

European Syllabus for Training in Paediatric Emergency Medicine

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Preface

Paediatrics is an independent medical specialty based on the knowledge and skills required for the prevention, diagnosis and management of all aspects of illness and injury affecting children of all age groups from birth to the end of adolescence, up to the age of 18 years. It is not just about the recognition and treatment of illness in babies and children. It also encompasses child health, which covers all aspects of growth and development and the prevention of disease. The influence of the family and other environmental factors also play a large role in the development of the child, and many conditions require life-long management and follow-up before a smooth transition of care to adult services.

For these reasons we believe that all doctors practising Paediatric Emergency Medicine are required to demonstrate achieving core General Paediatrics competences prior to undertaking sub-speciality training in Paediatric Emergency Medicine*.

This document sets out the minimum requirements for training in Tertiary Care Paediatric Emergency Medicine. Paediatric Emergency Medicine was recognised as such by the Confederation of European Specialists in Paediatrics (CESP) at the Annual Meeting, and is a

* As recommended in the European Common Trunk Syllabus (approved by the EAP-UEMS).

subsection of the Tertiary Care Group of the European Academy of Paediatrics, itself a section of the European Union of Medical Specialists (Union Européenne des Médecins Spécialistes (UEMS)) through the European Board of Paediatrics (EBP).

Paediatric Emergency Medicine is a sub-specialty of both Paediatrics and Emergency Medicine and is concerned with providing highly specialised acute health care to children of all ages.

Methodology for generating the syllabus

This syllabus is a revised version of the European Syllabus for Paediatric Emergency Medicine 2011.

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A. Introduction

This syllabus intends to:

- Harmonise training programmes in Paediatric Emergency Medicine between different European countries.
- Establish clearly defined standards of knowledge and skill required to practice Paediatric Emergency Medicine at the tertiary care level.
- Foster the development of a European network of competent tertiary care centres for Paediatric Emergency Medicine.
- Improve the level of care for children with Paediatric Emergency Medicine.

B. Aim of tertiary care training

The aim of tertiary care training in Paediatric Emergency Medicine is to provide training to allow competent practice to be undertaken as a Tertiary Care Specialist whose practice would be expected to deal with complex problems in Paediatric Emergency Medicine.

The end result of the training programme envisaged and detailed below will provide for the needs of Paediatric Emergency Medicine Physician (PEMP) who is a Tertiary Care Specialist whose scope of practice would be expected to encompass:

- The PEMP is able to look after patients with a wide range of pathologies, from the life threatening to the self-limiting, within all paediatric age groups in the Emergency Department setting.

- Essential to the work of the PEMP is the principle that all decisions should be made in the best interests of the child or young person in their care.
- The PEMP is able to safely and effectively identify those children needing admission and those that can be discharged.
- The PEMP is able to conduct a primary assessment and take appropriate steps to stabilise and treat critically ill and injured children.
- The PEMP is able to work in the difficult and challenging environment of the Emergency Department and is able to re-prioritise and respond to new and urgent situations.
- The PEMP is an expert at directing and co-ordinating medical, surgical and trauma resuscitations involving children.
- The PEMP is skilled at practical procedures especially those needed for resuscitation.
- The PEMP is able to interact with, co-ordinate, educate and supervise all members of the Emergency Department team.
- The PEMP is able to understand the unique interaction of the Emergency Department with every part of the hospital and its significant role in interacting with the external community.
- The PEMP is able to act as co-ordinator in the Emergency Department during a major incident.

C. Training period

A clinical training period of full-time employment of 24 months, preferably uninterrupted, is considered adequate, but in some countries a longer training period may be found.

D. Research training

Whereas there are no active guidelines at present for prosecution of a research programme within the European Syllabus of tertiary training, research training (clinical or laboratory based) of at least 6 months is highly recommended. These arrangements will need to be negotiated at the national level.

E. Requirements for Training Institutions

The recognition of training institutions will ultimately be part of a joint process involving NTAs, EAP-UEMS and the specialist society. It is anticipated that Paediatric Emergency Medicine will act as the agent for EAP-UEMS and CESP in executing this task. A list of the names and characteristics of existing national training centres will be created and held by Paediatric Emergency Medicine and EAP-UEMS which will oversee quality assurance of the recognised centres at periodic intervals every 5 years using the guidelines suggested by the UEMS.

a. Accreditation of Centres

For each EU Member country, a list of centres, units, training directors, tutors and teachers should be compiled and updated on an annual basis. Each centre is characterised by the available modules or areas of teaching activity, tutors and teachers available and the size of the clinical practice as defined by the needs of the trainee.

Accreditation will initially be given by the NTA and ultimately approved by EAP-UEMS. The approval process will follow the EU Guidelines (currently in preparation). At present EuSEM will simply review National Inspections and act as arbiter in situations of disagreement.

A training centre can be a single institution or a group of related establishments.

b. **Full Training Centre**

The centre must provide adequate experience in all fields of Paediatric Emergency Medicine including emergency care. It is expected to provide all Training modules. The number of activities must be sufficient to provide at least a minimum experience for a trainee.

A group of related establishments can be considered a centre and each component considered as a unit contributing one or more modules.

The centre must have easy access and close relationships with other relevant specialities.

Demonstration of involvement of other care teams particularly specialised nurses, paediatric nutritionists, physiotherapists, social workers, Paediatric Emergency Medicine and psychologists is essential for recognition. The centre must provide evidence of on-going clinical research and access to basic research.

In countries that have approved centres for Paediatric Emergency Medicine care then the Full Training Centre must be one of these.

The centre will be responsible for weekly clinical staff/seminar teaching and participation in regional/national meetings. Basic textbooks in Paediatric Emergency Medicine should be immediately available and there should be easy access to a comprehensive reference library either in paper or electronic format.

c. Training Unit

Training Units are institutions that provide training in one or more aspects (Modules). They must provide adequate exposure in the defined area and a teacher who is deemed competent in these areas.

F. Requirements for Trainers in Paediatric Emergency Medicine

The training staff in a Centre should include at least two trainers. The Training Program Director (TPD) must have been practising Paediatric Emergency Medicine **for at least 5 years** and have specialist accreditation.

There should be additional Educational Supervisors/Trainers who should provide training across all aspects of the speciality and be research active in Paediatric Emergency Medicine. When an aspect of training cannot be provided in one centre it will be necessary for the trainee to be taught at another suitable centre by a trainer approved for that purpose.

A Trainer is a person who holds acknowledged expertise in one or several aspects of Paediatric Paediatric Emergency Medicine. This person's contribution may be restricted to these areas of expertise. Both educational supervisors and trainers must have practised Paediatric Emergency Medicine for a **minimum of 2 years**.

Trainers should work out a training programme for the trainee in accordance with the trainee's own qualities and the available facilities of the institution. Regular review will be required to allow for flexibility and for early identification of problems/deficiencies. The trainer should work with the Trainee to create a Personal Development Plan (PDP).

Trainers are expected to provide appraisal and assessment of progress. Appraisal consists of determining what is needed and what evidence is required to show that this has been

achieved. Assessment evaluates progress against objectives. Trainee assessment should be provided in terms of:

- Training and career ambitions
- Training experience related to syllabus
- Achievements related to current plan

In order to provide a close personal monitoring of the trainee during his/her training, the number of trainees should not exceed the number of teachers in the centre.

Trainers will meet the trainee at the beginning of the programme to define the educational contract for that trainee. Reviews of progress should take place at 3 monthly intervals during the first year of training to appraise the individual.

An annual assessment should be undertaken, ideally at a National level, to review competencies achieved and to allow progress within the teaching programme. Assessments should be detailed and contain statements of theoretical and practical experience accumulated by the trainee. It is expected that the trainee will also provide an account of the training received and problems encountered (portfolio). Reports will be submitted to the TPD or national body.

G. Requirements of Trainees

In order to gain the necessary depth of experience each trainee should be actively involved in the management care of a range of patients during the whole period of his/her speciality training. This should include the care of outpatients, inpatients (including emergency admissions) and community care where appropriate.

Many countries have recently reformed their postgraduate medical education. New pedagogic initiatives and blueprints have been introduced to improve quality and

effectiveness of the education in line with outcome-based education using the CanMEDS framework. Competency based assessment, as an adjunct to knowledge assessment and portfolio completion, is an important aspect of evaluation.

CanMEDS consists of the following competencies

- Medical expert: integration of all CanMED roles applying medical knowledge, clinical skills and professional attitudes
- Communicator: effectively facilitates doctor-patient relationship and dynamic exchanges before, during and after medical encounter
- Collaborator: effectively work within healthcare system to achieve optimal patient care
- Manager/integral participant in health care organisations, allocating resources and contributing to health care system
- Health advocate: responsibly use expertise and influence to advance the health of individual patients, communities or populations
- Scholar: demonstrates lifelong commitment to reflective learning and to creation, dissemination, translation of medical knowledge
- Professional: committed to the health and wellbeing of individuals and society through ethical practice, professional led regulation and high personal standards of behaviour.

i. Log-book

The trainee should keep a written log-book of patients they have seen, procedures conducted, diagnosis and therapeutic interventions instigated and followed-up. This will constitute part of their portfolio.

The trainee will be required to keep his/her personal logbook or equivalent up-to-date according to National guidelines and European Union directives. The logbook must be endorsed by his/her tutor or authorised deputy. The trainee should attend and provide evidence of attendance at local, regional and national meetings.

Attendance at International Meetings is considered essential for Tertiary Care training. It is recommended to give at least 2 - 3 presentations at these meetings. Attendance at summer school or winter school is strongly encouraged.

ii. Competency assessment

Competencies should be evaluated throughout the training period. There are a number of different tools for this, describing different aspects of training. Some of these are set out below with a recommendation for the number that should be completed during each year of training. Formal and informal reflection on these assessments is an important aspect of their success.

Assessment	Purpose	Method
MiniCeX (Mini clinical examination)	Provides feedback on skills needed in clinical care	Trainer observes a trainee examining a patient and explaining the management plan to the parents
CbD (Case based discussion)	Assesses clinical reasoning or decision making	Trainee presents a more complex case to the trainer and has a discussion about the evidence or basis for diagnosis or treatment.
DOPS	Assesses practical	Trainee undertakes a practical skill

(Directly observed procedural skills)	skills	whilst being observed
LEADER	Focuses on leadership skills	A trainee is observed leading a team (e.g. during a resuscitation)
HAT (Handover assessment tool)	Evaluates handover skills	Handover episodes are supervised and discussed
DOC (Discussion of correspondence)	Assesses letter writing skills	Clinic letters or discharges are reviewed and discussed
MSF (Multi-source feedback)	Provides wider feedback on the performance of the trainee	Confidential comments from a wide range of colleagues, patients and the trainee are sought

A guide to workplace-based assessment can be found [here](#).

iii. Participation in Audit project

The trainee should conduct at least one systematic style review of a topic and in addition prepare a detailed evidence based appraisal of a diagnostic test or a therapeutic intervention.

iv. Competencies

a) Generic competencies:

1. History taking
2. Clinical examination

3. Therapeutics and safe prescribing
4. Time management and decision making
5. Decision making and clinical reasoning
6. The patient as central focus of care
7. Prioritisation of patient safety in clinical practice
8. Team working and patient safety
9. Principles of quality and safety improvement
10. Infection control
11. Managing long term conditions and promoting patient self-care
12. Relationships with patients and communication within a consultation
13. Breaking bad news
14. Complaints and medical error
15. Communication with colleagues and cooperation
16. Health promotion and public health
17. Principles of medical ethics and confidentiality
18. Valid consent
19. Legal framework for practice
20. Ethical research
21. Evidence and guidelines
22. Audit
23. Teaching and training
24. Personal behaviour

b) **Clinical Competencies for the Paediatric Emergency Medicine**

Physician:

1. Acute Life Support / resuscitation

- i. Cardiology
- ii. Heart failure
- iii. Arrhythmia
- iv. Syncope
- v. Cardiac inflammation
- vi. Child and Adolescent Mental Health
- vii. Child Protection and children in special circumstances
- viii. Physical abuse
- ix. Sexual abuse
- x. Self-harm
- xi. Neglect
- xii. Apnoeic episodes in an infant

2. Dermatology

- i. Life threatening
- ii. Eczema
- iii. Bites and infestations

3. Endocrinology and metabolic medicine

- i. DKA
- ii. Hypoglycaemia
- iii. Adrenal insufficiency
- iv. Acid Base

4. Gastroenterology
 - i. Acute abdominal pain
 - ii. D&V
 - iii. GI bleeding
 - iv. Acute liver failure
 - v. Recurrent abdominal pain
 - vi. Constipation
5. Gynaecology and Obstetrics
 - i. Ectopic
 - ii. STDs
6. Haematology and Oncology
 - i. Sickle cell
 - ii. Anaemia
 - iii. Purpura
 - iv. Leukaemia/ lymphoma
 - v. Immunocompromised patient
7. Infection, Immunology and Allergy
 - i. Septic shock
 - ii. Febrile child
 - iii. Common exanthems
 - iv. Needle stick
 - v. Anaphylaxis
 - vi. Kawasaki disease
8. Neonatology

- i. Congenital heart disease
 - ii. Jaundice
 - iii. Sepsis
9. Nephro-urology
- i. UTI
 - ii. Hypertension
 - iii. Acute scrotal pain
10. Neurology
- i. Coma
 - ii. Meningitis
 - iii. Seizures
 - iv. Headache
11. Neurosurgery
- i. Blocked shunt
12. Ophthalmology
- i. Bell's palsy
 - ii. Conjunctivitis
 - iii. Chemical injury
13. Orthopaedics
- i. Shoulder
 - ii. Elbow
 - iii. Wrist
 - iv. Hand
 - v. Pelvis hip

- vi. Knee
 - vii. Leg
 - viii. Ankle
 - ix. Foot
 - x. Plastic surgery
14. Poisoning and accidents
- i. Burns
 - ii. Drowning
15. Major incident
16. Respiratory medicine, with Ear, Nose and Throat
- i. Asthma
 - ii. Acute stridor
 - iii. Pneumothorax
 - iv. Bronchiolitis M
 - v. Pneumonia
 - vi. Pertussis
 - vii. Earache and discharge
 - viii. Traumatic ear conditions
 - ix. Epistaxis
 - x. Nasal trauma
 - xi. Acute throat infections
 - xii. Airway obstruction
 - xiii. Dental problems
17. Trauma

- i. Head injury
- ii. Abdominal injury
- iii. Chest injury
- iv. Pelvic injury
- v. Crush injury
- vi. Major burns
- vii. Spinal injury

c) List of Paediatric Emergency Medicine procedures

1. Acute Life Support/Resuscitation procedures
 - i. Manual airway clearance manoeuvres
 - ii. Airway insertion
 - iii. Heimlich manoeuvre
 - iv. Oxygen delivery techniques
 - v. Orotracheal and nasotracheal intubation
 - vi. Mechanical ventilation
 - vii. Use of Continuous Positive Airways Pressure
 - viii. Replacement of tracheostomy tube
 - ix. Cricothyrotomy and percutaneous trans-tracheal ventilation
 - x. Needle thoracentesis
 - xi. Tube thoracotomy
 - xii. Intraosseous line insertion
 - xiii. Direct current electrical cardioversion defibrillation
 - xiv. External cardiac pacing

- xv. Pericardiocentesis
- 2. Dentistry
 - i. Re-implantation of tooth
 - ii. Splinting of tooth
 - iii. Reduction of TMJ dislocation
- 3. ENT Procedures
 - i. Control of epistaxis with cautery, anterior packing, posterior packing and balloon replacement
 - ii. Cerumen removal
 - iii. Incision and drainage of auricular haematoma
 - iv. Aural wick insertion
- 4. Foreign Body Removal
 - i. Nose
 - ii. Ear
 - iii. In soft tissue
 - iv. Eye
 - v. Ring removal
- 5. Gastrointestinal procedures
 - i. Oro/nasogastric tube replacement
 - ii. Gastrostomy tube replacement
 - iii. Gastric lavage
 - iv. Hernia reduction
 - v. Reduction of rectal prolapse
- 6. Genitourinary

- i. Paraphimosis reduction
- ii. Urethral catheterisation

7. Minor Surgical Procedures

- i. Infiltration of local anaesthetic
- ii. Incision and drainage of abscesses
- iii. Incision and drainage of paronychia
- iv. Evacuation of subungual haematoma
- v. Wound exploration and irrigation
- vi. Wound repair with glue, adhesive strips and sutures
- vii. Fingernail/nailbed injuries
- viii. Emergency management of amputation

8. Musculoskeletal Techniques

- i. Immobilisation techniques
- ii. Application of Broad Arm Sling
- iii. Application of Collar and Cuff
- iv. Application of Thomas Splint
- v. Pelvic stabilisation techniques
- vi. Spinal immobilization/log rolling

9. Fracture/dislocation reduction techniques

- i. Shoulder dislocation
- ii. Elbow dislocation
- iii. Phalangeal dislocation
- iv. Supracondylar fracture with limb-threatening vascular compromise

- v. Patellar dislocation
 - vi. Ankle reduction
10. Plaster techniques
- i. Backslabs
 - ii. Splints
 - iii. POP
11. Neurological Procedures
- i. Lumbar puncture
12. Obstetric and Gynaecological Procedures
- i. Normal delivery
 - ii. Gynaecological speculum examination
13. Ophthalmic Procedures
- i. Conjunctival irrigation
 - ii. Contact lens removal
 - iii. Eversion of eyelids
 - iv. Use of slit lamp
14. Pain relief and sedation
- i. Pain scoring
 - ii. Non-pharmacologic measures
 - iii. Pharmacologic approaches
 - iv. Local anaesthetics
 - v. Regional nerve blocks
 - vi. Procedural sedation techniques