plastics/Burns	
Anaesthesia in developing countries	
Conscious sedation in dentistry	
Military anaesthesia	
Remote and rural anaesthesia	

Higher non-clinical units (essential)

	Date signed off in e-portfolio/paper
Academic & research.....	
Teaching & learning	
Management.....	
Improvement Science, Safe and Reliable Systems (non-essential).....	

Summary of completed **ADVANCED** units

Trainee name: GMC no:

Trainer to sign and date when each unit is completed and signed off in the e-portfolio.

Advanced clinical units

	Date signed off in e-portfolio
Anaesthesia for neurosurgery and neurocritical care	
Cardiothoracic anaesthesia , cardiothoracic critical care	
General duties	
Airway management	
Head, neck, maxillo-facial and dental surgery	
General, urological and gynaecological surgery	
Hepatobiliary surgery	
Vascular	
Day surgery	
Sedation	
Orthopaedic surgery	
Regional	
Trauma	
Transfer	
Intensive care medicine	
Obstetric	
Paediatric	
Pain medicine	
Plastics/burns	

Advanced non-clinical units

	Date signed off in e-portfolio
Academic & research	
Teaching & learning (additional unit for a Fellowship placement)	
Management	
Improvement Science, Safe and Reliable Systems	

Neuroanaesthesia

Anaesthesia for neurosurgery, neuroradiology and neurocritical care

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training
- Become more independent in managing neurosurgical anaesthesia as demonstrated by requiring less consultant guidance and supervision

Core clinical learning outcomes:

- Deliver safe peri-operative anaesthetic care to complicated ASA 1-3 adult patients requiring complex elective intra-cranial and spinal surgery and neuroradiological investigations under direct supervision
- Deliver peri-operative anaesthetic care to complicated ASA 1-3 adult patients for emergency non-complex intracranial and spinal surgery with indirect supervision [i.e. craniotomy for acute sub-dural / acute decompressive lumbar laminectomy]
- Lead the resuscitation, stabilisation and transfer of adult patients with brain injury [Cross ref: Transfer]

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate numbers of WPBAs – minimum ALMAT (or A-CEX) ×1, CBD ×1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Risks and benefits of available anaesthetic techniques for all aspects of neurosurgery and neuroradiology identified at the intermediate level and in addition for: • Acoustic neuroma surgery and facial nerve monitoring • Complex spinal surgery • Interventional neuroradiological procedures including coiling of intracranial aneurysms and embolisation of vascular lesions			
Anaesthetic and critical care implications of stroke including but not exclusively: subarachnoid haemorrhage, intracerebral haemorrhage and ischaemic stroke; indications for, and the management of techniques for spinal drainage			
Indications and risks of therapies and monitors available to achieve optimal intracranial pressure and cerebral perfusion in both neuroanaesthesia and neuro-critical care			
Current trends in the management of all aspects of neuroanaesthesia and neuro-critical care			
Critically evaluate the pre-operative condition, plan appropriate optimisation and deliver peri-operative anaesthetic care to adult patients requiring routine and emergency neurosurgery			
Provide peri-operative anaesthetic care for complex spinal surgery [including patients with unstable cervical spines]			
Engage appropriately in compassionate and authoritative discussions with patients preoperatively about the risks and complications associated with major neurosurgery			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Authority and team leadership in the management of major neurosurgical emergencies			
Supervise and teach less experienced trainees in all aspects of neuroanaesthesia			
Conduct a ward round in neurocritical care under direct supervision			

Cardiothoracic anaesthesia, cardiothoracic critical care

Cardiothoracic anaesthesia & cardiothoracic critical care

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training
- Understand the place and value of the more complex monitoring devices used in the perioperative period
- Understand the role of minimally invasive surgery for the treatment of cardiac disease and the specific anaesthetic requirements for such surgery
- Provide safe and effective anaesthetic care for elective mitral/aortic valve surgery and/or coronary artery surgery and open thoracic surgery under direct supervision
- Provide safe and effective care to patients admitted with acute chest trauma

Core clinical learning outcomes:

- Deliver perioperative anaesthetic care to complicated ASA 1-3 adult patients requiring elective aortic or mitral valve surgery under direct supervision
- Deliver perioperative anaesthetic care to complicated ASA 1-3 adult patients requiring open resection of lung tissue under local supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate numbers of WPBAs – minimum A-CEX×1, CBD ×1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
Pre-operative assessment and optimisation of patients with cardiac and thoracic disease; in depth understanding of commonly performed investigations including cardiac catheterisation, echocardiography, stress testing, radionuclide testing & pulmonary function tests			
Risks & benefits of anaesthetic techniques for all aspects of cardiothoracic surgery & cardiology identified at the intermediate level & in addition for: • Mitral valve repair and replacement • Management of post infarct VSD • Complex thoracic aortic reconstruction • Interventional cardiological procedures e.g. transvenous device placement for ASD and Aortic valve surgery			
Anaesthetic requirements for complex cardiac and thoracic procedures, including circulatory arrest, partial bypass, chest wall resection			
Physical, physiological and psychological support required for patients in the immediate postoperative period for all cardiac and thoracic procedures, including cardiovascular support systems; changes that can occur in the post-operative period associated with such surgery [including post-operative cognitive and neurological deficit, timing of withdrawal of mechanical support]			
Surgical principles involved in common cardiology procedures including coronary stenting, atrial septal defect closure, ablation, pacemaker insertion, defibrillator insertion and other electrophysiological procedures, and their perioperative anaesthetic care.			
Problems of anaesthetising the adult patient with congenital heart disease and also their management during anaesthesia			
Perioperative anaesthetic management of adult patients with intrathoracic aortic pathology requiring surgery including [but not exclusively]: • Assessment of thoracic aortic dissection and how this influences arterial line placement • Indications for spinal drainage • Techniques available to monitor cerebral well being during thoracic aortic surgery			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Management of post-operative bleeding in cardiac patients; signs and symptoms of cardiac tamponade, its clinical management and appropriate investigation [including any appropriate near patient testing]; indications for return to theatre versus continued haematological support.			
Specific implications of blood and blood product transfusion on patient morbidity in cardiac surgery			
Critically evaluate and present the salient features of the pre-operative condition of patients with cardiac disease including, where relevant, decisions made within a cardiac MDT			
Provide patients with information on the risks associated with complex cardiac procedures from an anaesthetic perspective			
Perioperative anaesthetic care for high risk cardiac procedures, including valve surgery			
Understanding of when patients are suitable for "fast track" surgery and appropriate anaesthetic management			
Manage a patient for cardiopulmonary bypass, including appropriate myocardial protection, coagulation management, transfer to post-op care unit and the weaning of patients from bypass with local supervision, to include: • Understanding anaesthetist's role in perfusionist administration of drugs • Problems with prolonged bypass & how to deal with them • Issues surrounding disconnections, air embolisation and acid base management			
Appropriate use of cardiac investigations and monitoring such as the Oesophageal Doppler, Transthoracic and Transoesophageal Echo, LIDCO, PICCO and a variety of non-invasive monitors for determining cardiac output in patients undergoing cardiac surgery			
Provide a team management plan for the post operative critical care of patients who have had cardiac surgery, including the management of associated cardiovascular problems and communicate this plan effectively to CICU staff			
Recognise, and appropriately manage, patients with excessive bleeding after cardiac surgery including the investigation and immediate management of a patient with cardiac tamponade			
Manage patients with assist devices Including indications for insertion and withdrawal			
Leadership skills during resus & stabilisation of a sick cardiac patient pre-operatively; defend decisions made, by reference to current literature			
Active participation in preoperative assessment and preparation of patients for thoracic surgery; understanding of suitability for surgery, or need for optimisation of a patient for thoracic surgery; defend the decisions made with reference to current literature. Examples might include: • Patient with borderline lung function for pneumonectomy • Relative merits of open versus video assisted lung resection			
Perioperative anaesthetic care to patients undergoing thoracic surgery including procedures such as bronchoscopy, video assisted thoracoscopic surgery (VATS) and thoracotomy for lung resection			
Understanding of ventilatory issues through appropriate airway and ventilatory management including the ability to utilise ventilatory strategies to minimise barotrauma or re-expansion pulmonary oedema			
Management of chest drains			
Post-op management plan for thoracic patients; understanding of the physiological and physical changes that occur following thoracic surgery [including a rational approach to post-op pain management and the use of multimodal therapies]			
Manage patients with chest trauma, including recognition & management of pneumo- and haemo-thorax, fractured ribs and flail segments			

Airway management

Mandatory 'general' unit of higher training; shares a number of important competencies with Head, neck, maxillo-facial and dental surgery.

Learning objectives:

- Become skilled at managing the more complex airways by building upon intermediate knowledge, skills and experience

Core clinical learning outcomes:

- Elective fiberoptic intubation in patients without serious intra-oral/laryngeal pathology, safely and proficiently, in awake or anaesthetised patients under distant supervision
- Manage patients with complex airway disorders, safely and proficiently, in all situations, under local supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum A-CEX×1, ALMAT×1, DOPS ×1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
Novel airway techniques, retrograde catheters and airway exchange devices			
Awake elective fiberoptic intubation, including obtaining consent			
Fiberoptic intubation for elective cases including for those with airway pathology under distant supervision			
Fiberoptic intubation for emergency cases including for those with airway pathology under direct supervision			
Management of an operating list involving multiple patients for airway related surgery, including patients with predicted difficult airway, with appropriate airway management decision making			
Jet ventilation [Cross ref: ENT]			
Use of a variety of advanced airway management techniques			
Demonstrates the use of novel methods of laryngoscopy including but not limited to: • Straight blade laryngoscope • Videolaryngoscopy			

Day surgery

'General' unit of higher training; many of the competencies may be achieved while managing appropriate day case procedures as part of other higher units of training.

Learning objectives:

- Develop expertise by building on the knowledge, understanding and skills gained in the intermediate level day surgery curriculum
- Become more independent in managing anaesthesia for day case lists as demonstrated by requiring less consultant guidance and supervision

Core clinical learning outcomes:

- Safe perioperative anaesthetic care to ASA 1-3 patients having more extensive or specialised day surgery procedures with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Evidence based approach to the anaesthetic management of day case procedures for patients with a range of significant co-morbidities			
Team leadership and communication skills necessary to effectively manage day surgical lists to the benefit of patients and the organisation			
Critical evaluation of pre-operative condition and suitability of patients with significant comorbidities for day surgical procedures			
Supervision and teaching of less experienced trainees in all aspects of anaesthesia for day surgery , whilst recognising limitations of expertise			

Head, neck, maxillo-facial and dental surgery

'General' unit of higher training; shares a number of important competencies with the Airway management unit

Learning objectives:

- Build on knowledge, skills and experience acquired in the intermediate syllabus
- Supervise more junior colleagues providing peri-operative anaesthetic care for minor/intermediate cases in these surgical sub-specialties
- Acquire knowledge, skills and experience treating complex clinical cases and challenging airway situations

Core clinical learning outcomes:

- Comprehensive safe perioperative anaesthetic care to ASA 1-4 adult patients requiring Head, neck, maxillo-facial and dental [where available] surgery of greater complexity with distant supervision
- Head, neck, maxillo-facial and dental [where available] surgery lists with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
Principles of pre-operative assessment and optimisation of patients with significant ENT pathology and/or with concomitant disease [ASA 3 or 4] including team approaches to planning and management of such complex surgery			
Anaesthetic techniques used for more complex surgery including, but not exclusively: • Laryngectomy • Major head and neck surgery • Procedures requiring multi-disciplinary surgical teams			
Techniques used to assist the preservation of facial nerve function during procedures such as parotid and mastoid surgery			
Pathophysiological effects of chemotherapy and radiotherapy			
Managing nutrition in major head and neck surgery and how this can be optimised			
Post operative management and complications of patients who have had complex maxillofacial surgery including but not exclusively jaw wiring, tracheostomy and HDU/ICU care			
Paediatric syndromes associated with the need for anaesthesia for ENT and maxillo facial surgery, the range of surgical procedures performed and the implication for perioperative anaesthetic care [Cross ref: Paediatrics]			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Assess pre-operative condition and plan appropriate optimisation for patients with significant ENT pathology and/or concomitant disease [ASA 3 or 4] requiring complex surgery			
Peri-operative anaesthetic care to patients requiring complex ENT and maxillo-facial surgery including but not exclusively: • Those in which the airway presents particular difficulty, such as those requiring laryngectomy • Complex middle ear surgery • Complex cancer surgery			
Induction of anaesthesia by the inhalational route for adult and paediatric patients			
Manage a list of complex cases, such as thyroidectomy or middle ear surgery; possibly mixed with more common procedures, intermediate supervision and a mixture of adults and children			
Peri-operative anaesthetic care for patients where preservation of the facial nerve is required e.g. parotid surgery			
Surgical airway techniques [Cross ref: critical incidents; cardio-respiratory arrest]			
Jet ventilation in both the emergency and elective situation [Cross ref: airway management]			
Perioperative anaesthetic care for emergency ENT surgery, including bleeding tonsil under distant supervision			
Being an effective member of a multi-disciplinary team, managing all elective and emergency cases/lists in these surgical sub-specialties, safely and effectively; demonstrating essential generic communication, teamwork, leadership and professional skills, as well as those specific to the perioperative anaesthetic care of the patients			
Communication skills with patients and relatives particularly when allaying anxiety in patients who recognise that their surgical/medical condition is a severe risk to life, or when things have not gone well			
Supervise and teach less experienced trainees in all aspects of Head, neck, maxillo-facial and dental anaesthesia whilst recognising the limitations of their expertise			

General, urological and gynaecological surgery (incorporating peri-operative care of the elderly)

'General' unit of higher training

Learning objectives:

- To supervise more junior colleagues providing peri-operative anaesthetic care for general surgery, gynaecology, urology
- To anaesthetise patients of all ASA grades for complex surgery
- To consolidate /recall anaesthetic implications of the elderly

Core clinical learning outcomes:

- Provide safe and effective peri-operative anaesthetic care to high risk emergency surgical cases, including those with potential for massive haemorrhage [e.g. the ruptured aortic aneurysm]
- Provide safe and effective peri-operative anaesthetic care for patients requiring complex lower abdominal and/or bariatric surgery
- Working within a multi-disciplinary team, demonstrate the necessary communication, teamwork, leadership, professional and practical [anaesthetic] skills needed to manage patients on elective and emergency general surgery, urology and gynaecology lists, safely and effectively

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Evidence based approach to the management of complex ASA I-IV patients for elective and emergency major non-cardiac, non-neurological surgery, including, but not exclusively, the management of patients with significant comorbidity, recent cardiac surgery, drug-eluting stents and organ system failure [e.g. cirrhosis/dialysis dependence]			
Principles and interpretation of novel techniques for assessing coagulation, such as thromboelastography			
Recommendations from NCEPOD reports; ways in which these influence care of the non-elective surgical patient			
Focussed preoperative evaluation of patients of all ASA grades who are at risk of post-operative morbidity ,including the implementation of risk stratification methods such as scoring systems and measures of functional capacity[including basic interpretation of cardiopulmonary exercise testing results]			
Effective contribution to surgical decision making including the risks and benefits of surgery			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Safe and effective peri-operative anaesthetic care to patients of all ASA grades requiring major intra-abdominal surgery covered in this unit of training under distant supervision including, but not exclusively: • Complex colo-rectal, gynaecological and urological surgery • Bariatric surgery • High risk emergency surgery, including those with potential for massive haemorrhage [e.g. ruptured aortic aneurysm [Cross ref: vascular]]			
Safe and appropriate use of equipment used to manage major blood loss during surgery, including but not exclusively rapid infusion and cell saver devices			
Effective member of a multi-disciplinary team managing elective and emergency general surgery, urology and gynaecology lists; essential generic communication, teamwork, leadership and professional skills, as well as those specific to the perioperative anaesthetic care of the patients			
Participate effectively in the post-operative care of the patient as part of a multi-disciplinary team			
Supervise and teach less experienced trainees in all aspects of complex major colorectal, gynaecological and urological surgery			

Management of respiratory and cardiac arrest

Mandatory 'general' unit of higher training. Because of the nature of this learning, and the fact that episodes where skills and knowledge can be tested occur infrequently and unexpectedly, it is intended that competence is only tested in simulation in the course of organised courses such as ALS and APLS.

Learning objectives:

- Develop expertise by building on the knowledge, understanding and skills gained during intermediate training

Core clinical learning outcomes:

- The management of patients requiring cardio-respiratory resuscitation [with distant supervision] by:
 - Demonstrating the ability to lead a multidisciplinary resuscitation team in the initial assessment and management through to definitive care in the Intensive Care Unit if successful [including necessary transfer]
 - Leading the debrief sessions for both staff and relatives in a sensitive, compassionate and constructive manner

Requirements for completion of Unit:

- Pass a certified life support course e.g. ALS, APLS or similar (or have 'current' certification)
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Legal principles of resuscitation, advanced directives and DNAR orders			
Factors affecting prognostication and the indications for withdrawal of support			
Gain a surgical airway [Cross ref: Intensive Care]			
Provide comprehensive clinical care throughout the resuscitation attempt and during further care if indicated			
Initiate and manage therapeutic hypothermia when indicated			
Team leadership and the ability to make end of life decisions; when to cease active treatment in a compassionate and caring manner, including leading the discussion on the appropriateness, or otherwise, of withdrawing treatment with both staff and relatives			

Non-theatre

Anaesthesia and sedation outside of the operating theatre

'General' unit of higher training. Many of the competencies can be achieved in the course of completing a number of other units, both general and specialist.

Learning objectives:

- Develop expertise by building on the knowledge, understanding and skills gained in the intermediate curriculum
- Become more independent in managing patients in a greater variety of out of theatre environments, including remote sites, under distant supervision [See section 6.2 for greater detail about Remote Site supervision]

Core clinical learning outcomes:

- To deliver safe peri-procedure anaesthesia/sedation to adult patients outside the operating theatre, including remote sites, under distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum A-CEX×1, CBD ×1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
Peri-procedure [diagnostic or therapeutic, elective or emergency] anaesthetic/sedation needs for complex ASA 1-4 patients that may take place outside the operating theatre, including remote sites, including but not exclusively in the following settings: • Radiology suite • Radiotherapy • ECT			
Team leadership and communication skills necessary to manage cases/lists effectively in any non-theatre environment to the benefit of patients and the organisation			
Critically evaluate the pre-operative condition and suitability of patients with significant comorbidities for such procedures			
Supervise and teach less experienced trainees, whilst recognising their limitations			

Obstetrics

'General' unit of higher training

Learning objectives:

- Build on the experience gained in intermediate training and achieve a greater emphasis on undertaking more complex obstetric cases

Core clinical learning outcomes:

- To be able to provide the appropriate anaesthetic management for any patient who requires emergency obstetric anaesthesia
- To be able to provide elective anaesthetic services to the obstetric unit [excepting those patients with unusual problems who would normally be referred to a specialist centre]

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Limitations of a non specialised maternity unit and appropriate referral to a tertiary unit			
Current advances and controversies in obstetrics			
Assessment of women with factors complicating pregnancy			
Construct a safe and effective plan for the management of a women with factors complicating pregnancy			
Be an effective part of a multidisciplinary team			
Manage an elective caesarean section list effectively, to the benefit of patients and the organisation			
Manage an elective or emergency caesarean section for placenta praevia			
Manage emergencies including pre-eclampsia, eclampsia, major haemorrhage			
Regional anaesthesia using a variety of techniques including spinal, epidural, combined spinal-epidural and abdominal wall blocks in both normal and 'difficult' backs			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
General anaesthesia to the obstetric patient, both in elective and emergency settings; anticipate, recognise and manage the expected and unexpected difficult airway			
Allaying anxiety and helping mothers deal with disappointment			
Effective communication with patients and relatives/partners, including when things have not gone well			
Providing information about analgesia and anaesthesia to pregnant women, with or without complicating factors, to midwives and other professional groups			
Supervise and teach less experienced trainees in all aspects of obstetric anaesthesia			
Participation in local processes for monitoring the standards of practice			

Orthopaedic surgery

'General' unit of higher training

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training
- To consolidate/recall anaesthetic implications of the elderly
- Become more independent in managing anaesthesia for complex orthopaedic surgery as demonstrated by requiring less consultant guidance and supervision

Core clinical learning outcomes:

- Provide comprehensive safe perioperative anaesthetic care to all ASA 1-4 adult patients for all types of elective and emergency orthopaedic/trauma surgery to the limbs, pelvis and spine [excluding scoliosis surgery] with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
Evidence based approach to the management of complex ASA I-IV patients for elective and emergency major orthopaedic [including spinal] surgery, including, but not exclusively, the management of patients with significant comorbidity, recent cardiac surgery, drug-eluting stents and organ system failure			
Critically evaluate the pre-operative condition, plan appropriate optimisation and deliver safe perioperative anaesthetic care to all adult patients however complex requiring routine and emergency orthopaedic surgery			
Team leadership and communication skills necessary to manage major orthopaedic surgical emergencies			
Provide comprehensive safe peri-operative anaesthetic care for: • Spinal surgery including scoliosis surgery • Pelvic fracture surgery • Fixation of long bone fractures in the multiply injured patient			
Manage both elective and emergency orthopaedic surgical sessions effectively to the benefit of patients and the organisation			
Effective communication skills with patients and relatives particularly when allaying anxiety in patients who recognise that their surgical/medical condition is a severe risk to life, or when things have not gone well			
Supervise and teach less experienced trainees in all aspects of anaesthesia for orthopaedic surgery, whilst recognising the limitations of their expertise			

Regional

‘General’ unit of higher training; usually to be completed in conjunction orthopaedics unit.

Learning objectives:

- Continue to develop understanding and skills gained at the intermediate level
- Demonstrate proficiency in managing the regional techniques learnt during that time under distant supervision
- Increase the range of block techniques practiced
- Increased understanding of, and skill in, the use of ultrasound in regional anaesthesia
- Take appropriate opportunities to use regional anaesthesia as part of the anaesthetic technique when clinically indicated
- Become skilled in performing some more complex blocks with distant supervision
- Has appropriately integrated regional anaesthetic practice into the range of clinical alternatives within their practice

Core clinical learning outcomes:

- Demonstrates ability to perform both lower and upper limb plexus/regional blocks with distant supervision
- Always considers the option of regional anaesthesia in appropriate clinical contexts

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1, DOPSx1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Principles, practice and complications of continuous catheter techniques for peripheral nerve blocks			
Principles, practice and complications of the use of continuous spinal anaesthetic blockade			
Principles of the use of ultra sound for guiding nerve/plexus blocks and the insertion of catheters including, but not exclusively: • Mechanisms by which hyperechoic, hypoechoic and anechoic images are obtained • Difference and uses of ‘B’ mode [bright] and ‘M’ mode [Motion] ultrasound			
Clinically relevant sonoanatomy of the brachial & lumbosacral plexus [upper and lower limb] with reference to performing recommended regional anaesthetic techniques			
Local anaesthetic injection and circumferential spread around the intended nerve / plexus			
Correct needling technique using either an in or out of plane approach with ultrasound [Cross ref: vascular, intensive care]			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Ability to develop a peri-operative management plan and perform safely and effectively a number of the following blocks under distant supervision using either/or peripheral nerve stimulation or ultrasound guidance [those marked with an asterisk are considered essential, the remainder are optional]: • Peripheral nerve blocks [e.g. femoral nerve]* • Deep cervical plexus blocks • Supra and infra-clavicular blocks • Intercostal nerve blocks • Thoracic epidural anaesthesia* • Lumbar plexus blocks • Sciatic blocks • Simple ultra sound guided nerve blocks including, but not exclusively, femoral nerve* and axillary brachial plexus*blocks			
Good communication skills when managing patients who require regional blockade and the staff responsible for surgical and nursing care			
Co-ordinate and manage a list with suitable patients for regional blockade including liaising with surgeons, theatre nursing and anaesthetic staff			
Supervise and teach regional anaesthetic techniques to less experienced trainees, whilst recognising the limitations of their expertise			

Sedation

'General' unit of higher training

Learning objectives:

- To be able to deliver pharmacological sedation to patients of all ages, safely and effectively
- To be able to teach and supervise more junior colleagues in the provision of conscious sedation

Core clinical learning outcomes:

- Demonstrate the ability to provide safe and effective sedation to any patient using whatever drugs required, by whatever route

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
How multiple drug use may enhance sedation techniques, and how this increases risks			
Focused preoperative evaluation of patients of all ASA grades who are at risk of perioperative morbidity/mortality, ensuring engagement of patients in open and compassionate discussions			
Select sedation techniques appropriate to management in patients of all ages, including those with significant co-morbidities [i.e. any ASA grade]			
Administer and monitor sedation techniques to all patients for appropriate clinical procedures, safely and effectively			
Supervise and teach safe conscious sedation techniques to less experienced trainees			

Transfer medicine

'General' unit of higher training; shares common competencies with the Trauma/stabilisation and ICM units

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training

Core clinical learning outcomes:

- Demonstrates the ability to lead a multidisciplinary team undertaking the initial assessment and stabilisation of patients, prioritising their early treatment
- Demonstrates the leadership and clinical management skills needed to lead teams delivering safe and effective intra-/inter hospital transfer of any patient, however complex, and for prolonged journeys within the UK if required, by either land or air
- Demonstrates an understanding of the roles and responsibilities of teaching and supervising those undergoing training in the transfer of patients

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Special requirements of inter-hospital transfer by helicopter			
Basic understanding of HEMS legislation			
Effects of flight on: • Patient's physiology • Monitors / equipment • Medical staff			
Key aspects of safety relating to helicopter transfer: • Loading / unloading a patient • Securing a patient during transfer • Personal safety			
Drills required during common emergencies on helicopters			
Principles of communication with flight crew and correct radio procedures			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Principles of handover following helicopter transfer			
Importance of team working and the roles and responsibilities of the medical, ambulance and aircrew			
Key qualities of leadership required in undertaking transfers, including the safe management of complex or prolonged transfers by land or air			
Importance of audit of the transfer process, reporting of critical incidents during air transfer and research			
Basics of crew resource management			
Teaching and supervising trainees the basic of intra-hospital transfer			
Organisational and communication skills required to effect the transfer of patients in a timely and efficient manner			

Trauma and stabilisation

'General' unit of higher training

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training
- Supervise more junior colleagues providing the anaesthetic care to the multiply injured patient from arrival in the Emergency Department and on through definitive treatment
- Acquire knowledge, skills and experience in treating the most complex of clinical cases

Core clinical learning outcomes:

- The safe management of patients with multiple injuries from arrival in hospital and onwards through definitive treatment with distant supervision by:
 - Demonstrating the ability to lead a multidisciplinary trauma team in the initial assessment and stabilisation of the multi-trauma patient and prioritise early further treatment
 - Delivering safe anaesthetic management for all multiply injured patients for ongoing assessment and early/definitive treatment

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Role of pre-hospital care of multiply injured patients including triage and modes of transport to hospital			
Importance of good communication networks with the out of hospital emergency services			
Importance of major incident planning within hospitals and the roles and responsibilities of members of the anaesthetic team			
Lead a multi-disciplinary trauma team, co-ordinating and delivering the early hospital care of all types of complex multiply injured patients including the primary survey, resuscitation and secondary survey and appropriate HDU/ICU admission			
Lead and/or deliver the safe perioperative anaesthetic care to all multiply injured patients including HDU/ICM admission if required for continued care			
Good communication skills with all members of the trauma team when leading the clinical care of the multiply injured patient; seek prompt and active advice from specialties not involved in the initial resuscitation when needed			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Identify common abnormalities on the CT scans in patients with head injury, including but not limited to: • Extradural haematoma • Subdural haematoma • Intracerebral haematoma • Skull fractures • Diffuse axonal injury • Subarachnoid blood • Abnormalities of the ventricular system			
Demonstrates the ability to: • Recognise when the patient's needs exceed local resources and specialist expertise and that transfer for further definitive care is necessary • Recognise the need to debrief and undertake in an ordered and understanding manner • Manage end of life decisions in the multiply injured patient in a compassionate, non-discriminatory and understanding manner, communicating effectively with both relatives and the staff providing immediate care, whilst respecting spiritual and ethnic diversity			

Vascular

'General' unit of higher training; shares a number of important competencies with the higher general, urology and gynaecology unit and the non-theatre unit

Learning objectives:

- Build on the knowledge and understanding gained at the intermediate level and obtain perioperative anaesthetic experience managing patients with vascular disease

Core clinical learning outcomes:

- To anaesthetise patients for carotid endarterectomy and aortic aneurysm surgery with indirect supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Principles of research developments in peri-operative management of coexisting diseases			
Methods of assessment of cardiovascular and respiratory disease and their use and limitations preoperatively, including advice on the risks of surgery relative to its benefits			
National and international guidelines for management of patients with coexisting cardiac and respiratory disease			
Methods of risk stratification including scoring systems			
Advantages and disadvantages of using regional and combined GA/regional techniques for major vascular surgery			
Techniques for pre-optimisation of patients undergoing vascular surgery			
Pre-operative assessment of vascular patients with coexisting disease			
Use of functional monitors during carotid artery surgery			
Manage the effects of aortic clamping, including the implications of supra-renal or thoracic aortic clamping with distant supervision			
Safe peri-operative anaesthetic care of patients having combined surgical / radiological procedures, including those performed in isolated sites using either regional or general anaesthesia			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Perform either general or regional anaesthesia safely and effectively for carotid artery surgery			
Perform safe and effective regional anaesthesia for vascular surgery including placement and management of thoracic and lumbar epidural, spinal and combined spinal-epidural			

Paediatric

Essential unit of higher training. As a minimum, either a dedicated block of at least 4 weeks or the equivalent of about 20 half-day theatre sessions must be undertaken in the last two years of training, i.e. ST6/7.

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training
- Become more independent in managing paediatric anaesthesia as demonstrated by requiring less consultant guidance and supervision
- Be competent at managing complications that arise in paediatric anaesthesia without immediate consultant support

Core clinical learning outcomes:

- Be able to resuscitate and stabilise a sick baby or child prior to transfer to a specialist centre
- Provide perioperative anaesthetic care for common surgical conditions, both elective and emergency, for children aged 3 years and older with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMAT (or A-CEX)×1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Problems and risks inherent in anaesthesia for former premature babies and children with significant co-morbidity			
Commoner problems of paediatric intensive care, including ventilatory and circulatory support, upper airway problems and trauma.			
Current local and national guidelines for provision of paediatric services			
Provide safe perioperative anaesthetic care [including both inhalational and intravenous induction techniques] for children over the age of 3 years with distant supervision			
Provide safe peri-operative anaesthetic care for children less than 3 years of age under direct supervision			
Manage children with difficult venous access			
Manage the airway in children and babies of all ages safely and effectively			
Correct management of fluids, electrolytes, glucose and temperature peri-operatively			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Manage acute pain in children safely and effectively, including the use of local and regional anaesthetic techniques, the use of opioids (including infusions and PCA/NCA where these are used), adjuvant NSAIDs and simple analgesics			
Caudal epidural and peripheral nerve blockade without direct supervision			
Anaesthetic management of the young child [less than 5 years of age]with a full stomach			
Anaesthesia for children over the age of 3 years for diagnostic radiological procedures			
Anaesthetic emergencies in children e.g.: acute airway obstruction, croup and acute epiglottitis, inhaled foreign body, loss of airway, laryngospasm, malignant hyperthermia, anaphylaxis [including latex allergy]			
Transport of critically ill children and babies			
Appropriate engagement in compassionate, authoritative discussions with patients, parents and/or carers; balanced judgement of the estimated risks and likely complications of anaesthesia			
Take responsibility and appropriate action when non-accidental injury is suspected			

Pain medicine

Optional unit of higher training. Progression from Basic and Intermediate training and essential for all trainees who wish to progress to Advanced Pain Medicine Training. In addition, the College and the Faculty of Pain Medicine recommend that these higher competencies are the minimum required for a trainee to consider a future consultant post with an interest in Acute Pain.

Learning objectives:

- Build on the competencies achieved at basic and intermediate level

Core clinical learning outcomes:

- Fully competent in the assessment and management of acute surgical, acute non-surgical and acute on chronic pain in all patients and in all circumstances
- To have knowledge and skills in the management of chronic and cancer pain
- To be an effective member of a multi-professional pain management service

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMAT x1, A-CEX x1, DOPS x1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Advanced principles of neural blockade to include autonomic blocks, in acute and chronic pain			
Assessment and management principles of chronic and acute on chronic pain in a multi-professional context in inpatient and outpatient settings			
Advanced assessment and management principles of cancer pain in a multi-professional context			
Principles, applications and side effects of physiotherapy and other physical therapies used for treating pain			
Psychological mechanisms in pain and techniques for their management including cognitive behavioural approaches			
The place of surgery in the management of pain			
Importance of disability and incapacity, and factors influencing their assessment			
Importance of psychological, social and ethical issues around good Pain Medicine			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Role of social services, rehabilitation and other support services			
Techniques of assessment and management principles of pain in a multi-professional context			
Ability to recognise patients with pain who have psychological problems and who require psychological evaluation			
Perform, within the context of a full and appropriate pain management plan the following activities, including but not limited to: • Manage an acute pain ward round • Assessment of a complex non-postoperative inpatient referral (eg cancer pain, sickle cell, abdominal/pelvic pain) • Epidural injection under x-ray control • Teaching the use a TENS machine • Peripheral nerve block under ultrasound guidance			
Importance of ensuring continuity of care; communicating effectively with patients, relatives and professionals in primary or secondary health care or in other organisations			
Assess incapacity and disability in patients with pain			
Importance of being an effective member of a multi-professional pain medicine service			

Ophthalmic

Optional unit of higher training

Learning objectives:

- Build on the knowledge, understanding and skills gained during intermediate training, so developing the diversity of skills that allow optimal conditions for ophthalmic surgery and the best results for the ophthalmic patient
- Become more independent in managing anaesthesia for complex ophthalmic surgery as demonstrated by requiring less consultant guidance and supervision

Core clinical learning outcomes:

- Provide comprehensive anaesthetic care to all ASA 1-4 adult patients for all types of elective and emergency ophthalmic surgery with distant supervision
- The ability to perform sub-Tenon's and peribulbar blocks with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMAT x1, A-CEX x1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Perioperative anaesthetic care for orbital surgery including: • Surgery for tumours of the eye and orbit • Advanced reconstructive oculoplastic surgical techniques			
Techniques for post-operative pain relief in patients undergoing major reconstructive oculoplastic surgery			
Critically evaluate the pre-operative condition, plan appropriate optimisation and deliver perioperative anaesthetic care to all adult patients however complex requiring routine and emergency ophthalmic surgery			
Perioperative anaesthetic care for children requiring ophthalmic surgery [Cross ref:paeds]			
Peribulbar and sub-Tenon's blocks			
Sedation for ophthalmic procedures			
Effective communication with and understanding of the needs of the surgeon for optimal operating conditions			
Leadership and the ability to teach			
Briefing and debriefing skills			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Provide safe peri-operative anaesthetic care for the elderly requiring ophthalmic surgery			

Plastics/Burns

Optional unit of higher training.

Plastics: major reconstructive surgery [including free-flap grafting] may be linked with other units of training such as ENT and maxillo-facial surgery

Burns: some cross competencies with Trauma and Stabilisation

Learning objectives:

- Obtain intermediate level competences for both plastics and burns [if possible] if not already completed
- Become more independent in the management of major plastic reconstructive cases including free-flap surgery
- Understand the principles of perioperative management of burns patients for grafting & related procedures

Core clinical learning outcomes:

- Anaesthetise ASA 1-3 adult patients for major reconstructive plastic surgery [e.g. breast reconstruction with pedicled flap] with distant supervision

Requirements for completion of Unit:

- Appropriate numbers of cases & case mix
- Appropriate number of WPBAs – minimum ALMATx1, A-CEXx1, CBD x1
- Achievement of core clinical learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Anaesthetic techniques for major plastic surgical cases including free-flap surgery			
Principles of anaesthesia for primary and secondary cleft lip and palate repair [Cross ref: paediatrics]			
Recognition & appropriate management of the plastic surgical patient with a potentially difficult or compromised airway			
Local protocols for the transfer of burns patients to specialist regional centres			
Management of a patient with a severe inhalational injury			
Perioperative anaesthetic care to burns patients requiring surgery including dressing changes, grafting & related procedures			

Academic & research [including audit]

Essential higher non-clinical unit of training

Learning objectives:

- Be ready for independent clinical practice
- Demonstrate evidence based personal practice; understand, discuss and advise in situations where evidence is absent or contradictory
- Understand importance of audit; engage in continuous review of personal and team performance.
- Be able to develop, complete and report audit projects
- Strive to be an opinion leader through a continuous critical approach to the published literature; undertake personal evaluation and consultation with colleagues regarding the timely introduction of new practices
- Be ever conscious of their responsibility for patient safety; understand how proper evidence, monitoring outcome and a cautious, critical, scientific approach to reported developments of practice will assist this
- Understand basic principles of clinical research; know the ethical and organisational steps needed to initiate a project – under the mentorship of a research experienced colleague.

Requirements for completion of Unit:

- Has recorded satisfactory attendance at 15 local audit, MDT, M & M and journal club meetings
- Reflective portfolio of attendances
- Presented literature review
- Written up case report or evidence-based review (typically a CEACCP article) to a standard suitable for publication OR contribution to a departmental guideline or change in practice to a reasonable standard for implementation

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Supporting quality through participating in and promoting audit of clinical outcomes			
Ethical issues relating to audit			
Principles of research governance			
Roles of the Royal College of Anaesthetists in postgraduate and continuing education, and in the setting and maintenance of standards			
National Institute for Academic Anaesthesia			
Lead in a departmental or other local journal club			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Undertake & present literature review in relation to a clinical problem or topic			
Produce a review article on a clinical topic, having reviewed and appraised the relevant literature			
Understanding of the use statistical methods to analyse data and estimate probabilities			
Design, implement and complete an audit cycle			
Identify problems and develop standards for a local audit			
Propose and test ways to improve patient care			
Contribute to local and national audit projects as appropriate e.g. NCEPOD			
Ethical issues relating to the organisation of clinical research			
Principles of formulating a research question and designing a project			
Awareness of and detachment from vested interests or entrenched views			

Academic & research [including audit]

Trainee name:

GMC no:

Learning outcomes

Has the trainee demonstrated achievement of the learning outcomes?

Yes No

Comments

Signed: Name (Print): Date:
(Clinical Supervisor)

When unit is complete please also sign summary page at front of record book

Signed: Name (Print): Date:
(Trainee)

Teaching & learning

Essential higher non-clinical unit of training

Learning outcomes:

- Be prepared for the consultant role of clinical teacher and assessor in the workplace
- Be a valued member of the departmental educational team as participant and teacher
- Deliver excellent theatre teaching in the course of clinical supervision
- Prepare and deliver excellent teaching on a variety of topics
- Perform workplace-based assessments reliably
- Keep a comprehensive reflective portfolio of learning and of engagement with ongoing professional development

Requirements for completion of Unit:

- Appropriate number of WPBAs – minimum:
 - A-CEX ×1 (relating to own teaching and supervision of a more inexperienced trainee)
 - CBD ×1 (on selected education topic)
- Achievement of learning outcomes

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Formal responsibilities of clinical trainers			
Ensuring safe supervision of learners; taking wide responsibility for this including checking the safety of any teaching being undertaken by trainee anaesthetists within their clinical arena			
Planning a 'teaching list' for a more junior trainee			
Using a wide range of educational methods to provide a effective clinical learning opportunities, such as: opportunistic workplace-based training, lectures, part- and whole-task simulator training, full immersion high fidelity simulation, audio-visual feedback and behavioural debriefing			
Educational principles underlying the preparation of effective lessons and presentations			
Assessment strategy employed by the RCoA in the context of their own learning and the learning of others			
Roles and responsibilities of Clinical and Educational Supervisors and Consultant/SAS trainers			
Assessing and evaluating learning; distinguishing between formative and summative assessment			
Role of, and the appropriate conduct of, the workplace-based assessments			
Providing timely, specific, non-judgemental and developmental feedback			
Own behaviour as a role model for more junior trainees			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Roles and responsibilities of educational agencies involved in educational commissioning and governance including, but not exclusively: the GMC, the DoH, Deaneries, Colleges and NHS Education Commissioners			
Providing a level of clinical supervision appropriate to the competence and experience of the trainee			
Structure of the effective appraisal review			
How to raise concerns about a poorly performing trainee			
Appropriate local course of action to assist a trainee experiencing difficulty in making progress within their training programme			
Teaching trainees & others in a variety of settings to maximise knowledge, effective communication and practical skills; to improve patient care			
Creating good learning opportunities to deliver the curriculum			
Showing consideration for learners including their emotional, physical and psychological well being with their development needs; ensure equality of opportunity for students, trainees, staff and professional colleagues			
Identifying the learning needs of trainees			
Effective lecture, presentation, small group and bed-side teaching sessions			
Appropriate use of teaching aids and visuals to enhance formal teaching			
Opportunistic teaching of more junior trainees in clinical settings			
Engaging in simulator-based learning			
Assisting in simulator-based teaching			
Supervising junior trainees in the course of routine and emergency anaesthesia			
Leading departmental teaching programmes including journal clubs			
Encouraging discussions with colleagues in clinical settings to share knowledge and understanding			
Accurate and reliable use of workplace-based assessment tools; clear understanding of their purpose			
Giving appropriate feedback for the purpose of training clinical professionals			
Receiving feedback appropriately for the purpose of self-improvement			
Assessing the quality of teaching both classroom and workplace-based and recording this in reflective portfolio			
Providing appropriate career support, or referring trainee to an alternative effective source of career information			
Balancing the needs of service delivery with education			

Teaching & learning

Trainee name:

GMC no:

Learning outcomes

Has the trainee demonstrated achievement of the learning outcomes?

Yes No

Comments

Signed: Name (Print): Date:
(Clinical Supervisor)

When unit is complete please also sign summary page at front of record book

Signed: Name (Print): Date:
(Trainee)

Management

Essential higher non-clinical unit of training.

Higher training must equip the trainee with a full understanding of the consultant's role in departmental management and furnish them with the knowledge necessary to embark upon minor departmental management roles as they begin their consultant career. It is acknowledged that opportunities for trainees to undertake tasks within the departmental management are few compared with the number of higher trainees and that many will not have an opportunity to demonstrate their skills in practice.

Learning outcomes:

- Understands the structure of relevant national management and how this integrates with local management
- Able to organise their own contractual, job planning, and quality review processes
- Ready to undertake departmental administrative and managerial roles with appropriate guidance and support

Requirements for completion of Unit:

- Achievement of learning outcomes

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date
How funding is provided for medical services within the trust			
How care trusts commission services			
How patients are referred for hospital treatment			
Local structure of NHS management; variation of structures between SHA areas and between countries of the UK			
Ways that services for anaesthesia, pain medicine and critical care are structured including local differences			
Understanding that healthcare is always subject to change and debate as a result of political, social, technical, economic, organisational and professional factors that impact on provision of service • Recognition of role as an advocate for quality and consistency in patient care in the face of such debates • Acceptance that compromise in such debates may have impact on medical care			
Principles of: • Clinical coding • NHS Structure and relationships • Resource allocation • National Service Frameworks • NHS finance and budgeting • Role of the Independent sector as providers of healthcare • Health regulatory agencies [e.g., NICE, Scottish Government] • Consultant contract and the contracting process • Patient and public involvement processes and role			
Process for completion of training and admission to the specialist register			

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Process for appointment to a substantive post			
Processes of annual appraisal, re-certification and revalidation in substantive posts			
Systems for job planning and annual review			
Working of the local and national ACEA process			
Undertakes local, departmental based organisational activities e.g. organisation of departmental meetings, organisation of an event/meeting			
Attends departmental meetings (if allocated this responsibility)			

Management

Trainee name:

GMC no:

Learning outcomes

Has the trainee demonstrated achievement of the learning outcomes?

Yes No

Comments

Signed: Name (Print): Date:
(Clinical Supervisor)

When unit is complete please also sign summary page at front of record book

Signed: Name (Print): Date:
(Trainee)

Improvement Science, Safe and Reliable Systems

Non-essential higher/advanced non-clinical unit of training.

Learning outcomes:

- Can participate in peer support for Quality Improvement trainees at basic level
- Can lead teams to introduce a clinical quality improvement
- Can assess evidence for quality improvement and develop into evidence based practice
- Can lead teams to introduce a clinical quality improvement
- Can mentor Quality Improvement trainees at basic / intermediate level

Requirements for completion of Unit:

- Achievement of learning outcomes
- Presentation of a Quality Improvement project
- Supervises a Quality Improvement project involving trainees at basic / intermediate level
- Leads in learning sets
- Completion of an extended essay on a quality improvement topic
- Authorship of a peer-reviewed quality improvement research paper

Knowledge	Tick if confident/ discussed	Trainer initial	Date
PROFOUND KNOWLEDGE AND SYSTEMS APPRECIATION			
Appreciation of a system; understanding variation; human side of change (psychology)			
Recognises that real improvements come from changing systems not changing within systems			
Demonstrates root cause and systems analysis			
Building Knowledge and Deming's Profound Knowledge			
CLINICAL HUMAN FACTORS			
Explains that Enhanced Clinical Performance is achieved through an understanding of the effects of teamwork, tasks, equipment, workspace, culture, organisation on human behaviour and abilities, and application of that knowledge in clinical settings			
Explains the importance of human factors when designing or evaluating system safety or reliability			
Systems design to make it easy to do the right thing			

Knowledge	Tick if confident/ discussed	Trainer initial	Date
PROCESS			
Explains the definition of processes, process mapping and assessment of process value			
Recognises that process drives outcome and quality improvement as the science of process management			
Recognises how system processes set up healthcare workers to make errors			
Understands reliable process delivery			
CMO EVALUATION			
Explains CMO evaluation (context+mechanism = outcomes); importance of CMO evaluation to improve local health care systems			
Understands the difference between CMO (context+mechanism = outcomes) evaluations and OXO evaluation (observe a system, introduce perturbation X, observe again)			
THE MODEL FOR IMPROVEMENT			
Explains the Model for Improvement and is able to describe the key components of the MFI			
GOAL SETTING			
Explains goal and aim setting: setting an improvement aims statement including how much by when			
Explains creation of an operational definition			
THE DIFFERENT TYPES OF MEASUREMENT			
Describes measurement for improvement, versus measurement for research or measurement for accountability/judgement			
VARIATION IN MEASUREMENT			
Understands variation, time series analysis of events; ability to create a simple run chart, ability to understand fundamentals of statistical process control charts, methods to separate random from assignable variation			
MEASUREMENT			
Explains Tally charts, Pareto charts, Run Charts, SPC Charts (Statistical Process Control Charts); explains fundamentals of SPC charts			
PDSA TESTING			
Explains Shewart's PDSA Plan Do Study Act cycle			
Explains importance of predicting outcomes before the test			

Knowledge	Tick if confident/ discussed	Trainer initial	Date
RELIABILITY			
Describes 4 levels of system reliability and how this is calculated			
Describes one simple way to evaluate local system reliability			
STRUCTURE PLUS PROCESS LEADS TO OUTCOME [S+P=O]			
Explains how to define outcomes and link how improving outcomes is linked to improving processes; recognises that structure plus process leads to outcome			
RELIABLE IMPLEMENTATION			
Explains implementing a change			
SPREAD			
Explains spreading improvement			
SUSTAINABILITY			
Explains sustaining improvement			
INFLUENCING SKILLS			
Explains ways to influence			
TEAMS AND COMMUNICATION			
Explains the features of effective teams and communication, (safe, inclusive, open, consensus seeking)			
Explains reasons for good communicating with patients after adverse events			
Explains how pre-operating list safety briefings drive communication and safety climate			

Skills	Tick if confident/ discussed	Trainer initial	Date
PLOT AND EVALUATE RUN CHART			
Demonstrates creation of a simple run chart, and is able to describe 4 ways to separate random from assignable variation			
PDSA TEST OF CHANGE			
At your place of clinical work, perform at least two tests of change as a PDSA (Plan (and predict outcome) Do Study Act) cycle			

Skills	Tick if confident/ discussed	Trainer initial	Date
Demonstrate the learning from the experience. Specify learning and action generated from PDSA 1 and record what happens when they do it in PDSA 2			
STRUCTURE + PROCESS = OUTCOME [S+P=O]			
Demonstrates ability to draw a simple process map			
Demonstrates ability to develop a driver diagram of processes that will lead to an improved outcome			
PARTICIPATE AND CONTRIBUTE TO A VERY SMALL IMPROVEMENT PROJECT			
Demonstrates involvement with a local improvement initiative			
RELIABILITY			
Describes a design /change concept used to improve reliability in the workplace			
CLINICAL HUMAN FACTORS			
Demonstrates ability to analyse a real critical incident from a human factors perspective			
Performs one observation of where environment, equipment and other factors make it difficult to do the right thing			
Describes common systems designs used in healthcare to improve reliability			
Demonstrates improvement planning using a real critical incident			

Improvement Science, Safe and Reliable Systems

Trainee name:

GMC no:

Learning outcomes

Has the trainee demonstrated achievement of the learning outcomes?

Yes No

Comments

Signed: Name (Print): Date:
(Clinical Supervisor)

When unit is complete please also sign summary page at front of record book

Signed: Name (Print): Date:
(Trainee)

Advanced level generic domain 1

Clinical Practice

Highly specific clinical competencies are not identified as each trainee's focus and career intention will be different and, in many cases, be dependent upon the availability of patients that present uncommon challenges.

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Mastery of all aspects of clinical care in all clinical situations regularly encountered in the chosen area of practice and a clear understanding of: • Why effective decision making, communication, team-working and organization skills are required by anaesthetists to ensure clinical sessions are delivered safely, efficiently and effectively to the benefit of both patients and the organisation; this implies an ability to recognise the importance of providing overall leadership of the multidisciplinary team when necessary • How to utilise the time allocated to clinical sessions effectively for patient care, without compromising safety • The central role human factors plays in developing a culture of safe practice and how collaboration and team working enhances safety			
Demonstration and teaching of safe behaviours in prescribing practice to all members of the multi-disciplinary team			
Demonstration and teaching of how to obtain consent from patients in all situations showing compassion and understanding; this includes patients where there are difficulties with communication and capacity			
Safe practice in clinical care in those less common clinical situations in the chosen area of practice where mastery has not yet been achieved			
Mastery in some complex clinical situations when patients requiring difficult or dangerous interventions, providing advice to other team members and participating in the planning of complex procedures			
Reflection on own clinical practice in order to achieve insight and: • Correct deficiencies identified • Seek learning opportunities and integrate new knowledge into clinical practice			
Identification of opportunities to promote changes in lifestyle and other actions which will improve health and/or disease outcomes positively			
Appropriate advice to others regarding the proper management of clinical problems			
Necessary maturity to guide the choice of audit cycles in developing practice			
Prompt acknowledgement of mistakes and mishaps and ability to lead on managing errors including: • Talking to patients about untoward events, apologising appropriately, providing clear explanations, acting with integrity and offering the necessary support • Leading de-briefs with all the staff involved • Implementing procedures to effect a full investigation • Openness and honesty at all times • The ability to learn from the errors and lead safety improvements to minimise likely recurrence			

Advanced level generic domain 2

Team Working

Trainees are expected to demonstrate the necessary team working, management and leadership skills required post-CCT for independent practice.

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Participate in [and lead when appropriate] the organisation of complex interventions, including liaison with clinicians, nurses, clinical support specialties and managers			
Engage all members of the team, when required, to enable session time to be used efficiently and effectively for the benefit of both the patients and the organisation; ability to lead discussions in a timely and effective manner where/when necessary			
Recognise own limitations and actively seek the advice of others when needed			
Commit to the principle that the patient and their relatives are often equal members of the clinical team			
Demonstrate leadership in engaging other healthcare professional and support workers positively and: • Give weight to contributions of others • Respect team decisions and is moderate in word and manner when necessarily registering their dissent • Understand that other team members may be experiencing strong emotions which must be recognised			
Always show appropriate understanding and control of emotions when working with others			
Understand the particular ways of working of the highly specialised teams in which anaesthetists contribute			
Teach others how to work properly in teams			
Desire to achieve high standards and monitor compliance to standards by the whole team			
Maintaining high levels of individual and team situation awareness at all times; asks for, or shares, information and anticipates future problems to maximise safe practice			
Adopt strategies to reduce risk [e.g. the use of the WHO Safe Surgery Checklist] and a willingness to participate in improvement strategies [e.g. critical incident reporting]; act to rectify error immediately if it is made			
Demonstrate openness when talking to patients about untoward events, apologising appropriately, providing clear explanations, acting with integrity and offering the necessary support			
Ability to learn from errors and share that learning with the rest of the organisation			

Advanced level generic domain 3

Leadership

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Understand that the role of the consultant involves demonstrating leadership in clinical management, service delivery and forward planning			
Aware of position as an important positive role-model for others			
Commitment to the highest clinical standards personally; encourage others to achieve the best			
Show flexibility in accommodating the needs and work patterns of others and a preparedness to work flexibly in order to allow cover of unpredictable duties [e.g. the unavoidable absence of a colleague] to maintain essential clinical care to patients			
Take the lead where appropriate in dealing with difficulties that have arisen in the clinical care of patients including communicating bad news, participating in clinical review and liaising with managers and dealing with complaints			
Create opportunities to bring colleagues together to further clinical and institutional goals including reducing unnecessary resource usage [environmental and financial] in all healthcare			
Communicate clearly, promptly and effectively with colleagues by means appropriate to the urgency of the situation [e.g. personal presence, telephone, email, letter etc]; recognise its crucial importance when transferring responsibility for patient care [e.g. at handovers]			
Analyse information about performance from a wide range of resources; participate in [and if appropriate initiate and lead] initiatives to improve performance			

Advanced level generic domain 4

Innovation

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Demonstrate understanding of the need to be aware of new trends and developments and: • Question the status quo • Actively look for ways to improve clinical practice and the patient experience • Commit to the changing roles and responsibilities of healthcare groups as practice develops • Be receptive to the attempts of others to improve practice • Urge responsible individuals and groups to seek and implement beneficial change			
Understand the importance of research [clinical and laboratory] in the development of clinical practice in chosen area[s]; aware of current areas of research and achieves competence in understanding, and explaining, the methodology and statistics involved			

Advanced level generic domain 5

Management

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Commit to the objectives of the team, of the hospital and to the national planning of healthcare			
Plan work efficiently to accomplish own targets and meet institutional objectives			
Understand the central role of the patient and the public in determining directions and priorities in service development			
Take the initiative in: • Demonstrating the efficient use of resources and encouraging others to do the same • Identifying and reporting any significant deficiency of resources • Contributing to discussions and planning for service and facilities development			

Advanced level generic domain 6

Education

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date
Continuously seek to improve and update knowledge and skills, using a variety of strategies, whilst keeping records of learning that is planned and undertaken, reflecting on outcomes			
Develop a personal learning network of individuals and organisations; attend specialist educational meetings and read specialist journals in special interest areas of practice			
Receive feedback appropriately for the purpose of self-improvement and provide feedback to others when asked			
Commit to the supremacy of patient safety issues in providing an appropriate level of clinical or educational supervision			
Actively participate in the planning and delivery of departmental teaching and training			
Understand the roles and responsibilities of Clinical and Educational Supervisors; this includes: • Assessment strategy employed by the RCoA • Importance of assessing and evaluating learning • Importance of providing timely, specific, non-judgemental and developmental feedback and is able to do so effectively • Role of and appropriate conduct of the workplace-based assessments; able to perform accurately and reliably • How to raise concerns about a poorly performing trainee • Responsibilities of clinical trainers as defined by relevant national organisations and regulators			
Roles and responsibilities of educational agencies involved in educational commissioning and governance, GMC, DoH, Deaneries Colleges and NHS Education commissioners			