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| **Bristol School of  Anaesthesia & ICM** **Intermediate Level** **Training Record** version August 2017  Curriculum for Anaesthetics 2010 **Specialty Trainees Years 3 & 4** Trainee name ……………………………………… |

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Introduction

This training record book is based on the latest version of the ‘CCT in Anaesthetics [2010 Curriculum]’ and is for Specialty Trainees in years 3 & 4 who have already completed their Core Level Training Certificate. It is to be used in conjunction with the RCoA e-portfolio and when completed will provide supporting evidence that the trainee has covered the intermediate level curriculum.

The purpose of the training record book is to provide:

* A guide to the curriculum and assessment for trainees and trainers
* A self-assessment checklist of knowledge and skills for each Unit of Training
* A summary of Completed Units of Training

**Please record the date of completion for each Unit on the Summary page**

RCoA Assessment Guidance 2015 (abridged)

**The assessment process**

The assessment process contains both formative and summative elements. All assessments are reviewed at the Annual Review of Competence Progression (ARCP).

**Formative assessment**

Formative assessment is *assessment for learning*. The goal of formative assessment is to monitor progress in order to offer ongoing constructive feedback with the aim of improving performance. In formative assessment there is no grade or mark, no pass or fail. Formative assessment must provide good quality feedback; without this the process loses its purpose. The main formative assessments in the training programme are the workplace-based assessments (WPBA).

WPBAs provide only one source of evidence that a trainee has achieved the outcomes of a unit of training. Their purpose is to demonstrate engagement of trainers and trainees in professional educational conversations alongside the logbook, consultant feedback, teaching and course attendance.

*How many WPBA?*

In order to complete a unit of training, trainees should undertake WPBA that contribute to evidence showing the Core Learning Outcomes (CLOs) have been achieved. There may be several learning outcomes in a unit of training and a single assessment may provide evidence to satisfy more than one learning outcome.

There are minimum RCoA WPBA requirements for each unit of training. These minimum requirements must be met in order to complete a unit of training.

Trainees are generally expected to complete more than the minimum numbers of WPBA and those trainees who are not progressing as expected will be required to complete a greater number of assessments. It is unnecessary and unrealistic to undertake an assessment for each individual competence.

CLOs for each Unit of Training must be assessed.

ICM is assessed in a different way (as recommended by the FICM). For details see the ICM pages.

*The WPBA process*

* Feedback is the most important element of a WPBA
* Areas for assessment should be identified prior to starting a list, and the trainee should ask the trainer in advance to perform an assessment
* Requesting assessments retrospectively is considered bad practice, except in CBDs
* The trainer should observe the performance of the trainee, and give immediate verbal feedback as well as suggestions for future development, further reading etc.
* Trainers should comment on clinical and non-clinical aspects of performance, such as professionalism and team-working
* If facilities exist and it is safe to do so, the assessment can be documented on the e-portfolio at this time; this is the ideal situation
* If the e-portfolio form cannot be completed at this time, the trainee will send a request for assessment to the trainer electronically
* Verbal feedback should always take place at the time of the assessment
* The trainer should complete the e-portfolio form as soon as possible
* **If (and only if) the WPBA relates to the Core Learning Outcomes**, the trainee should **link** the form to the relevant units of training so that the assessment can be used as evidence for the Completion of Unit of Training

For assistance with the e-portfolio, try the School e-portfolio lead, the School Manager, the e-portfolio pages in the Careers & Training section of the RCoA website, or contact [e-portfolio@rcoa.ac.uk](mailto:e-portfolio@rcoa.ac.uk).

*Who can assess?*

Consultants, specialty anaesthetists and trainees can perform WPBA. Assessors must possess expertise in the area to be assessed and be familiar with the assessment process. Senior trainees and non-medical staff may undertake WPBA if they have completed appropriate training, and if the college tutor/educational supervisor considers it appropriate. The ES may need to enter the assessment in the e-portfolio. [In the Bristol School ST5-7 trainees may perform WPBA on those ST4 and below; and ST3-4 trainees on CT2 and below. Until a trainee has attended formal additional training a trainee is limited to performing one WPBA per trainee per placement.]

**Summative assessment**

Summative assessment is *assessment of learning* and results in a mark or grade, pass or fail. The goal of summative assessment is to test knowledge or performance against set criteria. The summative assessment in the anaesthetic training programme takes the following forms:

1. *Completion of Unit of Training (CUT)*

The CUT form (on the e-portfolio) provides evidence that a trainee has achieved the learning outcomes for a Unit of Training. Supervisors should draw upon a range of evidence including the logbook of cases completed, WPBAs and consultant feedback to inform their decision as to whether the learning outcomes have been achieved. The logbook review should consider the mix of cases, level of supervision and balance of elective and emergency cases, if relevant, for the unit. Any other evidence provided by the trainee, such as course attendance certificates can be reviewed at this time. Trainees need to complete one MSF per year; this is not required for each Unit of Training.

All hospitals must identify appropriate designated trainers to sign the CUT form for each unit of training. Each trainer should be familiar with the Core Clinical Learning Outcomes for the unit of training and be able to provide guidance for trainees who have not yet achieved the learning outcomes. It is possible for a trainee to have all WPBAs signed off but not successfully complete the unit because of, for example, professional attitudes or inappropriate non-technical skills i.e. characteristics which will be captured by consultant feedback.

The professional judgement of the supervisor will ultimately determine whether it is appropriate to sign the Completion of Unit of Training form for a trainee.

1. *Consultant feedback*

Consultant feedback is an important source of evidence when assessing trainees’ performance. This means of assessment is valuable in identifying trainees who are performing above and below the standard expected at their level. It is now a mandatory part of completing each unit of training, and should assure whoever signs the CUT form that the trainee is considered competent to provide anaesthesia and peri-operative care to the required level in this unit of training.

Consultant feedback differs from MSF as it concerns a trainee’s progress in a specific unit of training only.

The completion of each specialist unit of training (neuro/paeds/cardiac/ICM) must involve consultant feedback. For general duties units, it may be more appropriate to complete the feedback across the whole department. However, completing general duties units need not be delayed until ‘end of posting’ feedback is complete; in this case the trainer signing the CUT form must satisfy themselves (by verbal consultation if necessary) that those involved in training in the unit in question agree that the trainee has completed the unit satisfactorily.

Consultant feedback should be collated, linked to the Unit of Training and presented in the ESSR at ARCP. It should be discussed with the trainee during or at the end of a Unit of Training.

1. *Multisource feedback (MSF ‘360’)*

Most professional interaction occurs without the direct supervision of a consultant. MSF is the best way to assess the whole of a anaesthetist’s practice especially professional behaviours and attitudes. MSF should be sought (at least) once per year using the e-portfolio. A broad range of views should be included from nurses, ODPs, admin staff, consultants, SAS and other trainees. The larger the number of respondents the more representative the picture will be – about 24 requests is a reasonable number. Six weeks should be allowed for completion including discussion of the results with your ES.

1. *Educational Supervisor Reports*
2. *Educational supervisor’s structured report (ESSR)* Completed once per year prior to the ARCP and summarises the trainee’s progress throughout the year.
3. *Interim Progress Report (IPR)* Contains similar information to an ESSR and summarises the progress of a trainee in a placement. It is used when trainees undertake multiple short rotations during a year or before a prolonged period of absence (e.g. maternity leave, OOPT) if an ARCP is not due.

Both ESSR and IPR are available on the e-portfolio.

1. *Final FRCA examination*
2. *Annual Review of Competence Progression (ARCP)*

The ARCP is the formal process where the trainee’s progress is reviewed, usually on an annual basis. The ESSR forms the basis of the evidence that is reviewed at the ARCP and other evidence such as the logbook, audit, research, teaching, management and exam results are considered when awarding an ARCP outcome. A satisfactory outcome at the ARCP is required in order to progress through the training programme. Details of the ARCP process can be found in the curriculum document on the RCoA website and in the Gold Guide.

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Summary of completed INTERMEDIATE units

Trainee name: GMC no:

*Date when each unit is completed and signed off in the e-portfolio. All units are essential (unless specified).*

|  |  |
| --- | --- |
| Intermediate clinical units | Date signed off in  e-portfolio |
| Neuro |  |
|  |  |
| Cardiac/Thoracic |  |
|  |  |
| General duties |  |
| Airway management |  |
|  |  |
| Critical incidents |  |
|  |  |
| Day surgery |  |
|  |  |
| General, urological and gynaecological surgery |  |
|  |  |
| Head, neck, maxillo-facial and dental |  |
|  |  |
| Management of respiratory and cardiac arrest |  |
|  |  |
| Non-theatre |  |
|  |  |
| Ophthalmic *(optional)* |  |
|  |  |
| Orthopaedic |  |
|  |  |
| Perioperative medicine |  |
|  |  |
| Plastics/Burns *(optional)* |  |
|  |  |
| Regional |  |
|  |  |
| Sedation |  |
|  |  |
| Transfer medicine |  |
|  |  |
| Trauma and stabilisation |  |
|  |  |
| Vascular *(optional)* |  |
|  |  |
| Intensive care *(3m block)* |  |
|  |  |
| Obstetric |  |
|  |  |
| Paediatric |  |
|  |  |
| Pain medicine |  |
|  |  |
|  |  |
| Intermediate non-clinical units | Trainee sign & date when completed |
| Academic and research (including audit) |  |
|  |  |
| Improvement Science *(optional)* |  |
|  |  |
| Teaching and learning |  |
|  |  |
| Management |  |

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Neuroanaesthesia

Anaesthesia for neurosurgery, neuroradiology and neurocritical care

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| **Learning objectives:**   * Application of basic science knowledge and understanding gained in CT1 & 2 to the principles and practice of neuroanaesthesia and neuro-critical care. * Develop and modify the skills of administering general anaesthesia [as identified in the Core level curriculum sections entitled Trauma & Stabilisation and Transfer] to include a focus on the special difficulties presented by neurosurgery. This will include developing knowledge, skills and experience of the perioperative anaesthetic care of patients undergoing major elective and emergency surgery on the brain and spinal cord and associated bony structures as well as for neuroradiology. |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to uncomplicated ASA 1-3 adult patients undergoing non-complex elective intracranial and spinal surgery with direct supervision * Deliver safe perioperative anaesthetic care to uncomplicated ASA 1-3 adult patients undergoing non-complex emergency surgery with distant supervision [e.g. insertion of V-P shunt/EVD] * Be an effective team member for resuscitation, stabilisation and transfer of adult patients with brain injury with distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX/ALMAT ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Anatomy of the skull, skull base, vertebral column and central nervous system relevant to neuroanaesthetic practice |  |  |  |
| Applied physiology and pathophysiology related to the central nervous system relevant to neuroanaesthetic practice |  |  |  |
| Techniques for decreasing intra-cranial pressure |  |  |  |
| Indications for using neurophysiological monitoring [including EEG, evoked potentials and ICP measurement] to benefit patients requiring neurosurgery/neuro-critical care |  |  |  |
| How drugs can impact on neurophysiological monitoring |  |  |  |
| Pharmacology of drugs which act on the central nervous system |  |  |  |
| Complications of positioning for neurosurgical procedures: prone, sitting, lateral, park bench |  |  |  |
| Understanding of the perioperative anaesthetic management of patients for neurosurgery and neuroradiology. This includes:  Preoperative assessment and optimization of patients with neurological disease  Induction and maintenance and reversal of anaesthesia  Early postoperative care including specific areas of fluid management and control of pain |  |  |  |
| Understanding of anaesthesia for neurosurgical procedures including but not exclusively:  Shunt surgery Evacuation of intracranial haematoma  Emergency surgery for traumatic brain injury Spinal column surgery  Planned supratentorial and posterior fossa surgery [including vascular disease and tumours] |  |  |  |
| Principles of anaesthesia for neuroradiology including but not exclusively:  Emergency and elective imaging of the central nervous system [including the principles of stereotactic surgery]  Interventional procedures [including coiling of intracranial aneurysms] |  |  |  |
| Anaesthetic implications of pituitary disease including endocrine effects and trans-sphenoidal surgery |  |  |  |
| Anaesthesia for trigeminal neuralgia including thermocoagulation |  |  |  |
| Anaesthetic implications of spinal cord trauma |  |  |  |
| How to recognise an unstable cervical spine and management |  |  |  |
| Indications for postoperative ventilation |  |  |  |
| Techniques used for recognition and management of air embolism |  |  |  |
| Special risk associated with prion diseases during neurosurgery |  |  |  |
| Understanding of the principles of anaesthesia for patients with neurological disease [including but not exclusively]:  Guillain-Barré Myasthenia gravis Myasthenic syndrome  Dystrophia myotonica Muscular dystrophy Paraplegia and long term spinal cord damage |  |  |  |
| Specific risks of venous thromboembolic disease in neurosurgical patients and how these are managed |  |  |  |
| Understanding of the neurocritical care management of traumatic brain injury [including but not exclusively]:  Indications for ventilation Recognition and management of raised ICP  Cerebral protection strategies Fluid and electrolyte balance in the head injured patient  Systemic effects of traumatic brain injury |  |  |  |
| Principles of management of acute spinal cord injury |  |  |  |
| Control of status epilepticus |  |  |  |
| Requirements for safe transfer of patients with brain injury |  |  |  |
| Issues related to the management of organ donation in neuro-critical care |  |  |  |
| Preoperative assessment, followed by optimization, of patients presenting with neurological disease |  |  |  |
| Understanding of the problems of obtaining consent in patients who are not competent, including those with impaired consciousness and confusion |  |  |  |
| Provision of safe perioperative anaesthetic care for a variety of neurosurgical procedures [including but not exclusively]:  Elective and emergency intracranial surgery  Shunt surgery  Cervical and lumbar spinal surgery |  |  |  |
| Physiological and pharmacological techniques to improve intra-cranial homeostasis in pathological states |  |  |  |
| How to manage patients with acute head injuries for:  Anaesthesia for emergency neurosurgery Non-surgical management if indicated |  |  |  |
| Safe patient positioning – prone, lateral [park bench] |  |  |  |
| Ability to resuscitate, stabilise and transfer safely patients with brain injury |  |  |  |
| Sensitivity in giving support to patients and relatives during end of life care |  |  |  |
| Good communication with the surgical team including ensuring the exchange of relevant information |  |  |  |
| Selection and use appropriate invasive monitoring when indicated in patients undergoing neurosurgical procedures |  |  |  |
| Recognition and management of diabetes insipidus/SIADH |  |  |  |
| Manipulation of blood pressure as appropriate for the clinical situation |  |  |  |
| Management of emergence from anaesthesia in a smooth and controlled way |  |  |  |
| Management of the neurosurgical patient in the immediate postoperative period |  |  |  |
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Cardiac/Thoracic

Cardiothoracic anaesthesia & cardiothoracic critical care

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| **Learning outcomes:**   * Gain knowledge and understanding of the underlying principles of anaesthesia for cardiac surgery, both on and off pump, and thoracic surgery * Understand the skills required to provide safe and effective anaesthetic care to patients undergoing elective cardiac and thoracic surgery * Understand pathophysiology & presentation of advanced cardiac disease to better understand the peri-operative management of such patients who undergo coincidental surgery |

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| **Core clinical learning outcomes:**   * Safe and effective perioperative anaesthetic care to patients undergoing elective coronary artery surgery and minor thoracic investigative procedures under direct supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX/ALMAT ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Risk assessment for patients presenting for cardiac surgery including those with valvular and ischaemic heart disease |  |  |  |
| Assess patients with intra thoracic aortic pathology such as aneurysm, dissection and coarctation, and give an informed judgement on the risks and benefits of anaesthesia and surgery for the procedure |  |  |  |
| Anaesthesia for a patient undergoing elective coronary bypass including the management of:  A patient during cardiopulmonary bypass  A patient having cardiac surgery off bypass  Coagulation management |  |  |  |
| Postoperative care plans appropriate to the surgery and the patients condition including postoperative analgesia and respiratory support |  |  |  |
| Invasive and non-invasive monitoring in patients with cardiac or respiratory disease including non-invasive cardiac output monitoring devices utilising a variety of technologies such as LIDCO, PICCO and ODM |  |  |  |
| Effective and evidence based use of inotropes and vasodilators |  |  |  |
| Anaesthesia for procedures in cardiac intensive care including re-sternotomy, reintubation, tracheostomy and cardioversion |  |  |  |
| Anaesthesia for patients having cardiological electrophysiological procedures, including pacemaker insertion |  |  |  |
| Assess and recommend treatments to optimise a patient for thoracic surgery |  |  |  |
| Perioperative anaesthetic care to patients for minor thoracic procedures, in particular bronchoscopy, including the safe use of the Sanders injector |  |  |  |
| Airway management for the thoracic procedures and the ability to insert single or double lumen endobronchial tubes and bronchial blockers |  |  |  |
| Methods to confirm correct tube placement |  |  |  |
| Anaesthetic for major thoracic procedures, including correct airway and ventilatory management, positioning and patient protection |  |  |  |
| Management of patient undergoing one lung ventilation |  |  |  |
| Post-operative care plans, taking into account patients condition and the surgical procedure, including the need for management in intensive care or high dependency |  |  |  |
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Airway management

Intermediate level learning outcomes are included in this section specifically relating to airway skills; most will also appear in Head, neck, maxillo-facial & dental.

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| **Learning objectives:**   * Build on the knowledge and skills gained in the Core level airway training * Develop knowledge, skills and experience of safe airway management in more complex cases undergoing major elective and emergency surgery including fibreoptic intubation * Be able to recognise the specific problems encountered with the airway |

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| **Core clinical learning outcomes:**   * Be able to demonstrate the ability to perform elective fibreoptic intubation, either for an awake or an anaesthetised patient, with local supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, ALMAT ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Risks associated with awake fibreoptic endotracheal intubation and the process of obtaining consent for this procedure |  |  |  |
| Identification and assessment of pathology in or around the airway, including:  History and examination  Anaesthetic chart review  Interpretation of investigations such as lateral C-spine X-ray, cross sectional imaging of the upper airway (MRI/CT), flow volume loops  Discussion with surgeons |  |  |  |
| Anaesthetic management of potential threats to the airway, including:  External compression  Foreign body, blood clots, masses  Inhalational injury, inflammation  Blunt and penetrating trauma |  |  |  |
| Indications for tracheostomy [Cross ref: ENT] |  |  |  |
| Anaesthetic principles for tracheostomy |  |  |  |
| Management of the obstructed/misplaced tracheostomy |  |  |  |
| Specialised airway techniques used for laser surgery in, or near, the airway |  |  |  |
| Causes, pathophysiology and management of obstructive sleep apnoea and the surgical procedure to treat it |  |  |  |
| Follow up of an unexpected difficult intubation |  |  |  |
| Various supraglottic airways for IPPV (risks, benefits, practical use) |  |  |  |
| Airway management of patient undergoing one-lung ventilation and anaesthesia, including placement of double lumen endobronchial tubes and bronchial blockers [Cross ref: cardiac/thoracic] |  |  |  |
| Equipment and airways devices used for surgery on and below the vocal chords, including bronchoscopes, Venturi devices and fibre-optic scopes [Cross ref: ENT] |  |  |  |
| Principles of jet ventilation |  |  |  |
| Principles underlying the use of helium |  |  |  |
| Elective fibreoptic intubation under anaesthesia with or without LMAs or other airway adjuncts |  |  |  |
| Effective teaching of basic airway manoeuvres, direct laryngoscopy and endotracheal intubation to novice students [e.g. nurses, CT1 anaesthetic trainees, paramedics, medical students] |  |  |  |
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Critical incidents

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| **Learning objectives:**   * Build on the knowledge and skills learnt during core training and develop skills at managing more complex critical incidents with distant supervision |

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| **Core clinical learning outcomes:**   * To demonstrate leadership in the management of critical incidents as and when they arrive * To provide assistance/leadership to more inexperienced colleagues if called to assist in the management of critical incidents * To demonstrate leadership in ensuring good team work and communication to help reduce the risks of harm from critical incidents |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum CBD ×1 * Achievement of core clinical learning outcomes |

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| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| Significant event analysis or root cause analysis to examine a locally reported incident |  |  |  |
| Importance of regular practice of response protocols using simulation and their place in the development of team working and communication between professional groups |  |  |  |
| Leadership in resuscitation room/simulation when practising response protocols with other healthcare professionals |  |  |  |
| Appropriate use of team resources when practising response protocols with other healthcare professionals |  |  |  |
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Day surgery

Cross references with many of the other clinical units.

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| **Learning objectives:**   * Build on the knowledge, understanding and skills gained in the Core level day surgery curriculum * Provide appropriate anaesthetic management for selected ASA 3 patients including insulin-dependent diabetics and patients with a BMI >35 * Gain knowledge of the organisational aspects of running a day surgery unit |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to ASA 1-3 patients having more extensive or specialised day surgery procedures with direct supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
| --- | --- | --- | --- |
| Key organisational issues surrounding day surgery including suitability of facilities and staffing |  |  |  |
| Current local and national guidelines for provision of day surgical services |  |  |  |
| Audit and other quality assurance activities relevant to day surgery |  |  |  |
| Advances and controversies in anaesthesia for day surgery |  |  |  |
| Perioperative anaesthetic care to ASA 1-3 patients including those with significant comorbidities including, but not limited to:  Obese patients [BMI > 35]  Insulin dependent diabetics  Those with significant cardiac and respiratory disease  Elderly patients |  |  |  |
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Head, neck, maxillo-facial and dental surgery

It may not be possible for every trainee to become skilled in all the emergencies described, however all trainees are expected to obtain clinical teaching and training in this area.

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| **Learning objectives:**   * Build on the knowledge and skills gained in the Core level training for head, neck, maxillo-facial and dental surgery * Develop knowledge, skills and experience of safe perioperative anaesthetic care of patients undergoing major elective and emergency surgery in these specialty areas * Be able to recognise the specific problems encountered with the shared airway and manage correctly * Have the clinical judgement and skills to organise and manage the anaesthesia for routine head, neck, dental and maxillo-facial operating lists involving ASA 1-3 patients requiring minor to intermediate surgery and such patients for emergency surgery without direct supervision |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to ASA 1-3 adult patients requiring routine and emergency non-complex minor/intermediate head, neck and maxillo-facial surgery under distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
| --- | --- | --- | --- |
| Special requirements of anaesthesia for all common procedures encountered in specialised head and neck surgery |  |  |  |
| Principles of anaesthesia for middle ear surgery, including use of TIVA and hypotensive techniques |  |  |  |
| Head and neck surgery:  Principles of management of anaesthesia Pathophysiological changes and co-morbidities associated with head and neck cancer  Particular requirements for acute maxillo-facial emergencies e.g. fractured mandible, intra-oral abscesses  Other pathological causes of upper airway obstruction |  |  |  |
| Causes, pathophysiology and management of obstructive sleep apnoea and the surgical procedures used to treat it |  |  |  |
| Characteristics of the lasers used for surgery and the circumstances in which they are used |  |  |  |
| Hazards of laser surgery |  |  |  |
| Specialised airway techniques used for laser surgery in, or near, the airway |  |  |  |
| Equipment and airways devices used for surgery on and below the vocal chords, including bronchoscopes, Venturi devices and fibre-optic scopes |  |  |  |
| Specialised imaging techniques [CT, MRI] in planning anaesthesia and surgery for head and neck surgery |  |  |  |
| Problems associated with chair dental procedures including consent, the specific needs of patients with learning disabilities, Child Protection [Cross ref: paed] and the Mental Capacity Act |  |  |  |
| Recognition and appropriate management of acute ENT emergencies, including bleeding tonsils, epiglottis, croup, and inhaled foreign body |  |  |  |
| Emergency management of fractures of the face including le Fort fractures and fractures of the mandible |  |  |  |
| Emergency management of the obstructed airway including tracheostomy |  |  |  |
| Indications for tracheostomy |  |  |  |
| Principles of the care of the tracheostomy |  |  |  |
| Principles of jet ventilation |  |  |  |
| Principles underlying the use of helium |  |  |  |
| Interpretation CT and MRI scans of the head and neck |  |  |  |
| Correct use of a variety of advanced airway devices |  |  |  |
| Use of hypotensive techniques where indicated |  |  |  |
| Anaesthesia/sedation for outpatient dental surgery |  |  |  |
| Perioperative anaesthetic management of more complex head, neck and maxillo-facial procedures including, but not limited to:  Laser surgery Bronchoscopy Surgery on the middle ear  Thyroid surgery Maxillary and mandibular osteotomies |  |  |  |
| Perioperative anaesthetic management of head, neck, maxillo-facial and dental emergencies including:  Bleeding tonsil Obstructed upper airway  Mandibular and maxillary fractures Obstructed lower airway |  |  |  |
| Working with all members of the theatre and surgical teams to manage an operating list with a mixture of ASA 1- 3 non-complex minor/intermediate cases effectively, along with the ability to provide safe perioperative anaesthetic care for the patients |  |  |  |
| Leading [where appropriate] the theatre team in the perioperative management of patients requiring out of hours minor/intermediate Head, neck, maxillo-facial and dental surgery, including understanding of when to seek help appropriately |  |  |  |
| Specific measures needed to provide appropriate analgesia, and other postoperative care including oxygen therapy, airway monitoring, fluids and anti-emetics in patients following major head, neck, maxillo-facial and dental surgery |  |  |  |

General, urological and gynaecological surgery

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| **Learning objectives:**   * Build on the knowledge, understanding and skills gained in Core level training and become confident at managing more complex cases * Gain knowledge of the anaesthetic management of patients with transplanted organs for non-transplant surgery * Gain knowledge, skills and experience of the perioperative anaesthetic care of patients requiring major general urological and gynaecological surgery, including the immediate management of major blood loss |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to complex ASA 1-3 adult patients requiring elective and emergency intra-abdominal surgery [both laparoscopic and open] with distant supervision * Manage a list with complex ASA 1-3 adult patients for elective and emergency surgery in all disciplines with distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
| --- | --- | --- | --- |
| Principles off the peri-operative management of the commoner complex cases including, but not exclusively:  Pancreatic and liver resection  Oesophagectomy [including one lung ventilation]  Resection of neuroendocrine tumours [e.g. carcinoid and phaeochromocytoma]  Splenectomy  Resection of retroperitoneal masses [including management of pleural breach] |  |  |  |
| Effects of chemotherapy/radiotherapy, and the implications for anaesthesia |  |  |  |
| Anaesthetic considerations of co-existing diseases including problems such as spinal injury |  |  |  |
| Ethical considerations of cadaveric and live-related organ donation for the donor [and relatives], recipient and society as a whole |  |  |  |
| Issues of anaesthesia for renal transplant surgery |  |  |  |
| Anaesthetic management of patients with transplanted organs for non-transplant surgery |  |  |  |
| Anaesthetic complications related to disturbance of fluid balance, oedema, and dehydration |  |  |  |
| Anaesthetic implications of bariatric surgery; practical management of the morbidly obese patient |  |  |  |
| Principles of enhanced recovery programmes |  |  |  |
| Rationale and principles of perioperative haemodynamic management and optimisation |  |  |  |
| Principles of preoperative evaluation of patients at risk of post-operative morbidity, including risk stratification tools, for example scoring systems and measures of functional capacity [including cardiopulmonary exercise testing] |  |  |  |
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Management of respiratory and cardiac arrest

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

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| **Learning objectives:**   * Build upon the knowledge and skills obtained during the management of respiratory and cardiac arrest during core training. * Develop the skills necessary to manage patients safely and effectively in the peri-arrest period |

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| **Core clinical learning outcomes:**   * Is an effective member of the multi-disciplinary member of the resuscitation team and takes responsibility for the initial airway management |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Pass a certified life support course e.g. ALS, APLS or similar (or have current certification) or an equivalent assessment including DOPS ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Interpretation of arrhythmias seen in the peri-arrest period, including but not limited to:  Narrow complex tachycardias Broad complex tachycardias Atrial fibrillation  Paroxysmal SVT Bradycardia 1st 2nd and 3rd degree heart block |  |  |  |
| Indications and principles of:  Open chest cardiac compressions  Resuscitative thoracotomy [Cross ref: cardiothoracic] |  |  |  |
| Principles of managing cardiac arrest in the prone position |  |  |  |
| Difference in aetiology of cardiac arrest between adults and children |  |  |  |
| Recognition of the sick/deteriorating ill child and what treatment should be initiated to reverse such deterioration and prevent, where possible, respiratory or cardiac arrest |  |  |  |
| Specific conditions likely to deteriorate to respiratory or cardiac arrest in children [e.g. meningococcal sepsis] and their initial management |  |  |  |
| Pharmacology of drugs used to treat common arrhythmias, dosage and frequency, including but not limited to:  Adenosine Digoxin Magnesium  Beta-blockers Amiodarone Atropine |  |  |  |
| Indications for performing cardioversion and the energies used |  |  |  |
| Indications for, and principles of, pacing including percussion, external and transvenous |  |  |  |
| Indications for use of thrombolysis |  |  |  |
| Indications and principles of therapeutic hypothermia after cardiac arrest |  |  |  |
| Establishing vascular access in children with difficult veins, including the use of intraosseous devices |  |  |  |
| Leadership during resuscitation, including supporting less experienced members of the team |  |  |  |
| Demonstrates the use of external cardiac pacing |  |  |  |
| Demonstrates the treatment of arrhythmias using drugs and cardioversion |  |  |  |
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Non-theatre

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| **Learning objectives:**   * To build on the competencies gained in Core level curriculum to include managing patients in a greater variety of out of theatre environments. |

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| **Core clinical learning outcomes:**   * To deliver safe peri-procedure anaesthesia/sedation to adult patients outside the operating theatre, but within a hospital setting, for painful or non-painful therapeutic procedures under distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Different techniques of anaesthesia/sedation for adults and children for procedures that may take place outside the operating theatre, but within a hospital setting, either diagnostic or therapeutic for both elective and emergency procedures, including but not exclusively in the following settings:  X-Ray  CT scan  Angiography  MRI scan  Radiotherapy  ECT |  |  |  |
| Indications/contraindications of sedation for patients in the non-theatre environment [Cross ref: sedation] |  |  |  |
| Problems of providing safe post-anaesthetic care for patients in the out of theatre environment |  |  |  |
| Unique safety precautions required in each of the environments, particularly MRI , ECT |  |  |  |
| Specific physical and physiological effects of ECT |  |  |  |
| Rationale behind the choice of anaesthetic technique for ECT |  |  |  |
| Physical and psychological needs of patients who present for ECT |  |  |  |
| The Mental Capacity Act in relation to the provision of ECT |  |  |  |
| Diagnostic imaging and interventional radiology |  |  |  |
| Common interventional procedures and their pathophysiological consequences |  |  |  |
| Anaesthetic management of patients for endovascular procedures |  |  |  |
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Ophthalmic

Optional Intermediate unit

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| **Learning objectives:**   * Gain knowledge, skills and experience of the perioperative anaesthetic care of patients undergoing ophthalmic surgery * Understand the rationale behind the choice of local or general anaesthesia for common ophthalmic procedures |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to adults and children requiring routine ophthalmic surgery under direct supervision, and emergency anaesthesia for ASA 1 and 2 patients requiring minor/intermediate ophthalmic surgery under distant supervision * Demonstrate the ability to provide local anaesthesia for eye surgery with competence in one technique |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Preoperative assessment of ophthalmic patients with particular reference to associated co-morbidities; how the care of high risk patients requiring ophthalmic surgery may be optimised |  |  |  |
| Effects of physiological changes associated with ageing and altered pharmacological responses |  |  |  |
| Choice of local or general anaesthetic techniques in relation to the patient and surgery including their advantages, disadvantages and indications with particular reference to some or all of the following:  Cataract surgery Strabismus surgery Glaucoma surgery  Vitreoretinal surgery Oculoplastic surgery |  |  |  |
| Oculocardiac reflex, its treatment and prevention |  |  |  |
| Action of anaesthetic drugs on the eye |  |  |  |
| Physiological mechanisms which control intraocular pressure |  |  |  |
| Drugs which may alter intraocular pressure |  |  |  |
| Precautions required for revision surgery in patients who have had a previous injection of intraocular gas |  |  |  |
| Techniques of anaesthesia for patients with penetrating eye injury |  |  |  |
| Operating conditions required for successful outcomes in ophthalmic surgery and how these can be achieved |  |  |  |
| Special requirements of children undergoing ophthalmic surgery |  |  |  |
| Advantages and disadvantages of sedation techniques for ophthalmic procedures |  |  |  |
| Safety precautions required during the use of lasers in ophthalmic surgery |  |  |  |
| Applied anatomy for insertion of local anaesthetic blocks for ophthalmic surgery |  |  |  |
| Techniques of local anaesthesia for ophthalmic surgery including their advantages, disadvantages and indications with particular reference to:  Topical anaesthesia: local anaesthesia drops Superficial injection anaesthesia: subconjunctival block  Cannular blocks: sub-Tenons anaesthesia Needle blocks: extraconal [peribulbar] and intraconal [retrobulbar] injections |  |  |  |
| Risks associated with needle blocks |  |  |  |
| National guidelines regarding local anaesthesia for intraocular surgery |  |  |  |
| Specific risk of wrong-site surgery when operating on paired organs such as the eyes |  |  |  |
| Specific factors in the postoperative care of patients who have had ophthalmic surgery |  |  |  |
| Perioperative anaesthetic care in patients with significant co-morbidities and with consideration of the specific requirements for ophthalmic surgical procedures including:  Cataract surgery Strabismus surgery Glaucoma surgery  Vitreoretinal surgery Oculoplastic surgery |  |  |  |
| Airway maintenance techniques for general anaesthesia for ophthalmic procedures |  |  |  |
| Control of perioperative intraocular pressure |  |  |  |
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Orthopaedic

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| **Learning objectives:**   * Build on the knowledge, understanding and skills gained in Core level training * Gain knowledge, skills and experience of the perioperative anaesthetic care of patients requiring major spinal and pelvic orthopaedic surgery |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to complicated ASA 1-3 adult patients for all elective and emergency orthopaedic/trauma surgery identified at the Core level as well as those requiring lower limb primary joint replacement surgery * Manage elective and emergency operating sessions with such patients with distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
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| Difference in anaesthetic and surgical complexity between primary and secondary lower limb arthroplasty |  |  |  |
| Principles of perioperative anaesthetic care for elective and emergency spinal surgery including but not exclusively:  Scoliosis surgery including the need for, and implications of, neurophysiological monitoring  Spinal trauma and the associated complications of spinal cord trauma |  |  |  |
| Principles of perioperative anaesthetic care for pelvic bone and joint surgery |  |  |  |
| Blood conservation strategies used in orthopaedic surgery |  |  |  |
| Perioperative anaesthetic care for a variety of orthopaedic surgical procedures in elderly patients and those with significant co-morbidities [including but not exclusively]:  Primary and revision lower limb arthroplasties  Upper limb surgery in the head-up and sitting positions  All ORIF surgery |  |  |  |
| Management of elective and emergency orthopaedic and trauma theatre sessions safely and effectively |  |  |  |

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Perioperative medicine

This unit of training is intended to run in parallel with other units of training and is not designed to be undertaken as a standalone dedicated module. The learning outcomes are applicable to all patients and will be achievable during clinical practice whilst undertaking the other units of training. Attendance at a medically led preoperative assessment clinic is a mandatory component of this unit of training.

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| **Core clinical learning outcomes:**   * Deliver high quality preoperative assessment, investigation and management of ASA 1-4 patients for elective and emergency surgery * Deliver high quality individualised anaesthetic care to ASA 1-3 patients, focusing on optimising patient experience and outcome * Plan and implement high quality individualised post-operative care for ASA 1-3 patients |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
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| PREOPERATIVE CARE |  |  |  |
| Uses and limitations of common **risk scoring systems** |  |  |  |
| Strategies for **prehabilitation** and **patient optimisation** and the limits of such strategies |  |  |  |
| Principles of **enhanced recovery pathways** |  |  |  |
| Requirements for **investigations** in patients with **complex comorbidities**; methods of assessment of **functional cardiorespiratory capacity** |  |  |  |
| Appropriate preoperative strategies for minimising the use of **blood products** |  |  |  |
| Assessing the patient with **complex comorbidities**, taking into account their individual needs and requirements |  |  |  |
| **Explaining risks and benefits** of available anaesthetic techniques to patients in a manner they can understand |  |  |  |
| Formulating an **individualised perioperative plan** with the patient, using an evidence-based approach; balancing the need for early surgery against the need for further investigation, prehabilitation and pre-optimisation |  |  |  |
| Communicating with **other specialists** as part of integrated care |  |  |  |
| Conducting a comprehensive **preoperative assessment** for a patient with **multiple co-morbidities** in the outpatient **pre-assessment clinic** |  |  |  |
| Managing existing **medications** and making appropriate changes |  |  |  |
| Discussing the risks and benefits of the **transfusion** of blood products with patients |  |  |  |
| Discussing requirements of **postoperative organ support** & its limitations with p’ts; ‘**do not resuscitate**’ procedures & appropriate **limitations of care** |  |  |  |
| INTRAOPERATIVE CARE |  |  |  |
| The concept of **goal-directed therapy** |  |  |  |
| Use of different types of **intravenous fluid** |  |  |  |
| Potential impact of anaesthetic **technique** on patient outcome |  |  |  |
| Effects of **deviation from normal physiological limits** on short and long-term outcomes |  |  |  |
| Rationale for **point of care testing** and using results from point of care testing to direct treatment |  |  |  |
| Principles and interpretation of **depth of anaesthesia monitoring** |  |  |  |
| How **ethnicity** may influence preoperative assessment, conduct of anaesthesia and postoperative management, including pain management |  |  |  |
| Choosing an appropriate anaesthetic technique for patients with **complex comorbidities** |  |  |  |
| Interpreting information from commonly used modalities for **advanced haemodynamic monitoring** |  |  |  |
| Demonstrating the use of appropriate **blood conservation strategies** |  |  |  |
| Assuming a **leadership** role in patient safety in the perioperative period |  |  |  |
| Recognising and instituting appropriate measures to stabilise the **deteriorating** patient |  |  |  |
| **Communicating** effectively with and leading the theatre team where there is cause for concern over patient condition |  |  |  |
| Using antibiotics and other measures to reduce the risk of **infection** |  |  |  |
| Using strategies to minimise post-operative **cognitive dysfunction** |  |  |  |
| Using strategies to minimise the risk of **accidental awareness** under general anaesthesia |  |  |  |
| POSTOPERATIVE CARE |  |  |  |
| How a **multidisciplinary team** approach improves patient recovery and outcomes |  |  |  |
| Planning appropriate postoperative analgesia using **multimodal techniques**, including those required for patients with **complex analgesic needs** |  |  |  |
| Initiating **communication** with patients regarding **adverse events** and organising appropriate follow up |  |  |  |
| Planning postoperative care in keeping with relevant **enhanced recovery pathways**; contributing to **discharge planning** |  |  |  |
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Plastics/Burns

Optional Intermediate unit

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| **Learning objectives:**   * Gain knowledge of the initial resuscitation and management of a patient with severe burns prior to transfer to a specialist centre * Gain an understanding of the specific requirements of anaesthesia for burns and plastic surgery including the principles of safe perioperative anaesthetic care to patients for a wide range of surgical procedures undertaken by plastic surgeons [to include microsurgery and free-flap reconstructive techniques] |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to ASA 1-3 adult patients for minor to intermediate plastic surgery [e.g. tendon repair or split skin grafting] with distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Specific features of preoperative assessment of patients for major plastic surgery procedures |  |  |  |
| Anaesthetic techniques appropriate for plastic surgical procedures including major reconstructive cases procedures |  |  |  |
| Methods for improving blood flow to the surgical field during plastic surgery |  |  |  |
| Pathophysiology of burn injury including thermal airway injury and smoke inhalation |  |  |  |
| Initial assessment and management of a patient with severe burns, including electrical & chemical burns; analgesia, airway and fluid management |  |  |  |
| Principles of anaesthetic management of burns patients for surgery including dressing changes, grafting and related procedures |  |  |  |
| Strategies to improve the surgical field by pharmacological [including induced hypotension] and non-pharmacological methods |  |  |  |
| Initial assessment and management of the patient with severe burns |  |  |  |
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Regional

If training in some of the regional blocks identified is not available it should be deferred to Higher Training years [ST 5/6/7] years. While all the blocks listed below may not be available trainees should achieve a broad spread of block experience.

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| **Learning objectives:**   * Build on the basic knowledge and skills gained in Core level regional anaesthesia * Increase the range of block techniques practised * Become skilled in performing some more complex blocks under direct supervision * Become skilled in performing some simple nerve blocks with distant supervision |

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| **Core clinical learning outcomes:**  Perform one each of the following blocks satisfactorily under local supervision:   * Thoracic epidural and/or combined spinal/epidural * Upper limb plexus block with peripheral nerve stimulation or ultrasound guidance * Lower limb plexus block with peripheral nerve stimulation or ultrasound guidance * Demonstrates understanding of basic sciences as applied to all regional anaesthetic blocks |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, ALMAT ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Advantages and disadvantages, techniques and complications [including management] of a wide variety of blocks including, but not exclusively, major peripheral blocks of the limbs, some cranial nerve blocks and blocks used to treat chronic pain conditions |  |  |  |
| Understanding in the choice of local anaesthetic agents, opioids, use of additives and techniques of administration |  |  |  |
| Principles of continuous catheter techniques for peripheral nerve blockade and for postoperative analgesia |  |  |  |
| In-depth understanding of the principles of ultra sound guided nerve blocks including:  Principles of scanning including machine ergonomics, probe selection/handling, use of acoustic couplant [ultrasound gel] to improve skin contact  Importance of the angle of insonation on visibility of structures [anisotropy] specifically related to nerves and tendons  Normal sonoanatomy of peripheral nerves and surrounding structures |  |  |  |
| Basic concepts of needling techniques relating to ultrasound guidance (in plane / out of plane) |  |  |  |
| Understanding and recognition of spread of local anaesthetic under ultrasound guidance, distinction between normal, intraneural and intravascular injection |  |  |  |
| Perioperative management of patients receiving regional techniques [identified below] including liaison with theatre staff, surgeons, recovery staff, acute pain teams and ward staff |  |  |  |
| Central nerve blocks including caudal and thoracic epidural and CSE |  |  |  |
| Major nerve blocks including:  Upper limb brachial plexus blocks [minimum of one such block]  Lower limb blocks such as Sciatic nerve block and Lumbar plexus block [minimum of one such block] |  |  |  |
| Minor nerve and other blocks including as many of these as possible:  Superficial cervical plexus block  Trunk [penile, rectus sheath, intercostal and inguinal blocks]  Upper limb [elbow and distal]  Lower limb [ankle and distal]  Ophthalmic blocks [Cross reference ophthalmic anaesthesia]  IVRA  Infiltration and fascial plane blocks |  |  |  |
| Recognition and management of adverse effects and complications of the more complex regional anaesthesia described at this level |  |  |  |
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Sedation

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| **Learning objectives:**   * Build on the knowledge, understanding and clinical skills in sedation developed in Core level training * Be able to discuss where and when deeper levels of sedation may be indicated * Be able to deliver pharmacological sedation to patients of all ages, safely and effectively, whilst recognising their own limitations |

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| **Core clinical learning outcomes:**   * To recognise the important principal of minimum intervention, where the simplest and safest technique which is likely to be effective is used to achieve the clinical goal * Provision of safe and effective sedation to any adult patient using multiple drugs if required |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
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| Deep sedation, when its use may be justifiable, associated risks and how these may be minimised to ensure patient safety is not compromised |  |  |  |
| How multiple drug use may enhance sedation techniques, and how this increases risks |  |  |  |
| Titration multiple drugs [sedatives, analgesics and anaesthetic agents] to effect; possibility of differing times of onset, peak effect and duration causing unpredictable responses |  |  |  |
| Infusions compared to bolus doses; target-controlled infusions [TCI], and the pharmacological models and pump technology relevant to their use |  |  |  |
| Options for alternative route of delivery of drugs used for conscious sedation including intra-nasal and rectal |  |  |  |
| Unpredictable nature of sedation techniques in the extremes of life and strategies for safe delivery [Cross ref: paeds] |  |  |  |
| Sedation in the high risk patient and the advantages/disadvantages of general anaesthesia as opposed to sedation to cover necessary investigations/procedures in such patients |  |  |  |
| Administer and monitor sedation techniques to all patients for appropriate clinical procedures, safely and effectively |  |  |  |
| When considering the choice of sedation technique:  No one technique is suitable for all patients; the most appropriate technique is that based on minimum intervention, using the simplest and safest effective technique based on patient assessment and clinical need  Techniques using multiple drugs/anaesthetic drugs should only be considered where there is a clear clinical justification, having excluded simpler techniques |  |  |  |
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Transfer Medicine

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| **Learning objectives:**   * Build on the knowledge, understanding and skills obtained in Core level training; develop greater confidence and ability to provide clinical care to patients requiring transfer, including those for inter-hospital transfer |

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| **Core clinical learning outcomes:**  To deliver safe and efficient transfer [with distant supervision] of:   * Complex patients for intra-hospital including retrieving a newly referred ITU patient from A&E or the wards * An uncomplicated ventilated patient for inter-hospital transfer by land [less than 4 hours] |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
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| Risks/benefits of Interhospital patient transfer |  |  |  |
| Concept of primary/secondary/tertiary transfer |  |  |  |
| Hazards associated with Interhospital transfer, including but not limited to physical, psychological and organisational |  |  |  |
| Increased risks to critically ill patients of transfer and the reasons for these risks |  |  |  |
| Strategies to minimise risk during Interhospital transfer, including but not limited to:  Stabilisation Pre-emptive intervention Sedation  Monitoring Packaging Choice of mode of transfer |  |  |  |
| How critical illness affects the risk of transfer |  |  |  |
| How time-critical elements may influence risks to the patient and transfer personnel and how these should be managed to reduce them |  |  |  |
| Increased risk of interventions during Interhospital transfer |  |  |  |
| Specific considerations for transfer of patients with specific clinical conditions, including but not limited to:  Critically ill medical patients Burns Head, spinal, thoracic and pelvic injuries  Children Pregnant women |  |  |  |
| Critical care equipment used during transfer including but not exclusively:  Ventilators Infusion pumps Monitoring |  |  |  |
| Different modes of ventilation and selection of appropriate settings in e.g. asthma/COPD, ARDS |  |  |  |
| Different modes of transport available for inter-hospital transfer, including risks/benefits |  |  |  |
| Safety implications of electrical and hydraulic equipment that may be used during patient transfer |  |  |  |
| Physiological effects of transport including the effects of acceleration and deceleration |  |  |  |
| Effects of high ambient noise on patients and alarm status |  |  |  |
| Reasons for patients becoming unstable during transfer and strategies for management |  |  |  |
| How to manage patients who develop sudden airway difficulties whilst in transit [both in the intubated and un-intubated patient] |  |  |  |
| Ethical issues related to patient transfer, including the need to brief patients and their relatives |  |  |  |
| Laws relating to deaths in transit |  |  |  |
| National register of critical care beds |  |  |  |
| Regional protocols for organising transfers between units |  |  |  |
| Importance of maintaining communications between the transfer team and the base/receiving units |  |  |  |
| Roles and responsibilities of all staff accompanying the patient during transfer including the ambulance technicians and paramedics |  |  |  |
| Personal equipment needed when leading a transfer, especially when a prolonged journey is anticipated |  |  |  |
| Auditing practice and reporting critical incidents that arise during Interhospital transfer and the need for appropriate research |  |  |  |
| Determining when patients are in their optimum clinical condition for transfer |  |  |  |
| Packaging a patient optimally for Interhospital transfer to minimise risks |  |  |  |
| Establishing appropriate ventilation, monitoring & sedation required of a critically ill patient for interhospital transfer |  |  |  |
| Organisational and communication skills in managing inter-hospital transfers; recognition of the importance of maintaining contact with base/receiving units if necessary whilst on transfer |  |  |  |

Trauma and stabilisation

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| **Learning objectives:**   * Build on the knowledge, understanding and skills obtained in Core level training; develop greater confidence and ability to provide clinical care to patients with multiple injuries * Gain an in-depth understanding of how to manage massive blood loss in the multiply injured patient with an associated head injury * Gain in-depth understanding of the problems associated with trauma: severe burns; electrical injuries; drowning/near drowning; hypothermia |

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| **Core clinical learning outcomes:**   * Be an effective member of the multi-disciplinary trauma team and take responsibility for the initial airway management of the multiply injured patient with distant supervision * Be able to manage acute life-threatening airway problems safely and effectively with distant supervision * Provide safe perioperative anaesthetic care [from arrival in the Emergency Department through to post-operative discharge to the ward from recovery or intensive care] for ASA 1-3 patients with multiple injuries with distant supervision, whilst demonstrating understanding of knowing when to seek senior help |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number 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 |
| --- | --- | --- | --- |
| Complex pathophysiological changes that occur in all patients [including children] with multiple injuries |  |  |  |
| Perioperative anaesthetic management of patients with multiple injuries including head, facial, neck/spinal, thoracic, abdominal, pelvic and peripheral trauma |  |  |  |
| Hospital triage of trauma patients and scoring systems used |  |  |  |
| Specific ethical and ethnic issues associated with managing the multiply injured patient, including issues that relate to brain stem death and organ donation |  |  |  |
| Strategies for minimising secondary brain injury in patients with multiple injures |  |  |  |
| Initial assessment, management and resuscitation of patients with:  Severe burns Electrical injuries  Drowning and near drowning Hypothermia |  |  |  |
| Management of massive blood loss including the use of rapid infusion devices |  |  |  |
| Implications, prevention and management of coagulopathy, hypothermia and acidosis in multiply injured patients |  |  |  |
| Management of children with multiple injuries, comparing and contrasting with that of adults [Cross ref: Paeds] |  |  |  |
| Indications and contraindications of regional anaesthesia and peripheral nerve blocks in multiply injured patients for the provision of analgesia, both initially and perioperatively |  |  |  |
| Principles of clinical management for stabilisation of patients with multiple injuries requiring inter-hospital transfer strategies used, how safe transfer is undertaken, monitoring requirements and the options for modes of transfer [Cross ref: Transfer] |  |  |  |
| Leading the multi-disciplinary trauma team; ensuring that the primary survey, resuscitation and secondary surveys are conducted appropriately in non-complex trauma patients |  |  |  |
| Advanced airway management skills in trauma patient [including those with suspected unstable cervical spine] including surgical airway techniques |  |  |  |
| Effective communication with:  Senior colleagues when planning/organising definitive care  Colleagues in the referral centre when organising the transfer of a patient  Relatives, showing due compassion and understanding |  |  |  |
| Perioperative anaesthetic management of patients with multiple injuries requiring early surgery, including management of major blood loss and associated coagulopathy, hypothermia and acidosis |  |  |  |
| Preparation of patients for safe transfer including ensuring adequate resuscitation, appropriate accompanying personnel and the use of checklists |  |  |  |
| Inter-hospital transfer of stable trauma patient[s], including those with brain injury, whilst also ensuring the safety of accompanying personnel |  |  |  |
| Interpreting imaging relevant to the primary survey |  |  |  |
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Vascular

Optional Intermediate unit

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| **Core clinical learning outcomes:**   * Gain knowledge of the perioperative anaesthetic management of patients undergoing elective and emergency abdominal aortic surgery and newer stenting techniques |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Cardiovascular physiology and pharmacology relevant to perioperative vascular surgery |  |  |  |
| Methods of assessment of the patients functional cardiovascular capacity |  |  |  |
| Preoperative management of the patient with atherosclerotic disease |  |  |  |
| Perioperative management of the patient for major vascular surgery |  |  |  |
| Resuscitation and management of major vascular accidents including management of ruptured aortic aneurysm |  |  |  |
| Management of endovascular radiological procedures [e.g. Stenting] including anaesthesia in isolated locations [Cross ref: non-theatre] |  |  |  |
| Management of elective carotid artery surgery with general or regional anaesthesia |  |  |  |
| Principles and anaesthetic implications of sympathectomy, including thoracoscopic procedures |  |  |  |
| Postoperative management and critical care of vascular patients |  |  |  |
| Effects of smoking on health |  |  |  |
| Morbidity and mortality associated with vascular surgery |  |  |  |
| Principles of blood conservation and red cell salvage when major haemorrhage is predicted |  |  |  |
| Pathophysiology of aortic cross-clamping and of renal protection strategies |  |  |  |

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Intensive care medicine (as part of Anaesthetics CCT only)

This is for trainees undertaking ICM at Intermediate Level as part of their **Anaesthetics CCT**. The curriculum uses a Training Progression Grid to measure progress.

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| **Mandatory requirements for completion of ICM module (as part of Anaesthetics CCT curriculum):**   * Three-month (whole time equivalent) ICM block * Achievement of all of the mandatory competencies at the ‘INT target level’ * Evidence for each competency from either DOPS, I-CEX, ACAT, CBD, simulation or MSF (individual WPBAs may count as evidence for multiple competencies) * In addition an appropriate number of individual WPBAs – minimum I-CEX ×1, ACAT ×1, DOPS ×1, CBD ×1 (per 3m block)   *Intermediate ICM Unit of Training to be signed off on Anaesthesia e-portfolio by FICM tutor or FICM educational supervisor* |

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| **Optional additional Intermediate level ICM competencies – ANNEX F**  Anaesthetics trainees undertaking their Intermediate ICM module who are contemplating a **Dual Anaesthesia-ICM programme** or who wish to demonstrate a broader level of competence should use Annex F – this provides a full and clear explanation of how ICM fits into the Anaesthetics and ICM curricula:   * **Annex F** Intermediate level training progression grid including the additional intermediate level competencies <http://www.rcoa.ac.uk/careers-training/training-anaesthesia/the-training-curriculum/CCT2010> - when completed and signed off, scan and upload relevant pages to Anaesthesia e-portfolio |

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| **Dual Anaesthesia-ICM** trainees should use the more comprehensive FICM Training Progression Grid (and not this version, which is for Anaesthesia-only trainees) |

The descriptors for each level of competence in the Training Progression Grid are as follows:

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| --- | --- | --- | --- |
| **Level** | **Task oriented competence** | **Knowledge oriented competence** | **Patient management competence** |
| 1 | Performs task under direct supervision. | Very limited knowledge; requires considerable guidance to solve a problem within the area. | Can take history, examine & arrange investigations for straight forward case (limited differential diagnosis). Can initiate emergency management & continue a management plan, recognising acute divergences from the plan. Will need help to deal with these. |
| 2 | Performs task in straightforward circumstances, requires help for more difficult situations. Understands indications & complications of task. | Sound basic knowledge; requires some guidance to solve a problem within the area. Will have knowledge of appropriate guidelines & protocols. | Can take history, examine & arrange investigations in a more complicated case. Can initiate emergency management. In a straightforward case, can plan management & manage any divergences in short term. Will need help with more complicated cases. |
| 3 | Performs task in most circumstances, will need some guidance in complex situations. Can manage most complications, has a good understanding of contraindications & alternatives. | Advanced knowledge & understanding; only requires occasional advice and assistance to solve a problem. Will be able to assess evidence critically. | Can take history, examine & arrange investigations in a more complex case in a focused manner. Can initiate emergency management. In a most cases, can plan management & manage any divergences. May need specialist help for some cases. |
| 4 | Independent (consultant) practice. | Expert level of knowledge. | Specialist. |

| Mandatory Intermediate Level ICM competencies | Entry level | **INT** target level | Level achieved | Evidence (eg DOPS, I-CEX, ACAT, CBD, simulation or MSF) |  | FICM Trainer initial | Date |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Domain 1: Resuscitation and management of the acutely ill patient** | | | | |  |  |  |
| 1.1 Adopts a structured and timely approach to the recognition, assessment and stabilisation of the acutely ill patient with disordered physiology | 1 | **2** |  |  |  |  |  |
| 1.4 Triages and prioritises patients appropriately, including timely admission to ICU | 1 | **2** |  |  |  |  |  |
| 1.5 Assesses and provides initial management of the trauma patient | 1 | **2** |  |  |  |  |  |
| **Domain 2: Diagnosis, Assessment, Investigation, Monitoring and Data Interpretation** | | | | |  |  |  |
| 2.1 Obtains a history and performs an accurate clinical examination | 1 | **2** |  |  |  |  |  |
| 2.2 Undertakes timely and appropriate investigations | 1 | **2** |  |  |  |  |  |
| 2.4 Obtains appropriate microbiological samples and interprets results | 1 | **2** |  |  |  |  |  |
| 2.6 Interprets imaging studies | 1 | **2** |  |  |  |  |  |
| 2.8 Integrates clinical findings with laboratory investigations to form a differential diagnosis | 1 | **2** |  |  |  |  |  |
| **Domain 3: Disease Management** | | | | |  |  |  |
| 3.1 Manages the care of the critically ill patient with specific acute medical conditions | 1 | **2** |  |  |  |  |  |
| 3.2 Identifies the implications of chronic and co-morbid disease in the acutely ill patient | 1 | **2** |  |  |  |  |  |
| 3.3 Recognises & manages the patient with circulatory failure | 1 | **2** |  |  |  |  |  |
| 3.4 Recognises & manages the patient with, or at risk of, acute renal failure | 1 | **2** |  |  |  |  |  |
| 3.6 Recognises & manages the patient with neurological impairment | 1 | **2** |  |  |  |  |  |
| 3.8 Recognises & manages patient with severe acute resp failure / acute lung injury syndromes (ALI / ARDS) | 1 | **2** |  |  |  |  |  |
| 3.9 Recognises and manages the septic patient | 1 | **2** |  |  |  |  |  |
| **Domain 4: Therapeutic interventions / Organ support in single or multiple organ failure** | | | | |  |  |  |
| 4.2 Manages antimicrobial drug therapy | **2** | **2** |  |  |  |  |  |
| 4.6 Initiates, manages, and weans patients from invasive and non-invasive ventilatory support | 1 | **2** |  |  |  |  |  |
| 4.7 Initiates, manages and weans patients from renal replacement therapy | 0 | **1** |  |  |  |  |  |
| **Domain 5: Practical procedures** | | | | |  |  |  |
| 5.5 Performs fibreoptic bronchoscopy and BAL in the intubated patient | 0 | **2** |  |  |  |  |  |
| **Domain 6: Perioperative care** | | | | |  |  |  |
| 6.1 Manages the pre- and post-operative care of the high risk surgical patient | 1 | **3** |  |  |  |  |  |
| 6.5 Manages the pre- and post-operative care of the trauma patient | 1 | **2** |  |  |  |  |  |
| **Domain 7: Comfort and recovery** | | | | |  |  |  |
| 7.1 Identifies & attempts to minimise physical & psychosocial consequences of critical illness for patients and families | 1 | **2** |  |  |  |  |  |
| 7.2 Manages the assessment, prevention and treatment of pain and delirium | **2** | **2** |  |  |  |  |  |
| 7.3 Manages sedation and neuromuscular blockade | 2 | **3** |  |  |  |  |  |
| 7.4 Communicates the continuing care requirements, including rehabilitation, of patients at ICU discharge to health care professionals, patients and relatives | 1 | **2** |  |  |  |  |  |
| 7.5 Manages the safe and timely discharge of patients from the ICU | 1 | **2** |  |  |  |  |  |
| **Domain 8: End of life care** | | | | |  |  |  |
| 8.1 Manages the process of withholding or withdrawing treatment with the multi-disciplinary team | **1** | **1** |  |  |  |  |  |
| 8.2 Discusses end of life care with patients and their families / surrogates | 1 | **2** |  |  |  |  |  |
| 8.3 Manages palliative care of the critically ill patient | 0 | **1** |  |  |  |  |  |
| 8.4 Performs brain-stem death testing | 0 | **1** |  |  |  |  |  |
| 8.5 Manages the physiological support of the organ donor | 0 | **1** |  |  |  |  |  |
| 8.6 Manages donation following cardiac death | 0 | **1** |  |  |  |  |  |
| **Domain 9: Paediatric care** | | | | |  |  |  |
| *Paediatric competencies can be covered elsewhere in Anaesthesia* | | | | |  |  |  |
| **Domain 10: Transport** | | | | |  |  |  |
| 10.1 Undertakes transport of the mechanically ventilated critically ill patient outside the ICU | 1 | **2** |  |  |  |  |  |
| **Domain 11: Patient safety and health systems management** | | | | |  |  |  |
| 11.1 Leads a daily multidisciplinary ward round | 0 | **1** |  |  |  |  |  |
| 11.2 Complies with local infection control measures | **3** | **3** |  |  |  |  |  |
| 11.7 Describes commonly used scoring systems for assessment of severity of illness, case mix and workload | 1 | **2** |  |  |  |  |  |
| 11.8 Demonstrates an understanding of & managerial & administrative responsibilities of the ICM specialist | 0 | **1** |  |  |  |  |  |
| **Domain 12: Professionalism** | | | | |  |  |  |
| 12.8 Ensures continuity of care through effective hand-over of clinical information | 2 | **3** |  |  |  |  |  |

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Obstetric

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| **Learning objectives:**   * To build on experience of Core training to be able to work with distant supervision |

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| **Core clinical learning outcomes:**   * Able to provide emergency and non-emergency obstetric anaesthetic care in the majority of patients including those with co-morbidities and obstetric complications with distant supervision * Perform immediate resuscitation of acute obstetric emergencies |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Influence of common concurrent medical diseases on pregnancy |  |  |  |
| Obstetric and anaesthetic management of a premature delivery |  |  |  |
| Obstetric and anaesthetic management of multiple pregnancy |  |  |  |
| Classification of placenta praevia and the associated risk to the patient |  |  |  |
| Recognition and management of amniotic fluid embolus |  |  |  |
| Recognition and management of inverted uterus |  |  |  |
| Management of accidental dural puncture and post dural puncture headache |  |  |  |
| Local anaesthetic toxicity – recognition and lipid rescue |  |  |  |
| Common causes of maternal morbidity and mortality, including national reports |  |  |  |
| Particular sensitivity of patient choices in obstetric practice, even when this is not in line with accepted evidence based best practice e.g. choice of birth plan, refusal of blood products |  |  |  |
| Assessment of pregnant woman presenting for anaesthesia / analgesia including those with concurrent disease |  |  |  |
| Communicating a balanced view of the advantages, disadvantages, risks and benefits of various forms of analgesia and anaesthesia appropriate to individual patient |  |  |  |
| CSE, subarachnoid, and epidural analgesia for labour |  |  |  |
| Intravenous opiate analgesia including PCA for labour |  |  |  |
| Complications of regional block including failure to achieve an adequate block |  |  |  |
| CSE for operative delivery |  |  |  |
| Choosing the most appropriate regional technique for an operative delivery and justifying the decision |  |  |  |
| Intra uterine resuscitation for the “at risk” baby |  |  |  |
| Anaesthesia for a caesarean section for placenta praevia [under direct supervision] |  |  |  |
| Managing a high dependency obstetric patient [with distant supervision] |  |  |  |
| Basic neonatal resuscitation |  |  |  |
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Paediatric

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| **Learning objectives:**   * Build on the knowledge and skills gained during Core level training * Develop in-depth knowledge and understanding of the anaesthetic needs of children and neonates * Understand the potential hazards associated with paediatric anaesthesia and have obtained practical skills in the management of such events |

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| **Core clinical learning outcomes:**   * Deliver safe perioperative anaesthetic care to ASA 1 and 2 children aged 5 years and over for minor elective and emergency surgery (e.g. inguinal hernia repair, orchidopexy, circumcision, superficial plastic surgery, grommets, manipulation of fractures, appendicectomy) with distant supervision |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Appropriate numbers of cases & case mix * Appropriate number of WPBAs – minimum A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
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| Applied basic sciences relevant to all age groups including neonates |  |  |  |
| Implications of paediatric medical and surgical problems including major congenital abnormalities (e.g. tracheoesophageal fistula, diaphragmatic hernia), congenital heart disease and syndromes (e.g. Downs) for anaesthesia |  |  |  |
| Adverse effects of starvation and hypoglycaemia in neonates and children |  |  |  |
| Specific factors in preoperative assessment and preparation of neonates for surgery |  |  |  |
| Special anaesthetic techniques for neonates |  |  |  |
| Thermoregulation in the newborn and the measures required to prevent hypothermia |  |  |  |
| The law as it relates to children in respect of Consent, Restraint and Research and the concept of Gillick competence |  |  |  |
| Anaesthetic management of neonates and infants for minor operations, major elective and emergency surgery |  |  |  |
| Specific anaesthetic and monitoring equipment required for neonates |  |  |  |
| Common anaesthetic problems in the neonatal period and their perioperative anaesthetic management [e.g. inguinal hernia, intestinal obstruction, pyloric stenosis] |  |  |  |
| Special problems of the premature and ex-premature neonate |  |  |  |
| Child Protection and how to be responsible for taking appropriate action when non-accidental injury is suspected |  |  |  |
| Recognition and management of the critically ill child with e.g. sepsis, trauma, convulsions, diabetic emergencies |  |  |  |
| Principles of stabilisation and safe transport of critically ill children and babies |  |  |  |
| Ability to resuscitate all ages, both basic and advanced [BLS and ALS] |  |  |  |
| Preoperative assessment in all ages down to 1 year |  |  |  |
| Induction, maintenance and monitoring for elective and emergency anaesthesia |  |  |  |
| Selection, management and monitoring of children requiring diagnostic and therapeutic procedures carried out under sedation |  |  |  |
| Maintenance of perioperative physiology [e.g. glucose, fluids and temperature] in children down to 5 years of age |  |  |  |
| Strategies for, and the practical management of, anaesthetic emergencies in children [e.g. loss of airway, laryngospasm, failed venous access, anaphylaxis including latex allergy] |  |  |  |
| Postoperative pain management, including the use of regional and local anaesthetic techniques, simple analgesics, NSAIDs and opioids |  |  |  |
| Communicating clearly with children & young people, parents and carers. including those with cognitive, communication or behavioural problems |  |  |  |
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Pain medicine

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| **Learning objectives:**   * Build on the competencies gained during Core level training * Be fully competent in the assessment and management of acute surgical and non surgical and acute on chronic pain in most patient groups and in most circumstances * Be an effective member of the acute pain team * Have a knowledge of the assessment, management and wider treatment options for chronic and cancer pain in adults * Be aware of the need for multi-professional input and to embrace this in the management of chronic and cancer pain |

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| **Core clinical learning outcomes:**   * To be competent in the assessment and management of acute surgical and non-surgical pain in most patient groups and circumstances * To be an effective member of the acute pain team * To understand the importance of managing acute on chronic pain in a timely manner * To have knowledge of assessment and management of chronic and cancer pain |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Minimum of 20 pain sessions (including a balance of acute and chronic, with a minimum of 10 chronic) * Appropriate number of pain logbook cases * Appropriate number of WPBAs – minimum A-CEX ×1, DOPS ×1, CBD ×1 * Achievement of core clinical learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Assessment and management of acute pain in all types of surgery |  |  |  |
| Assessment and management of acute non surgical pain |  |  |  |
| Assessment and management of acute pain in special groups to include children, infants, the older person, the cognitive impaired, those with communication difficulties, the unconscious and critically ill patient |  |  |  |
| Basic assessment and management of chronic pain in adults |  |  |  |
| Basic assessment and management of cancer pain in adults |  |  |  |
| Advanced pharmacology of drugs used to manage pain including neuropathic pain |  |  |  |
| Basic assessment and management of neuropathic pain |  |  |  |
| Rationale for the use of opioids in the management of chronic non malignant pain |  |  |  |
| Requirement for the multidisciplinary management of chronic pain |  |  |  |
| Undertaking a significant role in an acute pain service |  |  |  |
| Management of acute pain in those on background large dose opioids |  |  |  |
| Continuity of care and communication in the management of pain |  |  |  |
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| *Please record pain sessions attended:* | | | | | | |
|  | | | | | | |
| ***Date*** | ***Type of pain session***  *e.g. acute pain round, chronic pain clinic, theatre session* | ***Hospital*** |  | ***Date*** | ***Type of pain session***  *e.g. acute pain round, chronic pain clinic, theatre session* | ***Hospital*** |
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Academic & research [including audit]

Essential intermediate non-clinical unit of training

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| **Learning objectives:**   * Consolidate understanding of evidence based practice and audit * Be able to undertake simple audit projects independently * Extend critical abilities with regard to clinical science * Be an assured presenter in clinical audit meetings and journal clubs |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Record satisfactory attendance at 15 of local audit, MDT, morbidity & mortality and journal club meetings * Reflective portfolio of attendances * Present at Journal club, Audit or Morbidity & Mortality meeting * Portfolio showing clinical critical incidents and reports |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Rationale and methodology of meta-analysis |  |  |  |
| How clinical guidelines are produced |  |  |  |
| Major national audit processes, including but not exclusively the National Confidential Enquiry into Patient Outcomes and Death [NCEPOD] |  |  |  |
| Links between audit and quality improvement |  |  |  |
| Methodology and processes of clinical research, including but not exclusively:  Ethical and approval considerations raised by research  Importance of study design in clinical research  Importance of statistical analyses |  |  |  |
| GMC guidance on good practice in research |  |  |  |
| Local and national research guidelines |  |  |  |
| How to test, refine and verify hypotheses |  |  |  |
| Difference between population-based assessment and unit-based studies; evaluation of outcomes for epidemiological work |  |  |  |
| Principles of meta-analysis |  |  |  |
| Critical review an article to identify the level of evidence |  |  |  |
| National and local databases used for audit such as specialty data collection systems, cancer registries, and for reporting and learning from clinical incidents and near misses in the UK |  |  |  |
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Improvement Science

Optional intermediate non-clinical unit of training; for clarity the Core and Intermediate Units are summarised here.

**Core level**

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| **Learning outcomes:**   * Understands and commits to the principles of Quality Improvement * Demonstrates knowledge of the fundamental concepts of Improvement Science * Understands the difference between audit and quality improvement * Understands and demonstrates importance of safety, team work and human factors in anaesthetic practice |

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| **Assessment:**   * Evidence of participation in critical incident reporting * Evidence of active participation in a Quality Improvement project |

**Intermediate level**

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| **Learning outcomes:**   * Consolidates understanding of Quality Improvement principles * Demonstrates enhanced knowledge and skills of Improvement Science * Can present evidence of quality improvement outcome and impact of change implemented * Can demonstrate quality improvement benefit to patient, staff and organisation |

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| **Assessment:**   * Has personally led a Quality Improvement project * Presentation of a Quality Improvement project (case study, oral or poster presentation) * Participates in learning sets (face to face or web based) |

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Teaching & learning

Essential intermediate non-clinical unit of training

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| **Learning outcomes:**   * Continue to participate appropriately in the management of their own teaching, learning and assessment * Contribute to institutional educational programmes as participant and presenter developing upon the learning gained in CT1 & 2; now actively seeking feedback on own performance * Undertake appropriate supervision and practical teaching within the clinical team * Give appropriate feedback when they have taught and supervised * Undertake opportunistic teaching and in less structured, informal, educational contexts |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Portfolio recording engagement in teaching and learning; including reflections * Record of participation in formal educational meetings and teaching * Feedback on teaching delivered, including own reflections * Appropriate number of WPBAs – minimum:   + A-CEX ×1 (relating to own teaching and supervision of a more inexperienced trainee)   + CBD ×1 (on selected education topic) |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| How to design and implement a personal learning plan for an educational activity related to own learning |  |  |  |
| How to create a framework in which to teach a practical skill safely |  |  |  |
| Which teaching method to select for effective learning in a variety of situations |  |  |  |
| How to give and receive effective feedback |  |  |  |
| How to perform WBA for foundation and less experienced anaesthetic trainees |  |  |  |
| Roles and responsibilities of educational agencies involved in postgraduate medical education |  |  |  |
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Management

Essential intermediate non-clinical unit of training

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| **Learning outcomes:**   * Understand the structure of local management * Engage with departmental organisational processes * Observe local and national systems for clinical governance |

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| **Requirements for completion of module (in addition to consultant feedback):**   * Achievement of learning outcomes |

| Knowledge/Skills | Tick if confident/ discussed | Trainer initial | Date |
| --- | --- | --- | --- |
| Guidance given by the GMC regarding doctors in management |  |  |  |
| Local management structures facilitating clinical governance |  |  |  |
| Role of the clinical director and medical director |  |  |  |
| How working practices are affected by national and European legislation on hours of work and rest periods |  |  |  |
| Processes of trust indemnity for errors in patient management |  |  |  |
| Areas of liability that may not be covered by trust indemnity |  |  |  |
| Principles of recognising equality and diversity in the workplace |  |  |  |
| Management framework of medical education, including the role of the RCoA, Postgraduate Dean, and the General Medical Council |  |  |  |
| Local processes for scheduling work and organising supervision |  |  |  |
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