

THIS STAGE 2 PAEDIATRIC ANAESTHESIA GUIDE COVERS:

- What needs to be achieved during Stage 2 paediatric anaesthesia?
- How to evidence paediatric anaesthetic clinical practise & attainment of the paediatric key capabilities
- Key capabilities in other domains which may be achieved during stage 2 paediatric anaesthesia placement
- EoE guide to suggested learning opportunities to ensure you obtain comprehensive skills and understanding of paediatric anaesthetic practise by key capabilities
- EoE guide to e-learning modules to support knowledge and development in paediatric anaesthesia

Suggested clinical supervision levels

- For ASA 1-3 children aged 1-5:
 - 2a – supervisor in theatre suite, available to guide aspects of activity through monitoring at regular intervals
- For children 5years and above:
 - 2b – supervisor within hospital for queries, able to provide prompt direction/assistance.

WHAT NEEDS TO BE ACHIEVED DURING STAGE 2 PAEDIATRIC ANAESTHESIA?

At the end of the period of training in paediatric anaesthesia, the trainee will need to show that they have progressed to the required level of supervision, both for children aged 1-5 years and for older children down to the age of 5 years, for each of the Key Capabilities.

PAEDIATRIC ANAESTHESIA for stage 2 falls under the **GENERAL ANAESTHESIA DOMAIN** incorporating **KEY CAPABILITIES U, V and W.**

<https://rcoa.ac.uk/documents/2021-curriculum-learning-syllabus-stage-2/general-anaesthesia>

KEY CAPABILITIES FOR STAGE 2 PAEDIATRIC ANAESTHESIA

STAGE 2 GENERAL ANAESTHESIA: U, V, W & A

Provides safe and effective general anaesthesia with distant supervision for ASA 1 - 3 patients undergoing non-complex elective and emergency surgery within all settings.

U Provides safe general anaesthesia for ASA 1-3 children undergoing non-complex elective and emergency surgery aged 1-5 years with direct supervision (2a) and 5 years and above with distant supervision (2b)

V Explains the principles of anaesthetic care for children of all ages with complex medical problems and/or requiring complex surgical procedures

W Explains the principles of the general anaesthetic care of neonates

A Explains the specific factors in providing safe anaesthetic care for patients at extremes of age, including neonates, children and older people with frailty, and implements these in practice.

STAGE 2 SAFEGUARDING A & E

Recognises safeguarding concerns in patients and healthcare professionals

A Identifies, documents and acts on child protection and vulnerable patient concerns

E Describes the needs and support required for people with learning disabilities, autism, acute confusion, dementia and mental illness

Understands management of consent with a child or adolescent involving parents

Understands the adjustments to pre-operative assessment and consent when dealing with vulnerable adults or children

Understands the importance of Comprehensive Knowledge of Child Protection and what personal responsibilities exist when NAI is suspected including knowledge of local referral procedures of a child for safeguarding concerns.

Understands the legal rights of the child and parents with regard to the limits of Consent, 'Gillick competence', Restraint and Medical Research.

STAGE 2 PERIOPERATIVE MEDICINE AND HEALTH PROMOTION, R

R Paediatric Anaesthesia: demonstrates adjustments in perioperative care for children with co-morbidity.

STAGE 2 Resus and Transfer, C &F

C Demonstrates resuscitation skills in neonates and children

F Manages Inter-hospital transfer of adults and children including time-critical transfers in line with local and regional policy

STAGE 2 ICM, D

D Recognises the acutely ill child and initiates management of paediatric emergencies

Supervised learning events (SLEs), as illustrated by A-CEX, DOPS, CBD, ALMAT and A-QIPAT, **personal activities** (eg on-line learning, simulation learning, departmental tutorials etc) and **reflections** must be used in the clinical setting to facilitate discussion, learning and demonstrate progress. A comprehensive clinical **logbook** must be kept.

If you have **any questions** regarding your training in paediatric anaesthesia or how to complete the module documentation, please do not hesitate to contact the **paediatric anaesthetic module lead** or one of the **college tutors** for advice. Please do this as soon as possible as it may be difficult to rectify misunderstandings, mistakes and omissions at the end of your training in this module.

HOW TO EVIDENCE PAEDIATRIC ANAESTHETIC CLINICAL PRACTISE & ATTAINMENT OF THE PAEDIATRIC KEY CAPABILITIES

When you need to evidence your experience in the management of paediatric anaesthetic practice, an SLE should be completed. When you are allocated to a paediatric anaesthesia list with a consultant, the opportunity arises to complete an SLE. This activity should be planned on your part as you will know your theatre allocation in advance. It should involve, prior to the list, a review of the cases including the theoretical knowledge and management plan on which these cases are usually based. Reviewing the radiological images and reading around the subject matter will make for a more interactive and productive SLE with the consultant.

To evidence completion of your 3-month Stage 2 Paediatric anaesthesia placement, you will need to submit the Completion of Capability Cluster Form ('Triple C' Form) to the paediatric anaesthesia module lead for sign-off.

The 'Triple C' form facilitates assessment of the specific Key Capabilities for paediatric anaesthesia across more than one domain of the new curriculum. The completed 'Triple C' form will be viewable within the LLP and will be used to support completion of the General Anaesthesia and the Perioperative Medicine & Health Promotion HALOs.

Evidence required to sign off the Triple C form will be taken from the following sources:

1. Supervised Learning Events (SLEs) - to be completed contemporaneously

Throughout the training time in Paediatric anaesthesia, supervised learning events (SLEs), as illustrated by **A-CEX, DOPS, CBD and ALMAT**, should be used to facilitate learning and demonstrate progress.

- SLEs should be completed regularly as a **formative way** of gaining the knowledge and understanding of paediatric anaesthetic clinical practice.
- Whenever you are with a trainer there are opportunities for learning. Use the SLEs to record the reflective conversation that you have had with your trainer.
- Constructive feedback from your trainer should help you understand developments required to progress to the next levels of supervision/entrustment

2. Personal Activities

Additional learning activities such as **e-Learning** or **simulation courses** should be undertaken to underpin the experiential learning. You should record this learning activity in the Lifelong Learning Platform (LLP) . Demonstration of self-directed learning may include:

- Simulation
- e-Learning
- Departmental teaching
- Journal article reading
- Textbook reading

e-learning resources are given in Appendix below

3. Reflections

You should be able to reflect on clinical experience and other educational activities. SLEs can be used to reflect on learning in the clinical setting. You should also add reflections on courses eg APLS/EPLS/SCAMPS attended, teaching sessions, personal reading etc.

<https://www.gmc-uk.org/education/standards-guidance-and-curricula/guidance/reflective-practice/the-reflective-practitioner---a-guide-for-medical-students/how-can-you-reflect>

4. Logbook of Cases

Logbooks will demonstrate the range of anaesthetic techniques undertaken and the caseload experienced during the period of training in paediatric anaesthesia. Adequate logbook evidence usually includes **60-90 cases** covering areas of elective and emergency work for neonatal, infant and children's practice across all surgical specialties: paediatric surgery, urology, ENT, orthopaedics, ophthalmology and plastic surgery together with neuro-surgery, radiological imaging, GI endoscopy and oncology. The paediatric module lead and College Tutors will advise and be the final arbiters of the acceptable range and total number of paediatric cases achieved during the placement.

It is advisable to review your logbook regularly throughout your module to ensure that you have experience across the paediatric surgical specialties with appropriate procedures.

5. Multiple Trainer Report (MTR)

This is an assessment of your progress for your stage of training. The report covers generic professional capabilities and knowledge and understanding of paediatric anaesthesia practice. This will be used to support the entrustment decision by the trainer faculty. A satisfactory report is mandatory for a 'Triple C' sign-off.

The MTR replaces the existing consultant feedback mechanism and reflects the greater emphasis on the professional judgement of the trainer as part of your assessment. The MTR is a mandatory requirement to support progression at critical progression points of the new curriculum. The MTR will be **triggered and collated by the College Tutor or Educational Supervisor** and the results discussed with the anaesthetist in training and their educational supervisor. A satisfactory MTR is an essential requirement in order to support the completion of each HALO for each of the Domains of Learning. Trainers will have the opportunity to report on the progress of the anaesthetist in training, including areas of excellence and areas for further development. Such feedback should encompass both specialty specific and generic professional aspects of the curriculum.

6. Multi-source Feedback (MSF)

This should be initiated by the trainee on the LLP. One MSF per training year is required.

7. QI Project

**ADDITIONAL KEY CAPABILITIES IN OTHER DOMAINS
WHICH MAY BE ACHIEVED DURING
STAGE 2 PAEDIATRIC ANAESTHESIA PLACEMENT**

A small number of **SLEs (perhaps 5)** should be completed from the other domains to show a full understanding of what is required to deliver excellence in paediatric anaesthesia

STAGE 2 GENERAL ANAESTHESIA (Including Paediatric Anaesthesia)

B Provides appropriate anaesthesia care for patients undergoing day case surgery in all settings

C Describes the principles of intra-operative haemostasis and manages major haemorrhage.

E Describes the anaesthetic related problems associated with trauma including burns, poisoning, electrical injuries and drowning.

F Applies physiological & pharmacological principles to reduce the risk of secondary brain injury in patients presenting with a severe head injury.

G Recognises, mitigates against risks and manages complications relating to patient positioning during surgery, including reference to the obese patient.

H Applies a sound understanding of anatomy, physiology, biochemistry, pharmacology, physics and clinical measurement to anaesthetic practice.

I Safely manages patients with complex airways including the ability to perform video-laryngoscopy with local supervision.

M Applies relevant anatomical, physiological and pharmacological principles to neurosurgical patients

S Explains the anaesthetic implications of ophthalmic surgery, in particular the penetrating eye injury and the presence of intraocular gas

X Uses total intravenous anaesthesia safely in all areas of clinical anaesthetic practice

STAGE 2 PERIOPERATIVE MEDICINE AND HEALTH PROMOTION

Works with patients to reduce the risks associated with surgery

A-H, J, K, L

eg: Provides a clear explanation of the current local and national guidelines for provision of paediatric services

STAGE 2 PROFESSIONAL BEHAVIOURS AND COMMUNICATION

Demonstrates the professional values and behaviours required of senior anaesthetists in training.

B - Formulates management plans for patients with complex needs, recognising the limits of their own experience and competence and seeks assistance where appropriate

STAGE 2 MANAGEMENT AND PROFESSIONAL AND REGULATORY REQUIREMENTS

A - Appreciates and participates in the organisation of anaesthetic services within the structure of local hospital management and links to regional tertiary level services

B - Applies legal and ethical guidelines to their medical practice, including the legal requirements of consent and shared decision making

STAGE 2 TEAM WORKING

Key Capabilities A-E

EOE GUIDE TO SUGGESTED LEARNING OPPORTUNITIES TO ENSURE YOU OBTAIN COMPREHENSIVE SKILLS AND UNDERSTANDING OF PAEDIATRIC ANAESTHETIC PRACTISE by KEY CAPABILITIES

Minimal acceptable **skills** to achieve key capability U are marked with an asterix*
Discussions for key capabilities V and W should be had with clinical supervisors.

KEY CAPABILITY 'U'

Provides safe general anaesthesia for ASA 1-3 children undergoing non-complex elective and emergency surgery aged 1-5 years with direct supervision and 5 years and above with distant supervision

*Demonstrates the ability to carry out pre-assessment of all the children (down to 1 year of age) on an elective theatre list.
*Demonstrates ability to communicate clearly and have empathy with both children and their parents/carers.
*Demonstrates appropriate engagement in compassionate, authoritative discussions with patients, parents/carers and gives a balanced judgement of the estimated risks and likely complications of anaesthesia
*Demonstrates the ability to use inhalation induction, then secure vascular access in an ASA1/2 child down to the age of 5 without the intervention of Supervising Consultant
*Demonstrates the ability to manage the airway in children and babies of all ages safely and effectively
*Demonstrates the ability to select, insert, secure and confirm correct placement of a tracheal tube in a child down to the age of 5 without the intervention of Supervising Consultant
*Demonstrates the ability to anaesthetise a child for an emergency abdominal procedure or with a full stomach down to the age of 5 years without the intervention of supervising consultant and the young child aged 1-5 years with direct supervision
* Demonstrates the correct management of fluids, electrolytes, glucose and temperature peri-operatively in response to a child's physiology.
*Demonstrates the ability to manage acute pain in children safely and effectively, including the use of local and regional anaesthetic techniques, the use of opioids (including infusions and PCA/NCA where these are used), adjuvant NSAIDs and simple analgesics
*Describes effective management of anaesthetic emergencies in children e.g. acute airway obstruction, croup and acute epiglottitis, inhaled foreign body, loss of airway, laryngospasm, malignant hyperthermia and anaphylaxis
*Demonstrates strategies for managing sudden loss of airway/laryngeal spasm
*Demonstrates strategies for failed/difficult venous access in a child.
*Demonstrates the ability to resuscitate all ages using BLS and PALS/APLS protocols. Certified

training courses may be used
Demonstrates insertion of a successful ilio-inguinal block using consent, safe technique and dosing... down to the age of 5years without the intervention of supervising consultant and the young child aged 1-5 years with direct supervision
Demonstrates insertion of a successful penile block using consent, safe technique and dosing.... down to the age of 5years without the intervention of supervising consultant and the young child aged 1-5 years with direct supervision
Demonstrates insertion of a successful caudal block using consent, safe technique and dosing.... down to the age of 5years without the intervention of supervising consultant and the young child aged 1-5 years with direct supervision
Conducts a paediatric operating list for minor/intermediate elective surgery for children down to the age of 5years without the intervention of supervising consultant and the young child aged 1-5 years with direct supervision.
Describes the anaesthetic management of a healthy Infant for elective surgery (eg Inguinal herniotomy/ophthalmic surgery).
Demonstrates the ability to provide safe and effective anaesthesia for children for diagnostic radiological procedures
Demonstrates ability to provide safe transport of critically ill children and babies

<p>KEY CAPABILITY 'V'</p> <p>Explains the principles of anaesthetic care for children of all ages with complex medical problems and/or requiring complex surgical procedures</p>

<p>*Explains the implications of Paediatric medical and surgical problems. Child found to have a Heart Murmur and/or ASD/VSD https://resources.wfsahq.org/atotw/recognising-cardiac-disease-in-children-anaesthesia-tutorial-of-the-week-93/</p>
<p>*Explains the implications and anaesthetic management of paediatric medical and surgical problems. Pyloric Stenosis https://resources.wfsahq.org/atotw/infantile-hypertrophic-pyloric-stenosis-anaesthesia-tutorial-of-the-week-276/</p>
<p>*Recalls/Explains the recognition and initial management of the critically ill child....Sepsis / meningitis https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_14&programmeId=14 https://resources.wfsahq.org/atotw/management-of-paediatric-sepsis-anaesthesia-tutorial-of-the-week-278/</p>
<p>*Recalls/Explains the recognition and initial management of the critically ill child....Convulsions https://resources.wfsahq.org/atotw/status-epilepticus-in-children/</p>
<p>*Recalls/Explains the recognition and initial management of the critically ill child....bleeding tonsil / haemorrhage https://resources.wfsahq.org/atotw/anaesthesia-for-bleeding-tonsil/ https://resources.wfsahq.org/atotw/perioperative-blood-management-in-the-pediatric-patient/</p>
<p>*Recalls/Explains the recognition and initial management of the critically ill child.... Croup/Epiglottitis/Asthma https://resources.wfsahq.org/atotw/acute-upper-airway-obstruction-in-children/</p>

*Recalls/Explains the recognition and initial management of the critically ill child.... Foreign body in airway https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_14&programmeId=14
*Explains or demonstrates the principles of stabilization and safe transport of both critically ill baby and child both with hospital and between hospitals https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_14&programmeId=14
Undertakes a critical discussion about the commoner problems of paediatric intensive care, including ventilatory and circulatory support, upper airway problems and trauma

KEY CAPABILITY 'W'
Explains the principles of the general anaesthetic care of neonates

Explains the anatomical and physiological differences between a neonate and an adult patient and the anaesthetic implications of these
Specific considerations and techniques in anaesthetising a neonate for surgery.eg inguinal herniotomy
Describes the anaesthetic implications of the Premature Neonate and Ex-Premature older child
Undertakes a critical discussion about the problems and risks inherent in anaesthesia for former premature babies and children with significant co-morbidity
Describes analgesic strategies and analgesic dosing for both a neonate and a 10 Kg child

EOE GUIDE to e-Learning modules to support knowledge and development in paediatric anaesthesia

Knowledge on the topics outlined in the key capabilities U, V and W can be reviewed by completing some of the paediatric modules on the e-Learning for Health website

https://portal.e-lfh.org.uk/myElearning/Index?HierarchyId=0_14&programmeld=14

Paediatric Modules are under Core Training – Clinical.

Paediatric Modules can be found under 04b – Paediatrics

Additional Paediatric Articles are in the eLibrary > CEACCP/BJA indexed by subject

On completion of the minimum recommended modules you should:

- Click on *My Activity*
- Click on *Activity Record (Itemised)*
- Select *eLA Module 04b and CEACCP/BJA*
- *Download as PDF*
- Upload PDF as a personal activity on LLP to evidence your learning

Recommended e-LFH modules to support Stage 2 paediatrics:

Those marked with asterix* are highly recommended

Developmental anatomy	04b-01	Analgesia	04b-11
Developmental physiology	04b-02	-Caudal*	04b-11-01
-Adapt to extrauterine life*	04b-02-01	-Ilioinguinal*	04b-11-03
Paediatric Resuscitation	04b-04	-NCAs and PCAs*	04b-11-09
Stabilisation Sick Child	04b-0	Anaesthesia for >5years	04b-13
-Paediatric Septic Shock	04b-05-05	-Appendicectomy and Laparotomy	
Safeguarding for Children	04b-06	-Removal of Foreign Body*	
Preparation for Anaesthesia	04b-07	-Anaesthesia for a child with Cerebral Palsy*	
Induction of Anaesthesia	04b-09	Post operative Care	04b-14
-Inhalational	04b-09-01	-Post op analgesia	04b-14-02
-Intravenous	04b-09-02	-Post Fluid Mx/Antiemetics	04b-14-03