



THE COLLEGE OF EMERGENCY MEDICINE

**Curriculum and Assessment
Systems
For
Paediatric Emergency Medicine
Within the EM curriculum
[Training Programmes](#)**

**June 2010
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Contents

Glossary of terms.....	2
1. Introduction	6
2 Training pathway	7
3. Content of learning	7
4. Paediatric Emergency Medicine	9
5. ARCP decision tools.....	47

Glossary of terms

Clinical terms

AAA	Abdominal aortic aneurysm
ASD	Atrial septal defect
ALS	Advanced Life Support
APLS	Advanced Paediatric Life Support
ATLS	Advanced Trauma Life Support
BBN	Breaking Bad News
BE	Base excess
BIS	Bispectral index
BLS	Basic Life Support
BMI	Body Mass index
BNF	British National Formulary
BP	Blood pressure
CFAM	Cerebral function analysis monitor
CFM	Cerebral function monitor
CO ₂	Carbon dioxide
COPD	Chronic obstructive pulmonary disease
CPEX	Cardiopulmonary exercise testing
CSF	Cerebrospinal fluid
CSM	Committee on Safety of Medicines
CT	Computed Tomography
CVP	Central venous pressure
DNAR	Do Not Attempt Resuscitation
DVT	Deep vein thrombosis
ECG	Electrocardiogram
ED	Emergency Department
EMG	Electromyogram
EMUS	Emergency Medicine Ultrasound
ENT	Ear, Nose and Throat
ENP	Emergency Nurse Practitioner
EP	Emergency Physician

FAST	Focussed Assessment with Sonography in Trauma
GCS	Glasgow Coma Score
GHB	Gamma hydroxy butyrate
GU	Genitourinary
Hb	Haemoglobin
IPPV	Intermittent positive pressure ventilation
IRMER	Ionising Radiation (Medical Exposure) Regulations
LiDCO™	Lithium indicator dilution cardiac output
MAC	Minimum alveolar concentration
MH	Malignant hyperpyrexia
MINAP	Myocardial Ischaemia National Audit Project
MRI	Magnetic resonance imaging
NAI	Non-accidental injury
Ng	Nasogastric
NO	Nitric oxide
NSAID	Non-steroidal anti-inflammatory drug
OT	Occupational Therapy
PALS	Patient Advice and Liaison Service
PAMS	Professions Allied to Medicine
PE	Pulmonary embolus
PGD	Patient Group Directions
PFO	Patent foramen ovale
PPCI	Primary Percutaneous Coronary Intervention
PONV	Post-operative nausea and vomiting
PSI	Pounds per square inch
PT	Physiotherapy
ROSC	Return of spontaneous circulation
RS	Respiratory system
RSI	Rapid sequence induction
SpO ₂	Saturation of haemoglobin with oxygen
SSRI	Selective serotonin receptor inhibitor
STEMI	ST elevation myocardial infarction
SVP	Saturated vapour pressure
TSC	Training Standards Committee
VSD	Ventricular septal defect
WCC	White cell count

Educational and organisational terms

ACCS	Acute Care Common Stem
ACF	Academic Clinical Fellow
ACL	Academic Clinical Lecturer
AIM	Acute Internal Medicine
AM	Acute Medicine - in context of a setting
AMU	Acute medical unit
ASA	American Society of Anesthesiologists
ATLS	Advanced Trauma Life Support
BTS	British Thoracic Society
CCT	Certificate of Completion of Training
CDU	Clinical Decision Unit
CEM	College of Emergency Medicine
CESR CP	Certificate of Eligibility for Specialist Registration through the Combined Programme
CICA	Criminal Injuries Compensation Authority
CRM	Crew resource management
CST	Core Specialty Training
CTR	Clinical Topic Review
E&E	Education and Examinations Committee
EM	Emergency Medicine
FCEM	Fellowship Examination of the College of Emergency Medicine
GIM	General Internal Medicine
GIM(Acute)	That part of GIM associated with the Acute Medical take
GMC	General Medical Council
GMP	Good Medical Practice
HST	Higher Specialty Training
IAC	Initial assessment of competence
IT	Information technology
JRCPTB	Joint Royal Colleges of Physicians Training Board
LEP	Local education provider
MCEM	Membership Examination of the College of Emergency Medicine
NCEPOD	National Confidential Enquiry into Patient Outcome and Death
NICE	National Institute for Health and Clinical Excellence
NPSA	National Patient Safety Agency
PEM	Paediatric Emergency Medicine
Ref	Reference
SASM	Scottish Audit of Surgical Mortality
TARN	Trauma Audit and Research Network
WBA or WPBA	Workplace based Assessment

Assessment Method Glossary

AA	Audit Assessment
ACAT	Acute Care Assessment Tool
C	Case Based Discussion (CBD)
D	Direct observation of procedural skills (DOPS)
E	Examination
L	Life support course
Mi or A	Mini-clinical evaluation exercise or anaesthesia clinical evaluation exercise (Mini-CEX or Anaes-CEX)
M	Multi-source feedback (MSF)
PS	Patient Survey
S	Simulation
TO	Teaching Observation
W	Web based, ENLIGHTENme Hub and Knowledge Bank http://www.enlightenme.org/

GMP domain headings

GMP 1	Knowledge, skills and performance
GMP 2	Safety and quality
GMP 3	Communication, partnership and teamwork
GMP 4	Maintaining trust

1. Introduction

Emergency Medicine (EM) is a rapidly expanding and exciting specialty concerned with the initial diagnosis and management of the acute and urgent aspects of illness and injury affecting patients of all age groups with the full spectrum of undifferentiated physical and behavioural disorders. It is the specialty in which time is critical.

Emergency Physicians are able to look after patients with a wide range of pathologies from the life-threatening to the self-limiting.

- They are experts in identifying the critically ill and injured, providing safe and effective immediate care.
- They are expert in resuscitation and skilled in the practical procedures needed.
- They establish the diagnosis and differential diagnosis rapidly, and initiate or plan for definitive care.
- They work with all the in-patient specialties as well as primary care and pre-hospital services.
- They are able to correctly identify who needs admission and who can be safely sent home.

EM is practiced in the challenging environment of the Emergency Department. The Emergency Physician is an excellent communicator and team player as well as a leader who is able to get the best out of the people he or she works with.

The Emergency Department (ED) is at the heart of Emergency Medicine and care is delivered in a number of different areas: the resuscitation room, assessment area, 'majors' area and ambulatory care sections. Departments have dedicated facilities and staff for children. EDs also have observation wards/clinical decision units where further care and testing take place under the guidance of the Emergency Physician, in order to determine which patients may be safely discharged and those that need further in-patient care. Emergency Physicians must be able to effectively supervise these areas and ensure safe and timely care.

It is intended that all future Emergency Physicians join the Emergency Medicine training programme at year one of the Acute Care Common Stem programme, thus ensuring that all future specialists have a standard level of training in critical care, acute internal medicine and anaesthesia as well as EM.

This curriculum sets out the intended aims and objectives, content, experiences, outcomes and processes of the educational programme intended to provide Emergency Physicians with the knowledge and expertise to be safe, expert and independent practitioners functioning at consultant level within the UK NHS and in the Republic of Ireland.

The changing nature of the practice of Emergency Medicine has also been reflected in the curriculum with increasing emphasis on the critical care aspects of EM, airway care, and diagnostic testing.

The four domains of Good Medical Practice have been mapped to the curriculum, indicating those skills and behaviours that Emergency Physicians need to be effective and to communicate with patients, carers and their families, and how these will be assessed.

2 Training pathway

Entry into training for Emergency Medicine is possible following successful completion of a Foundation Programme.

The training in Emergency Medicine (with notional durations) is divided as follows:

ACCS

ACCS is a three year core training programme that normally follows Foundation year two. It is the only core training programme for trainees wishing to enter higher specialty training in Emergency Medicine.

The first two years are spent rotating through the four specialties - this would typically involve 6/12 each in Anaesthesia, Intensive Care, Acute Internal Medicine as well as EM.

The purpose of the Acute Care Common Stem programme is to provide trainees with a broad range of knowledge, skills and attitudes to enable them to:-

- Assess any acutely ill patient
- Commence resuscitation
- Diagnose the most likely underlying problem
- Initiate appropriate investigations
- Liaise with the in-patient teams to ensure appropriate definitive care

2. The third year of training (ACCS CT3 EM) focuses on Paediatric Emergencies, and consolidation of the presentations experienced in years one and two. The musculoskeletal (MSK) component of core training has been reduced for year 3 and displaced into HST. Consequently the curricular content of MSK remains the same but the timing of its delivery has altered.

3. Higher Specialty training (HST) in Emergency Medicine, also includes additional paediatric experience as well as allowing consolidation of previous experience in adults.

3. Content of learning

This curriculum lists the specific knowledge, skills and behaviours to be attained at each stage of training. These are presented in four parts:

1. **Common competences.** This describes the generic competences that should be achieved within the programme. As the trainee progresses the later sections have greater emphasis on leadership skills, and managerial expertise, becoming more

contextualised and specialty specific, preparing the EP to lead a United Kingdom NHS or Republic of Ireland ED.

2. Symptom competences. These define the knowledge, skills and behaviours required for each of the major presentations and acute presentations that will be encountered by Emergency Physicians, by year of training and by adult/paediatric.

These presentations have been based on Emergency Department audits of activity. The investigation competences are listed alongside these presentations, gaining in complexity as the training progresses. Ultrasound is a skill that starts to be acquired in ST4.

3. Procedural competences are listed. The procedural competences which should be acquired by the end of CT2, CT3, and HST are described.

4. The basic sciences that underpin EM are described; anatomy, physiology, pharmacology, microbiology and pathology. These have been derived using the Delphi methodology and a large panel of Emergency Physicians, including many recent trainees have been consulted. This has recently been approved by GMC and is available in appendix 6 – Basic Science Curriculum.

4. Paediatric Emergency Medicine

Major and Acute presentations CT3 and ST4-6.

Paediatric Emergency Medicine Curriculum

Children will be seen throughout the whole of the training programme from ACCS onwards. The focus on children in the third year of training inevitably leads to some arbitrary divisions of what should be known and by when. It is important that all paediatric encounters are used to their maximum educational potential regardless of when they occur. Some of the emergency presentations listed below are rare and may occur only once or twice throughout the whole training programme.

The PEM curriculum is built on an understanding of the preceding parts of the curriculum, which is assumed. Thus, for example the principles of wound management should already be known and are the same regardless of age.

Paediatrics continues throughout the whole of training and although it is indicated that additional areas should be covered in ST4-6, all the areas previously specified will be seen repeatedly and this provides the opportunity for the trainee to become more experienced and expert—dealing with cases of greater complexity and acuity, becoming better at leading and coordinating resuscitation and more skilled at practical procedures (spiral learning).

Inevitably in a symptom-based curriculum a particular condition may appear in many guises and it is not possible to list all the causes of a particular presentation. However, we have indicated the most important and often indicated the same condition under different presentations.

Emergency Physicians treating children need to:

- Be able to interact with children of different stages of development to elicit the history and undertake a careful, sensitive and flexible examination
- Be aware of the different developmental stages of children and their assessment
- Acquire the special skills needed for children – e.g. airway management, vascular access
- Know that the interpretation of tests is age dependant e.g. ECG, radiology, FBC
- Be aware that paediatric life-threatening emergencies are infrequent and therefore prior preparation is essential i.e. successful completion of APLS is needed
- Be able to prescribe safely for children
- Know that some of the presenting symptoms could be manifestations of non-accidental injury (NAI)
- Be able to identify those patients needing urgent specialist attention
- Have an understanding of which patients can be safely sent home and what follow-up they may need
- Know the immunisation schedules
- Know and respect the legal framework and ethical issues relating to children in the ED including consent and confidentiality

Curricular content

Below is a list of presenting complaints that the EM trainee will need to know how to assess and manage. These are divided into paediatric major presentations (PMP1-6), for which assessment will be mandatory. 3 PMPs must be completed by the end of CT3 and all must be completed by the end of ST4. Mandatory assessment for the following paediatric acute presentations (PAPs) fever, abdominal pain, breathlessness, and pain, is also required by the end of CT3.

Please refer to the assessment system in section 5.0 for detail on number and type of assessment.

Paediatric major presentations (PMPs)

PMP1 Anaphylaxis

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	Understand presentation and management of anaphylaxis in children		E, ACAT, AA, C, Mi, L	1
Skills	Be able to institute appropriate management for anaphylaxis (APLS guideline) Know when to ask for help		E, ACAT, AA, C, Mi, D, L	1.3

PMP2 Apnoea, stridor and airway obstruction

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Know the infective, allergic and obstructive causes of airway obstruction in children including epiglottitis and post-tonsillectomy bleeding</p> <p>Know the indications and contraindications for a surgical airway</p> <p>Know the age appropriate algorithms for obstructed airway including choking</p> <p>Know how to assess, establish and maintain a patent airway in a child</p>		E, ACAT, AA, C, Mi	1
Skills	<p>Be able to recognise signs of airway obstruction</p> <p>Be able to perform the basic and advanced life support manoeuvres for the choking child</p> <p>Call for senior help when appropriate</p>	Be able to perform a surgical airway in children (Simulation for surgical airway)	D, E, ACAT, AA, C, Mi, L, S	1, 3

PMP3 Cardio-respiratory arrest

	CT3	ST 4-6	Assessment methods	GMP Domains
Knowledge	<p>Understand the causes of cardiac arrest in children, recognising respiratory and circulatory failure are the commonest precipitants but including drowning, electrocution and hypothermia</p> <p>Understand the prognostic factors influencing the outcome of cardiac arrest in children</p> <p>Know the APLS/EPLS/NLS guidelines</p> <p>Understand the pharmacology, indications and contraindications, dose calculation and routes of administration of drugs used in resuscitation and in the stabilisation of children in cardiac arrest</p> <p>Know when to cease resuscitation</p> <p>Understand the appropriate management of sudden death in infancy and the local management guidelines for supporting the family</p>	<p>Be able to resuscitate the new born</p> <p>It is recommended that trainees know the content of and have successfully completed a neonatal life support course</p>	E, ACAT, AA, C, Mi	1
Skills	<p>Be able to establish and maintain a patent airway using basic airway manoeuvres and adjuncts and ventilate using BVM</p> <p>Be able to intubate</p>	<p>Be able to participate with the paediatrician in the management of sudden death in infancy understanding investigations, procedures and care</p>	E, ACAT, AA, C, Mi D, L	1, 3

	<p>Be able to lead a resuscitation team</p> <p>Be able to obtain peripheral venous, arterial and intra-osseous access</p> <p>Be able to institute re-warming techniques in the hypothermic patient</p>	<p>of the parents</p> <p>To be able to lead and coordinate a paediatric cardiac arrest (resuscitation)</p>		
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PMP4 Major trauma in children

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Understand and apply the principles of ATLS/APLS to paediatric trauma management</p> <p>Head injury</p> <p>Understand the pathophysiology and clinical signs of severe head injury and when neurosurgical involvement is needed</p> <p>Understand the NICE guidelines</p> <p>Chest injury</p> <p>Know the likely chest injuries through the different age groups including pulmonary contusion and flail chest</p> <p>Abdominal injury</p> <p>Understand the common types of injury, their clinical detection and investigation</p> <p>Spinal injury</p> <p>Understand the mechanisms and risk of spinal injury in children</p> <p>Be aware of SCIWORA</p> <p>Understand the pathophysiology and signs of neurogenic shock</p>	<p>More complex presentations with greater instability and in young children.</p>	<p>E, ACAT, AA, C, Mi</p>	<p>1, 2</p>

	<p>Burns</p> <p>Be able to calculate the % burn surface area for children and fluid requirements</p> <p>Recognise depth of burn, specific areas e.g. face and who needs specialist referral</p> <p>Recognise burns as presentation of possible NAI</p> <p>Pelvic fractures</p> <p>Understand the common fracture patterns</p> <p>Physical Abuse</p> <p>Understand how to recognise signs of physical abuse and how to proceed with local safeguarding children protocols</p>			
Skills	<p>To recognise those patients who need intubation</p> <p>Be able to assess the level of consciousness in a child using AVPU, GCS</p> <p>Be able to request appropriate imaging as per national guidelines</p> <p>Be able to initiate management of children with scalp wounds</p> <p>Be able to manage the anxious immobilised child</p>	<p>To be able to lead and coordinate a paediatric trauma resuscitation</p> <p>To be able to perform pericardiocentesis (by simulation)</p>	E, ACAT, AA, C, Mi D, L, S	1, 3

	<p>Be able to examine the spine and apply the indications for being able to 'clear' the spine</p> <p>Be able to interpret paediatric spinal xrays and their common abnormalities</p> <p>Be able to recognise possible patterns of NAI in burns injury and make appropriate referral</p> <p>Be able to splint the pelvis during the primary survey</p> <p>Be able to treat pneumo- and haemothoraces</p> <p>Be able to recognise the non-responder to fluid therapy and need for urgent surgical attendance</p>			
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PMP5 The shocked child

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Be able to recognise the child in shock and formulate a differential diagnosis</p> <p>Understand the pathophysiology, classification and management of septic shock</p>	Become more expert in achieving diagnosis	E, ACAT, AA, C, Mi	1
Skills	Be able to recognise and initiate treatment of the septic child as per national guidelines		E, ACAT, AA, C, Mi, D, L	1, 3

PMP6 The unconscious child

	CT3			ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Seizures</p> <p>including status epilepticus in children</p> <p>Know the differential diagnosis of seizures including febrile convulsions</p>	<p>Hypoglycaemia</p> <p>Understand the causes, presentations, complications, investigations and emergency treatment in the neonatal period and beyond</p>	<p>Diabetic ketoacidosis in children</p> <p>Understand local and national guidelines for the management of diabetic ketoacidosis including the principles of fluid management and insulin therapies</p>	<p>Become more expert in dealing with the unconscious child</p> <p>Understanding inborn error as a cause of hypoglycaemia and its initial investigation in the ED</p>	E, ACAT, AA, C, Mi	1
Skills	<p>Be able to recognise and treat the life-threatening complications</p> <p>Be able to institute appropriate management for status epilepticus (e.g. APLS protocol)</p>	<p>Able to reverse hypoglycaemia</p>	<p>Be able to formulate a likely diagnosis and recognise features of the presentation and complications</p> <p>Be able to recognise the features of cerebral oedema and be able to provide emergency treatment</p> <p>Be able to perform appropriate investigations and act on the results</p>		E, ACAT, AA, C, Mi, D, LS	1, 2

			Be able to prescribe fluid, electrolyte and insulin therapy according to local guidelines			
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Paediatric Acute Presentations (PAPs)

PAP1 Abdominal pain

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Know and recognise the causes of abdominal pain in all age groups</p> <p>Scrotal pain - understand differential diagnosis, investigation and management including those requiring surgical referral</p>	<p>Recurrent abdominal pain - understand contributing factors</p> <p>Ensure appropriate follow-up</p> <p>Constipation - identify contributing factors, initiate treatment and ensure follow - up</p>	E, ACAT, AA, C, Mi, L	1
Skills	Be able to examine and recognise the cause of acute abdominal pain		E, ACAT, AA, C, Mi, L, D	1

PAP2 Accidental poisoning, poisoning and self-harm

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Identify the major types of ingestion by age</p> <p>Understand the specific signs and symptoms of poisoning with a range of toxic agents</p> <p>Be able to investigate</p> <p>Understand the role of antidotes and charcoal</p> <p>Be able to access poisons information</p> <p>Understand the pharmacology and treatment of common poisonings</p> <p>Be aware of OD as expression of self-harm</p>	<p>How to manage the adolescent refusing treatment for a life-threatening overdose</p>	<p>E, ACAT, AA, C, Mi, L</p>	<p>1</p>
Skills	<p>Self-harm in children and adolescents</p> <p>Recognise this as an expression of distress, acute or long-term</p> <p>Recognise self-harm as indicating serious emotional distress</p> <p>Refer to the Child and Adolescent Mental Health Service team</p>		<p>E, ACAT, AA, C, Mi, L</p>	<p>1, 2, 3, 4</p>

PAP3 Acute life-threatening event (ALTE)

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Know when an infant may be seriously ill, exhibits apnoea, colour change, change in muscle tone, choking or gagging</p> <p>Know the common causes:</p> <p>Central apnoea</p> <p>Obstructive apnoea</p> <p>GO Reflux</p> <p>Arrhythmias and myocarditis</p> <p>Breath holding</p> <p>Near SIDs</p> <p>Toxins</p>		E, ACAT, AA, C, Mi, L,	1
Skills	<p>Be able to take full history and examination and initiate appropriate tests</p> <p>Arrange admission</p>		E, ACAT, AA, C, Mi, L	1, 3

PAP4 Blood disorders

	CT3		ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Sickle cell anaemia</p> <p>Anaemia</p> <p>Understand the common presentations and complications of sickle cell crises</p> <p>Provide emergency management as well as appropriate pain control and fluid balance</p> <p>Understand the presentation and causes of anaemia and ensure appropriate referral</p>	<p>Purpura and bruising in children</p> <p>Understand the causes of purpura</p> <p>Be able to recognise features in the presentation which suggest serious pathology including meningococcaemia and leukaemia</p>	<p>Leukaemia/lymphoma in children</p> <p>Understand the presentations</p>	E, ACAT, AA, C, Mi, L	1
Skills	<p>Be able to prescribe fluids and analgesia safely</p>	<p>Be able to manage life-threatening causes of purpura</p> <p>Be able to diagnose organise follow-up and explain Henoch Schönlein purpura and idiopathic thrombocytopenia</p> <p>Be able to recognise patterns suggestive of NAI and organise care</p>	<p>Be able to recognise and ensure referral</p>	E, ACAT, AA, C, Mi, L	1, 3

PAP5 Breathing difficulties - recognise the critically ill and those who will need intubation and ventilation

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Asthma in children</p> <p>Understand and apply the BTS guidelines for the management of asthma</p> <p>Understand the indications, contraindications and pharmacology of the therapies available</p> <p>Understand indications for intubation in severe asthma and the drugs used</p> <p>Bronchiolitis</p> <p>Understand the principles of management</p> <p>Pneumonia in children</p> <p>Understand the principles of management of community acquired pneumonia</p> <p>Pertussis</p> <p>Understand the age dependant presentations and indications for admission</p> <p>Initiate appropriate treatment of patient and contacts</p> <p>Cardiac causes</p> <p>Heart failure and dysrhythmias</p>		E, ACAT, AA, C, Mi, L	1, 2
Skills	<p>Recognise life-threatening asthma, and who may need intubation and ventilation</p> <p>Be able to provide BVM</p> <p>Prescribing skills</p>		E, ACAT, AA, C, Mi, L review of drug charts	1, 3

PAP6 Concerning presentations

	CT3			ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Physical abuse</p> <p>Understand the signs of physical abuse</p> <p>Understand the signs of common injury or illness that may mimic physical abuse</p> <p>Understand the common fractures seen in physical abuse</p>	<p>Sexual abuse</p> <p>Understand the ways in which children might reveal sexual abuse</p> <p>Understand and recognise the signs and symptoms of sexual abuse</p> <p>Understand the importance of seeking help from experienced colleagues in the assessment of children where NAI might be an issue</p>	<p>Neglect</p> <p>Understand the ways in which children may present with neglect</p>		E, ACAT, AA, C, Mi, L	1, 2, 3
Skills	<p>Be able to recognise patterns of injury or illness which might suggest NAI</p> <p>Be able to initiate safeguarding children procedures as per local policy</p>	<p>Be able to institute appropriate safeguarding children procedures if sexual abuse suspected</p>	<p>Be able to refer appropriately</p>		E, ACAT, AA, C, Mi, L,	1, 3

Knowledge	<p>Apnoeic episodes as an infant and a presentation of NAI/factitious or induced injury</p> <p>Be aware of this as a possible presentation of imposed airway obstruction and know the indicators that this may be the case</p> <p>Understand the life-threatening nature of imposed airway obstruction</p>	<p>Best Practice</p> <p>Know the relevant national documents which underpin the safeguarding children policy in the emergency setting</p>	<p>Legal framework</p> <p>Understands consent, capacity to take decisions, and confidentiality in relation to children, and is aware of the issues of parental responsibility</p>		<p>E, ACAT, AA, C, Mi, L,</p>	<p>1, 2,</p>
Skills	<p>Refer to an experienced colleague for help</p>	<p>Ability to translate recommendations into appropriate actions on a case by case basis and follow local guidelines</p>	<p>Can engage children appropriately in their own decisions and protects the best interests of the child at all times</p>		<p>E, ACAT, AA, C, Mi, L,</p>	<p>1, 3</p>

<p>Knowledge</p>	<p>Safeguarding children and welfare systems outside of hospitals</p> <p>To have a basic understanding of the roles of other systems in protecting children, e.g. Social Services, the Child Protection Plan, Police Child Protection and Domestic Violence Units, SureStart, Childline, Health Visitors, School Nurses, Area safeguarding children Committee, Community Paediatricians</p>	<p>Categorisation of safeguarding children and welfare issues</p> <p>Understand the types of issues and terminology to describe these issues, e.g. physical/sexual/emotional and neglect or induced illness (FI), looked-after children, children with special needs or learning difficulties</p>	<p>Ability to identify children in need</p> <p>Know the range of conditions presenting as a symptom of NAI or psychological distress, e.g. deliberate self harm, aggression or risk-taking behaviour, recurrent abdominal pain, headaches or faints, recurrent attendances in young children</p>		<p>E, ACAT, AA, C, Mi, L</p>	<p>1, 2</p>
<p>Skills</p>	<p>To respect the roles of these other agencies and use them appropriately</p> <p>To be aware of local agencies available, including the voluntary sector (e.g. drug and alcohol support)</p>	<p>Accurately identify such problems in children at risk and be able to convey concerns to others</p>	<p>Reliably picks up clues which should give rise to concern</p> <p>Refers concerns on in all cases</p>		<p>E, ACAT, AA, C, Mi, L,</p>	<p>1, 2, 3</p>

Knowledge	Documentation of concerns Knows national guidance on how much documentation is required	Infants at risk Know which infants are most at risk	Toddlers Have a basic understanding of common problems e.g. toddler tantrums, food refusal		E, ACAT, AA, C, Mi, L,	1, 2
Skills	Reliably documents concerns, conversations with other professionals, and detailed descriptions of history or examination findings as appropriate.	Can identify such infants in the emergency setting, e.g. excessive crying, infants with fractures, social circumstances which increase risk	Refers problems back to the primary care team appropriately		E, ACAT, AA, C, Mi, L	1, 3
Knowledge	Schooling To have an awareness of the effect of bullying, truancy, and work pressure upon children				E, ACAT, AA, C, Mi, L	1
Skills	Reports concerns to the school or school nurse, and involves parents where appropriate				E, ACAT, AA, C, Mi, L APLS/EPLS,	1, 3

PAP7 Dehydration secondary to diarrhoea and vomiting

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Know the aetiology, pathophysiology and presentation of dehydration</p> <p>Be able to recognise the life-threatening complications of dehydration</p>	<p>Pyloric stenosis</p> <p>Understanding of the presentation, investigation and treatment of life-threatening electrolyte disturbances</p>	E, ACAT, AA, C, Mi, L,	1
Skills	<p>Be able to calculate and prescribe fluid replacement, maintenance fluids and replacement for ongoing losses as per APLS</p>		E, ACAT, AA, C, Mi, L	1, 2

PAP8 ENT

	CT3			ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Traumatic ear conditions in children</p> <p>Be aware of the possibility of NAI in cases of ear trauma</p>	<p>Earache or discharge in children</p> <p>Understand the presentation of otitis media and glue ear and their association with hearing loss in children</p>	<p>Painful noses</p> <p>Identify FBs</p> <p>Identify fractured nose, septal haematoma</p>		E, ACAT, AA, C, Mi, L	1
Skills	<p>Be able to remove foreign bodies in the ear canal or pinna</p> <p>Be able to recognise a haematoma requiring surgical drainage</p>	<p>Be able to perform otoscopy correctly</p> <p>Be able to identify otitis externa and otitis media and treat them appropriately</p>	<p>Recognise that language delay or attention deficit requires onward referral</p>		E, ACAT, AA, C, Mi, L	1, 3

PAP9 Fever in all age groups

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Be able to take a comprehensive history and examination of a feverish child. Know of national guidelines for the management of fever in children</p> <p>To identify possible causes</p> <p>Urinary tract infections</p> <p>Understand the presentation aetiology and management of UTI in the acute setting for different age groups</p> <p>Understand the range and accuracy of the different methods of urine collection</p> <p>Be able to interpret microbiological findings and institute appropriate treatment</p> <p>Understand need for and types of further investigation</p> <p>Meningitis/encephalitis</p> <p>Understand the bacterial and viral aetiologies for all age groups and the appropriate antimicrobial/antiviral treatment</p> <p>Be able to recognise and institute treatment for life-threatening complications including raised intracranial pressure</p>	<p>Becoming more expertise with presentations</p> <p>Knowing which children can be safely sent home</p>	E, ACAT, AA, C, Mi	1

	<p>Understand and recognise the presentation, signs and management of Kawasaki disease</p> <p>When no focus found</p> <p>Understand the implications for the different age groups</p>			
Skills	<p>Prescribing skills for antipyretics and antibiotics</p> <p>Be able to collect blood cultures, perform SPA and LP</p> <p>Knowing when to admit and ask for help</p>		E, ACAT, AA, C, Mi, D, L	1, 2, 3

PAP10 Floppy child

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	Understand the differential diagnosis of presentation of a child who is floppy		E, ACAT, AA, C, Mi, L	1
Skills	Being able to recognise and treat life-threatening conditions		E, ACAT, AA, C, Mi, L	1

PAP11 Gastro-intestinal bleeding

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	Understand the causes of upper and lower GI bleeding, recognising life-threatening causes including intussusception		E, ACAT, AA, C, Mi, L	1
Skills	<p>Be able to stabilize the hemodynamically compromised patient including use of intraosseous and central access</p> <p>Be able to identify appropriately the need for investigations including endoscopy, blood transfusion and surgical referral</p>		E, ACAT, AA, C, Mi, L, D	1, 3

PAP12 Headache

	CT3		ST4-6	Assessment Methods	GMP Domains
Knowledge	Meningitis/encephalitis in children Understand the bacterial and viral aetiologies for all age groups and the appropriate antimicrobial / antiviral treatment	Headaches in children Know the causes and differential diagnosis in children		E, ACAT, AA, C, Mi, L	1
Skills	Be able to recognise and institute treatment for life-threatening complications, including raised intracranial pressure	Initiate investigation and management		E, ACAT, AA, C, Mi, L	1

PAP13 Neonatal presentations

	CT3	ST4-6			Assessment Methods	GMP Domains
Knowledge	<p>Delivery* and resuscitation of the newborn</p> <p>To have the knowledge and skills to be able to assess and manage neonates presenting to the ED. Be able to formulate a differential diagnosis for a variety of common presenting symptoms. Be able to lead a resuscitation team as per APLS / EPLS / NLS guidelines</p> <p>To understand the pathophysiological processes leading to neonatal cardio-pulmonary instability, including the role of thermoregulation. Be able to identify neonates requiring admission, midwife or health visitor input and</p>	<p>Neonatal sepsis</p> <p>Know symptoms and signs of sepsis in children e.g. hypothermia, apnoea</p> <p>Understand the importance of timely treatment and the range of treatments for likely pathogens</p>	<p>Cyanotic/ non-cyanotic congenital heart disease</p> <p>Importance and relevance of duct dependant heart disease</p>	<p>Jaundice</p> <p>Understand the causes and investigation of neonatal jaundice</p>	E, ACAT, AA, C, Mi, L	1

	identify mothers requiring additional support. Recognise the healthy neonate.					
Skills	Delivery* and resuscitation skills	Undertake resuscitation and appropriate investigations	Be able to identify those neonates requiring urgent specialist opinion	Recognise jaundice and liaise with specialist	E, ACAT, AA, C, Mi, L, D	1, 3

*Delivery - see JRCALC guideline "birth imminent - normal delivery/delivery complications"

PAP14 Ophthalmology

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	Orbital cellulitis		E, ACAT, AA, C, Mi, L	1
Skills	Be able to test for visual acuity		E, ACAT, AA, C, Mi, L, D	1, 3

PAP15 Pain in children

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Know how to assess pain in children</p> <p>Know the range of options to relieve pain – non-pharmacological and pharmacological - agents, routes of administration, dosage</p> <p>Know how to select best option. Know the safe doses, side effects and toxicity of different agents</p> <p>Know principles of how to safely sedate using ketamine including use of sedation check lists, management of complications including laryngospasm and discharge instructions</p>	<p>Become more expert in the use of all analgesics in children especially ketamine</p>	<p>E, ACAT, AA, C, Mi, L</p>	<p>1</p>
Skills	<p>Be able to prescribe and safely deliver nasal diamorphine, intravenous opiates, local anaesthetic blocks, oral analgesics and entonox</p>		<p>E, ACAT, AA, C, Mi, L, D</p>	<p>1, 3</p>

PAP16 Painful limbs – atraumatic

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Be aware of rheumatological, infectious, malignant and non-accidental causes of musculoskeletal presentations</p> <p>Limping child</p> <p>Be able to examine gait, posture and hip joints of all age groups</p> <p>Understand the differential diagnosis of limp</p> <p>Septic arthritis</p> <p>Be able to suspect this in different age groups</p>	Non-traumatic back pain	E, ACAT, AA, C, Mi, L	1
Skills	<p>Be able order the correct blood tests</p> <p>Be able to order the correct imaging</p> <p>Know when to refer for specialist opinion</p>		E, ACAT, AA, C, Mi, L	1,3

PAP17 Painful limbs- traumatic

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Understand the likely types of soft tissue and bony injuries for each age group</p> <p>Be able to judge if these relate appropriately to the stated mechanism of injury</p> <p>Be aware of rheumatological, infectious, malignant and non-accidental causes of musculoskeletal presentations</p> <p>Be able to examine a child in a way which localises the injury</p> <p>Understand the Salter-Harris classification of epiphyseal injuries</p> <p>Understand the likely time-frame for recovery in children</p> <p>Know the common fractures and injuries, specifically:</p> <p>Hand injuries including nail bed injuries</p> <p>Distal radius and scaphoid fractures</p> <p>Dislocated shoulder</p> <p>Supracondylar fracture of the elbow and be able to identify those with neurovascular problems</p> <p>Pulled elbow - be able to reduce</p> <p>Forearm fracture dislocations</p> <p>Fractured femur and be able to perform femoral nerve block and splintage</p> <p>Toddler's fracture</p>		E, ACAT, AA, C, Mi, L	1

	<p>Compartment syndrome</p> <p>Patellar dislocation</p> <p>Amputation and preservation of tissue</p>			
	<p>Be able to examine the joints</p> <p>Be able to check for neurovascular compromise</p> <p>Be able to reduce a dislocation</p> <p>Be able to recognise which fractures need an orthopaedic opinion and those that cannot be treated in the ED</p>		<p>E, ACAT, AA, C, Mi, L</p>	<p>1, 3</p>

PAP18 Rashes in children

	CT3		ST4 -6	Assessment Methods	GMP Domain s
Knowledge	<p>Eczema and seborrheic dermatitis</p> <p>Understand the common treatments for eczema and reasons for treatment failure</p>	<p>Bites and infestations</p> <p>Understand the aetiology by age and the pathophysiology of bites and infestations</p> <p>Understand and recognise the signs and symptoms of bites and infestations</p>		E, ACAT, AA, C, Mi, L	1
Skills	<p>Be able to manage eczema and seborrheic dermatitis</p> <p>Be able to advise patients and families about disease process and treatment</p>	<p>Be able to manage children with acute bites and infestations, including recognition of signs and symptoms of life- and limb-threatening complications</p>		E, ACAT, AA, C, Mi, L	1, 3

PAP19 Sore throat

	CT3	ST4-6	Assessment Methods	GMP Domains
Knowledge	<p>Acute throat infections in children</p> <p>Be aware of life-threatening airway obstruction in epiglottitis, and how to avoid it</p> <p>Be able to identify quinsy</p> <p>Be able to manage or refer for FBs in the throat</p>		E, ACAT, AA, C, Mi, L	1
Skills	<p>Recognise the potentially life-threatening nature of post-tonsillectomy bleeding</p>		E, ACAT, AA, C, Mi, L	1

Paediatric EM Practical Procedures for CT3 and ST4-6

Below are listed the practical procedural skills that should be acquired. The acquisition of these skills is case dependant and it may be that some skills may not be acquired by the end of CT3.

The 4 indicated with M are mandatory before the end of CT3. Those indicated with M must be assessed with DOPs using the generic DOPs tool. It is not expected that trainees will be assessed for all the listed procedures below but wherever the opportunity arises the trainees should seek to be observed by a trainer and as a minimum should maintain a record of these procedures in the reflective log of the e-portfolio.

Some skills may only be acquired using simulation techniques and these are indicated by (S).

CT3 PEM	ST4-6 PEM
<ul style="list-style-type: none"> • Be able to perform a paediatric primary survey M • Basic airway manoeuvres to include use of airway adjuncts, oxygen delivery techniques M • Choking child (S) • Orotracheal intubation - may have been acquired during ACCS anaesthetics (S) 	<ul style="list-style-type: none"> • Replacement of tracheostomy tube
<ul style="list-style-type: none"> • Needle thoracocentesis (S) • Tube thoracostomy (S) • Venous access M • Intraosseus line insertion (S) • Direct current electrical cardioversion defibrillation (S) 	<ul style="list-style-type: none"> • Cricothyrotomy and percutaneous trans-tracheal ventilation (S) • External cardiac pacing (S)

<ul style="list-style-type: none"> • Oro/nasogastric tube replacement 	Safe sedation in children (S)
<ul style="list-style-type: none"> • Infiltration of local anaesthetic • Incision and drainage of abscesses • Incision and drainage of paronychia • Evacuation of subungual haematoma • Wound exploration and irrigation • Wound repair with glue, adhesive strips and sutures 	<ul style="list-style-type: none"> • Incision and drainage of auricular haematoma
<p>Immobilisation techniques</p> <ul style="list-style-type: none"> • Application of broad arm sling • Application of collar and cuff • Application of Thomas splint or similar • Pelvic stabilisation techniques • Spinal immobilization/log rolling 	<p>Foreign body removal</p> <ul style="list-style-type: none"> • Nose • Ear • In soft tissue • Eye • Ring removal
<p>Fracture/dislocation reduction techniques</p> <ul style="list-style-type: none"> • Shoulder dislocation • Elbow dislocation • Phalangeal dislocation • Supracondylar fracture with limb-threatening vascular compromise • Patellar dislocation • Ankle reduction 	<ul style="list-style-type: none"> •
<p>Equipment and guidelines</p> <ul style="list-style-type: none"> • Must be familiar with the paediatric equipment and guidelines in the resuscitation room M 	
<p>Plaster techniques</p> <ul style="list-style-type: none"> • Backslabs/ splints • POP 	

5. ARCP decision tools

At the ARCP assessments will contribute to a judgment about suitability to progress to the next stage of training. However, this depends on the professional judgment of the trainers involving many more sources of information than workplace episodes.

ARCP Decision Tool CST CT1-3 *

This template assumes EM undertaken for six months in the first year of ACCS. 'Sampling' indicates that as many presentations as are feasible are covered.

These tables should be read in conjunction with the detailed assessment in appx. 1

	CT1	CT2	CT3
Common Competences CC 1-25	Must be assessed > 1/3 to level 2 (ACAT, CbD/Mini-CEX /MSF)	Must be assessed in > 2/3 to level 2 (ACAT, CbD/Mini-CEX /MSF)	Must be assessed and in all to level 2 (ACAT, CbD/Mini-CEX /MSF)
Core Major Presentations Adult (CMP1-6) And Adult additional content for major trauma C3MP	Should complete 2 major presentation summative assessments whilst in EM	By the end of CT2 should have completed assessments for the 6 Core Major Presentations	Have completed the summative assessment for the additional curricular content for major trauma C3MP (a-e) using x1 Mini-CEX or CbD
Core Acute Presentations CAP Adults = 1-38	5 CAPs using summative Mini-CEX/CbD X1 ACAT-EM covering 5 CAPs whilst in EM	By the end of CT2 20 /38 APs should have been covered using Mini-CEX/CbD/ACAT	Recommended that the remaining 18/38 be sampled using ACAT EM, reflective entries, e-modules, teaching and audit
CT3 Additional Acute Presentations C3AP Adult = 1-7			Should have completed >3/7 acute presentations using ACAT-EM Remaining 4/7 sampled using ACAT EM, reflective entries, e-modules, teaching and audit

Adult Practical Procedures = 45	5 DOPS whilst in EM	By the end of CT2 >35/45 assessed	Assessed in all 45 procedures
Paediatric Major Presentations PMP 1-6			Should have successfully completed APLS If this is not the case 3/6 should be assessed summatively using Mini-CEX or Cbd
Paediatric Acute Presentations PAP 1-19			9/19 assessed using Mini-CEX / CBD /ACAT Remaining 10 should be sampled using ACAT EM, reflective entries, e-modules, teaching and audit
Practical procedures in children = 4 are specified to be assessed but experience in all should be recorded			4/4 should be assessed using DOPS
Management and leadership	Team member	Starts to team lead and oversee other doctors	Team leads resuscitations under supervision
Examinations	MCEM A		MCEM B&C
E-learning modules	30 from CEM hub	30 from CEM hub	30 from CEM hub
Safeguarding Children	Level 1&2		Level 3
Life support courses	ALS	ATLS	APLS

Minimum number of assessments by consultants	13 whilst in EM		12
Experience # these are indicative numbers and a judgement on these numbers needs to be made at ARCP	Should see >800 cases per 6/12 in EM*		Should see > 750 children/yr 20 paed resuscitations#
MSF	Annually	Annually	Annually

ARCP Decision Tool HST ST4-6

	ST4	ST5	ST6
Common Competences CC 1-25	Assessed to Level 4 descriptors in 50%	Assessed to Level 4 descriptors in 100%	
HST Major presentations HMP1-5	Have completed 3 using Mini-CEX/CbD	Remaining 2 using Mini-CEX/CbD	
HST Acute Adult Presentations HAP 1-33	Assessed in 9/33 using CbD/Mini-CEX/ACAT 8/33 covered using ACAT EM, reflective entries, e-modules, teaching and audit	8 assessed by CbD/Mini-CEX 8 covered using ACAT EM, reflective entries, e-modules, teaching and audit	
HST Paediatric Acute Presentations PAP = 8	Assessed in 4/8 using CbD/Mini-CEX/ACAT	Remaining 4 covered using ACAT/Mini-CEX/CbD	
Procedures	Practical procedures in more complex cases - all should be recorded Commences ultrasound scanning of patients – record/assessment Section A completed Commences triggered assessments	Practical procedures in more complex cases - all should be recorded Continues ultrasound scanning of patients – record/assessment - completion of triggered assessments and final sign off	Competent in ultrasound examination to level 1

Clinical skills	Able to look after several patients concurrently Supervises others	Looking after complex cases that are greyer and sicker- covering all presentations and procedures	
Safeguarding Children			Level 3
Management and leadership	HST management portfolio	HST management portfolio	HST management portfolio
MSF	Annually	Annually	Annually
Patient Survey			X1 before final ARCP
Examination	Commences work on Clinical Topic Review Critical appraisal skills developed	CTR advanced with personal work completed Submits to FCEM critical appraisal written examination	CTR complete FCEM
E-learning modules	30 from eLfh platform	30 from eLfh platform	30 from eLfh platform
Life support	Holds valid ALS/ATLS/APLS provider	Holds valid ALS/ATLS/APLS provider Ideally Instructor in one	Holds valid ALS/ATLS/APLS provider Instructor in one
Experience * these are indicative numbers and a judgement on these numbers needs to be made at ARCP	See >2000 cases /year of which 10% are cases in the resuscitation room* Evidence should be provided - log books, reports from computerised systems	See >2000 cases /year of which 10% are cases in the resuscitation room* Evidence should be provided - log books, reports from computerised systems	See >2000 cases /year of which 10% are cases in the resuscitation room* Evidence should be provided - log books, reports from computerised systems