**Core Training in Anaesthetics**

**CCT Years 1 and 2**

***Introduction to Anaesthesia***

***&***

***Initial Assessment of Competence***

***(Complete at 3-6 months)***

**A workbook for trainees and trainers**

**To be used in conjunction with the e-portfolio**

**Name:**

**Start Date:**

**Educational Supervisor:**



Peninsula Postgraduate Medical Education School of Anaesthesia

July 2016

**This workbook has been written using the RCoA documents**

**CCT in Anaesthesia: Core Level Training Annex B and the Core Level Training Matrix**

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**Introduction:**

It is stated in the document The CCT in Anaesthesia I – General Principles (found on the College web site) that “it is the trainee’s personal responsibility to maintain a professional portfolio and logbook”.

**All trainees must keep an e-portfolio and comprehensive logbook.**

The Royal College of Anaesthetists (RCoA) requires that specialty trainees be assessed throughout their training.

This workbook will document the **competences achieved during the first 3-6 months** of the training programme. It provides details of the core clinical learning outcomes for each unit, and a basic summary of knowledge and skills that should be achieved in conjunction with WPBAs and clinical workload in order to have each unit signed off.

(A more detailed account of knowledge and skill requirements can be found in the college document CCT in Anaesthesia; Core Level Training Annex B <http://www.rcoa.ac.uk/node/1411> This provides a comprehensive introduction to the principles and practice of the delivery of safe and effective anaesthetic care to patients by trainees new to the specialty. Refer to this document for the complete list of expected knowledge and skills.)

The fundamental importance of the need for trainees to develop (and demonstrate) safe clinical practice (including a basic understanding of basic sciences underpinning practice) means that trainees are expected to have achieved all the minimum clinical learning outcomes detailed in this section before progressing to the remainder of Core Level Training.

At the end of the first 3 -6 months, trainees should have completed all of the units and the specific assessments for the **Certification of Initial Assessment of Competence** (IAC).

The units and IAC must be signed off by the Educational Supervisor so that the certificate can be awarded by the College Tutor.

**Instructions to Trainers and Trainees:**

It is the trainees’ responsibility to ask trainers to assess them. If trainees experience unreasonable difficulty in completing the necessary assessments, they should discuss this with their College Tutor/ Educational Supervisor.

A Trainer is defined by the RCoA as a consultant or SAS doctor who has responsibilities for the clinical teaching and educational supervision of trainees. All consultants (and most SAS doctors) are therefore classed as clinical trainers for the purpose of competency based training.

Individual ***workplace based assessments*** (WPBA) may be signed off by any clinical trainer. The WPBAs include:

**A-CEX:** Anaesthetic clinical evaluation exercise (can be managing part of a case)

**DOPS:** Direct observation of procedural skill

**CBD:** Case based discussion

**ALMAT:** Anaesthesia list management assessment tool (after IAC obtained)

**Other:** Includes ALS, ATLS

All units have a minimum requirement of WPBAs (or appropriate course eg ALS). Each WBPA should be signed off in the workbook and completed on the e-portfolio. It is important that these should be sent to trainers in a timely fashion so that they can provide an accurate assessment and useful feedback. It is helpful for the trainee to summarise what happened/was discussed in the comments section so that the trainer can build on this learning material.

The summary sheet on page 4 should be ticked as confirmation that WPBAs have been undertaken, and will then be signed off by the Educational Supervisor when all elements of the unit are completed.

**There are 19 compulsory WPBAs required for the IAC in addition to a professionalism judgement,** which will be completed by the Educational Supervisor.

Many of the IAC WPBAs will be undertaken as unit assessments and do not need to be duplicated. Compulsory WPBAs are written in bold in the unit sections. Some elements may be signed off following discussion, observation or assessment in simulation situations [S].

**Not all elements of training need to be observed but all necessary WPBA must be obtained.**

**Introduction to Anaesthesia Sign Off (3-6 months)**

Trainees are expected to have achieved **all** the **core clinical learning outcomes** detailed in the unit sections **and WPBAs** in addition to providing evidence of a reasonable **case mix in their log book**.

All units require the following WPBAs unless otherwise stated: **1 A-CEX, 1 DOPS and 1 CBD**.

The Educational Supervisor can then sign off the unit.

When all units and the compulsory WPBAs are completed, the College Tutor will review, verify and issue the **Initial Assessment of Competence (IAC) Certificate** to allow progression to the remainder of Core Level Training. Experience has indicated that this will take between 3 and 6 months for most trainees.

This workbook provides details of the core clinical learning outcomes for each unit, and a basic summary of knowledge and skills that should be achieved in conjunction with WPBAs and clinical workload in order to have the unit signed off. Compulsory WPBAs count as assessments in appropriate units (The relevant unit is identified on the table on page 6 and they are highlighted in bold in each unit section).

The final part of this workbook contains the extra modules that are recommended for **ACCS** trainees to undertake during their 6 months in anaesthesia. We suggest that trainees gain experience/knowledge in as much of this as possible and sign off at least 2 of these modules.

Also use the more detailed account of knowledge and skill requirements that can be found in the college document **CCT in anaesthetics Core Level Training Annex B** <http://www.rcoa.ac.uk/node/1411>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Unit** | A-CEX | DOPS | CBD | Other | Sign | Date |
| 1. Preoperative assessment |  |  |  |  |  |  |
| 2. Premedication |  |  |  |  |  |  |
| 3. Postoperative and recovery room care |  |  |  |  |  |  |
| 4. Perioperative management of emergency patients |  |  |  |  |  |  |
| 5. Induction of general anaesthesia |  |  |  |  |  |  |
| 6. Intra-operative care |  |  |  |  |  |  |
| 7. Management of respiratory and cardiac arrest | X |  | X |  |  |  |
| 8. Control of infection | X |  | X |  |  |  |
| Initial Assessment of Competence | | | | |  |  |

Trainee: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ GMC No. \_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

Educational Supervisor:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ GMC No. \_\_\_\_\_\_\_\_\_

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

**Initial Assessment of Competence Sign off Sheet**

|  |  |  |  |
| --- | --- | --- | --- |
| **COMPETENCE** | **Unit** | **Name** | **Date** |
| **A-CEX** |  |  |  |
| Preoperative assessment of a patient who is scheduled for a routine operating list [not urgent or emergency] | Pre-op |  |  |
| Manage anaesthesia for a patient who is not intubated and is breathing spontaneously | Intra-op |  |  |
| Administer anaesthesia for acute abdominal surgery | Intra-op |  |  |
| Demonstrate a Rapid Sequence Induction | Induction |  |  |
| Recover a patient from anaesthesia | Post-op |  |  |
|  |  |  |  |
| **DOPS** |  |  |  |
| Demonstrate functions of the anaesthetic machine | Induction |  |  |
| Transfer a patient onto the operating table and position them for surgery [lateral, Lloyd Davis or lithotomy position] | Intra-op |  |  |
| Demonstrate cardio-pulmonary resuscitation on a manikin [S] | ALS |  |  |
| Demonstrates technique of scrubbing up and donning gown and gloves | Infection |  |  |
| Basic Competences for Pain Management – manages PCA including prescription and adjustment of machinery | Post-op |  |  |
| Demonstrates failed intubation drill [S] | Induction |  |  |
|  |  |  |  |
| **CBD** |  |  |  |
| Discuss the steps taken to ensure correct identification of the patient, the operation and the side of operation | Induction |  |  |
| Discuss how the need to minimise postoperative nausea and vomiting influenced the conduct of the anaesthetic | Post-op |  |  |
| Discuss how the airway was assessed and how difficult intubation can be predicted | Pre-op |  |  |
| Discuss how the choice of muscle relaxants and induction agents was made | Intra-op |  |  |
| Discuss how the trainee’s choice of post-operative analgesics was made | Post-op |  |  |
| Discuss how the trainee’s choice of post-operative oxygen therapy was made | Post-op |  |  |
| Discuss the problems emergency intra-abdominal surgery causes for the anaesthetist and how the trainee dealt with these | Emergency |  |  |
| Discuss the routine to be followed in the case of failed intubation [S] | Induction |  |  |
|  |  |  |  |
| **Clinical judgement, attitudes and behaviour** Educational Supervisor or college tutor to sign | **Signature** | | **Date** |
| Show care and respect for patients  Demonstrate a willingness to learn  Ask for help appropriately  Appear reliable and trustworthy |  | |  |

*Assessments may be performed by an appropriately trained consultant or non-consultant career grade doctor. [S] indicates where simulation is appropriate.*

*Career grade doctors must be approved by the College Tutor as a trainer. All original assessment documentation to be collated in the trainee’s e-portfolio.*

*These assessments may have been performed as part of each unit sign off as shown in the ‘unit’ column and do not need to be duplicated.*

**(Compulsory assessments are highlighted in bold in the individual units)**

**1. Pre-operative Assessment**

**Core clinical learning outcomes:**

1. **Is able to perform a structured pre-op anaesthetic assessment prior to surgery and recognise when further assessment/optimisation is required**
2. **To be able to explain options and risks of routine anaesthesia to patients in a way that they understand and obtain consent for anaesthesia**

**A) History Taking: Develop the ability to elicit a relevant structured history from a patient**

**Ensure that the history obtained is recorded accurately**

**Ensure that the history is synthesised with relevant clinical examination**

**B) Clinical examination**

**Perform a focused, relevant, accurate examination in patients with increasingly complex issues**

**Develop the ability to relate physical findings to history in order to establish diagnoses and formulate management plans**

**C) Investigations Describe the indications for basic preoperative investigations**

**Interpret and act upon basic investigations with relevance to anaesthesia and surgery**

**D) Specific evaluation**

**Develop the ability to establish a problem list**

**Develop the ability to judge whether a patient is fit for and optimally prepared for the proposed intervention**

**Develop the ability to plan anaesthesia and post-op care for common surgical procedures**

**Develop the ability to recognise their limitations and reliably determine the level of supervision they will need**

**Ensure that they can explain options of routine anaesthesia an a way that patients understand and be able to obtain consent**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Recognise the elements of the history specific to anaesthesia and their importance, including the patients agenda |  |  |  |
| **Describe methods commonly used for assessing the airway to predict difficulty with airway or tracheal intubation** |  |  | **CBD** |
| List the indications for pre-op fasting, understands the appropriate regimens and indications for RSI |  |  |  |
| Understand what investigations may be required and their limitations |  |  |  |
| Describe the ASA and NCEPOD classifications and their implications when planning for perioperative care |  |  |  |
| Identify principles of consent for surgery and anaesthesia, including the issue of competence |  |  |  |
| Know the methods of anaesthesia used for common types of surgery (general, gynae, urology, ortho, ENT, dental) |  |  |  |
| Discuss common co-existing diseases and the peri-op management including drug therapies (tick when discussed)  Obesity Ischaemic heart disease Epilepsy  Diabetes Hypertension Rheumatoid disease  Asthma/COPD AF/anti-coagulants Corticosteroid treatment |  |  |  |
| List factors that affect the risk of a patient suffering from PONV |  |  |  |
| **Knowledge (cont)** | **Trainer** | **Date** | **WPBA** |
| Summarise factors determining a patients suitability for treatment as a day case |  |  |  |
| Explain the risk stratification of patients for VTE and discuss the methods available to minimise its occurrence |  |  |  |
| Know about the complications of anaesthetic drugs and how to predict problems (anaphylaxis, sux apnoea and MH) |  |  |  |
|  |  |  |  |
| **Skills** [S] could be undertaken in simulation |  |  |  |
| **Demonstrate the ability to take a focused timely full history including HPC, PMH, medication, allergy & previous anaesthesia** |  |  | **A-CEX** |
| Demonstrate the ability to perform a targeted relevant examination where appropriate eg CVS/RS/CNS/anatomy, limitations of this |  |  |  |
| Demonstrate the ability to perform a full assessment of airway and dentition as related to anaesthesia |  |  |  |
| Demonstrate understanding of clinical data including notes/BMI/CVS/resp/fluid balance in patient management |  |  |  |
| Demonstrate understanding of physiological and lab investigations to assist patient management eg ECG, bloods, need for adjunctive assessments for some diagnoses eg echo, lung function tests |  |  |  |
| Make appropriate plans for anaesthesia and liaise with multidisciplinary team: options, chosen technique, pre-op prep, team, equipment, supervision, ongoing care |  |  |  |
| Present information to patients in way that they understand, checking understanding and obtaining consent |  |  |  |
| Demonstrate the ability to take a history/give information where communication difficulties exist eg child, dementia |  |  |  |
| Identify premorbid disease states that may require patients to have higher (level 2 or 3) levels of care in the postoperative period. |  |  |  |

**Complete the following to sign off the unit of training: Pre-operative assessment**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**2. Premedication**

**Note: This forms part of the comprehensive pre-assessment of patients, which is best undertaken as part of the overall assessment during this process.**

**Learning Outcomes:**

1. **Understands the issues of peri-op anxiety and the ways to alleviate it**
2. **Understands that the majority of patients do not require pre-medication**
3. **Understands the use of pre-op medications in connection with anaesthesia and surgery**

**Core clinical learning outcomes:**

1. **Is able to prescribe medication as and when indicated, especially for the high risk population**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| List the basic indications for the prescription of premedicant drugs |  |  |  |
| List sedative and anxiolytic agents and understand the applied pharmacology |  |  |  |
| Discuss factors influencing reflux/aspiration + strategies to reduce it including the drugs + their applied pharmacology |  |  |  |
| Identify local and national guidelines on the management of thrombo-embolic risks and how to apply them |  |  |  |
| Explains the principles and practice of using prophylactic antibiotics (see section 7) |  |  |  |
|  |  |  |  |
| **Skills** [S] could be undertaken in simulation |  |  |  |
| Selects and prescribes appropriate agents to reduce the risk of regurgitation and aspiration |  |  |  |
| Selects and prescribes appropriate anxiolytic/sedative premedication when indicated |  |  |  |
| Explains, in a way that the patient understands, the benefits and possible risks of sedative premedication |  |  |  |
|  |  |  |  |

**Complete the following to sign off the unit of training: Premedication**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**3. Post-operative and Recovery Room Care**

**Learning Outcomes:**

1. **The ability to manage and recover patients from general anaesthesia**
2. **Understand the organisation and requirements of a safe recovery room**
3. **The ability to identify and manage common post-op complications in patients with a variety of co-morbidities**
4. **The ability to manage post-op nausea and vomiting**
5. **The ability to manage post-op fluid therapy**

**Core clinical learning outcomes:**

1. **Safely manage emergence from anaesthesia including extubation**
2. **Show awareness of common and immediate post-op complications and how to manage them**
3. **Assesses fluid status, pain and PONV and prescribes appropriate post-op fluids / analgesic / PONV regimens**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Describes care of the unconscious patient in the recovery room including equipment and monitoring standards |  |  |  |
| Discuss the causes and management of apnoea, inadequate ventilation and cyanosis |  |  |  |
| Discuss techniques for extubation/removal of LMSs and associated problems including laryngospasm and stridor [S] |  |  |  |
| Understand how to evaluate neuromuscular blockade with the nerve stimulator including partial reversal(see section4) |  |  |  |
| **Discuss O2 therapy including indications and techniques** |  |  | **CBD** |
| Outline the principles of fluid management post-op: assessment, fluid regimens including types of fluid and monitoring |  |  |  |
| **Discuss the assessment and management of post-op pain to include the need for drugs/PCA/blocks/epidural** |  |  | **CBD** |
| **Discuss the assessment and management of PONV** |  |  | **CBD** |
| Discuss the causes, assessment and management of post-op confusion |  |  |  |
| Discuss the management of new problems and co-existing disease in recovery, including hypo and hypertension, pulmonary atelectasis |  |  |  |
| Know the discharge criteria and follow up requirements including those for day case patients |  |  |  |
| **Skills** [S] could be undertaken in simulation | **Trainer** | **Date** | **WPBA** |
| **Demonstrate the ability to extubate and assess for adequate reflexes + ventilation (including non-starved patients)** |  |  | **A-CEX** |
| Demonstrate safe transfer and positioning of patients from theatre to recovery |  |  |  |
| Give a clear handover to recovery staff of peri-op management and the post-op plan |  |  |  |
| Prescribe the following appropriately: Fluids Analgesia PONV treatment VTE prophylaxis |  |  |  |
| **Manages a PCA including prescription and adjustment of machinery** |  |  | **DOPS** |
| Demonstrate the ability to recognise when the discharge criteria have been met for a patient to go to a ward or home |  |  |  |
| Demonstrate the ability to undertake follow up visits to patients after surgery on the wards |  |  |  |

**Complete the following to sign off the unit of training: Management of post-operative and recovery room care**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**4. Perioperative Management of Emergency Patients**

**Learning Outcomes:**

1. **Undertake anaesthesia for ASA 1E and 2E patients requiring routine surgery for common conditions**
2. **Undertake anaesthesia for sick patients and patients with major co-existing diseases under the supervision of a more senior colleague**

**Core clinical learning outcomes:**

1. **Delivers safe peri-operative anaesthetic care to adult ASA 1E and/or 2E patients requiring uncomplicated surgery with local supervision (eg uncomplicated appendicectomy or MUA of forearm fracture/uncomplicated open reduction and internal fixation)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Discuss the special problems encountered with emergency patients: anxiety, pain, starvation, physiological dysfunction |  |  |  |
| Recognise that the patient may have severe pain and how it might be treated pre-op |  |  |  |
| That patients may not be fasted- know the causes of increased gastric reflux + how to manage the airway |  |  |  |
| How to recognise that a patient may be dehydrated/hypovolaemic, and how to resuscitate with fluids and correct electrolytes |  |  |  |
| Understand how to recognise the ‘sick’ patient (including sepsis), their management and the increased risks of surgery |  |  |  |
| Understand the pathophysiological changes and organ dysfunction associated with acute illness |  |  |  |
| **Discuss problems that intra-abdominal surgery causes for the anaesthetist and how the trainee will deal with these** |  |  | **CBD** |
| **Skills** [S] could be undertaken in simulation |  |  |  |
| Manages pre-op assessment and resuscitation/optimisation of acutely ill patients correctly [S] |  |  |  |
| Demonstrates safe peri-op management of ASA 1 and 2 patients requiring emergency surgery (see above for examples) |  |  |  |
| Manages an RSI in the high risk situation of emergency surgery for the acutely ill patient (also see section 3) |  |  |  |

**Complete the following to sign off the unit of training: Introduction to anaesthesia for emergency surgery**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**5. Induction of General Anaesthesia**

**Learning Outcomes: \* Simulation may assist in the teaching and assessment eg failed intubation drill [S]**

1. **The ability to conduct safe induction of anaesthesia in ASA 1 and 2 patients confidently**
2. **The ability to recognise and treat immediate complications of induction, including tracheal tube misplacement and adverse drug reactions**
3. **The ability to manage the effects of common co-morbidities on the induction process**

**Core clinical learning outcomes:**

1. **Demonstrate correct pre-anaesthetic check of all equipment, including anaesthetic machines and ventilators**
2. **Demonstrate safe induction of anaesthesia, appropriate technique regarding co-morbidities and knowledge of the management of complications**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Recalls physiology/pharmacology, agent choice, doses, interactions & side effects of these drugs (tick when discussed)  Induction agents Muscle relaxants Analgesics Inhalational agents |  |  |  |
| Identify the factors that contribute to drug errors in anaesthesia and the systems to reduce them |  |  |  |
| Describe the basic function of monitors, minimum standards for induction / maintenance and additional monitoring |  |  |  |
| Explain the functions of the anaesthetic machine including: (tick when discussed)  Pre-use checks Functions of gas flow Vaporisers (including refill)  Structural features that minimise errors Integral monitoring equipment Operation of the ventilator |  |  |  |
| Describe the effects of and correct technique for pre-oxygenation |  |  |  |
| Explains intravenous and inhalational induction and knows the indications and advantages / disadvantages of each |  |  |  |
| Recalls how to recognise and manage intra-arterial injection of harmful substances |  |  |  |
| Describes the features of anaphylaxis and appropriate management including follow up and patient information [S] |  |  |  |
| Discuss the additional hazards of the following: (tick when discussed) Anaesthesia in unusual places  Brain injury Full stomach/aspiration risk Sepsis Musculo-skeletal disease Obesity |  |  |  |
| Describe the principles of managing the airway: manoeuvres, adjuncts, LMAs and intubation |  |  |  |
| With regard to intubation discuss: indications and types of tube, choosing size/length, types of laryngoscope blade |  |  |  |
| Outlines how to identify correct placement of an ETT + identify complications: endobronchial/oesophageal intubation |  |  |  |
| Describes how to identify patients at risk of aspiration, minimise the risk, categorise the signs and manage aspiration |  |  |  |
| **Discusses the methods available to manage a difficult and failed intubation** [S] |  |  | **CBD** |
| **Skills Demonstrates:** [S] could be undertaken in simulation | **Trainer** | **Date** | **WPBA** |
| **Safe practice in checking the patient in the anaesthetic room** |  |  | **CBD** |
| Appropriate checking of equipment prior to induction, including equipment for emergency use |  |  |  |
| **Checking the machine including: pre-use check, breathing circuits, changing and replenishing the vapouriser** |  |  | **DOPS** |
| Safe practice in selecting, checking, drawing up, diluting, labelling and administration of drugs |  |  |  |
| Appropriate selection of cannula and site for IV access and rigorous aseptic technique on insertion |  |  |  |
| Correct use of monitoring equipment; placement, settings (including alarms) and interpretation |  |  |  |
| Correct pre-oxygenation including mask and head position, explanation to patient and efficacy of the process |  |  |  |
| Effective IV induction: explanation to patient, preparation, dosing technique and management of CVS/RS changes |  |  |  |
| Effective inhalational induction including explanation to the patient |  |  |  |
| In respect of airway management: (tick when demonstrated effectively) Patient position Airway management  Bag/mask ventilation LMA insertion Laryngoscopy/ intubation Check and secure ETT Use of bougie |  |  |  |
| **Correctly conducts a RSI + demonstrates the technique of cricoid pressure (separate occasions) (also see section 8)** |  |  | **A-CEX** |
| Correct use of oropharyngeal, laryngeal and tracheal suctioning |  |  |  |
| **Failed intubation drill** [S] |  |  | **DOPS** |

**Complete the following to sign off the unit of training: Induction of general anaesthesia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**6. Intra-operative Care**

**Learning Outcomes:**

1. **The ability to maintain anaesthesia for surgery**
2. **The ability to use the anaesthesic monitoring systems to guide the progress of the patient and ensure safety**
3. **Understand the importance of the effects that co-existing diseases and the surgery may have on the progress of anaesthesia**
4. **Recognise the importance of working as a member of the theatre team**

**Core clinical learning outcomes:**

1. **Demonstrate safe management of anaesthesia and show awareness of the potential complications including how to identify and manage them**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Discuss pre-induction, intra-op and end of surgery safety management systems |  |  |  |
| Discuss the method and potential hazards of positioning patients in theatre: supine, prone and lateral |  |  |  |
| **Discuss how the choice of muscle relaxant and induction agents was made** |  |  | **CBD** |
| Discuss the management of common co-existing problems including: (tick when covered)  Diabetes Hypertension IHD asthma/COPD patients on steroids |  |  |  |
| Discuss the management of problems under anaesthesia including: (tick when covered) [S]  ↑ and ↓BP haemorrhage hypoxia ↑ and ↓CO2 arrhythmias |  |  |  |
| Discuss principles of peri-op fluid management: assessment, volumes, types of fluid and fluid balance (see section 5) |  |  |  |
|  |  |  |  |
| **Skills** [S] could be undertaken in simulation |  |  |  |
| Leads a peri-op safety briefing with appropriate documentation |  |  |  |
| **Demonstrates how to direct the team for safe transfer and positioning of the patient prior to surgery** |  |  | **DOPS** |
| Demonstrates the ability to maintain an anaesthetic with a face mask in a spontaneously breathing patient |  |  |  |
| **Demonstrates the ability to manage the intra-op progress of anaesthesia in a spontaneously breathing anaesthetic** |  |  | **A-CEX** |
| **Demonstrates the ability to manage the intra-op progress of anaesthesia in a ventilated patient (abdominal surgery)** |  |  | **A-CEX** |
| **Skills** (cont) | **Trainer** | **Date** | **WPBA** |
| Demonstrates the use of a nerve stimulator to assess the level of neuromuscular blockade |  |  |  |
| Manages the sedated patient for surgery |  |  |  |
| Maintain accurate, detailed, legible anaesthetic records and other relevant documentation (written+/- computerised) |  |  |  |
| Demonstrate the ability to respond in a timely manner to events such as hypotension, hypoxia, haemorrhage [S] |  |  |  |
| Demonstrate their role as a team player and leader in theatre and communicate in an unambiguous style |  |  |  |

**Complete the following to sign off the unit of training: Intra-operative care**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX |  |
|  | |  | DOPS |  |
|  | |  | CBD |  |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**7. Management of Respiratory and Cardiac Arrest**

**Learning Outcomes:**

1. **To have gained a thorough understanding of the pathophysiology of respiratory and cardiac arrest and the skills required to resuscitate patients**
2. **Understand the ethics associated with resuscitation**

**Core clinical learning outcomes:**

1. **Be able to resuscitate a patient in accordance with the latest Resuscitation Council (RC)(UK) guidelines**

**Any trainee who has successfully completed a RC (UK) ALS course in the previous year or who is an ALS instructor/instructor candidate may be assumed to have achieved this outcome. If not, this training is to be gained during the first 6 months, teaching may be assisted by simulation.**

**This is a summary of the requirements. See CCT in Anaesthesia: Basic Level Training, Annexe B for the full description**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| List the causes of respiratory arrest |  |  |  |
| List the causes of cardiac arrest |  |  |  |
| Demonstrate an understanding of the basic principles of the ECG and the ability to recognise arrhythmias |  |  |  |
| Discuss the mode of action of drugs in the management of respiratory and cardiac arrest in adults and children |  |  |  |
| Identify the doses, routes and frequency of drug administration during respiratory and cardiac arrest |  |  |  |
| Understands the physiology of ventilation and cardiac compressions, and the need for supplemental O2 therapy |  |  |  |
| Understands the different techniques of airway management and ventilation during resuscitation |  |  |  |
| Understands the mechanism of action, energies required and safety issues surrounding defibrillation |  |  |  |
| Recalls the reversible causes of cardiac arrest and their treatments + management of other specific conditions |  |  |  |
| Recalls the adult and paediatric ALS algorithms |  |  |  |
| Understands the management of patients post arrest |  |  |  |
| Discuss end of life decisions, respect of relatives, when to stop and debriefing after resuscitation |  |  |  |
| **Skills** [S] could be undertaken in simulation | **Trainer** | **Date** | **WPBA** |
| Use the ABCDE approach to diagnose and manage respiratory and cardiac arrest in adults and children [S] |  |  |  |
| Maintain a clear airway using basic techniques +/- simple adjuncts [S] |  |  |  |
| Demonstrates the correct use of advanced airway techniques including supraglottic device and tracheal intubation [S] |  |  |  |
| Maintain ventilation [S] |  |  |  |
| Performs external cardiac compressions [S] |  |  |  |
| Uses the external defibrillator to monitor and defibrillate a patient safely [S] |  |  |  |
| Position and prepare and patient to transfer to a higher level of care [S] |  |  |  |
| Maintains accurate records of all resuscitation events [S] |  |  |  |
| **Demonstrates CPR on a manikin** |  |  | **DOPS** |

**Complete the following to sign off the unit of training: Management of respiratory and cardiac arrest**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX | x |
| Advanced life support/Instructor Date: | |  | DOPS |  |
|  | |  | CBD | x |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**8. Control of Infection**

**Learning Outcomes:**

1. **To understand the need for infection control processes**
2. **To understand types of possible infections contractible by patients in the clinical setting**
3. **To understand and apply most appropriate treatment for contracted infection**
4. **To understand the risks of infection and be able to apply mitigation policies and strategies**

**Core clinical learning outcomes:**

1. **The acquisition of good working practices in the use of aseptic techniques**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge** | **Trainer** | **Date** | **WPBA** |
| Identify the universal precautions and good practices for the control of infection in theatres and on the wards |  |  |  |
| Discuss cross infection, types of hospital acquired infections and treatments including MRSA and C diff |  |  |  |
| Discuss hospital antibiotic policies including treatment and prophylaxis of common surgical infections |  |  |  |
| Discuss types of blood borne infections including HIV, hep B and C and the management of needle stick injuries |  |  |  |
| Discuss the need for and application of hospital immunisation policies |  |  |  |
| Understand the need for and methods of sterilisation |  |  |  |
| Explain the trusts decontamination policy and its application |  |  |  |
|  |  |  |  |
| **Skills** [S] could be undertaken in simulation |  |  |  |
| Identify patients at risk of infection and apply the anti-infection strategy, including immune-compromised patients |  |  |  |
| Administer IV antibiotics and discuss complications including the risk of allergy and management of anaphylaxis |  |  |  |
| Demonstrates correct working practice using and disposing of anaesthetic equipment including disposable items |  |  |  |
| Demonstrates good practice when undertaking aseptic techniques including peripheral lines and regional blocks |  |  |  |
| **Demonstrates good practice whilst performing a technique with full protective clothing eg CVC, neuraxial blockade** |  |  | **DOPS** |

**Complete the following to sign off the unit of training: Control of infection**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Requirements of Training** | | Achieved | WPBA: | Date |
| Core clinical outcomes completed | |  | A-CEX | x |
|  | |  | DOPS |  |
|  | |  | CBD | x |
| Trainee: | GMC No. | Signed: | |  |
| Educational Supervisor: | GMC No. | Signed: | |  |

**ACCS Extra Modules**

**Airway:**

**Learning Outcomes: Core airway knowledge and skills are documented in the workbook ‘Basis of Anaesthetic Practice’. These competencies are summarised here together with higher levels of knowledge and skills. It is vital that trainees have all of these fundamental knowledge and skills.**

**Core clinical learning outcomes:**

1. **Be able to predict difficulty with an airway at preoperative assessment and obtain appropriate help**
2. **Be able to maintain an airway and provide definitive airway management as part of emergency resuscitation**
3. **Demonstrates the safe management of the can’t intubate can’t oxygenate scenario**
4. **Maintains anaesthesia in a spontaneously breathing patient via a facemask for a short surgical procedure (< 30 minutes)**

**Refer to relevant sections in Basis of Anaesthetic Practice; Pre-operative assessment, induction, intra-op and post-op care**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge:** | **Trainer** | **Date** | **WPBA** |
| Explains all aspects of oxygen therapy: indications, prescription of, pre-oxygenation, methods of delivery and management of stridor and cyanosis |  |  |  |
| Lists the possible causes of apnoea and explains how to evaluate neuro-muscular blockade using a nerve stimulator |  |  |  |
| Explains the methods commonly used for assessing the airway to predict difficulty with tracheal intubation |  |  |  |
| Discuss equipment commonly used to maintain airways: types, sizes, laryngoscopes, indications for use etc |  |  |  |
| Discuss all aspects of tracheal intubation: indications, methods, position check, extubation, Mx of complications |  |  |  |
| Discuss the use of new types of laryngoscope blades and other airway equipment eg airtrack, ILMA, videoscope |  |  |  |
| Describes the management of a difficult and failed intubation including the can’t intubate, can’t oxygenate scenario and the indications for/principles of a surgical and needle cricothyrotomy and jet ventilation |  |  |  |
| Outline the indications for fibre-optic intubation and how an awake intubation might be undertaken |  |  |  |
| Discuss the indications for an RSI + recognition and management of a patient with pulmonary aspiration |  |  |  |
| Explains the technique of inhalational induction, advantages and disadvantages and the agents commonly used |  |  |  |
| Discuss the care of the airway in the unconscious patient in theatre, recovery, wards and in arrest situations |  |  |  |
| **Skills:** [S] could be undertaken in simulation | **Trainer** | **Date** | **WPBA** |
| Demonstrates proficiency in performing a relevant clinical examination and assessment of the airway and dentition and can reliably predict the level of supervision that they require |  |  |  |
| Identifies normal appearances and significant abnormalities in radiographs including; CXR, C-spine, Head CT and MRI |  |  |  |
| Demonstrates the use of more advanced airway techniques including Proseal, LMA supreme, i-gel |  |  |  |
| Demonstrates more advanced intubation techniques including nasal intubation, the use of a bougie, Airtrack |  |  |  |
| Demonstrates the correct use of cricoid pressure and conducts an RSI, including safe extubation |  |  |  |
| Conducts an inhalational induction, including appropriate communication with the patient |  |  |  |
| Demonstrates failed intubation drill (see Basis of Anaesthetic Practice) [S] |  |  |  |
| Demonstrates the management of can’t intubate, can’t oxygenate (see Basis of Anaesthetic Practice) [S] |  |  |  |
| Demonstrates a large bore needle and surgical cricothyrotomy and manual jet ventilation [S] |  |  |  |

**Complete the following to sign off the unit of training: Airway**

|  |  |  |
| --- | --- | --- |
| **Requirements of Training** | | **Achieved** |
| Core clinical learning outcomes completed | |  |
| A-CEX | |  |
| DOPS | |  |
| CBD | |  |
| **Name** | **GMC Number** | | **Signed** | **Date** |
| Trainee: |  | |  |  |
| Supervising Consultant: |  | |  |  |

**Sedation:**

**Learning Outcomes:**

1. **To gain a fundamental understanding of what is meant by conscious sedation and the differences between and risks associated with deeper levels of sedation**
2. **To understand the particular dangers associated with the use of multiple sedative drugs, particularly in the elderly**
3. **To be able to safely deliver sedation to appropriate patients, manage side effects in a timely manner and recognise their own limitations**

**Core clinical learning outcomes:**

1. **Provision of safe and effective sedation to ASA 1 and 2 adult patients, aged less than 80, using a maximum of 2 short acting agents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge:** | **Trainer** | **Date** | **WPBA** |
| Define conscious sedation, the difference between this and deep sedation/GA and associated safety implications |  |  |  |
| Describes the indications for the use of conscious sedation |  |  |  |
| List commonly used sedative drugs and describe their pharmacology (single, multiple drug and inhalational techniques) |  |  |  |
| Describe how drugs should be titrated and the impact of synergism on patient safety with poly-pharmacy |  |  |  |
| Describes the minimal monitoring required and scoring systems used to measure depth of sedation |  |  |  |
| Describes the complications that can occur during sedation and how they should be managed |  |  |  |
| Describe appropriate discharge criteria for patients receiving sedation as a day case procedure |  |  |  |
| **Skills: Demonstrates the ability to** [S] could be undertaken in simulation |  |  |  |
| Select and assess patients for sedation, explain the procedure to and consent them appropriately |  |  |  |
| Provide inhalational sedation to a patient for a clinical procedure + monitor them appropriately (could be obstetrics) |  |  |  |
| Administer IV sedation to patients for a clinical procedure and monitor them appropriately |  |  |  |
| Recognise and manage the complications of a sedation technique (including loss of verbal contact) |  |  |  |

**Complete the following to sign off the unit of training: Sedation**

|  |  |  |
| --- | --- | --- |
| **Requirements of Training:** | | **Achieved** |
| Core clinical learning outcomes completed | |  |
| A-CEX | |  |
| DOPS | |  |
| CBD | |  |
| **Name:** | **GMC Number** | | **Signed** | **Date** |
| Trainee: |  | |  |  |
| Supervising Consultant: |  | |  |  |

**Transfer Medicine:**

**Learning Outcomes:**

1. **Correctly assesses the clinical status of patients and decides whether they are in a suitably stable condition to allow an *intra-hospital* transfer**
2. **Gains understanding of the associated risks and ensures that they can put all possible measures in place to minimise these risks**

**Core clinical learning outcomes:**

1. **Safely manages the intra-hospital transfer of the critically ill but stable adult patient for the purpose of investigations or further treatment Under distant supervision with the patient breathing spontaneously or with artificial ventilation**

**The learning outcomes and competencies listed are those necessary for the first 24 months of anaesthetic training**

**Many of these competencies may be attained whilst gaining training and experience in intensive care**

**It is strongly recommended that CT1/2 complete this unit of training before undertaking an intra-hospital transfer with distant supervision**

**The unit can be signed off following successful completion of a course or by covering the learning objectives + WPBAs (A-CEX, DPOS & CBD)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge:** | **Trainer** | **Date** | **WPBA** |
| Explains the importance of ensuring the patient’s clinical condition is optimised and stable prior to transfer |  |  |  |
| Describes minimal monitoring requirements for transfer |  |  |  |
| List the equipment (and backup equipment) that is required for intra-hospital transfer |  |  |  |
| Outline the basic principles of how the ventilators used for transfers function |  |  |  |
| Discuss risks, physical hazards and problems caused by complications arising during transfer + how to minimise these |  |  |  |
| Discuss the importance of communication (with the patient and team), lines of responsibility and consent issues |  |  |  |
| Discuss the importance of note keeping and issues around carrying/recording controlled drugs during transfer |  |  |  |
| Outline the problem of infection and contamination risk when moving an infected patient |  |  |  |
| Explains how to assess and manage an uncooperative and aggressive patient during transfer |  |  |  |
| Understands hospital protocols governing the transfer of patients between departments |  |  |  |
|  |  |  |  |
| **Skills: Demonstrates**  [S] could be undertaken in simulation | **Trainer** | **Date** | **WPBA** |
| Organisation + communication skills required to plan, manage and lead an intra-hospital transfer of a stable patient [S] |  |  |  |
| How to set up the ventilator and confirm correct functioning before commencing a transfer [S] |  |  |  |
| Safety in securing the tracheal tube prior to commencing the movement/transfer [S] |  |  |  |
| The ability to calculate oxygen and power requirements for the journey [S] |  |  |  |
| Safety in securing the patient, monitoring and therapeutics (inc. checking drug delivery systems) before transfer [S] |  |  |  |
| Appropriate choices of sedation, muscle relaxation and analgesia to maintain clinical status during transfer [S] |  |  |  |
| Ability to maintain monitoring of vital signs and clinical case recording during the transfer [S] |  |  |  |

**Complete the following to sign off the unit of training: Transfer medicine**

|  |  |  |
| --- | --- | --- |
| **Requirements of Training:** | | **Achieved** |
| Core clinical learning outcomes completed | |  |
| A-CEX \* or course | |  |
| DOPS \* or course | |  |
| CBD \* or course | |  |
| **OR** \* Course successfully completed Date: | |  |
| **Name:** | **GMC Number** | | **Signed** | **Date** |
| Trainee: |  | |  |  |
| Supervising Consultant: |  | |  |  |

**Critical Incidents:**

**Core clinical learning outcomes:**

1. **To gain knowledge of the principle causes, detection and management of critical incidents that can occur in theatre**
2. **To be able to recognise critical incidents early and manage them with appropriate supervision**
3. **To learn how to follow through a critical incident with reporting, presentation at audit meetings and discussion with patients**
4. **To recognise the importance of personal non-technical skills and the use of simulation in reducing potential harm caused by critical incidents**

**Given the importance of the recognition and management of critical incidents they are all listed here, however many will be found elsewhere in the works books and may be signed off with cross reference.**

**Whilst trainees may come across critical incidents during the course of clinical practice, many will be taught and assessed using simulation.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Knowledge: recall/describes the causes, detection and management of the following** (tick when covered) | **Trainer** | **Date** | **WPBA** |
| Unexpected fall in SpO2 Fall in end tidal CO2 Unexpected hypotension  Progressive fall in minute volumes Rise in end tidal CO2 Unexpected hypertension  Unexpected increase in peak airway pressure Rise in inspired CO2 Cardiac and/or respiratory arrest |  |  |  |
| Sinus tachycardia Sudden bradycardia Ventricular fibrillation  Sudden tachyarrhythmia ST changes Atrial fibrillation  Broad complex tachycardia Ventricular ectopics PEA  (see management of respiratory and cardiac arrest in Basis of Anaesthetic Practice) |  |  |  |
| Difficult/failed mask ventilation Laryngospasm Difficulty with IPPV/sudden/progressive loss MV  Failed intubation Bronchospasm Pneumothorax/tension pneumothorax  CI/CO (see Airway section) Aspiration Gas/fat/pulmonary embolus  Accidental decannulation of tracheostomy or tracheal tube |  |  |  |
| Adverse drug reactions and anaphylaxis, inadvertent intra-arterial injection of irritant fluids |  |  |  |
| Transfusion reactions, transfusion of mis-matched blood or blood products |  |  |  |
| High spinal block (see Regional section) |  |  |  |
| Coning due to increases in intracranial pressure |  |  |  |
| Local anaesthetic toxicity (see Regional section) |  |  |  |
| Malignant hyperpyrexia |  |  |  |
| **Discuss the importance of understanding the need for the following attitudes and behaviours:** | **Trainer** | **Date** | **WPBA** |
| Awareness of human factors and the importance of human factors in achieving consistently high performance;  Effective communication, team-working, leadership, decision making and situational awareness |  |  |  |
| Awareness of the importance of following through a critical incident with reporting, presentation at M&M meetings, follow-up to improve patient safety and the provision of patient information/counselling and advice |  |  |  |
| Acceptance that it can happen to anyone as these are often unexpected incidents |  |  |  |
| The importance of protocols and the need to practice them in a simulated environment with healthcare professionals |  |  |  |
|  |  |  |  |
| **Skills: Demonstrates** [S] could be undertaken in simulation |  |  |  |
| Good non-technical skills: effective communication, team-working/leadership, decision making, situation awareness |  |  |  |
| The ability to recognise an early deteriorating situation by careful monitoring and gain appropriate help when required |  |  |  |
| The ability to respond appropriately to the incidents listed above and initiate management accordingly [S] |  |  |  |

**Complete the following to sign off the unit of training: Critical incidents**

|  |  |  |
| --- | --- | --- |
| **Requirements of Training:** | | **Achieved** |
| Core clinical learning outcomes completed | |  |
| A-CEX [S] | |  |
| DOPS [S] | |  |
| CBD | |  |
| **Name:** | **GMC Number** | | **Signed** | **Date** |
| Trainee: |  | |  |  |
| Supervising Consultant: |  | |  |  |