**Intermediate Training Workbook**

**Trainee name……………………..**

 

**East of England School of Anaesthesia** ver 2017

The following document is a School specific workbook to be completed during ST3 and 4 and to be used alongside the e portfolio. For the majority of the units, specific topics for discussion and assessments have been listed. All WPBA should be completed on the e portfolio and assigned to the relevant units. The majority of these must be completed and signed off to satisfy the School’s training and GMC requirements. The final FRCA examination should also be completed during this part of training, but failure will only delay progress if not passed by mid-way through ST5.

There are 7 essential units and 3 ‘optional’ specified by the curriculum. The General Duties unit is further divided into 13 individual topics. For the purpose of assessment, each is treated as an individual unit and needs to be signed as complete by the module lead **on the e portfolio.**

Due to the structure of our school, completion of both intermediate and higher competencies in Cardiac and Neuro anaesthesia will be expected during intermediate training. Similarly, intermediate competencies for 2 of the ‘optional’ units, Plastics and Vascular should be completed. Depending on case mix, trainee progress and training opportunities it may also be possible to complete higher Plastics and Vascular units. Ophthalmic competencies should also be achieved where possible.

Workplace based assessments are formative (to guide learning) and completion of all does not automatically indicate satisfactory progress. One assessment may (and should) be used to evidence more than one outcome. Consultants, post FRCA trainees and post FRCA non-consultant grades, who have been trained in their use, may complete WPBA. A broad range of assessors should be used.

The trainee should also initiate one MSF per year during this period. Please note that it is mandatory for you to complete an MSF whilst undertaking your ICM module. However, this can be used to meet the requirement of an annual MSF. In order to ensure that the MSF is available in a timely manner for the ARCP, it should be commenced a minimum of 3 months beforehand.

The Completion of Unit of Training (CUT) recognises that the collective consultant opinion of a trainee’s abilities and progress is the most important form of assessment and forms part of the unit leads sign off. Specific written consultant feedback is required for paediatric, pain, cardiothoracic and neuroanaesthesia. For the other CUT forms, written consultant feedback generated once a year, ideally in the period leading up to the ARCP will suffice. An unsatisfactory appraisal is enough to fail a specific module and for concerning trainees, consultant feedback may need to be generated more often. The unit specific WPBAs, log book, and any evidence for any relevant courses or projects should be attached to the CUT form. As an aide memoire the core clinical learning outcomes are available within each section of the workbook.

Training at Intermediate Level will be delivered in the following dedicated blocks.

3 Months

Cardio-thoracic at Papworth- work book issued at start of block

Neuro anaesthesia at Addenbrooke’s- work book issued at start of block

Paediatric Anaesthesia

ICM- paperwork issued at start of block

2 months

Pain Medicine

Plastics, ENT/Max fax/Dental and Airway (3 combined Units)

Orthopaedics and Regional (2 combined units)

Vascular and major general

1 month

Obstetrics

Thoracic (Norwich)

Burns (Chelmsford)

 2/3 months

General Duties/catch up

**Thoracics**

Intermediate and Higher Levels

In conjunction with Cardiac module (Norwich only)

Cardiac/thoracic Core clinical learning outcomes

**Intermediate**:

Deliver safe and effective perioperative anaesthetic care to patients undergoing elective coronary artery surgery and minor thoracic investigative procedures

under direct supervision

**Higher**:

Deliver perioperative anaesthetic care to complicated ASA 1-3 adult patients requiring elective aortic or mitral valve surgery under direct supervision

Deliver perioperative anaesthetic care to complicated ASA 1-3 adult patients requiring open resection of lung tissue under local supervision

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| CT\_IK\_17  | Explains the significance of preoperative functional investigations of respiratory and cardio-respiratory performance | Discussion or C |  |
| CT\_IK\_21 | Describes the airway management of a patient undergoing one-lung ventilation and anaesthesia including placement of double lumen endobronchial tubes and bronchial blockers [Ref; EN\_IK\_11] | Discussion or C |  |
| CT\_IK\_22  | Recalls/explains the changes that occur during one lung ventilation and the strategies to manage these changes | Discussion or C |  |
| CT\_IS\_09  | Demonstrates ability to assess and recommend treatments to optimise a patient about to undergo thoracic surgery | A,C,D |  |
| CTI\_A01 | Make a pre-operative assessment of an ASA 3 patient presenting for thoracic or cardiac surgery. | A |  |
| CTI\_A02 | Administer anaesthesia for a lung resection | A |  |
| CTI\_D04 | Anaesthetise a patient for rigid bronchoscopy | D |  |
| CTI\_D03 | Insert a double lumen endo-bronchial tube | D |  |
| CTI\_C04 | In the case of a patient who has had one lung anaesthesia discuss the conduct of the anaesthetic and how this is influenced by the use of this technique | C |  |
| CT\_IK\_24 | Describes the common problems associated with the postoperative care of patient who have had thoracic surgery and the methods that can be used to minimise these | A,C |  |
| CT\_HS\_13 | Demonstrates the ability to provide safe and effective perioperative anaesthetic care to patients undergoing thoracic surgery including procedures such as bronchoscopy, Video assisted Thoracoscopic Surgery (VATS) and thoracotomy for lung resection | A |  |
| CT\_HS\_15  | Demonstrates the correct insertion and management of chest drains | D |  |

**Obstetric Anaesthesia**

Intermediate Level

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| OBI\_A01 | Administer anaesthesia for caesarean section to a patient with a complicated pregnancy [hypertensive disease, placenta praevia etc] | A |  |
| OBI\_A02 | Convert epidural for labour analgesia to a regional anaesthetic for LSCS and proceed with surgery | A |  |
| OBI\_C01 | Discuss how the patients disturbed blood coagulation affected anaesthetic decision making | C |  |
| OBI\_C03 | Discuss the factors that influenced the anaesthetic in a case of urgent caesarean section for foetal distress or antepartum hemorrhage | C |  |
| OBI\_C04 | Discuss the likelihood of failed intubation and the impact of this possibility on the conduct of anaesthesia | C |  |
| OBI\_L01 | Manage a list of two or more Caesarean Sections | L |  |
| OB\_IK\_03 | Discusses the obstetric and anaesthetic management of multiple pregnancy | C |  |
| OB\_IK\_04 | Explains the classification of placenta praevia and the associated risk to the patient] | Discussion |  |
| OB\_IK\_05 | Recalls/describes the recognition and management of amniotic fluid embolus | Discussion |  |
| OB\_IK\_08 | Discusses common causes of maternal morbidity and mortality, including national reports | Discussion |  |
| OB\_IS\_01 | Demonstrates satisfactory assessment of pregnant woman presenting for anaesthesia / analgesia including those withconcurrent disease | A,C |  |
| OB\_IS\_02 | Demonstrates the ability to communicate a balanced view of the advantages, disadvantages, risks and benefits of various forms of anaesthesia and analgesia appropriate to individual patients | A,D,M |  |
| OB\_IS\_03 | Demonstrates the appropriate use of CSE, subarachnoid, and epidural analgesia for labour | D |  |
| OB\_IS\_06 | Demonstrates the ability to provide CSE for an operative delivery | A,D |  |
| OB\_IS\_08 | Demonstrates the appropriate management of accidental dural puncture and post-dural puncture headache | A,C,D |  |
| OB\_IS\_09 | Demonstrates the ability to provide intra uterine resuscitation for the “at risk” baby | C |  |
| OB\_IS\_11 | Demonstrates the ability to manage a high dependency obstetric patient with distant supervision | Consultant appraisal |  |

**Paediatric Anaesthesia**

Intermediate Level

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| PA\_IK\_01 | Explains the anatomical and physiological differences between a neonate and an adult patient and the anaesthetic implications of these | Discussion |  |
| PA\_IK\_02 | Explains the implications of Paediatric medical and surgical problems. Child found to have a Heart Murmur and/or ASD/VSD | Discussion |  |
| PA\_IK\_11 | Explains the implications and anaesthetic management of paediatric medical and surgical problems. Pyloric Stenosis | A,C |  |
| PA\_IK\_05 | Specific considerations and techniques in anaesthetising a neonate for surgery.eg inguinal herniotomy | Discussion |  |
| PA\_IK\_08 | Describes the anaesthetic management of a healthy Infant for elective surgery (eg Inguinal herniotomy). | C |  |
| PA\_IK\_12 | Describes the anaesthetic implications of the Premature Neonate and Ex-Premature older child. | A,C |  |
| PA\_IK\_09 | Describes analgesic strategies and analgesic dosing for both a neonate and a 10 Kg child. | Discussion |  |
| PA\_IK\_13 | Understands the importance of Comprehensive Knowledge of Child Protection and what personal responsibilities exist when NAI is suspected | L2 Child protection training |  |
| PA\_IK\_07 | Understands the legal rights of the child and parents with regard to the limits of Consent, ‘Gillick competence’, Restraint and Medical Research. | C |  |
| PA\_IK\_14 | Recalls/Explains the recognition and initial management of the critically ill child….Sepsis / meningitis | Discussion |  |
| PA\_IK\_14 | Recalls/Explains the recognition and initial management of the critically ill child….Convulsions | Discussion |  |
| PA\_IK\_14 | Recalls/Explains the recognition and initial management of the critically ill child….bleeding tonsil / haemorrhage | Discussion |  |
| PA\_IK\_14 | Recalls/Explains the recognition and initial management of the critically ill child…. Croup/Epiglottitis/Asthma | CDiscussion |  |
| PA\_IK\_14 | Recalls/Explains the recognition and initial management of the critically ill child…. Foreign body in airway | CDiscussion |  |
| PA\_!K\_!5 | Explains or demonstrates the principles of stabilization and safe transport of both critically ill baby and child both with hospital and between hospitals | ADiscussion |  |
| PA\_IS\_01 | Demonstrates the ability resuscitate all ages using BLS and ALS protocols. Certified training courses may be used. | ALS, APLS simulation |  |
| PA\_IS\_02 | Demonstrates the ability to carry out pre-assessment of all the children (down to 1 year of age) on an elective theatre list. | A |  |
| PAI\_A04 | Anaesthetise a child over the age of 5 years for an emergency abdominal procedure | A |  |
| PA\_IS\_03 | Demonstrates the ability to select, insert, secure and confirm correct placement of a tracheal tube in a child down to the age of 5. | D |  |
| PA\_IS\_03 | Demonstrates the ability to use inhalation induction, then secure vascular access in an ASA1-2 Child over 5 years old without the intervention of Supervising Consultant | A,D |  |
| PAI\_C04 | Discuss how the child’s physiology and response to injury influenced the management of pre, intra, and post op fluid management | C |  |
| PA\_IS\_06 | Demonstrates strategies for managing sudden loss of airway/Laryngeal spasm | A,D or simulation |  |
| PA\_IS\_06 | Demonstrates strategies for failed/difficult venous access in a child. (anaesthetic room or emergency area) | A,D |  |
| PA\_IS\_08 | Demonstrates ability to communicate clearly- and have empathy with- with both children and their parents/carers. | A,D |  |
| PA\_IS\_09 | Demonstrates insertion of a successful ilio-inguinal block using consent, safe technique and dosing…without the intervention of Supervising Consultant | D |  |
| PA\_IS\_09 | Demonstrates insertion of a successful penile block using consent, safe technique and dosing.…without the intervention of Supervising Consultant | D |  |
| PAI\_D04 | Demonstrates insertion of a successful caudal block using consent, safe technique and dosing.…without the intervention of Supervising Consultant | D |  |
| PAI\_D05 | Manage postoperative acute pain in a child over 3 years of age | D |  |
| PAI\_L01 | Conduct a paediatric operating list for minor/intermediate elective surgery for children over the age of 5 years. | L |  |

**Pain Management**

Intermediate Level

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 or chronic pain in a timely manner

To have knowledge of assessment and management of chronic and cancer pain

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| - | Pharmacological principles of pain management | Discussion |  |
| - | Physical, psychological and rehabilitative approaches to pain management | Discussion |  |
| - | Management of severe pain and associated symptoms in cancer  | Discussion |  |
| PMI\_C04 | Discuss the particular difficulties of treating neuropathic pain and how the problems were approached in managing this patient | C |  |
| PM\_IK\_01 |  Describes the assessment and management of acute pain in all types of surgery | C |  |
| PMI\_A02 | Conduct an acute pain round. (May be assessed by senior pain team nurse – if locally appropriate) | A |  |
| PMI\_A01 | Demonstrates the ability to assess [to include thorough structured history taking, physical examination and interpretation ofinvestigations] and carry out basic management of chronic pain in adults | A |  |
| PMI\_D02 | Lumbar epidural steroid injection | D |  |
| PMI\_D01 | Lumbar facet joint injection | D |  |
| - | Lumbar sympathetic block | D |  |
| - | Stellate ganglion block  | D |  |
| PMI\_C02 | Discuss the relative contributions of pharmacological and psychosocial management to the patient’s treatment | C |  |
| PresentationWitnessed |  |  |  |
|  | Post herpetic neuralgia | -- |  |
|  | Trigeminal neuralgia  | -- |  |
|  | Lumbar radiculopathy  | -- |  |
|  | Pain following spinal injury / multiple sclerosis / CVA | -- |  |
|  | Lumbar spinal pain  | -- |  |
|  | Cervical Spinal pain | -- |  |
|  | Complex Regional Pain syndromes 1/2 | -- |  |
|  | Fibromyalgia / diffuse pain syndromes | -- |  |
| Techniques Witnessed |  |  |  |
|  | TNS and dorsal column stimulation  | -- |  |
|  | Intrathecal pump management | -- |  |
|  | Radiofrequency denervation | -- |  |
|  | Chemical neurolysis | -- |  |

**Airway Management**

Intermediate Level

To be considered with the Plastics/Burns & Head, neck, maxilla-facial and dental - Codes should be listed against all relevant modules

Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

Core clinical learning outcomes:

To 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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| AM\_IK\_01 | Lists the risks associated with awake fibreoptic endotracheal intubation and describe the process of obtaining consent for this procedure | C and/ordiscussion |  |
| AM\_IK-02 | Discusses the 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 | A,C and/ordiscussion |  |
| AM\_IK\_03 | Outlines the anaesthetic management of potential threats to the airway, includingexternal compressionForeign body, blood clots, massesInhalational injury, inflammationBlunt and penetrating trauma | discussion |  |
| AM\_IS\_01 | Demonstrates elective fibreoptic intubation under anaesthesia with or without LMAs or other airway adjuncts | A |  |
| AM\_IS\_03 | Demonstrate the use of supraglottic airways for IPPV | A,D |  |
| AM\_IK\_04AM\_IK\_05AM\_IK\_06EN\_IK\_13EN\_IK\_14 | Lists the indications for tracheostomyOutlines the anaesthetic principles for tracheostomy Describes the management of the obstructed/misplaced tracheostomy | DiscussionA,C |  |

**Head, neck, maxillo-facial and dental surgery**

Intermediate Level

To be considered with the Plastics/Burns and airway modules - Codes should be listed against all relevant modules

Core clinical learning outcomes:

Deliver safe perioperative anaesthetic care to ASA 1-3 adult patients requiring routine and emergency non-complex minor/intermediate ENT and maxillo-facial surgery [including list management] under distant supervision

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| ENI\_D01 | Recover a patient from anaesthesia following dental extractions in an ambulatory clinic setting | D |  |
| ENI\_A03 | Manage an anaesthetic for tonsillectomy | A |  |
| ENI\_A04 | Manage an anaesthetic for middle ear surgery | A |  |
| ENI\_D03 | Manage the airway for laryngoscopy and micro-laryngeal surgery | D |  |
| ENI\_L02 | Manage a list of minor and intermediate ENT cases | L |  |
| ENI\_C04ENI\_C01 | Discuss how the need to share the airway with the surgeon influenced the anaesthetic decision making | C |  |
| AM\_IK\_04AM\_IK\_05AM\_IK\_06EN\_IK\_13EN\_IK\_14 | Lists the indications for tracheostomyOutlines the anaesthetic principles for tracheostomy Describes the management of the obstructed/misplaced tracheostomy | DiscussionA,C |  |

**Critical Incidents**

Intermediate Level

No dedicated training block. Complete at any time during Intermediate training. May be evidenced by simulator training

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| CI\_IK\_01 | Discusses the importance of significant event analysis or root cause analysis to examine a locally reported incident | C,S |  |
| CI\_IS\_01 | Demonstrates leadership in resuscitation room/simulation when practicing response protocols with other health care professionals | D,S |  |
| CI\_IS\_02 | Demonstrates appropriate use of team resources when practicing response protocols with other health care professionals | D,S |  |

**General, urological and gynaecological surgery**

Intermediate Level

No dedicated training block -Complete at any time during Intermediate training. Needs minimum of one of each of ACEX, DOPs, ALMAT, CBD. Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| GU\_IK\_01 | Recalls/describe the principles of 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 andphaeochromocytoma]• Splenectomy• Resection of retroperitoneal masses[including management of pleural breach] | A, CDiscussion |  |
| GU\_IK\_03 | Recalls/describes the anaesthetic considerations ofco-existing diseases including problems such as spinal injury | A,C |  |
| GU\_IK\_05 | Describes the issues of anaesthesia for renal transplant surgery***Mandatory for Addenbrooke’s trainees*** | C |  |
| GU\_IK\_06 | Explains the anaesthetic management of patients with transplanted Organs for non--‐transplant surgery | A,C |  |
| GU\_IK\_09 | Recalls/describes the principles of enhanced recovery programmes | A,C |  |
| GU\_IS\_01 | Demonstrates the ability to recognise when it is/is not necessary to order complex preoperative assessment tests such as cardiopulmonary exercise testing and echocardiography prior toanaesthesia/surgery | A,C,D |  |
| GU\_IS\_02 | Demonstrates the ability to manage safely and effectively the peri-operative care of patients requiring elective and/or emergency resection of the lower bowel or similar complexity urological and/or gynaecological case [open or laparoscopic], with distant supervision | L |  |
| GU\_IS\_03 | Demonstrates the ability to manage the effects of sudden major blood loss effectively | A,C,D |  |
| GU\_IS\_04 | Demonstrates the ability to work with all members of the theatreand surgical teams to manage an operating list with a mixture of ASA 1-3 cases effectively ,along with the ability to provide safe peri-operative anaesthetic care for the patients | L |  |
| GU\_IS\_05 | Shows the ability to lead [where appropriate]the theatre team in the perioperative management of surgical patients requiring out of hours surgery,including understanding of when to seek help appropriately | A,C,D,L |  |
| GU\_IS\_06 | Demonstrates the ability to present a balanced judgement to the patient and their relatives of the perceived risks and complicationsof anaesthesia and surgery | A,C,D |  |

**Management of respiratory & cardiac arrest in adults and children**

Intermediate Level

No dedicated training block-Complete at any time during Intermediate training

Completion/recertification of ALS and APLS/EPLS satisfies the requirement for this unit

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| RC\_IK\_01RC\_IK\_02RC\_IK\_03RC\_IK\_04RC\_IS\_01RC\_IS\_02RC\_IS\_05 | Completion/recertification ALS |  |  |
| RC\_IK\_01RC\_IK\_02RC\_IK\_03RC\_IK\_09RC\_IK\_10RC\_IK\_11 | Completion/recertification APLS/EPLS |  |  |

**Non- theatre**

Intermediate Level

No dedicated training block-Complete at any time during Intermediate training. eg cardiac, neuro, paediatrics, critical care, ECT

Needs minimum of one of each of ACEX, DOPs, CBD. Consider with sedation module

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| DI\_IK\_01 | Describes, and critically evaluates, the 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] | A,C |  |
| DI\_IK\_02 | Explains the indications/contraindications of sedation for patients in the non-theatre environment[Cross Ref sedation] | A,C |  |
| DI\_IK\_03 | Explains the problems of providing safe post-anaesthetic care for patients in the out of theatre environment | A,C |  |
| DI\_IK\_05DI\_IK\_06DI\_IK\_07DI\_IK\_08 | Describes the specific physical and physiological effects of ECTExplains the rationale behind the choice of anaesthetic techniquefor ECTDiscusses the physical and psychological needs of patients whopresent for ECTDiscusses the place of the Mental Capacity Act in relation to the provision of ECT | A,C |  |
| DI\_IK\_10 | Describes the anaesthetic management of patients for endovascularProcedures [Cross Ref vascular] | A,C |  |
| DI\_IK\_11 | Describes the anaesthetic management of patients forNeurological procedures [Cross Ref neuro] | A,C |  |
| DI\_IS\_01 | Demonstrates the ability to provide safe peri-procedure anaesthesiato adult patients in one of the environments specified in DI\_IK\_01 | A,C,D |  |

**Sedation**

Intermediate Level

No dedicated training block-Complete at any time during Intermediate training eg cardiac, neuro, paediatrics ,critical care, ECT, regional

Needs minimum of one of each of ACEX, DOPs, CBD. Consider with non-theatre module

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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| CS\_IK\_01 | Explains what is meant by ‘deep sedation’ and when its use may bejustifiable, identifies the associated risks and how these may be minimised to ensure patient safety is not compromised [Cross Ref sedation] | A,C |  |
| CS\_IK\_02 | Discusses how multiple drug use may enhance sedation techniques, whilst detailing how this increases risks | A,C |  |
| CS\_IK\_03 | Explains why it is essential to titrate multiple drugs [sedatives, analgesics and anaesthetic agents] to effect whilst recognising that the possibility of differing times of onset, peak effect and duration, can result in unpredictable responses | A,C |  |
| CS\_IK\_04 | Discusses the place of infusions compared to bolus doses as wellas target-controlled infusions [TCI], and the pharmacological modelsand pump technology relevant to their use (cross ref neuro) | A,C |  |
| CS\_IS\_01 | Demonstrates the ability to select sedation techniques appropriate to management in patients of all ages [above 5 years [cross ref paeds] to the elderly] | A,C,D |  |
| CS\_IS\_02 | Demonstrates the ability to administer and monitor sedationtechniques to all patients [identified in CS\_IS\_01 above] for appropriate clinical procedures, safely and effectively | A,D |  |

**Transfer medicine**

Intermediate Level

No dedicated training block- complete at any time during Intermediate training Consider with critical care, neuro modules

Needs minimum of one of each of ACEX, DOPs, CBD

Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

Core clinical learning outcomes:

To deliver safe and efficient transfer [with distant supervision] of a complex patients for intra-hospital including retrieving a newly referred ITU patient from A&E or the wards

Deliver safe and efficient transfer [with distant supervision] of an uncomplicated ventilated patient for inter-hospital transfer by land [Less than 4 hours]

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| TF\_IK\_06 | Explains how critical illness affects the risk of transfer | C |  |
| TF\_IK\_08 | Understands the increased risk of interventions during inter hospital transfer | C |  |
| TF\_IK\_21 | Outlines the regional protocols for organising transfers between units | C |  |
| TF\_IS\_01 | Demonstrates ability to decide when patients are in the optimum clinical condition for transfer | A,D |  |
| TF\_IS\_02 | Demonstrates the ability to optimally package a patient for inter hospital transfer to minimise risks  | A,D |  |
| TF\_IS\_03 | Demonstrates the ability to establish appropriate ventilation and monitoring required of a critically ill patient for inter hospital transfer | A,D |  |
| TF\_IS\_04 | Demonstrates the ability to safely sedate a patient for inter hospital transport | A,D |  |
| TF\_IS\_08 | Demonstrates the necessary organisational and communication skills in managing inter-hospital transfers safely and effectively, recognising the importance of maintaining contact with base/receiving units if necessary whilst on transfer | D |  |

**Trauma and stabilisation**

Intermediate Level

No dedicated training block-Complete at any time during Intermediate training. Consider with critical care, neuro and orthopaedic modules. Needs minimum of one ACEX, one CBD

Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

Core clinical learning outcomes:

Be an effective member of the multi-disciplinary trauma team and takes 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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| MT\_IK\_02 | Describes the perioperative anaesthetic management of patients with multiple injuries including head, facial, neck/spinal, thoracic, abdominal, pelvic and peripheral trauma | A,C |  |
| MT\_IK\_04 | Describes strategies for minimising secondary brain injury in patients with multiple injuries (cross ref neuro) | C |  |
| MT\_IK\_05 | Describes the initial assessment, management and resuscitationof patients with: severe burns, electrical injuries, drowning and near drowning, hypothermia | C |  |
| MT\_IK\_06 | Recalls/explains the management of massive blood loss including theuse of rapid infusion devices | A,C |  |
| MT\_IK\_07 | Explains the implications, prevention and management of coagulopathy, hypothermia and acidosis in multiply injured patients | A,C |  |
| MT\_IS\_01 | Demonstrates the ability to lead the multi-disciplinary trauma team to ensure that the primary survey, resuscitation and secondary surveys are conducted appropriately in non-complex trauma patients. | A,Cor ATLS |  |
| MT\_IS\_05 | Demonstrates correct preparation of patients for safe transfer including ensuring adequate resuscitation, appropriate accompanying personnel and the use of checklists (cross ref transfer) | A,C |  |

**Day Case**

Intermediate Level

No dedicated training block-Complete at any time during Intermediate training. Needs minimum of one of each of ACEX, DOPs, CBD.

Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

Core clinical learning outcomes:

Deliver safe perioperative anaesthetic care to ASA 1-3 patients having more extensive or specialized day surgery procedures with direct supervision

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| DS\_IK\_01 | Describes the key organisational issues surrounding day surgery including suitability of facilities and staffing | Discussion |  |
| DSI\_A01 | Undertake the assessment of patients presenting for pre-assessment prior to ambulatory or day-surgery | A |  |
| DSI\_D01 | Make an assessment of a patient’s suitability for discharge | D |  |
| PR\_IK\_11 | Manages post-operative analgesia and nausea | D |  |
| DSI\_L01 | Administer anaesthesia for a day surgery list – pay particular attention to the instructions given to the patient and their carers, and to the adequacy of written instructions. | L |  |
| DSI\_C03 | Discuss what circumstances would have led to the patient being admitted overnight  | C |  |
| DS\_IS\_01 | Demonstrates knowledge and safe management of a diabetic patient undergoing day ambulatory surgery | A,C |  |
| DS\_IS\_01 | Demonstrates knowledge and safe management of an obese patient undergoing day ambulatory surgery | A,C |  |

**Orthopaedics**

Intermediate Level

Consider with Regional module. Needs minimum of one of each of ACEX, DOPs, ALMAT, CBD.

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 Basic 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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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| OR\_IK\_01  | Explains the difference in anaesthetic and surgical complexity between primary and secondary lower limb arthroplasty | Discussion or C |  |
| OR\_IK\_02 | Recalls/describes the principles of perioperative anaesthetic care for elective and emergency spinal surgery including but notexclusively:· Scoliosis surgery including the need for, and implications of, neurophysiological monitoring· Spinal trauma and the associated complications of spinal cord trauma | Discussion or C |  |
| OR\_IS\_01 | Demonstrates the provision of safe perioperative anaesthetic care for a variety of orthopaedic surgical procedures in patientswith 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 | A and DMultiple possible |  |
| GSI\_L02 | Conduct an orthopaedic trauma list with distant supervision | L |  |
| GSI\_L01 | Conduct an elective arthroplasty list | L |  |
| OR\_IS\_01 | Manage the perioperative care of a patient for revision arthroplasty | A |  |
| Witness |  |  |  |
|  | Major back surgery - Scoliosis |  |  |
|  | Upper limb surgery conducted under local or nerve block(s) |  |  |

**Regional Anaesthesia**

Intermediate Level

To be considered with Plastic and Orthopaedic modules. Needs minimum of one of each of ACEX, DOPs, CBD.

Core clinical learning outcomes:

Perform one each of the following blocks satisfactorily under local supervision

Thoracic epidural and/or combined spinal/epidural

An upper/lower limb plexus block with peripheral nerve stimulation or ultrasound guidance

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| --- | --- | --- | --- |
| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| RA\_IK\_01 | Demonstrates understanding of basic sciences as applied to all regional anaesthetic blocks [Cross reference applied basicsciences | Discussion |  |
| RA\_IK\_05 | Demonstrates an in-depth understanding of the principles of ultra sound guided nerve blocks including:· The principles of scanning including machine ergonomics, probe selection/handling and the use of acoustic couplant[ultrasound gel] to improve skin contact· The importance of the angle of insonation on visibility of structures [anisotropy] specifically related to nerves andtendons· The normal sonoanatomy of peripheral nerves and surrounding structures· The 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 normalintraneural and intravascular injection | Discussion |  |
| RA\_IS\_02 | Is able to perform central nerve blocks including Caudal and thoracic epidural and CSE | A,D |  |
| RAI\_A01 | Conduct a major operation with regional anaesthesia | A |  |
| RA\_IS\_03 | Is able to perform 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] | A,C,DConsultant appraisalLog Book |  |
| RAI\_D01 | Perform brachial plexus block | D |  |
| RAI\_D02 | Perform a lower limb peripheral nerve block | D |  |
| RA\_IS\_04 | Is able to perform 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 | A,C,DConsultant appraisalLog book |  |
| RAI\_C02 | Discuss how the advantages and disadvantages of regional anaesthesia were represented to the patient | C |  |
| RAI\_L01 | Manage a list that requires some patients to have regional or combined regional/GA techniques | L |  |

**Perioperative medicine**

Intermediate Level

No dedicated training block-complete at any time during Intermediate training. Needs minimum of one ACEX or ALMAT, plus one CBD.

Assessments below may be substituted by others within the curriculum documents as long as minimum requirements are met.

Core clinical learning outcomes:

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| To deliver high quality **preoperative** assessment, investigation and management of ASA 1-4 patients for elective and emergency surgeryTo deliver high quality individualised anaesthetic care to ASA 1-3 [E] patients, focusing on optimising patient experience and outcome To plan and implement high quality individualised post-operative care for ASA 1-3 [E] patients  |

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
|  | Attendance medically led preoperative assessment clinic(**Mandatory** **component of this unit of training**) |  |  |
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| POM\_IK\_01  |

 | Describes the uses and limitations of common risk scoring systems  | C |  |
| POM\_IK\_03  | Describes strategies for prehabilitation and patient optimisation and the limits of such strategies  | A, C |  |
| POM\_IK\_04  | Recalls the principles of enhanced recovery pathways  | A,C |  |
| POM\_IS\_01  | Assesses the patient with complex comorbidities, taking into account their individual needs and requirements  | A,C,L |  |
| POM\_IS\_03  | Explains risks and benefits of available anaesthetic techniques to patients in a manner they can understand  | A,D,L |  |
| POM\_IS\_08  | Conducts a comprehensive preoperative assessment for a patient with multiple co-morbidities in the outpatient pre-assessment clinic  | A,L |  |
| POM\_IS\_04  | Formulates an individualised perioperative plan with the patient, using an evidence-based approach  | A,L |  |
| POM\_IS\_12  | Chooses appropriate anaesthetic technique for patients with complex comorbidities  | A,C |  |
| POM\_IS\_13  | Interprets information from commonly used modalities for advanced haemodynamic monitoring  | C,S |  |
| POM\_IK\_21  | Plans postoperative care in keeping with relevant enhanced recovery pathways  | C,L |  |
| POM\_IK\_18  | Plans appropriate postoperative analgesia using multimodal techniques, including those required for patients with complex analgesic needs  | C,L |  |

**Vascular Anaesthesia**

Intermediate and Higher Level

Core clinical learning outcomes:

**Intermediate**:

To gain knowledge of the perioperative anaesthetic management of patients undergoing elective and emergency abdominal aortic surgery and newer stenting techniques

**Higher**:

To anaesthetise patients for carotid end arterectomy and aortic aneurysm surgery with indirect supervision

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| --- | --- | --- | --- |
| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| VS\_IK\_03VS\_HK\_02 | Explains preoperative assessment and management of the patient with atherosclerotic disease **[Intermediate]**Describes the methods of assessment of cardiovascular and respiratory disease and their use and limitations preoperatively,including advice on the risks of surgery relative to its benefits **[Higher]** | Discussionor C |  |
| VS\_IK\_03 | Explains the preoperative management of the patient with atherosclerotic disease **[Intermediate]** | Discussionor C |  |
| VS\_HK\_06 | Describes techniques for pre-optimisation of patients undergoing vascular surgery **[Higher]** | Discussionor C |  |
| VS\_IK\_13 | Recalls the pathophysiology of aortic cross-clamping and of renal protection strategies **[Intermediate]** | C |  |
| VS\_HS\_03 | Manages the effects of aortic clamping, including the implications of supra-renal or thoracic aortic clamping with distant **[Higher]** | A |  |
| VS\_IK\_07 | Describes the management of elective carotid artery surgery with general or regional anaesthesia | A.C |  |
| VS\_IK\_05 | Describes the resuscitation and management of major vascular accidents including the management of ruptured aortic | Discussion or C |  |
| VSI\_D01 | Induce anaesthesia and establish monitoring etc for major vascular surgery **[Intermediate and Higher]** | D |  |
| VSH\_D02 | Set up and use a cell saver  | D |  |
| VSI\_A01 | Administer anaesthesia for a peripheral revascularisation procedure **[Intermediate]** | A |  |
| VS\_HS\_05 | Demonstrates the ability to perform either general or regional anaesthesia safely and effectively for carotid artery surgery | A |  |
|  | Manages anaesthesia for major aortic surgery **[Both]** | A |  |
|  | Manages anaesthesia for vascular access surgery, general or regional | A,D |  |
| VSH\_L01 | Anaesthetise a list of patients for vascular procedures **[Higher]** | L |  |
| VS\_HS\_04 | Demonstrates safe peri-operative anaesthetic care of patients having combined surgical / radiological procedures, including those performed in isolated sites using either regional or general anaesthesia **[Higher]** | A |  |

**Plastics/Burns**

Intermediate and Higher Levels

To be considered with Airway, ENT Max Fax & Dental and Regional module.

The assessment codes should be listed against all relevant modules

Core clinical learning outcomes:

**Intermediate** level:

Delivers 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

**Higher** level:

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

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| PL\_IK\_03 | Explains the factors affecting tissue blood flow with respect to free-flap surgery | Discussion or A,C |  |
| PL\_IK\_05 | Describes the pathophysiology of burn injury including thermal airway injury and smoke inhalation | Discussion or A,C |  |
| PL\_IK\_06 | Describes the initial assessment and management of a patient with severe burns including electrical & chemical burns | Discussion or A,C |  |
| PL\_IK\_07 | Explains the principles of anaesthetic management of burns patients for surgery including dressing changes, grafting and related procedures | Discussion or A,C |  |
| PL\_IK\_01 | Undertake a specific preoperative assessment of patients for major plastic surgery procedures | D |  |
| PLH\_D01PL\_HS\_02 | Provides a management plan for the post-operative care of a patient who has undergone plastic surgery including the methods of assessment of adequacy of blood flow in reconstructive flaps | D and A |  |
| PLI\_A01PLH\_A01 | Manage a free flap reconstruction / Provide safe perioperative anaesthetic care for a plastic surgical free-flap operation – such as breast reconstruction (with distant supervision) | A,Consultant Appraisal |  |
| PLI\_A02PLH\_C01 | Manage anaesthesia for head and neck surgery / Describes appropriate anaesthetic techniques for major plastic surgical cases including free-flap surgery | A and C |  |
| PL\_IS\_02 | Demonstrates/discusses strategies to improve the surgical field by pharmacological [including induced hypotension] and nonpharmacological methods | C |  |
| PLI\_L01 | Manage a plastic surgery operating list of small cases (with distant supervision) | L |  |
| PL\_IS\_03 | Demonstrates appropriate initial assessment and management of the patient with severe burns including analgesia, airway and fluid management (**Chelmsford)** | A,C,D,S |  |

**Ophthalmic**

Intermediate Level

This is an optional unit in the 2010 curriculum but must be completed where training opportunities allow

Needs minimum of one of each of ACEX, DOPs, CBD. to complete unit

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

Demonstrates the ability to provide local anaesthesia for eye surgery with competence in one technique

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| ***Assessment Code*** | ***Assessment*** | ***Assessment Methods*** | ***Documented and dates*** |
| OP\_IK\_01 | Discusses the preoperative assessment of ophthalmic patients withparticular reference to associated co-morbidities and how the care of high risk patients requiring ophthalmic surgery may be optimised | A,C |  |
| OP\_IK\_03 | Recalls/discusses the choice of local or general anaesthetic techniquesIn 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 | A,C |  |
| OP\_IK\_08 | Knowledge of precautions required for revision surgery in patients who have had a previous injection of intraocular gas | A,C |  |
| OP\_IK\_10 | Describes the operating conditions required for successful outcomes in ophthalmic surgery and how these can be achieved | A,C |  |
| OP\_IS\_01 | Demonstrates effective preoperative assessment and preparation of patients for ophthalmic procedures | A,M |  |
| OP\_IS\_03 | Demonstrates the provision of safe perioperative anaesthetic careIn patients with significant co-morbidities and with considerationof the specific requirements for ophthalmic surgical proceduresincluding: Cataract surgery, strabismus surgery, Glaucoma surgery, Vitreoretinal surgery, Oculoplastic surgery | A,C,D |  |
| OP\_IS\_05 | Demonstrates techniques for control of perioperative intraocular pressure | A,C,D |  |
| OP\_IS\_08 | Demonstrates provision of local anaesthesia for eye surgery obtainingcompetence in at least one block | C,D |  |