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 Medicins Specialistes (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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† Listed alphabetically.
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 specialty 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.

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Purpose</th>
<th>Method</th>
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<tbody>
<tr>
<td>MiniCeX</td>
<td>Provides feedback on skills needed in clinical care</td>
<td>Trainer observes a trainee examining a patient and explaining the management plan to the parents</td>
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<tr>
<td>(Mini clinical examination)</td>
<td></td>
<td></td>
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<tr>
<td>CbD</td>
<td>Assesses clinical reasoning or decision making</td>
<td>Trainee presents a more complex case to the trainer and has a discussion about the evidence or basis for diagnosis or treatment.</td>
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<tr>
<td>(Case based discussion)</td>
<td></td>
<td></td>
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<tr>
<td>DOPS</td>
<td>Assesses practical</td>
<td>Trainee undertakes a practical skill</td>
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(Directly observed procedural skills) | skills | whilst being observed
---|---|---
**LEADER**<br>Focuses on leadership skills | A trainee is observed leading a team (e.g. during a resuscitation)
**HAT**<br>(Handover assessment tool) | Evaluates handover skills | Handover episodes are supervised and discussed
**DOC**<br>(Discussion of correspondence) | Assesses letter writing skills | Clinic letters or discharges are reviewed and discussed
**MSF**<br>(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
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