



Advanced Level Training Record

Curriculum for Anaesthetics 2010

Supplementary Booklet

Specialty Trainees Years 6 and 7

Trainee name

August 2015

Contents

Advanced units – specialty-specific

Neuroanaesthesia	S3
Cardiac/Thoracic	S6
General duties	
Airway management	S9
ENT, maxillo-facial and dental surgery	S11
General, urological and gynaecological surgery	S14
Hepatobiliary surgery	S16
Vascular	S19
Day surgery	S22
Sedation	S25
Orthopaedic	S27
Regional	S30
Trauma and stabilisation	S33
Transfer medicine	S37
Intensive care medicine	<i>recorded separately</i>
Obstetric	S44
Paediatric	S47
Pain medicine	S51
Plastics/burns	S58

Advanced non-clinical units

Academic and research	S61
Teaching and learning (additional unit for a Fellowship placement)	S64
Management	S69
Improvement science, safe and reliable systems.....	S73

Optional higher clinical units

Anaesthesia in developing countries	S78
Conscious sedation in dentistry	<i>see curriculum</i>
Military anaesthesia	S81
Remote and rural anaesthesia	S86

Neuroanaesthesia

Advanced training in anaesthesia for neurosurgery, neuroradiology and neuro-critical care should be delivered in a designated specialist centre undertaking a wide variety of complex elective and emergency neurosurgical/neuroradiological procedures, with the necessary associated neuro-critical care facilities and training must include all these aspects of practice. Trainees are expected to spend between six and twelve months undertaking this unit. Trainees are encouraged to gain experience in more than one such centre if at all possible.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex neurosurgical and neuroradiological procedures
- Gain mastery in the management of such cases and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain mastery in providing clinical input and leadership where required in neurological post-operative care units [including high dependency units]
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

For consultant posts in anaesthesia for neurosurgery and neuroradiology, core clinical learning outcomes are:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex neurosurgical and neuroradiological procedures independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of such cases demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy neurosurgery/neuroradiology sessions ensuring that the care delivered to patients is safe and timely, benefiting both the patient and the organisation
- Provide clinical input and leadership where required in neurological post-operative care units [including high dependency units]
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

For consultant posts with a commitment to both neurosurgical/neuroradiological anaesthesia and critical care, core clinical learning outcomes are:

All identified above and in addition:

- Provide clinical leadership to a wide variety of patients requiring neuro critical care
- Provide management and leadership in using the facilities available to best effect

It is recommended that this requires three months of neuro critical care training and should form part of twelve months Step 2 training in intensive care medicine leading to a joint CCT in anaesthesia/intensive care medicine. In such situations, trainees must discuss their specific training requirements with their TPD [including the TPD for ICM if necessary] early, to ensure that they can fit the recommended training into their CCT programme in the requisite time, whilst also ensuring that a balanced programme of training is completed, as required for RCoA recommendation to the GMC for a CCT. Such programmes will need early discussions with the Medical Secretary [or Deputy], contacted via the RCoA Training Department; this is also a ready source of advice to both trainees and trainers.

For consultant posts with commitment only to neuro-critical care, core clinical learning outcomes are:

All identified above and in addition:

- Have a thorough understanding of the complexity of the breadth of neurosurgery/neuroradiology performed and provide clinical leadership to any patient requiring neuro-critical care
- Provide management and leadership in using the facilities available to best effect

It is recommended that training for such posts should include a minimum of 6 months higher/advanced training in anaesthesia for neurosurgery/neuroradiology and Step 2 training in intensive care medicine [including 3 months of neuro-critical care] leading to a joint CCT in anaesthesia/intensive care.

For trainees looking to a post with a major/exclusive interest in paediatric neuro surgery:

An individual advanced training programme will need to be prospectively agreed and early discussions with the Training Programme Director, RCoA Training Department and Medical Secretary will be essential.

Requirements for completion of unit:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (ALMAT, A-CEX, CBD, ± DOPS as appropriate)
- Multisource feedback

No specific additional knowledge and skills for this unit of training

Completion of Advanced Level Unit of Training

Neuroanaesthesia

Anaesthesia for neurosurgery, neuroradiology and neurocritical care

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes necessary for a consultant post with a commitment to:

Anaesthesia for neurosurgery and neuroradiology	Yes	No
Both neurosurgical/neuroradiological anaesthesia and critical care	Yes	No
Neuro-critical care alone	Yes	No
Anaesthesia for paediatric neurosurgery (major/exclusive interest)	Yes	No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Cardiac/Thoracic

Cardiothoracic anaesthesia & cardiothoracic critical care

Advanced training in anaesthesia for cardiothoracic surgery, cardiological procedures and cardiac critical care should be delivered in a designated specialist centre undertaking a wide variety of complex elective and emergency cardiac and thoracic procedures, with the necessary associated cardiac-critical care facilities. Trainees are encouraged to gain experience in more than one such centre if at all possible within the twelve month period, which should include aspects of cardiothoracic critical care.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex cardiothoracic surgical and cardiological procedures
- Gain mastery in the management of such cases and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

For consultant posts in anaesthesia for cardiac and thoracic surgery, core clinical learning outcomes are:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex cardiothoracic surgical cases and cardiological procedures independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of such cases demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy cardiothoracic operating sessions ensuring that the care delivered to patients is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

For consultant posts with a commitment to both cardiothoracic anaesthesia and critical care, core clinical learning outcomes are:

- All identified above and, in addition, provide clinical leadership to a wide variety of patients requiring cardiothoracic critical care; management and leadership in using the facilities available to best effect. [It is recommended that this requires three months of cardiac critical care training and should form part of twelve months Step 2 training in intensive care medicine leading to a joint CCT in anaesthesia/intensive care medicine]. In such situations, trainees must discuss their specific training requirements with their TPD [including the TPD for ICM if necessary] early, to ensure that they can fit the recommended training into their CCT programme in the requisite time, whilst also ensuring that a balanced programme of training is completed, as required for RCoA recommendation to the GMC for a CCT. Such programmes will need early discussions with the Medical Secretary [or Deputy], contacted via the RCoA Training Department; this is also a ready source of advice to both trainees and trainers.

For trainees looking to a post with a major/exclusive interest in paediatric cardiac surgery:

- An individual advanced training programme will need to be prospectively agreed and early discussions with the RCoA Training Department and Medical Secretary will be essential.

Requirements for completion of units

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, CBD, ± DOPS as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Perfusion techniques in current cardiac surgical practice				
Role of assist devices and ECMO in the perioperative care of the cardiac surgical patient				
Echocardiography: <ul style="list-style-type: none"> • Principles and indications for Echocardiographic examinations [Oesophageal/Trans thoracic] in the perioperative care of the cardiac patient [Exhibit a level of knowledge commensurate with that required to pass a recognised examination in echocardiography] • Advanced skills in image acquisition and interpretation for perioperative trans-oesophageal echocardiography and basic transthoracic echocardiography skills, to a level matching that of assessment by examination 				
Specific issues surrounding the perioperative anaesthetic care of the patient with Grown Up Congenital Heart Disease [GUCH]				
Principles of anaesthesia for paediatric cardiac surgery				
How new practices can be implemented within the NSF for cardiac disease				

Completion of Advanced Level Unit of Training

Cardiac / Thoracic

Cardiothoracic anaesthesia & cardiothoracic critical care

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes necessary for a consultant post with a commitment to:

Anaesthesia for cardiac and thoracic surgery	Yes	No
Cardiothoracic anaesthesia and critical care	Yes	No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Airway management

Advanced training in airway management should be delivered in centres undertaking a wide variety of complex elective and emergency surgical cases presenting specific airway problems. It is expected that between three and six months will need to be spent acquiring all the competencies/learning outcomes in this advanced unit of training [many of which could be obtained in conjunction with the ENT, maxillo-facial and dental surgery advanced unit.]

Learning outcomes:

- Gain mastery in the delivery of safe and effective peri-operative airway and anaesthetic care to patients with complex airway problems involving all types of surgery and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Demonstrate mastery in the safe use of fiberoptic intubation in all situations
- Gain mastery in all aspects of airway management including in-depth knowledge and experience of novel airway devices; be familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice
- Gain the necessary maturity to guide the choice of audit cycles in developing practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative airway and anaesthetic care for a wide variety of patients with complex airway problems independently; this implies an ability to:

- Perform fiberoptic intubation in all clinical situations where it is an essential part of safe airway care
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major airway surgery and ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, DOPS as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
In-depth knowledge about all issues related to the management of difficult airways, including the use of novel airway techniques				
Mastery in performing fiberoptic intubation, awake and asleep, for elective and emergency cases including for those with major airway pathology				
Expertise in the management of difficult paediatric airways that may present in any non-specialist hospital				

Completion of Advanced Level Unit of Training

Airway management

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

ENT, maxillo-facial and dental surgery

Advanced training in anaesthesia for ENT, maxillo-facial and dental surgery should be delivered in centres undertaking a wide variety of complex elective and emergency surgical cases in these areas. It is expected that between three and six months will need to be spent acquiring all the competencies/learning outcomes in this advanced unit of training [many of which are common to many other advanced level units, particularly airway management and reconstructive surgery].

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex/major ENT, maxillo-facial and dental surgery including those requiring sternotomy for thoracic extension and major free-flap reconstruction
- Gain mastery in the management of major ENT, maxillo-facial and dental surgical lists and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex ENT, maxillo-facial and dental surgical cases independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of surgical cases performed [including those with thoracic extension, complex tumour resection and associated reconstruction [+/- free-flap], frequently requiring the ability to manage extremely complex airway problems], demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major ENT, maxillo-facial and dental surgery and ensuring that the care delivered is safe and timely, benefiting both patients and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Paediatric syndromes associated with the need for anaesthesia for maxillo-facial surgery [Ref: paed]				
Range of procedures performed on infants and neonates [Ref: paed]				

Completion of Advanced Level Unit of Training

ENT, maxillo-facial and dental surgery

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

General, urological and gynaecological surgery

Advanced training in anaesthesia for general, urological and gynaecological surgery should be delivered in centres undertaking a wide variety of complex elective and emergency surgical cases in these areas. It is recommended that between three and six months is spent on this dedicated advanced unit of training.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex intra-abdominal surgical procedures including those where pleural breach is anticipated
- Gain mastery in the management of major abdominal surgical and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex abdominal surgical cases independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of surgical cases performed [including those where pleural breach may occur], demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major abdominal surgery and ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (ALMAT as appropriate)
- Multisource feedback

No specific additional knowledge and skills for this unit of training

Completion of Advanced Level Unit of Training

General, urological and gynaecological surgery

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Hepatobiliary surgery

This optional advanced unit of training is unlikely to be available in all Schools of Anaesthesia, due to the limited numbers of centres undertaking this type of surgery; as a result, some trainees who wish to gain such training may need to seek an inter-School secondment or OOPT. It is expected that this unit will often be undertaken in conjunction with, or as a follow-on from, the general, urological and gynaecological advanced unit and, as such it is recommended that the indicative time for this dedicated optional advanced unit of training is six months.

Learning outcomes:

- Gain mastery in the delivery of safe and effective peri-operative anaesthetic care to patients undergoing complex hepatobiliary surgical procedures
- Gain mastery in the management of major hepatobiliary surgical and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex hepatobiliary surgical cases independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of surgical cases performed, demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major hepatobiliary surgery and ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, CBD as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Roles of point of care testing and intra-operative haemodynamic monitoring in patients undergoing hepatobiliary surgery including liver transplantation				
<p>Specific issues for recipients of cadaveric and live-related liver transplantation, including [but not exclusively]:</p> <ul style="list-style-type: none"> • Indications for transplantation • Risk assessment, both generic [related to co-morbid illness and general health] and specific [e.g. using risk stratification methodology such as Model for End-stage Liver Disease [MELD] and Child-Turcotte-Pugh scores] • Understanding of the roles of members of donor-transplant teams and a multidisciplinary approach to transplantation • Ethical and clinical implications of non-heart beating liver donation for the recipient • Management of patients undergoing live-related liver donation • Understanding of immunosuppression and other pharmacological therapy in the peri-operative and ongoing management of patients undergoing liver transplantation 				

Completion of Advanced Level Unit of Training

Hepatobiliary surgery

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Vascular

Advanced training in anaesthesia for vascular surgery should be delivered in centres undertaking a wide variety of complex elective and emergency surgical cases in this area. It is expected that between three and six months will need to be spent acquiring all the competencies/learning outcomes in this advanced unit of training, which should include time providing peri-operative anaesthetic care for patients undergoing minimally invasive management of their vascular pathology. It may or may not be a dedicated unit.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex vascular procedures [including intra-thoracic], both elective and emergency and in-theatre and in imaging suites
- Gain mastery in the management of such major cases demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex vascular cases independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide range of cases in and out of theatre [including those where supra renal or thoracic aortic cross clamping occurs], demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy clinical sessions that involve patients having major vascular procedures, ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, CBD as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Use of functional monitors during carotid artery surgery				
Perioperative anaesthetic management of all types of vascular surgical cases, including those requiring thoracic access/pleural breach				
Perioperative anaesthetic care of patients having combined surgical / radiological procedures, including those performed in isolated sites using either regional or general anaesthesia				
General or regional anaesthesia for carotid artery surgery				
Regional anaesthesia for vascular surgery including placement and management of thoracic and lumbar epidural, spinal and combined spinal/epidural				

Completion of Advanced Level Unit of Training

Vascular

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Day surgery

Advanced training in anaesthesia for day surgery should be delivered in centres with a dedicated day surgical unit with a designated director/lead clinician who has sessional commitment to the role. The unit should have a workload from a wide range of specialities and should have an established pre-assessment service. It is recommended that between three and six months are spent on this advanced unit of training. Whilst mastery in clinical skills will be achieved, much of the benefit gained from this unit of training will be in developing leadership and management skills related to the organisation of a day surgery unit, in conjunction with all other members of the multi-disciplinary team.

Learning outcomes:

- Gain mastery in all aspects of the perioperative anaesthetic management of all patients presenting for day surgery
- Gain mastery in all aspects of the organisational and managerial aspects of leading a day surgical unit multidisciplinary team
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions, optimising throughput whilst not compromising safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice in day case perioperative anaesthetic management
- Become familiar with recent developments in peri-operative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

Be capable of undertaking the perioperative management of a wide range of patients for day case procedures including those with co-morbidities independently; this implies the ability to:

- Show the decision making and organisational skills required of an anaesthetist to manage a busy day surgery session ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Show the organisational and team working skills to lead and manage a day surgery unit in conjunction with the other members of the multi-disciplinary team
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Role of Unit Director/Lead Clinician in the leadership of a dedicated day surgical unit & multidisciplinary team				
Processes required to develop safe and effective day case management & patient selection protocols				
Mastery in the assessment and decision making of fitness for complex day surgical cases, particularly those with patients with significant co-morbidities				

Completion of Advanced Level Unit of Training

Day surgery

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Sedation

This unit of training is key for many anaesthetists practicing post-CCT, whatever their final special interest area may be, as the safe and effective delivery of conscious sedation is a generic skill required of all anaesthetists as its use is becoming increasingly common and is frequently administered in remote sites. It is also essential that there is effective teaching, supervision and assessment of this area of practice. It is expected that the advanced competencies/learning outcomes will be obtained over the course of higher/advanced training, rather than as a block as it cross references to many of the Advanced Level units.

Learning outcomes:

- Gain mastery in the delivery of safe and effective peri-procedural conscious sedation to patients of all ASA grades [frequently with serious co-morbidities] undergoing a wide variety of simple to complex procedures often in remote areas
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in peri-procedural conscious sedation and to evaluate these

Core clinical learning outcomes:

To be capable of delivering safe and effective peri-procedural conscious sedation to patients requiring a wide variety of complex investigative/treatment procedures independently; this implies an ability to:

- Provide safe and effective sedation using a wide variety of techniques to best effect for patients and the organisation, demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage patients requiring sedation in remote locations
- Assist colleagues in decisions about the suitability of [frequently] invasive investigative/treatment procedures in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX as appropriate)
- Multisource feedback

Completion of Advanced Level Unit of Training

Sedation

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Orthopaedic

Advanced training in anaesthesia for orthopaedic surgery should be delivered in centres undertaking a wide variety of complex elective and emergency surgical cases in this area. It is recommended that between three and six months is spent on this dedicated advanced unit of training and it is likely that many will combine this unit with the regional anaesthesia advanced unit.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex orthopaedic procedures
- Gain mastery in the management of major orthopaedic surgical lists and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, so maximising patient throughput whilst not compromising safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex orthopaedic cases [including major spinal cases +/- pleural breach] and list management independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of surgical cases demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major orthopaedic surgery and ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Decision making and clinical reasoning to promote the safe and effective peri-operative anaesthetic care for a variety of surgical procedures, this includes the management of major/complex and high risk elective and emergency orthopaedic cases.				
Understanding of : effective communication, team-working, organisational skills, the importance of leadership in the MDT, utilisation of the time allocated to clinical sessions effectively, the role human factors play in the culture of safe practice, and how collaboration and team working enhances safety.				
Mastery in the assessment and decision making of fitness for complex day surgical cases, particularly those with patients with significant co-morbidities				
Critically analyses current trends in the development and provision of all aspects of anaesthetic care for a wide variety of major abdominal surgical conditions showing maturity in the final decision making process; this implies the need to remain abreast of developments in the field by reading specialist journals and attending relevant specialist meetings				
Understands the importance of research [clinical and laboratory] in the development of anaesthetic practice for these surgical specialties, is aware of current areas of research and achieves competence in understanding, and explaining, the methodology and statistics involved				
Describes how their special training and experience in this branch of anaesthesia will contribute to their further career development				
Accepts that, being an expert in this special interest area of practice, they have a particular responsibility for: <ul style="list-style-type: none"> • The safety and quality of their service over and above their personal clinical contribution • Understanding that others may be less expert than they are and thus to behave sensitively when asked for advice • Teaching and leading within the area • The proper development of special fields of practice within the clinical and management contexts of a Department of Anaesthesia, as well as advocate and arbiter within the field when needed Informing managers of any developments in this field of practice that is likely to have impact on the safety, quality and cost of services 				
Demonstrates an ability to engage all members of the theatre team where required, to enable theatre time to be used efficiently and effectively for the benefit of both the patients and the organisation; this implies an ability to lead the discussions in a timely and effective manner where/when necessary				
Demonstrates the ability to design, complete and evaluate audits related to this area of clinical practice developing safe and effective patient management services in this area of practice				
Active participation in educational programmes within this field of practice. Demonstrates the ability to teach and supervise junior colleagues in all aspects of peri-operative anaesthetic care for complex major orthopaedic surgery; in so doing has a particular focus on the safety and quality of practice				
Developing safe and effective patient management services in this area of practice				
Active participation in educational programmes within this field of practice				

Completion of Advanced Level Unit of Training

Orthopaedic

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Regional

Advanced training in regional anaesthesia should be delivered in centres undertaking a wide variety of simple and complex regional anaesthetic techniques on both elective and, where appropriate, emergency surgical cases. It is recommended that up to six months are spent on this dedicated advanced unit of training and that, where appropriate training and experience should be gained in more than one centre.

Learning outcomes:

- Gain mastery in a wide range of regional anaesthetic techniques using a variety of methods to assist in the identification and safe placement of needles and catheters, including in-depth understanding of the place and use of ultrasound
- Gain mastery in the management of surgical lists in which regional anaesthetic techniques have a major role in the peri-operative anaesthetic care and in doing so demonstrate the necessary leadership, communication and team-working skills necessary to ensure this benefits both the patient and the organisation
- Integration of regional anaesthetic techniques into acute pain management in surgical, trauma and medical patients where appropriate
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in regional anaesthesia, evaluate these developments and advise colleagues of useful changes in practice
- Become a balanced advocate for the use of regional anaesthetic techniques

Core clinical learning outcomes:

To be capable of undertaking a wide variety of regional anaesthetic techniques independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of surgical cases performed under regional anaesthesia; have a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having regional anaesthesia as part of their anaesthetic planned care
- Assist colleagues in decisions about the use of regional anaesthesia in difficult situations and where their use might be controversial
- Provide teaching to less experienced colleagues of all grades
- Provide advice to colleagues on the appropriate practice of regional anaesthesia

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, DOPS as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Advanced ultrasound scanning, including: <ul style="list-style-type: none"> • Effect of ultrasound imaging modalities on the performance of regional anaesthetic techniques e.g. harmonic imaging, multibeam, 3D and volume rendering • Use of advanced ultrasound needle design to maximise visibility during procedures • Ideal and non ideal patterns of spread, with respect to efficacy and complications e.g. intraneural and intravascular injection • Detailed knowledge of the relevant sonoanatomy in relation to sectional anatomy, including anatomical variations, of vascular, nervous [e.g. the brachial plexus, lumbosacral plexus and terminal peripheral nerves] and muscular tissues • Knowledge of common ultrasound artefacts • The need to record, and store, ultrasound images relevant to clinical practice 				
Mastery in a wide variety of regional anaesthetic techniques, including but not exclusively: <ul style="list-style-type: none"> • Interscalene, supraclavicular, infraclavicular and axillary approaches to the brachial plexus • Thoracic paravertebral and intrapleural blocks • Lumbar plexus and combined lumbar plexus and sciatic blocks • Other lower limb blocks • Initial placement and use of indwelling catheters 				
Use of advanced ultrasound techniques in regional anaesthesia including neuraxial scanning and catheter placement				
Mastery in the use of adjuncts to enhance safe practice when providing regional anaesthesia techniques [including ultrasound and nerve stimulators]				
With regard to ultrasound, demonstrate high levels of skill including: <ul style="list-style-type: none"> • Use of appropriate selection of probes for different techniques, with precise probe control and minimum unintentional movement • Relevant sonoanatomy of the peripheral nerves and surrounding structures of the brachial plexus and arm, thoracic and lumbar spine, lumbosacral plexus and lower limb, including the muscles of the anterior abdominal wall and inguinal region • Confidence in the performance of regional anaesthetic techniques in these areas 				

Completion of Advanced Level Unit of Training

Regional

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Trauma and stabilisation

Advanced training in trauma should be delivered in designated trauma centres receiving a large number of major trauma cases [ideally 250 per year or more, with an injury Severity Score of over 15]; in addition such units should have neurosurgical services on-site. It is expected six months will need to be spent acquiring all the competencies/learning outcomes in this advanced unit of training. There are many competencies that are common to other advanced units, particularly those related to Transfer and it is anticipated that many trainees who undertake advanced trauma would expect to complete the associated units over a one year advanced programme. Candidates are strongly encouraged to undertake training in major incident management [e.g. MIMMS course].

Learning outcomes:

- Gain mastery in leading the delivery of safe and effective multi-disciplinary care to multiply-injured patients as Trauma Team Leader
- Gain in-depth understanding of the role of pre-hospital care in the clinical management of the multiply-injured patient and how this should link seamlessly with in-hospital care
- Gain mastery in the anaesthetic management of such cases, from reception in the Emergency Department through definitive treatment, and in doing so demonstrate the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both patients and the organisation
- Gain the necessary maturity to guide the choice of audit cycles in developing practice and links with national trauma audit programmes
- Become familiar with recent developments in clinical care in this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of leading the clinical care of the multiply injured patient from reception in the emergency department independently; this implies an ability to:

- Provide leadership in the discussions with the emergency services managing the multiply injured patient at the site of injury through to arrival in the Emergency Department
- Demonstrate good interpersonal skill, assertiveness [when needed] and leadership as Trauma Team Leader when leading the multi-disciplinary team that receives, assesses and delivers the necessary definitive care to the patient
- Provide safe and effective anaesthetic care for a wide-range of complex cases including challenging head, airway, neck and spine, chest, abdominal, spinal, pelvic and limb, soft tissue and vascular trauma in both adults and children, demonstrating a fundamental understanding of the problems encountered
- Show the decision making, organisational and communication skills required of a trauma team leader to manage a busy receiving area for patients with multiple injuries, ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery/further definitive care in difficult situations
- Lead discussions on end of life decisions with compassion, using appropriate language that can be understood by relatives and carers
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Major incident planning within hospitals, the roles and responsibilities of all healthcare professionals [including senior medical staff of all disciplines] and the key roles that the trauma team leader may be required to undertake in such incidents. This will include the ability to respond to requests from the media for information, statements and interviews.				
In-depth knowledge and understanding of the use of: <ul style="list-style-type: none"> • Permissive hypotension [or deliberate temporary under-resuscitation in the face of uncontrolled bleeding] • Immediate thoracotomy in penetrating trauma with witnessed or impending loss of vital signs 				
Responsibilities associated with the role of trauma team leader including: <ul style="list-style-type: none"> • Advising referring hospital or pre-hospital carers at time of referral • Obtaining history from paramedics on arrival and performing or supervising primary and secondary assessments/supervising all spinal precautions • Establishing priorities for investigation, monitoring and intervention including bloods, fluids, analgesics • Coordinating team members, ordering procedures, receiving information, listening to suggestions and resolving disputes/conflicts within the team • Maintaining an overview, avoiding undue involvement in practical procedures, but intervening appropriately in critical situations • Ordering and interpreting investigations, in conjunction with team members, radiologist and other specialists as needed • Requesting surgical intervention and consult with or refer to other specialists where appropriate • Supervising patient transfer and radiological investigation • Arranging destination/bed allocation in the appropriate primary specialty, handing over care to the operating room, intensive care unit or trauma ward, and reviewing subsequently to maintain continuity and informing the family • Excusing team members at the end of the resuscitation, debriefing them after difficult cases • Recording information for quality assurance • Making a record in the hospital notes and sending a letter to the GP and any referring hospital • Ensuring involvement in national trauma audit programmes • Understanding the importance of have no other [conflicting] clinical responsibilities while on duty as trauma team leader 				
Pre-hospital experience, including the use of helicopters for transfer [Cross ref: Transfer]				
Interviews with both press and television reporters, providing factual, non-intrusive information bearing in mind the need to maintain patient confidentiality				
Leading a multi-disciplinary trauma team, co-ordinating and delivering the early hospital care of all types of complex multiply-injured patients including, initial resuscitation and imaging, peri-operative care and appropriate HDU/ICU admission				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Mastery in: <ul style="list-style-type: none"> • Interpretation of plain radiographs and CT scans and in the performance of focused assessment with sonography in trauma [FAST] • Interpretation of near-patient tests such as thromboelastography [TEG] • Managing acute pain relief and airway control in the face of hypovolaemia and/or altered consciousness • Providing immediate analgesia and/or anaesthesia for immediately limb-threatening fractures/dislocation • Use of permissive hypotension [or deliberate temporary under-resuscitation in the face of uncontrolled bleeding] • Immediate thoracotomy in penetrating trauma with witnessed or impending loss of vital signs • Setting up appropriate resuscitation room equipment and preparing contents for transport packs at the strategic and practical level 				

Completion of Advanced Level Unit of Training

Trauma and stabilisation

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Transfer Medicine and Emergency Medical Retrieval

This unit of training is aimed at those trainees with a specialist interest in transfer medicine and retrieval of patients requiring international transfer. It is expected that trainees will have completed the higher Trauma/Stabilisation units along with specialised training in the following as part of this unit:

- Pre-hospital training
- Emergency medical services training
- Basic aeronautical training
- Media training

Because of the skills trainees at this level will acquire, they may also have responsibility for pre-hospital care and therefore some of the key competencies for this speciality have been included within this section.

Learning outcomes:

- Gain mastery in leading the delivery of safe and effective multi-disciplinary care to all patients requiring retrieval and/or transfer, however complex
- Gain in-depth understanding of the role of pre-hospital care in the clinical management of patients requiring retrieval from remote and inhospitable environments, the choices for safe transfer and how this should link seamlessly with in-hospital care
- Gain mastery in the clinical care of such cases and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both patients and the organisation
- Gain the necessary maturity to guide the choice of audit cycles in developing practice and links with national audit programmes
- Become familiar with recent developments in clinical care in this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of leading the clinical care of the most complex patient requiring retrieval/transfer from, and between, any site independently; this implies an ability to:

- Provide leadership in the discussions with the emergency services at the site of injury through to retrieval and transfer
- Demonstrate good interpersonal skills, assertiveness [when needed] and leadership when leading the multi-disciplinary retrieval/transfer team
- Provide safe and effective clinical care to a wide-range of complex cases, both adults and children, requiring retrieval/transfer, demonstrating a fundamental understanding of the problems encountered
- Assist colleagues in decisions about the suitability of retrieval/transfer in difficult situations
- Provide teaching to less experienced colleagues of all grades

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, DOPS as appropriate)
- Multisource feedback

Knowledge	Tick if confident/discussed	Trainer initial	Date	WPBA type
TRANSFER AND RETRIEVAL MEDICINE				
<ul style="list-style-type: none"> • Risks/benefits of patient transfer by air [Cross ref: Transfer-higher] • Hazards associated with prolonged air transfer, including but not exclusively physical, psychological and organisational • How time-critical elements may influence risk to the patient and transfer personnel and explains how they should be managed • Advantages and specific hazards associated with different modes of transport including: Road; Rotary wing aircraft; Fixed wing aircraft [Cross ref: Transfer-higher] • Need for patient stabilisation prior to transfer, as well as the limited nature of interventions possible during prolonged flight • Increased risk involved with critical care interventions in isolated environments • Importance of optimal triage to receiving specialty/hospital • Need for effective communication and documentation at all stages [Cross ref: Transfer-intermediate] • Implications of adults with an incapacity as defined by the Mental Capacity Act • Differing levels of healthcare facilities across a HEMS/EMRS catchment area • Risks and procedures for night time operations 				
CRITICAL CARE				
Critical care equipment carried by HEMS/EMRS, including but not exclusively: <ul style="list-style-type: none"> • Ventilators, including: different modes of ventilation; selection of appropriate parameters in e.g. Asthma/COPD and ARDS • Infusion pumps • Monitoring 				
PRE-HOSPITAL CARE				
Factors involved in scene safety, including but not exclusively: <ul style="list-style-type: none"> • Personnel protective clothing [PPE] • Role of emergency services • Pre-hospital scene management • Triage sieve and sorting • Scene time minimisation while appropriately treating and stabilising patients for transfer 				
<ul style="list-style-type: none"> • Situational awareness and safety at the scene • The concept of key differences between hospital and the pre-hospital environment 				
Current criteria for emergency pre-hospital retrieval and the relevant standard operating procedures [SOPS]				
<ul style="list-style-type: none"> • Basic techniques for vehicle extrication • Mode of transport decision process 				
<ul style="list-style-type: none"> • Pre-hospital sedation/analgesia to facilitate extrication • HAZCHEM systems and decontamination 				
NON-TECHNICAL SKILLS INCLUDING CRM				
Concept of non-technical skills or crew resource management [CRM]; component parts of [CRM], including but not exclusively: <ul style="list-style-type: none"> • Situational awareness • Source of errors • Stress and fatigue on performance • Decision making • Leadership and team working 				

Knowledge	Tick if confident/discussed	Trainer initial	Date	WPBA type
AVIATION				
Civil aviation law in respect of, but not exclusively: <ul style="list-style-type: none"> • Visual flight rules • Instrument flight rules and amendments specific to HEMS type operations 				
Environmental effects and their implications on flight such as weather and night				
Process and considerations for the selection of a helicopter landing site and including safety issues				
Procedure for boarding and disembarking an aircraft with engines running				
Onboard communications systems				
Safety procedures for specific aircraft, including but not exclusively: <ul style="list-style-type: none"> • Eurocopter EC135 • Westland Sea King • Beechcraft King Air • Sikorsky S-92 				
Basic map navigation				
MAJOR INCIDENT MANAGEMENT				
In-depth knowledge of: <ul style="list-style-type: none"> • Major incident definition and its management in a rural context • HEMS/EMRS response to a major incident • Major incident management including operational [bronze]/tactical [silver] and strategic [gold] levels of command • Roles of each emergency service represented at the scene • CHALETS structure to major incident information • Component parts of the CSCATTT acronym for prioritisation of tasks at the scene • Variation of HEMS/EMRS role in major incidents 				
Use of radio communications and associated etiquette for that particular communications network				
GOVERNANCE				
In-depth knowledge of: <ul style="list-style-type: none"> • Risk management including significant event reporting, root cause analysis and risk assessment • Importance of SOPs and checklists • Need for continuous audit of procedures and outcomes against appropriate standards 				
Equipment maintenance standards including daily and monthly checks				
ADMINISTRATION AND MANAGEMENT				
Procedures involved in maintenance of drug and equipment stock				
Procedures for purchasing new equipment				

Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
TRANSFER AND RETRIEVAL MEDICINE				
Evaluating risk/benefit for spectrum of patients referred to HEMS/EMRS				
Selecting the appropriate mode of transport				
Stabilising patient for transfer with a view to minimising specific risks				
Optimal packaging of patient in order to minimise risks				
Managing retrieval referral from initial call to arrival destination under direct supervision				
Seeking appropriate information to ensure treatment is appropriate under Mental Capacity Act				
Demands and constraints faced by rural primary care practitioners				
Important role of non-medical transfer personnel e.g. aircrew				
CRITICAL CARE				
Assessment and treatment of critically ill patients in a structured and prioritised fashion				
Resuscitation and stabilisation of critically ill patients and optimise safety during transfer				
Patient ventilation using transfer ventilators used by HEMS/EMRS				
Establishment of invasive monitoring of blood pressure				
Establishment of central venous access				
Treatment of tension and simple pneumothorax, and haemothorax				
Establishment of infusion of inotrope/vasopressor				
Safe packaging of a sedated, ventilated patient for transfer				
Seeking appropriate information to ensure treatment appropriate under the Adult with Incapacity Act				
Limitations of critical care and the place of 'end of life' decisions				
PRE-HOSPITAL CARE				
Identifying and liaising with the site controller at a major incident				
Skills of triage appropriate for the situation				
Safe extrication skills appropriate for the situation				
Identifying when patient is in an appropriate condition for transfer and most appropriate mode of transport				
Situational awareness and safety in transfers, both primary and secondary				

Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
Working in unusual/adverse situations; seeking help and advice when necessary				
Crew resource management (CRM) skills				
Advanced aero (visual), maritime and land navigation skills				
Media handling skills for the situation				
Audit of processes, recording of any critical incidents; involvement in research				
Assessing and approaching the scene taking responsibility for own safety				
Functioning as an effective team member during all aspects of pre-hospital care including pre-hospital emergency anaesthesia				
Effective communication with other team members and emergency services at the scene				
Pelvic and limb splintage				
Spinal immobilisation and packaging of patient prior to transfer				
Personal and professional hazards in operating in the pre-hospital care environment and the ability to utilise PPE				
NON-TECHNICAL SKILLS INCLUDING CRM				
Application of CRM principles in the HEMS/EMRS environment				
Situational awareness and maintenance of situational awareness in others				
Effective communication skills and assertiveness including 'speaking up'				
Functioning as a team leader and team member when appropriate				
Insight into the effects of stress and fatigue on own ability to perform safely and effectively				
Developing non-technical skills in parallel to technical competence				
Active participation in briefing and de-briefing				
AVIATION				
Application of civil aviation law and operational considerations to the HEMS primary and retrieval missions				
Safe embarkation and disembarkation from aircraft while engines are running				
Using onboard voice communication suite for optimal communications including appropriate phraseology and phonetic alphabet				
Loading of equipment, stretcher and patient via cabin doors while engines are running [hot load/unload]				
Provision of aircraft captain/flying pilot with running commentary when 'on comms'				
Participation in selection of helicopter landing site				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Differing considerations when flying with military SAR services				
Participation as a crew member and responsibility for own safety and role within the team				
MAJOR INCIDENT MANAGEMENT				
Effective communication and participation using the CHALETS and CSCATTT framework				
Triage of casualties using sieve and sort frameworks				
GOVERNANCE				
Ability to write SOPs and checklists				
Identification of and reporting of significant events				
Contribution to analysis of significant events and development of solutions to identified problems				
Presentation of incidents/cases to clinical governance meetings				
Adherence to SOPs and checklists; and encouraging others to do so				
Adherence to equipment checking schedules and procedures				

Acknowledgement: adapted from The Emergency Medical Retrieval Service of Scotland Curriculum and Competency Objectives

Completion of Advanced Level Unit of Training

Transfer Medicine and Emergency Medical Retrieval

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Obstetric

Advanced training in obstetric anaesthesia should be delivered in centres which include dedicated obstetric high dependency care facilities and that undertake a wide variety of complex elective and emergency obstetric cases and procedures.

Learning outcomes:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to patients undergoing complex obstetric procedures
- Gain mastery in the management of busy labour ward and elective and emergency obstetric theatre sessions, and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex obstetric cases and list management independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of obstetric cases performed both in the labour ward and theatre, demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy labour ward and operating sessions, ensuring that the care delivered is safe and timely, benefiting both patients and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all members of the multi-disciplinary team

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, CBD as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
In-depth understanding of the principles and practices of the use of local infiltration for Caesarean section and caudal anaesthesia in obstetrics				
In-depth knowledge of obstetric practice, particularly intra-partum management, and related midwifery and paediatric issues				
In-depth understanding of general ultrasound and Doppler study estimations of fetal well-being				
In-depth understanding of the specific risk management issues related to obstetric practice and the potential medico-legal consequences				

Completion of Advanced Level Unit of Training

Obstetric

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Paediatric

Advanced training in paediatric anaesthesia should be delivered in a designated specialist centre undertaking a wide variety of complex elective and emergency paediatric procedures, with the necessary associated paediatric critical care facilities. This Paediatric unit is designed for those trainees who wish to be paediatric leads in the DGH environment (6 months) and those trainees who wish to specialise as paediatric anaesthetists in a tertiary centre (12 months) Trainees are encouraged to gain experience in more than one such centre if at all possible **during their overall training**. In its simplest form this might include paediatric anaesthetic practice in both the tertiary centre and a DGH within a rotational training programme. However 12 months training in a tertiary centre is essential for those wishing to practice as specialist paediatric anaesthetists. Both six and twelve month placements should include aspects of paediatric critical care.

Learning outcomes:

For a DGH anaesthetist with a regular commitment to children's anaesthesia:

To be capable of practising anaesthesia post-CCT with a special interest in paediatric anaesthesia as a consultant with specific responsibility for paediatric anaesthesia in a district general hospital. This implies an ability to:

- Gain mastery in the delivery of safe and effective perioperative/peri-procedural anaesthetic care to a wide-range of paediatric surgery/procedures normally performed in the DGH , including those with complex co-existing disease
- Gain mastery in the management of such cases, and the critically ill child when needed, and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to paediatric clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Communicate compassionately and effectively with children and young people, parents and other carers throughout the surgical episode, and also communicate effectively within the multi-disciplinary paediatric team
- Gain the necessary maturity to guide the choice of audit cycles in developing practice within this subspecialty area and understand the legality of consent in children and young people, in relation to research, restraint and procedures
- Become familiar with recent developments in perioperative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Knowledge of the drivers for the provision of paediatric services in the DGH [National Service Frameworks etc]

For the Paediatric specialist in a Tertiary centre, in addition to the above:

To be capable of practising post-CCT anaesthesia as a consultant paediatric anaesthetist in a specialist paediatric hospital or tertiary referral centre. This implies an ability to:

- Gain mastery in the delivery of safe and effective perioperative anaesthetic care to a wide range of complex paediatric surgical cases, including the very premature sick neonate and those children with complex co-existing disease. The precise skill mix required will depend upon the nature of the post and may or may not include patients undergoing cardiothoracic or neuro surgery.

Knowledge of the drivers for the provision of paediatric services in the tertiary centre

Core clinical learning outcomes:**For a DGH anaesthetist with a regular commitment to children's anaesthesia:**

To be capable of undertaking the perioperative anaesthetic care for a wide variety of paediatric procedures performed in the DGH environment independently; this implies an ability to:

- Provide perioperative anaesthetic care to a wide-range of such cases demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy paediatric surgical/procedural sessions ensuring that the care delivered to patients is safe and timely, benefiting both the patient and the organisation
- Communicate compassionately and effectively with children and young people, parents and other carers and members of the multidisciplinary team
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades

For the Paediatric specialist in a tertiary centre, additionally:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex paediatric [including neonates] surgery and other procedures independently. This implies the ability to demonstrate the above core outcomes to this level of practice.

Finally, all trainees must maintain their training in child protection. For those aspiring to be career paediatric anaesthetists, additional training is advised.

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, ALMAT, CBD, DOPS as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Strategies for managing neonates and children with congenital diseases that have relevance to their perioperative anaesthetic care				
Factors involved in development and running a paediatric acute pain service				
Recognising and instituting correct chronic pain management in children and young people				
Managing the paediatric difficult airway, including fibreoptic techniques				
Advanced vascular access, including central venous & arterial cannulation including familiarity and use of 2D ultrasound to assist with insertion techniques				
Sedation, including the selection, management and monitoring of children for diagnostic and therapeutic procedures, with particular attention to working in areas outside the theatre suite but within the hospital environment				
Effective leadership in resuscitation and stabilisation of the critically ill child requiring transfer				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Leadership in relation to Child Protection issues				

Completion of Advanced Level Unit of Training

Paediatric

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes necessary for a:

Consultant post in a DGH with a regular commitment to children's anaesthesia?	Yes	No
Paediatric specialist post in a tertiary referral centre?	Yes	No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Pain medicine

Advanced pain medicine training should be delivered in a designated multi-disciplinary specialist centre[s] undertaking a wide variety of pain management services spanning the full range of pain medicine treatment options/plans. Trainees are expected to spend 12 months in this dedicated advanced unit of training in addition to the time spent in intermediate and higher training, which is considered the minimum required for those aiming for a consultant appointment with sessions in pain medicine. In addition, the Faculty of Pain Medicine recommend that all those who are appointed as Lead for Acute Pain Services should have completed this advanced unit of training in pain medicine. Clinical experience should be gained by exposure to a wide range of clinical pain medicine problems including:

- Acute pain after surgery and non-surgical acute pain
- Different types of chronic pain
- Pain and other symptoms associated with cancer
- Special patient groups including the elderly, children, those with physical disabilities, learning disabilities, communication problems, drug addiction and abuse problems

When possible, trainees are encouraged to seek opportunities to gain pain medicine training and experience in more than one centre, which must comply with the Faculty of Pain Medicine criteria [Providing Advanced Training in Pain Medicine for Anaesthetists – Guide for Regional Advisers, Trainers and Trainees – available on RCoA website]. A useful learning resource is the IASP Core Curriculum for Professional Education in Pain 3rd edition [2005]. Finally, trainees will keep a logbook and must successfully complete the prescribed assessment schedule of the Faculty of Pain Medicine.

Learning outcomes:

- Gain mastery in the delivery of safe and effective pain medicine care to patients with a wide variety of conditions
- Gain mastery in the management of such cases and in doing so demonstrating the necessary multi-disciplinary leadership, communication and team-working skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, optimising throughput whilst not compromising patient safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in the practice of pain medicine, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of delivering all aspects of pain medicine as an independent practitioner. This implies:

- Having a comprehensive knowledge of pain medicine service delivery
- Being able to assess a wide variety of patients with pain using a biopsychosocial model including, history taking, physical examination, psychological assessment and interpretation of investigations
- Being aware of the treatment options available to provide effective management for patients with acute, chronic and cancer pain
- Becoming technically proficient in a range of procedures for pain medicine
- Having the communication and organisational skills to be an effective member of the multi-disciplinary pain medicine team
- Demonstrating empathy when caring for patients with pain
- Providing clinical leadership in the development of comprehensive pain medicine services, for the benefit of both patients and the organisation
- Acting as an effective teacher of pain medicine topics
- Being able to assess evidence from research related to pain medicine

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX, CBD, DOPS as appropriate)
- Multisource feedback

Knowledge	Tick if confident/ discussed	Trainer initial	Date	WPBA type
CORE				
Importance of epidemiology in pain medicine practice				
Principles of psychological assessment of patients with pain				
Doctor's contribution to pain management programmes to include a cognitive behavioural approach				
Principles of pain management in patients with problem drug use, physiological tolerance, psychological dependence and addiction				
Principles, practice and evidence for neural blockade and other interventions to treat chronic and cancer pain				
Principles for placement and management of implantable drug delivery pumps				
Principles and indications for spinal cord stimulation [Cross ref: sub syllabus]				
Basic principles and indications for neurosurgical techniques in pain medicine				
Principles of palliative medicine				
Importance of medico-legal issues in pain medicine				
Principles of paediatric pain medicine [Cross ref: sub syllabus]				
Role of rehabilitation services and techniques				
Importance of socio-economic, cultural and ethical issues in pain medicine				
General and specific criteria for the proper development of pain medicine practice within the wider clinical and management contexts				
Business management principles for pain services				
Factors influencing the organisation and development of pain medicine services; how service development and practices can be implemented and evaluated				
OPTIONAL SUB-SPECIALTY INTERESTS [may not be available at all training centres and every component may not be necessary for an individual]				
SPINAL CORD STIMULATION				
Science related to SCS				
Evidence base for SCS in different pain conditions including indications and contraindications				

Knowledge	Tick if confident/ discussed	Trainer initial	Date	WPBA type
Practical aspects of SCS devices and interactions with other devices/equipment				
Biopsychosocial aspects of pain that may interact with the use of SCS				
Local referral pathways for patients being considered for SCS				

Knowledge	Tick if confident/ discussed	Trainer initial	Date	WPBA type
PAEDIATRIC PAIN MEDICINE				
Developmental neurobiology of pain, including nociception, ontology of neuropathic pain and the long term consequences of pain in infancy and childhood				
Developmental, contextual and practical considerations in acute procedural and chronic pain assessment in infants, children and adolescents				
Ethical and legal aspects of prescribing for children				
Evidence base for effective treatments for children of different ages and in different contexts				
Pain pharmacotherapy in infants, children and adolescents				
Biopsychosocial aspects: the role of the family and society in children's pain				
Provision of health and education services for children and the initiation of effective multidisciplinary working				
Organisational aspects of children's pain services including acute [postoperative and procedural], cancer pain and palliative medicine, and chronic pain				
Child protection risks and procedures				
Non pharmacological treatments				
Common pain syndromes in childhood				
CANCER PAIN				
Mechanisms of pain in the cancer patient				
Complex psychosocial dynamics in cancer pain				
Principles, practice and evidence for neurolytic blockade [including autonomic, peripheral and regional techniques]				
Principles, practice and evidence for the insertion and management of external and internal implantable drug delivery systems, both peripheral and central for the management of cancer pain				
The place and limitation of spinal stabilisation techniques [vertebroplasty and kyphoplasty], percutaneous cordotomy and highly specialised techniques with the management of cancer pain				
Basic principles of chemotherapy and radiotherapy in the management of cancer pain				
Structure of the palliative care system, and its interaction with primary and secondary care				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
CORE				
Comprehensive and focused assessment of patients with pain, including but not exclusively: <ul style="list-style-type: none"> • History taking • Physical examination • Psychological assessment • Indications for and interpretation of investigations 				
Recognition of patients with pain who have psychological problems and who require psychological evaluation, and application of established treatments for the management of psychological distress in those with pain				
Recognition of patients with pain who require referral or support from other specialties				
Safe and effective use of a comprehensive number of neural blockade procedures for pain management including cancer pain [see cancer pain additional curriculum details]				
Techniques for insertion of tunnelled or implanted spinal [epidural or intrathecal] drug delivery systems				
Basic practice of stimulation induced analgesia e.g. TENS				
Application of audit to pain medicine				
Ability to undertake research in pain medicine				
Responsibilities when undertaking medico-legal work				
Empathy when caring for patients with pain				
Clinical boundaries of anaesthetist-led pain services in providing pain management for a wide range of patients in diverse clinical settings				
Safe and competent use of imaging techniques during pain medicine procedures				
Active participation in educational programmes within pain medicine				
Active participation and presentation in departmental and multi-disciplinary team meetings as part of safe and effective pain medicine patient management				
OPTIONAL SUB-SPECIALTY INTERESTS [may not be available at all training centres and every component may not be necessary for an individual]				
SPINAL CORD STIMULATION				
Making an accurate assessment of pain in the context of neuromodulation				
Working in a multidisciplinary team				
Recognition of complications and referral to other appropriate teams/specialists when needed				
Appreciation of appropriate skills mix for multidisciplinary management in neuromodulation				
Effective communication with other healthcare professionals in primary and secondary care e.g. surgical specialties for assessment and treatment of complications and communication with specialist teams offering SCS therapy				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
PAEDIATRIC PAIN MEDICINE				
Accurate assessment of pain intensity in infants, children and adolescents including the premature neonate and child with neurodevelopmental delay				
Safe and effective pharmacological management of acute and procedural pain in all ages including the premature neonate				
Leading multidisciplinary management of chronic and cancer pain in children				
Performing necessary practical procedures for safe, effective evidence based practice				
Managing transition from paediatric to adult health and social services where appropriate				
Initiating and taking an appropriate [including leading] role in child protection processes				
Effective communication with <ul style="list-style-type: none"> • Children and families • Other paediatric healthcare professionals • Social, educational and community paediatric services 				
Appreciation of appropriate skills mix for multidisciplinary pain management in children of different ages, abilities and social educational needs				
Taking effective leadership role in children's pain management				
CANCER PAIN				
Assessing pain accurately in the cancer pain patient				
Working in a multi-disciplinary team				
Performing neurolytic blockade [including autonomic, peripheral and regional techniques] in the management of cancer pain				
Setting up and managing external and internal implantable drug delivery systems, both peripheral and central, for the management of cancer pain				
Delivering, where appropriate, some of the highly specialised treatments for the management of cancer pain, including but not exclusively, percutaneous cordotomy				
Effective communication with: <ul style="list-style-type: none"> • Patients and families/carers • Other healthcare professionals in primary and secondary care 				
Appreciation of the need for multi-disciplinary management in the cancer sufferer				

Completion of Advanced Level Unit of Training

Pain medicine

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Assessments

Has the trainee completed successfully an appropriate number of Faculty of Pain Medicine WPBA?
Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Plastics/Burns

Advanced training for plastics and burns should be delivered in a designated specialist centre, with burns critical care facilities, that undertakes a wide variety of complex elective and emergency cases. It is recommended that a minimum of six months should be devoted to this unit of training. In addition to the essential Higher level units of training in adult intensive care medicine, paediatric anaesthesia and airway, the Higher trauma and regional anaesthesia units of training contain a significant number of relevant competencies and are recommended to trainees with career aspirations of the trainee within this area of practice. For those intending to have a major interest in the management of burns, Step 2 training in Intensive Care Medicine may be advisable and should be discussed early with trainers in anaesthesia and ICM and the TPD who will need to accommodate such requests into a busy programme.

Learning outcomes:

- Gain mastery in the delivery of safe and effective peri-operative anaesthetic care to patients undergoing complex burns and plastics procedures, both elective and emergency
- Gain mastery in the management of such major burns and plastics lists demonstrating the necessary multi-disciplinary leadership, communication and teamworking skills necessary to ensure the care delivered benefits both the patient and the organisation
- Gain experience of admission, resuscitation & subsequent intensive care management of severely burned patients, including inhalational injuries [Cross ref: ICM]
- Gain maturity in understanding the importance of utilising the time allocated to clinical sessions effectively, so maximising patient throughput whilst not compromising safety
- Gain the necessary maturity to guide the choice of audit cycles in developing practice
- Become familiar with recent developments in peri-operative anaesthetic care to this area of practice, evaluate these developments and advise colleagues of useful changes in practice

Core clinical learning outcomes:

To be capable of undertaking the perioperative anaesthetic care for a wide variety of complex plastics and burns cases independently; this implies an ability to:

- Manage perioperative anaesthetic care for highly complex plastics and burns cases independently [including major reconstructive surgery] demonstrating a fundamental understanding of the problems encountered
- Show the decision making and organisational skills required of an anaesthetist to manage busy operating sessions that involve patients having major plastics and burns surgery ensuring that the care delivered is safe and timely, benefiting both the patient and the organisation
- Assist colleagues in decisions about the suitability of surgery in difficult situations
- Provide teaching to less experienced colleagues of all grades
- Anaesthetise adult patients for major burns excision & grafting surgery independently

Requirements for completion of units:

- Appropriate numbers of cases & case mix
- Achievement of core clinical learning outcomes including generic and specialty-specific domains.
- Sufficient range of WPBAs to demonstrate achievement of core clinical learning outcomes (A-CEX,ALMAT, CBD as appropriate)
- Multisource feedback

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
Decision making and clinical reasoning required to promote the use of safe and effective perioperative anaesthetic care for all elective and emergency plastics & burns surgical case whilst also recognising their limitations, showing maturity in the final decision making process				
In-depth knowledge of the clinical & organisational problems of the critical care management of the severely burned patient including but not confined to: <ul style="list-style-type: none"> • Admission & initial assessment on arrival in the specialist ICU • Diagnosis, initial & advanced management of inhalational injury • Management of carbon monoxide poisoning • Management of severe infection • Design requirements of a specialist burns unit [Cross ref: ICM] 				
Maturity in the decision making, clinical reasoning and clinical leadership skills required to engage appropriately with colleagues in the multi-disciplinary team, so providing high quality, safe peri-operative anaesthetic care for a wide variety of complex elective and emergency plastics & burns surgery cases, including, but not exclusively for patients requiring: <ul style="list-style-type: none"> • Free-flap reconstructive surgery • Burns excision & grafting • Management of complex airway problems, particularly on commencement of anaesthesia including fiberoptic intubation techniques [Cross ref: ENT, airway] 				
Ability to perform a range of local & regional anaesthetic techniques suitable for plastic surgical cases performed on the upper & lower limbs [Cross ref: regional]				
Confidence & maturity in the intensive care management of the specific issues of the severely burned patient including but not confined to: <ul style="list-style-type: none"> • Initial assessment and formulation of a management plan with other members of the multi-disciplinary team on arrival in the specialist burns unit • Management of inhalational injuries including inhaled toxins e.g. carbon monoxide poisoning • Communication with patients and relatives 				

Completion of Advanced Level Unit of Training

Plastics/Burns

Trainee name:

GMC no:

Generic domains *(need not be repeated for each advanced unit completed)*

Has the trainee achieved the generic advanced level competencies required?

Clinical practice	Yes	No
Team working	Yes	No
Leadership	Yes	No
Innovation	Yes	No
Management	Yes	No
Education	Yes	No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes Yes No

Comments

Signed: Name (Print): Date:

(College Tutor, Unit Lead, Educational Supervisor)

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

Signed: Name (Print): Date:

(Trainee)

Academic & research [including audit]

The advanced unit will be undertaken as an attachment to an individual [not department] who is an experienced clinical investigator. At the end of this training the learner will have participated in the development, data collection, analysis and reporting [by presentation and as a scientific paper] of a study relating to clinical practice. It is understood that all these stages of work may not take place during the learners attachment and where that is the case they should write a report relating to the progress of the aspects of the work in which they were not able to participate directly. The emphasis must be on the potential value of a project rather than on the necessity of getting a project done, however weak the idea.

The focus will be on clinical research methods. Trainees who undertake this unit will be equipped to develop a special interest in research in their subsequent career, ideally working within a local research network. They will teach research methods to junior trainees and represent a knowledgeable, responsible attitude to enquiry and practice development.

Assessment:

- Evaluation of placement by academic supervisor
- Preparation of a review article to a standard suitable for publication
- Engagement in a clinical research project and understanding of all aspects of the work

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
EVIDENCE BASED PRACTICE				
Leadership in relation to evidence based practice				
How to undertake thorough data searches including involving professional literature				
Up to date with current clinical and research literature in own areas of interest				
Contribute to the development of local and national clinical guidelines and protocols				
Champion practice change supported by audit				
MONITORING PRACTICE				
Understand role as an opinion leader in maintaining standards of practice through audit				
Organise or lead departmental audit and/or morbidity and mortality meetings				
Lead a complete audit cycle including development of conclusions, the changes needed for improvement, implementation of findings and re-audit to assess effectiveness of the changes				
DEVELOPING PRACTICE				
Present clinical and academic work at deanery and national scientific meetings where possible [as oral presentation or poster]				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
How to produce a poster summarising a project for presentation				
Willingness to encourage and take part in research				
Application for appropriate ethical research approval				
Following of guidelines on ethical conduct in research and consent for research				
Ability to write a scientific paper				
Attendance at relevant national and international meetings				

Completion of Advanced Level Unit of Training

Academic & research [including audit]

Trainee name:

GMC no:

Evaluation of placement by academic supervisor

Has the trainee satisfactorily completed the placement? Yes No

Review article

Has the trainee prepared a review article to a standard suitable for publication? Yes No

Clinical research project

Has the trainee engaged in a clinical research project and demonstrated an understanding of all aspects of the work? Yes No

Comments

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

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

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

Teaching & learning

Optional additional Advanced Level unit of training for an 'In' or 'Out' of programme Fellowship placement

This optional advanced training is intended for trainees who are considering developing a special interest in medical education in their consultant career and might include a certificate in medical education. To undertake this training the learner must be supervised by an individual recognised as an expert in anaesthetic medical education by the School of Anaesthesia. The availability of proper teaching and supervision must be ensured before a trainee is allowed to embark on this unit.

The objective is to provide familiarity with the principles and practice of education such that the learner can plan to develop a special interest in some aspect of education in their subsequent career. The College makes the following recommendations for this placement:

- Trainees must have at least 2.5 days a week of protected time for their education learning during their unit that can be up to 12 months long
- They should undertake frequent teaching sessions in a variety of settings ranging from formal lecturing to opportunistic teaching in clinical situations
- They should be formally allocated to supervise and teach more junior colleagues in clinical situations including the operating theatre
- They should conduct practical skills training using both part-task trainers and intermediate fidelity simulators
- In the course of their unit they should undertake the organisation of an educational meeting and should keep a written account of the process in their portfolio
- They should organise an education project or development and should keep a written account of the process in their portfolio

Core learning objectives:

- Teach in a variety of ways using a variety of teaching aids in order to deliver interesting sessions
- Teach a wide variety of learners in a wide variety of settings
- Engage with inter-professional learning
- Receive good feedback on teaching
- Be familiar with relevant educational theory e.g. principles of adult learning, learning styles etc relevant to medical education
- Be able to plan and prepare a course; including designing the curriculum, planning appropriate teaching to cover the curriculum, organising a timetable and planning any assessment
- Understand relevant theory relating to planning assessments such as validity and reliability
- Be able to review, understand and explain to others the significance of developments in education and medical research
- Be expert in the use of teaching aids
- Teach using intermediate-fidelity simulation
- Be able to act as an advocate for education in departmental planning

Assessment:

- Present a portfolio of achievements as a higher trainee which should include engagement with and completion of significant projects in teaching, in the organisation of teaching and in developing an understanding of educational theory

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Learning theory: <ul style="list-style-type: none"> • Relevant educational theories and principles • Adult learning principles relevant to medical education • Concept of preferred learning styles • How to choose appropriate learning methods for developing specific learning outcomes • Processes leading to the acquisition of practical skills 				
Assessment methodology: <ul style="list-style-type: none"> • Features influencing the efficacy of an assessment methodology [validity, reliability, feasibility etc] • What is meant by reliability, its importance and the factors that influence it • What is meant by validity and the different types of validity that have been described 				
Small group teaching: <ul style="list-style-type: none"> • How to plan small-group teaching • How to facilitate small-group discussions • How the participants personality influences their performance in small-group teaching 				
Curriculum development: <ul style="list-style-type: none"> • How to develop a curriculum for a teaching/learning task • Process of developing lessons/learning sessions from curriculum 				
Importance of preparing hand-outs for formal teaching sessions				
Various factors that contribute to the under-performance of learners				
Use of e-learning in the overall context of teaching				
Role of non-technical skills in the practice of anaesthesia				
Simulation: <ul style="list-style-type: none"> • Appropriate use of simulation in medical education • Variety of simulator methods available [actors, standardised patients, part-task trainers, high and intermediate fidelity] • Appropriate ways to use simulation in training • How mistakes are made and errors occur in practice and how simulator training can help clinicians to be aware of problems and improve safety • Use of simulators for team and communication skill training • Principles of crisis resource management in anaesthesia • How to use part-task trainers and intermediate fidelity simulators in small-group teaching 				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
How to organise an educational event [meeting]: <ul style="list-style-type: none"> • Choice of sessions, speakers etc • Timing of sessions, breaks etc • Organisation of facilities – including meals etc • Arrangements for organising registration etc on the day • Need for appropriate feedback and how to feed this back to the participants 				
Formative and summative assessment and their role in medical education				
Role of workplace-based assessments, assessment tools in use, their relationship to course learning outcomes, factors that influence their selection and need for monitoring evaluation				
Importance of research in the development of education practice; methodology and statistics involved				
Importance of the role of the physician as an educator within the multi-professional healthcare team; use of medical education to enhance the care of patients				
Willingness to become involved in the wider medical education activities and an enthusiasm for medical education activity in others				
Contribution to educational policy and development at local or national levels				
Literature relevant to developments and challenges in medical education and other sectors				
Participation in national and international practice through membership of specialist societies, reading of relevant specialist journals and participation in education meetings				
Responsibilities inherent in the role of advocate and arbiter within the field of medical education				
How special training in education will contribute to further career development				
General and specific criteria for the proper development of education within the clinical and management contexts of a department of anaesthesia				
Critical evaluation of relevant educational literature				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Teaching experience: <ul style="list-style-type: none"> • Undertake a variety of teaching – including planning the sessions and delivering education using several methods • Teach at a variety of levels such as medical students, foundation trainees, CT and ST trainees in anaesthesia and in other specialties • Undertake teaching in inter-professional events • Present at formal meetings • Produce an appropriate hand-out to accompany presentation[s] • Produce feed-back form for teaching • Use part-task trainer and intermediate-fidelity simulator for clinical teaching • Lead small-group seminars; acting as facilitator 				
Visual aids: <ul style="list-style-type: none"> • Produce excellent visual-aids using PowerPoint© or similar programme • Become an experienced PowerPoint© user; able to incorporate sound and video in presentations • Teach others how to develop effective presentations using PowerPoint© 				
Contribute to educational research or projects e.g. through the development of research ideas of data/information gathering				
Engage in activities to help others develop their medical education capabilities				
Manage personal time and resources effectively to the benefit of the educational faculty and the need of the learners behaviour				
Engage in education research including the acquisition of associated research methodologies and statistical techniques (<i>optional</i>)				
Teach 'education' at intermediate and higher level				
Record experiences of advanced training unit in a comprehensive education portfolio				
Attend a national or international medical education meeting				
Engage in the introduction of a new educational development [course, meeting, assessment etc]				
Organise an educational meeting				

Teaching & learning

Trainee name:

GMC no:

Portfolio review

Has the trainee kept a portfolio of achievements as a higher trainee which includes:

Engagement in and completion of significant projects in teaching?	Yes	No
Organisation of teaching?	Yes	No
Developing an understanding of educational theory?	Yes	No

Comments

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

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

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

Management

Trainees may undertake an advanced unit of management training. For this to be effective it needs to be at least six months long and it is recommended that placements of a year be considered. Such placements may include a day per week of general duties in anaesthesia but the shift pattern must be adjusted to allow the trainee to participate fully in trust management activities. The trainee must work under the supervision of a senior manager [who need not be a doctor]. The trainee must work closely on a day to day basis with their supervisor, and should be delegate tasks within their supervisor's management responsibility. The placement may be to any sector of NHS management not necessarily one directly concerned with anaesthesia.

The learner must participate in the development of a management response to introduce a new or changed practice. They should be involved with every stage of the project which should include preparation of the proposal, development of an action plan, promoting the proposal to stakeholders, carrying through the proposal and monitoring the effects of implementation. This project should be recorded in a reflective diary which will form the basis of their assessment. The capacity to offer participation in a project is a sine qua non of allowing a trainee to undertake advanced training.

Where trainees are undertaking this unit in association with a formal university based qualification in management at the advanced diploma or masters level then the requirements of this unit can be varied to reconcile them with the work and assessment tasks required for that qualification. This MUST be agreed by the RCoA and the GMC in advance.

Learning outcomes:

- Understand the management process and structures at Trust level; know the functions of the various management and administrative departments and how they communicate and cooperate.
- Understand the national processes by which health policy is developed, promoted, disseminated, introduced and monitored
- Be able to plan a project involving change and characterise the steps in its development
- Have a deep understanding of the role of the different professionals in the organisation of the health service and know the importance of encouraging interprofessional understanding and working

Assessment:

- Maintain reflective portfolio of secondment including detailed report of a 'project'
- Present a synopsis of their experiences as an advanced management trainee in a local educational forum and obtain formal feedback to be kept in their portfolio
- Teach one or more management seminars for trainee anaesthetists
- Research and prepare an article on an aspect of the role of doctors in management to a standard suitable for publication
- Attend national course on management for doctors or local multi-specialty or inter-professional learning events

Knowledge	Tick if confident/discussed	Trainer initial	Date	WPBA type
LOCAL				
Important roles in trust management including clinical director, medical director, finance director and chief executive				
Divisions of management, responsibility and lines of accountability within own organisation				
Process of commissioning and systems in place locally for agreeing contracts with commissioners				
Role of commissioning trusts				
How secondary services such as anaesthesia are accounted for in developing contracts				
How the hospital's budget is calculated				
How to develop a proposal for a management innovation [new service, expanded service, educational development etc]				
Own special role in explaining and promoting the management process within own clinical specialty				
Importance of reading journals to keep abreast of trends in management				
NATIONAL				
Role of the SHA (or its successor), its responsibilities and how the SHA and providers cooperate and communicate				
Role of the SHA (or its successor) in workforce development and planning				
How national service and quality targets are set; organisations and processes used to monitor those targets				
Structure of the Department of Health and its departments				
Role of Royal Colleges in health policy and management and the role of the Academy of Royal Colleges				
How health policy is developed including the role of public consultation				
Role of the public and patient representatives in determining health policy				
Impact of ethical issues on health policy and the development of new treatments				
Recent trends in management				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Undertake management tasks on behalf of supervisor including: <ul style="list-style-type: none"> • Prepare papers to present at meetings • Research issues to brief relevant members of the team • Prepare presentations • Deliver presentations • Develop option appraisals in relation to impending decisions 				
Attend management meetings and where appropriate contribute to debate and discussion				
Undertake a project to develop a proposal involving a change of practice. [This is an essential element of a secondment to management]				
Attend national or international meetings relating to service organisation – preferably in the role of official trust representative – and report relevant outcomes to local management				

Completion of Advanced Level Unit of Training

Management

Trainee name:

GMC no:

Portfolio

Has the trainee maintained a reflective portfolio of the secondment including a detailed report of a 'project'? Yes No

Presentation

Has the trainee presented a synopsis of their experiences as an advanced management trainee in a local educational forum and obtained formal feedback? Yes No

Teaching of management skills

Has the trainee taught in one or more management seminars for trainee anaesthetists? Yes No

Management article

Has the trainee researched and prepared an article on an aspect of the role of doctors in management to a standard suitable for publication? Yes No

Attendance at management course/event

Has the trainee attended a national course on management for doctors or a local multi-specialty or inter-professional learning event? Yes No

Comments

Signed: Name (Print): Date:
(Clinical/Management 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

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

Assessment:

- Presentation of a Quality Improvement project through poster, case study or oral presentation ideally at a regional, national or international quality forum
- Supervises a Quality Improvement project involving trainees at basic / intermediate level
- Leads in learning sets (face to face or web based)
- 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			
PROCESS			
Explains the definition of processes, process mapping and assessment of process value			

Knowledge	Tick if confident/discussed	Trainer initial	Date
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			
RELIABILITY			
Describes 4 levels of system reliability and how this is calculated			
Describes one simple way to evaluate local system reliability			

Knowledge	Tick if confident/ discussed	Trainer initial	Date
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			
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			

Skills	Tick if confident/ discussed	Trainer initial	Date
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			

Completion of Advanced Level Unit of Training

Improvement Science, Safe and Reliable Systems

Trainee name:

GMC no:

Evaluation of placement by supervisor

Has the trainee satisfactorily completed the placement? Yes No

Peer reviewed publication

Has the trainee prepared work to a standard suitable for publication? Yes No

Quality Improvement Project

Has the trainee engaged in a quality improvement project and demonstrated an understanding of all aspects of the work? 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)

Anaesthesia in developing countries

Optional unit of higher training; see full curriculum 'CCT in Anaesthetics' section 13.7 for detailed information about the delivery of this unit.

Learning objectives:

- Gain knowledge, skills and experience of the peri-operative anaesthetic care of patients in a developing country
- Support the speciality of anaesthesia by providing teaching and training to anaesthetists, theatre staff and medical students in a developing country
- Understand the level of competency, skill and support that is required to sustain safe and effective provision of anaesthesia in a resource poor setting

Learning outcomes:

At the end of this unit the trainee will:

- Be able to provide safe anaesthesia in a challenging environment with limited resources to a wide variety of patients, including those with extreme and very advanced pathology
- Have enhanced his/her experience and competence in the fields of paediatrics, obstetrics and trauma, where available
- Have experienced working and living in a multi-cultural and, frequently, multi-lingual environment and will have developed an approach to planning and practice which emphasises effective communication and team management.
- Have undertaken teaching and training to personnel from diverse cultural, linguistic and educational backgrounds

Requirements for completion of unit:

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

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
Anaesthetic equipment used in developing countries [e.g. draw-over apparatus] and its maintenance				
Alternative systems for oxygen delivery, including oxygen concentrators				
Anaesthetic drugs commonly used in developing countries in the peri-operative period [e.g. ketamine, diazepam, halothane and ether]				
Regional anaesthesia and peripheral nerve blocks using limited resources				
Peri-operative monitoring of patients with limited resources				
Management of a recovery area with limited resources				
Management of acute pain with limited resources				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Management of patients for surgical and medical conditions in a high dependency/intensive care environment with limited resources				
Asepsis, infection control and sterilisation of equipment				
Safe application of cross matching blood and transfusion				
Health delivery in the country or countries to be visited and the associated challenges				
Diseases occurring in the country or countries to be visited which may influence delivery of anaesthesia and perioperative care				
Difficulties and opportunities delivering education to medical and other health workers				
Factors which contribute to or detract from the safe conduct of surgery and anaesthesia in the country/countries to be visited				
Peri-operative management of patients undergoing a wide range of surgical procedures, including paediatrics, obstetrics, trauma, emergencies and sick patients requiring post-operative care in an HDU/ITU environment				
Peri-operative management of patients with concurrent morbidity including infectious diseases such as HIV, TB and malaria				
Issues surrounding safety and security in the country to be visited				

Completion of Higher Level Unit of Training

Anaesthesia in developing countries

Trainee name:

GMC no:

Assessments

Has the trainee completed successfully an appropriate number of WPBA? Yes No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been completed? (Should be completed for most units) Yes No

Learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes? Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Military anaesthesia

Optional higher unit of training. The aims are to ensure military anaesthetists are familiar with the additional equipment, environmental, management and logistic challenges they will encounter on deployment. By proposing strategies and preparing trainees for independent practice in the military environment, it will achieve the aims of a higher training unit. The unit is designed to be flexible enough to incorporate new developments, to provide a framework for maintaining knowledge and skills at all levels of seniority and to be deliverable in more peaceful times.

Learning outcomes:

- To equip the trainee with the additional knowledge and skills required to perform appropriate pre-hospital care, resuscitation, field anaesthetics and critical care within military environments
- To gain an understanding of the management of medical support to military operations

Requirements for completion of Unit:

- Achievement of learning outcomes

Knowledge	Tick if confident/ discussed	Trainer initial	Date	WPBA type
PRE-HOSPITAL CARE				
Military triage assessment and categories				
Military major incident management				
Physiological hazards of transporting patients by air				
Aircraft features and aircrew procedures likely to impact on patient safety				
Medical Emergency Response Team equipment				
Casualty reporting systems				
IN HOSPITAL RESUSCITATION AND FIELD ANAESTHETICS				
Relevant trauma scoring systems and military audit projects				
The Surgeon General’s current transfusion policy, including recombinant Factor VIIa policy				
Logistics of medical resupply and the maintenance of appropriate storage conditions				
Indications for and the safe use of emergency blood donor panels				

Knowledge	Tick if confident/discussed	Trainer initial	Date	WPBA type
Field surgical team equipment, including tri-service anaesthetic apparatus and operating tables				
Field sterilisation and clinical waste disposal methods				
Ketamine				
Principles of anaesthetics for damage control surgery				
Current methods for management of acute pain in the field				
CRITICAL CARE				
Capabilities and limitations of field critical care				
Preparation of patients for handover to an aeromedical transfer team				
Role of the AELO in the evacuation process				
CCAST equipment				
Specific deployable medical assets such as field haemofiltration teams				
Repatriation process for KIA including appropriate liaison with SIB and UK coroners				
BATTLE CASUALTY REHABILITATION				
Casualty reception process in the UK				
Rehabilitation process				
Chronic pain management options for battle casualties				
DEPLOYED MILITARY HOSPITAL MANAGEMENT				
Joint Warfare Publication 4-03 – Medical Support to Operations				
Clinical Guidelines for Operations (CGOs)				
Structure and responsibilities of the Defence Medical Services, Joint Medical Command, Surgeon General's Department, Land, Fleet and Air Commands				
Procurement process for new medical equipment				

Knowledge	Tick if confident/discussed	Trainer initial	Date	WPBA type
Role and responsibilities of a Field Hospital Clinical Director and the Commander Medical				
Role of host nation, friendly-force medical facilities and non-government organisations				
Role of UK Role 2 (light manoeuvre) and sea-based medical facilities				
Operational medical entitlement matrix				
Medical communication systems				
Field hospital major incident plan				

Attitudes and Behaviour	Tick if confident/discussed	Trainer initial	Date	WPBA type
Apply the principles of Good Medical Practice in the field including the conduct of Healthcare Governance on operations				
Demonstrate a broad understanding of the unusual ethical challenges and non-medical influences on hospital activity				
Apply appropriate risk assessment and management				
Demonstrate ability to work within a military command structure*				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
PRE-HOSPITAL CARE				
Emergency skills in trauma with particular reference to emergency airway management including use of field cricothyroidotomy kit, insertion of chest drains and gaining central				
Application of the combat application tourniquet (CAT) and haemorrhage control compression dressing bandage				
Use of intra osseous rapid access devices				
Novel haemostatic techniques such as Hemcon and QuikClot dressings				
Provision of anaesthetics for elective, emergency and damage control surgery using current UK Military field anaesthetic equipment modules				

Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Use of field and regional anaesthetics as an adjunct to acute pain management in the field				
Use of field PCA equipment				
CRITICAL CARE				
Packaging of casualties for safe aeromedical evacuation				
Management of massive blood transfusion in a field hospital				
Ability to assist the AELO with completion of evacuation signals and documentation*				
BATTLE CASUALTY REHABILITATION				
Visit the Defence Medical Rehabilitation Centre and present a case report on an inpatient to your military Educational Supervisor				
Demonstrate patient progress by follow-up visit after 6 months*				
DEPLOYED MILITARY HOSPITAL MANAGEMENT				
Draft a Statement of Requirement for a piece of new medical equipment				
Present a case at the weekly RCDM/Field Hospital Video Teleconference*				
Present on a military medical topic at a CME meeting				
Demonstrate briefing ability by shadowing the Field Hospital Clinical Director for a day, present on his behalf at a Command Brief and deliver a backbrief to clinical staff*				

Competences in marked * may only be achievable on or after active service and are to be regarded as desirable rather than essential for the completion of the Unit

AELO	Aeromedical Evacuation Liaison Officer	SD	Study day, tutorial or pre-deployment training course
BATLS	Battlefield Advanced Trauma Life Support Course	SIB	Special Investigation Branch (Royal Military Police)
CCAST	Critical Care Air Support Team	Sim	Simulator Session
Dep	Instruction and supervision on deployment		
KIA	Killed in Action		
RCDM	Royal Centre for Defence Medicine		

Completion of Higher Level Unit of Training

Military anaesthesia

Trainee name:

GMC no:

Multi-source Feedback

Has a MSF been completed? (Should be completed for most units)

Yes No

Learning outcomes

Has the trainee demonstrated achievement of the learning outcomes?

Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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

Remote and rural anaesthesia

Optional higher unit of training. Anaesthetic training in remote and rural practice should be delivered with a minimum of three months practice in a designated remote and rural centre. If transfer medicine is not provided for in the remote and rural centre, a period of training of no less than 2 weeks should be undertaken with a designated transfer team (adult and paediatric). A minimum of three months, up to a maximum of twelve months is recommended for the totality of training in remote and rural anaesthetic practice. Duration of the remote and rural training experience will be determined by the trainee's previous experience within the CCT programme; transfer medicine, pain and palliative care, and neonatal resuscitation may be provided for within the trainee's existing CCT programme. Training should be delivered in dedicated blocks of at least one month.

Learning objectives:

- To apply of the knowledge and understanding gained at CT1-2 and ST3-4 to the practice of anaesthesia in the remote and rural setting
- To develop and modify the skills of administering general and regional anaesthesia to include a focus on the special difficulties presented by the remote and rural setting; this will include developing knowledge, skills and experience of the managing critical care services in a multidisciplinary team setting where resource may be limited
- To develop an understanding of and skills in transfer medicine [paediatric and adult], neonatal resuscitation, chronic pain and palliative care suitable for a remote and rural location practice
- To become more independent in managing all clinical and management issues as demonstrated by requiring less consultant guidance and supervision

Core clinical learning outcomes:

- Deliver perioperative anaesthetic care to ASA 1-4 patients in the remote and rural setting
- Lead the resuscitation, stabilisation and transfer of patients from the remote and rural centre to the referral centre [air transfer by helicopter or fixed wing, road transfer]
- Be an effective team member for delivery of acute services within a remote and rural centre

Requirements for completion of Unit:

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

Knowledge/Skills	Tick if confident/ discussed	Trainer initial	Date	WPBA type
What is meant by a remote and rural location with respect to anaesthesia services				
Differing epidemiology of disease patterns in remote and rural locations				
Difficulties in delivering a service in remote and rural locations				
Need to rationalise resources				
Impact of living and working in small communities where the ability to secure time away from work is limited				
Management structure for health care delivery in a remote and rural setting				

Knowledge/Skills	Tick if confident/discussed	Trainer initial	Date	WPBA type
Transfer medicine: [Cross ref: Transfer, Pre-hospital care] <ul style="list-style-type: none"> • Physiology of transfer medicine • Principles of transfer medicine; indications, methodology and practice • Contra-indications to transfer • Principles of safe transport of critically ill children and neonates • Assessment and optimisation of the patient [adult, child and neonate] requiring transfer • Appropriate management of transfer of a patient [adult, child and neonate] to a referral centre 				
Management of neonatal resuscitation				
Assessment and optimisation of the patient [adult, child and neonate] requiring anaesthesia in a remote and rural location				
Need to use generic skills achieved in previous training and adapted to remote and rural location				
Appropriate use of resources in the remote and rural location				
Recognition of the importance of the leadership role				
Provision of appropriate pain management in the remote and rural setting				
Participation in delivering high quality teaching on relevant anaesthesia topics to the multidisciplinary team				
Participation in the management of a remote and rural department				
Communication skills with patients, relatives and other team members				
Appreciation of the multiple roles undertaken by team members in remote locations				
High level of professional self reliance and independence				
Understanding of when to seek more experienced help appropriately				
Ability to forge links with the local community				
Appreciation of the important teaching role of the anaesthetist in the remote and rural setting				

Completion of Higher Level Unit of Training

Remote and rural anaesthesia

Trainee name:

GMC no:

Assessments

Has the trainee completed successfully an appropriate number of WPBA? Yes No

Log book Review

Is the case mix, complexity and numbers appropriate for the level of training? Yes No

Multi-source Feedback

Has a MSF been satisfactorily completed? (Only for units of training requiring MSF) Yes No

Core clinical learning outcomes

Has the trainee demonstrated achievement of the core clinical learning outcomes? Yes No

Comments

Signed: Name (Print): Date:
(College Tutor, Unit Lead, Educational Supervisor)

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

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