UEMS Section and Board of Emergency Medicine

European Training Requirements for the Specialty of Emergency Medicine
European Standards of Postgraduate Medical Specialist Training
(old chapter 6)

A revision of the original ETR revised by the Education Committee of the EUSEM and endorsed by the UEMS Council in April 2019.
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Preamble

The UEMS is a non-governmental organisation representing national associations of medical specialists at the European Level. With a current membership of 34 national associations and operating through 39 Specialist Sections and European Boards, the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training which will pave the way to the improvement of quality of care for the benefit of all European citizens.

The UEMS areas of expertise notably encompass: Continuing Medical Education, Post Graduate Training, and Quality Assurance.

UEMS believes that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore the UEMS is committed to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies.

The **legal** mechanism for ensuring the free movement of doctors within Europe through the recognition of their qualifications was established in the 1970s by the European Union. However, in 2005, the European Commission suggested to the European Parliament and Council that there should be a single legal framework for the recognition of professional qualifications to facilitate and improve the movement of all workers throughout Europe. This directive (Directive 2005/36/EC) established the mechanism for automatic mutual recognition of qualifications for doctors according to the training requirements within the individual member states; this is based on the length of training in the specialty and the type of qualification.

In 1994, the UEMS adopted its Charter on postgraduate medical training aimed at providing the recommendations to be applied within Europe. The six chapters of this charter set out the basis for a European approach to postgraduate medical training. Chapters 1-5 would be common to all specialties. "Chapter 6" would be completed by each Specialist Section according to the specific needs of each discipline.

More than a decade after the introduction of this Charter, the UEMS Specialist Sections and European Boards have continued working on developing these European Standards in Medical training that reflects modern medical practice and current scientific findings. In doing so, the UEMS Specialist Sections and European Boards did not aim to supersede the National Authorities' competence in defining the content of postgraduate training in their own State but rather to complement these and ensure that high quality training is provided across Europe.

Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide specialty-based recommendations.

The UEMS values professional competence as "*the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served*".

While professional activity is regulated by national law in EU Member States, it is the UEMS understanding that it has to comply with International treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics

This document derives from the previous Chapter 6 of the Training Charter and provides definitions of specialist competencies and procedures as well as how to document and assess them. For the sake of transparency and coherence, it has been renamed as "Training Requirements for the Specialty of Emergency Medicine".

Background

This document aims to provide the basic Training Requirements for the specialty of Emergency Medicine and has been updated by the UEMS Section and Board for Emergency Medicine to reflect scientific and medical progress and to reflect changes in the European Curriculum for Emergency Medicine. The three-part structure of this document reflects the UEMS approach to have a coherent pragmatic document not only for medical specialists but also for decision-makers at the National and European level interested in knowing more about medical specialist training.

The objectives of the UEMS Section and Board for Emergency Medicine include

- *Supporting the delivery of the highest level of training for current and future medical specialists in Emergency Medicine;*

- *Enabling and promoting the free movement of specialist medical doctors within the European Union and beyond in Europe;*

- *Representing the profession within the member states of the EU and its associated countries, to EU authorities and any other authority dealing with questions directly or indirectly concerning the Emergency Medicine profession and by influence to support the development of the specialty in countries where the specialty does not exist;*

- *Promoting the professional interests of European Emergency Medicine specialists including support for the development of an appropriate workforce.*

The European Core Curriculum in Emergency Medicine document (last updated 2017) represents the detailed description of the competence and skills of the Emergency Physician and is a document jointly endorsed by the UEMS Section and Board for Emergency Medicine and the European Society for Emergency Medicine (EUSEM). The curriculum is approved by representatives of all individual national Emergency Medicine societies and professional organisations represented in the UEMS. The curriculum forms part of this document as "Section I".

The UEMS Section and Board recognises the need for a unifying document for Emergency Medicine based on minimum training requirements and recognition of professional competences and qualifications. This document (the ETR) therefore states the agreed

minimum standards common to all countries in Europe for training requirements. National authorities may choose to supplement the recommendations in the ETR with either additional competences or with explicit standards and assessment tools relevant to that country.

There are structures within the UEMS for accreditation and quality assurance of aspects of specialist training, and the Section and Board for Emergency Medicine recommends that individual countries undertake such accreditation as appropriate and to complement their national authority rules.

This current ETR document has a basis in the previously mentioned Chapter 6 of the Charter on Postgraduate Medical Specialty Training and provides high level definitions of specialist competencies and procedures required and guidance on assessment and documentation of competence.

Devising a European Core Curriculum for the speciality of Emergency Medicine is more difficult than some other specialties. This is due to the role of the Emergency Physician and the structure of emergency care being highly variable across Europe. For example in some countries, the work of the Emergency Physician is predominately based in the pre-hospital environment; in other countries, an Emergency Physician will work only in the critical care area. However in the majority of European countries, the Emergency Physician works in a dedicated Emergency Department.

In addition, the status of emergency medicine varies between being a primary specialty and a supraspecialty, whilst in some countries the specialty is not recognised. The presentations and conditions cared for by Emergency Physicians may vary between countries; the national training curricula are likely to reflect these differences. This emphasises the need for common standards for training across Europe, which promotes high quality care for patients whilst promoting free movement of emergency physicians and the development of the specialty.

Emergency Medicine is a medical specialty based on the knowledge and skills required for the prevention, diagnosis and management of the acute and urgent aspects of illness and injury affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioural disorders. It is a specialty in which time is critical. The Practice of Emergency Medicine encompasses the pre-hospital and in-hospital reception, resuscitation and management of undifferentiated urgent and emergency cases until discharge from the Emergency Department or transfer to the care of other physicians. It also includes involvement in the development of pre-hospital and in-hospital emergency medical systems.

Emergency Physicians care for patients with a wide range of pathology from the life threatening to the self-limiting and in all age groups. The attendance and number of these patients is unpredictable and they mostly present with symptoms rather than diagnoses. The management of disasters and the care of patients in the pre-hospital time period are also essential skills of the emergency physician. Patient care includes physical, mental and

social aspects. It focuses on initial care until discharge or referral to other health professionals. Patient education and public health aspects must be considered in all cases.

Emergency Physicians have a fundamental role in modern healthcare systems. The emergency physician must address the comprehensive medical needs of all patients in the emergency setting and prioritise interventions, coordinating and directing care for multiple patients at any one time. Emergency Physicians must possess not only the essential knowledge and skills necessary for patients requiring acute care but also the organisational insights and capabilities needed to work efficiently in the pre-hospital environment, the emergency department (ED) and short stay wards and ambulatory care.

Section I. TRAINING REQUIREMENTS FOR TRAINEES
1. Content of training and learning outcomes - the Core Curriculum for Emergency Medicine (version 2.0)

Introduction
An Emergency Medicine trainee is a doctor who has completed his/her general professional training as a physician having graduated as a doctor and completed an initial general training (equivalent of the Foundation programme in the UK). The trainee is in an accredited training programme to become a recognised Emergency Medicine specialist. The trainee is variably known in different countries as an intern, resident, fellow or registrar.

The Core Curriculum lists the problems that specialists in Emergency Medicine should be able to address after completion of specialist training the conditions they should be able to recognise and initially manage, the procedures they should be able to carry out, the investigations they should be able to interpret, and the overarching competences they should master. These lists are meant to guide European residents and specialists in acquiring the core competences in Emergency Medicine and in preparing for the European Board Examination in Emergency Medicine (EBEEM).

The Core Curriculum lists the core competences in Emergency Medicine that the trainee will acquire, by gaining experience and receiving feedback, namely
- the ability to triage and resuscitate patients (Section 2.1)
- the symptoms, signs and situations Emergency Physicians (EPs) should be able to address (Section 2.2)
- the conditions EPs should be able to recognise and initially manage (Section 2.3)
- the procedures EPs should be able to carry out and investigations they should be able to interpret (Section 2.4)
- the ability to make judicious decisions regarding further investigations and treatments (Section 2.5)
- the professional competences EPs should master (Section 2.6).

Most subsections feature introductory paragraphs that describe the inclusion criteria the lists are based on and the level of competence expected of Emergency Physicians.

"Competence" refers to the ability to act appropriately in a given context. Knowledge is a prerequisite for competence. Sections 1.1 - 1.5 list the competencies related to the management of an individual patient while section 1.6 highlights additional professional competences.

1.1 Triage and resuscitation

1 Triage

Emergency physicians must be able to evaluate the urgency of the patient's need for treatment based on limited information and continuous reassessment.This process is referred to here as triage.

There are many triage systems in use. Which system is most suitable will depend on the context, e.g., patient, available resources. Emergency physicians should be able to apply the principles of the triage systems used in the Emergency department as well as in the pre-hospital arena, both during normal circumstances and during mass casualty situations.

2 Resuscitation

Patients that are critically ill require immediate management following established guidelines, the focus being on rapidly delivering therapy that decreases morbidity and mortality despite initially not knowing the patient's diagnosis. This process is referred to here as resuscitation.

Resuscitation combines assessments and interventions in order to rapidly normalise abnormal physiological parameters (e.g., hypoxia, hypoglycaemia) and acquire information that allows for the recognition and treatment of life-threatening conditions (e.g., anaphylaxis, hemorrhagic chock). The recommended resuscitation algorithm follows the ABCDE structure, whereby:
- A refers to Airway and cervical spine, the focus being on ensuring that the upper airway is patent and that the cervical spine of patients with potential unstable fractures is stabilized.
- B refers to Breathing, the focus being on ensuring adequate blood oxygenation and ventilation.
- C refers to Circulation, the focus being on ensuring adequate perfusion and stopping hemorrhage.
- D refers to Disability, the focus being on assessing the patient's level of consciousness, identifying gross focal neurological deficits and treating hypoglycaemia if present.
- E refers to Exposure, the focus being on identifying diagnostic clues from a superficial examination of the body and treating or preventing hypo- and hyperthermia.

The assessments and treatments that can be performed during the resuscitation will depend on the context and available equipment, using the same resuscitation sequence for all patients under all circumstances. It is recommended that the following adjuncts are incorporated into the resuscitation process, in particular:
- point-of-care ultrasound
- point-of-care blood tests
- electrocardiogram

1.2 Symptoms, signs and situations
Introduction
Within the realm of Emergency Medicine, patients present with symptoms & signs. "Symptoms" refer here to subjective complaints such as chest pain. "Signs" refer here to objective physical abnormalities (e.g., decreased level of consciousness, fever), abnormal laboratory results (e.g., hyperkalaemia) or other abnormal test findings (e.g., ST-elevation on the EKG). "Situations" refer here to circumstances which are complex and whereby patients are deemed to require urgent assessment and benefit from team approach, e.g., in the settings of cardiac arrest, or following major trauma.

With the patient's presenting symptom, sign or situation as starting point, the specialist in emergency medicine should be able to systematically and efficiently obtain information needed to
- estimate the severity of the patients condition
- initiate immediate therapy if needed
- estimate the likelihoods of potential time-sensitive conditions, i.e. conditions where timing on therapy impacts on morbidity and mortality
- select and interpret relevant investigations

Emergency physicians are *not* expected to be able to list an *exhaustive* differential diagnosis for each symptom, sign or situation. Rather, the emphasis is on mastering *approaches* that allow for estimating the likelihoods of time-sensitive conditions using focused bedside information such as the history, the physical examination and point-of-care tests such as the electrocardiogram, certain blood tests, point-of-care ultrasound and urinalysis. For example, chest pain may be caused by a large number of conditions, yet the specialist in emergency medicine should be able to rapidly acquire information from a focused history, physical examination and point-of-care tests that allows for the likelihood assessment of time-sensitive conditions such as acute coronary syndrome, aortic dissection and pulmonary embolism. The *local* approach needs to take into consideration the *local* prevalence of time-sensitive conditions.

1 Abnormal Vital Signs
Bradycardia
Bradypnoea
Hypertension
Hyperthermia
Hypotension
Hypothermia
Prolonged capillary refill time
Reduced level of consciousness
Reduced peripheral oxygenation
Tachycardia
Tachypnea

2 Pain

Abdominal pain
Anal pain
Back pain
Chest/thoracic pain
Dysuria
Ear pain
Eye pain
Flank pain
Headache and facial pain
Joint pain
Limb pain
Muscular pain
Neck pain
Pelvic pain
Scrotal pain
Throat pain/odynophagia
Tooth pain
Vaginal/vulvar pain

3 Other Symptoms

Constipation
Cough
Diarrhoea
Dizziness/vertigo
Dysphagia
Dyspnea
Fatigue
Fever/chills
Lightheadedness
Nausea/vomiting
Palpitations
Paraesthesia
Polyuria and oligo/anuria
Pruritus
Seizures
Transient loss of consciousness
Vaginal/penile discharge
Visual disturbances
Weakness

4 Bleeding

Epistaxis
Haematemesis
Haematuria

Haemoptysis
Rectal bleeding/melaena
Vaginal bleeding

5 Abnormal Physical and Mental Status Findings

Abdominal:
- Distension
- Masses
- Organomegaly
- Rebound pain and guarding

Cardiac:
- Abnormal heart sounds

Dermatological:
- Bites and stings
- Burn
- Cyanosis
- Oedema
- Erythema
- Frostbite
- Jaundice
- Pruritus
- Rash
- Splinter haemorrhage
- Ulcers
- Wounds

Mental/Psychiatric:
- Agitation/aggression
- Confusion/delirium
- Deliberate self-harm
- Suicidality

Neurological:
- Abnormal movement
- Muscle tone disturbance
- Paresis/paralysis
- Sensory disturbance
- Speech disorder

Ophthalmological:
- Nystagmus
- Red eye
- Visual disturbances

Pulmonary:
- Abnormal breath sounds
- Decreased breath sounds

Urogenital
- Scrotal swelling

6 Abnormal Blood and Urine Test Results

Abnormal test results:
- Abnormal urinalysis results
- CSF-analysis
- Elevated CRP or ESR
- Elevated Creatinine/urea
- Elevated CK/myoglobin
- Elevated d-dimer
- Elevated INR
- Elevated Troponin
- Synovial fluid analysis

Electrolyte disturbances:
- Hyper-/hypocalcaemia
- Hyper-/hypokalaemia
- Hyper-/hypomagnesaemia
- Hyper-/hyponatraemia

Haematological disturbances
- Anaemia
- Clotting disorders
- Leukocytosis
- Leukopenia
- Methaemoglobinaemia
- Polycythaemia
- Thrombocytopenia
- Thrombocytosis

Liver and pancreas test disturbances
- Elevated amylase/lipase
- Elevated bilirubin
- Elevated liver enzymes

Metabolic and respiratory disturbances
- Hyper-/hypocapnia
- Hyper-/hypoglycaemia
- Hypoxia

- Hyperammonaemia
- Elevated lactate
- Metabolic acidosis
- Metabolic alkalosis
- Respiratory acidosis
- Respiratory alkalosis

7 Situations
- Fall in older person
- Major Trauma

1.3 Diagnoses and syndromes
Introduction
Myocardial infarction, pneumonia and heroin overdose are examples of "diagnoses" that can be confirmed in the Emergency Department. The term "syndrome" refers to a combination of symptoms, risk factors, physical findings and test results that together speak for a pathophysiological condition that can be managed in a specific manner, even though the diagnosis is yet unclear. Acute coronary syndrome, sepsis, and opioid toxidrome are examples of syndromes. Diagnoses and syndromes are jointly referred to as "conditions" hereafter.

The conditions that are of primary focus in Emergency Medicine are time-sensitive conditions, e.g., those for which timely treatment, within the scope of hours to days, impacts on morbidity and mortality. Acute coronary syndrome, anaphylaxis, sepsis, severe hyperkalaemia and spinal epidural abscess are examples of such conditions. Conditions for which treatment does not impact upon morbidity and mortality are not of primary focus in Emergency Medicine. Lung cancer and amyotrophic lateral sclerosis are examples of such conditions.

This section lists key time-sensitive conditions. The section also includes common, benign conditions, since ruling-in such conditions can sometimes be sufficient to rule-out time-sensitive ones.

Emergency physicians should:
- know the risk factors for the condition in order to be able to assess its pre-test probability
- know the condition's possible presenting symptoms, signs and situations
- be able to estimate the likelihood that the patient is suffering from the condition based on the history, physical findings and point-of-care test results
- know how to initially manage, within the realm of emergency medicine, patients potentially suffering from these conditions, including being able to estimate the risks and benefits of various investigations and treatments for the individual patient
- know whom to contact for patient management outside the realm of Emergency Medicine and how to manage transfer of care.

This section deliberately does not include established, non-time-sensitive diagnoses (e.g., systemic lupus erythematous). Emergency physicians are not expected to be able to establish these diagnoses, yet they are expected to know whether suffering from these conditions impacts on the likelihoods of time-sensitive conditions. Neither does this section list established exposures (e.g., overdose with colchicine), since management information regarding established exposures can be rapidly obtained by contacting poison control centres or through on-line resources. Rather, the emphasis is on the recognition and treatment of toxidromes, with the exception of specific unintentional intoxications (e.g., digoxin toxicity resulting from acute kidney injury) and common poisonings (e.g., with alcohol and paracetamol).

1 Cardiac Arrest

2 Airway
Anaphylaxis
Angioedema
Croup
Deep neck space infections
Epiglottitis
Foreign body
Pharyngitis, tonsillitis, laryngitis
Tracheitis
Thermal damage to the upper airway

3 Lung
Asthma
Bronchiolitis
Bronchitis
Chronic Obstructive Pulmonary Disorder
Empyema
Haemothorax
Pleural effusion
Pneumomediastinum
Pneumonia
Pneumothorax
Pulmonary Oedema

4 Heart
Acute coronary syndromes
Acute heart failure syndromes
Arrhythmias
Atrioventricular block
Cardiac tamponade
Conduction disturbances

Endocarditis
Myocarditis
Pericarditis

5 Circulation and Vascular

Acute limb ischaemia
Aortic dissection
Carotid/vertebral artery dissection
Deep vein thrombosis
Hypertensive emergencies
Pulmonary embolism
Ruptured abdominal aortic aneurysm
Shock:
- Hypovolaemic
- Cardiogenic
- Obstructive
- Distributive
- Toxic/metabolic

Temporal arteritis
Thrombophlebitis

6 Brain

Cerebral sinus thrombosis
Meningoencephalitis
Primary headaches
Raised intracranial pressure
Stroke syndromes
Subarachnoid hemorrhage
Transient ischaemic attack

7 Spinal cord and peripheral nervous system

Cauda equina/conus medullaris
Mononeuropathy
Polyneuropathy
Radiculopathy
Spinal cord syndromes
Spinal epidural abscess
Trigeminal neuralgia

8 Eye

Acute glaucoma
Conjunctivitis
Corneal abrasions
Foreign body

Globe rupture
Herpes zoster ophthalmicus
Orbital and periorbital cellulitis

9 Ear and Nose
Acute otitis media
Benign paroxysmal positional vertigo
Foreign body
Mastoiditis
Peritonsillar abscess
Vestibular neuritis

10 Gastrointestinal
Appendicitis
Anorectal syndromes
Bowel obstruction, small and large bowel
Diverticulitis
Oesophageal rupture
Foreign body
Gastroenteritis
Gastrointestinal bleeding, lower and upper
Hernias
Hirschsprung's disease
Inflammatory bowel disease
Intestinal Ischaemia
Intussusception
Peptic ulcer disease
Pyloric stenosis
Viscus perforation

11 Hepatobiliary and pancreas
Ascites
Biliary colic
Cholangitis
Cholecystitis
Fulminant hepatic failure
Hepatic encephalopathy
Hepatitis
Pancreatitis
Spontaneous bacterial peritonitis

12 Urogenital
Acute kidney injury
Balanitis

Bartholin gland abscess
Cystitis
Epididymitis
Fournier's gangrene
Hydronephrosis
Nephrotic syndrome
Orchitis
Ovarian torsion
Ovarian cyst rupture
Paraphimosis
Pelvic inflammatory disease / tubo-ovarian abscess
Priapism
Prostatitis
Pyelonephritis
Sexually transmitted diseases
Testicular torsion
Ureterolithiasis
Urinary retention
Vulvovaginitis

13 Obstetrics

Abruptio placentae
Extra-uterine pregnancy
Hemolysis, Elevated Liver enzymes Low Platelets (HELLP) syndrome
Hyperemesis gravidarum
Ovarian hyper-stimulation syndrome after in-vitro fertilisation
Peripartum cardiomyopathy
Placenta praevia
Pre-eclampsia and eclampsia
Spontaneous abortion
Uterine rupture

14 Musculoskeletal

Arthropathy
Bursitis
Compartment syndrome
Discitis
Dislocations
Osteomyelitis
Radiculopathy
Rhabdomyolysis

15 Skin and soft tissue

Abscess
Cellulitis

Erysipelas
Mastitis
Necrotising fasciitis and myositis
Stevens-Johnson syndrome and toxic epidermal necrolysis
Toxic shock syndrome

16 Haematology and Coagulation

Disseminated intravascular coagulation
Neutropenic fever
Sickle cell crisis
Transfusion reaction

17 Metabolism, Endocrinology, Auto-Immune

Adrenal crisis
Diabetic ketoacidosis
Hyperosmolar hyperglycaemic syndrome
Metabolic bone disease
Severe hyperthyroidism
Severe hypothyroidism
Wernicke's encephalopathy

18 Infection

Botulism
Herpes zoster
Influenza
Lyme disease and neuroborreliosis
Malaria
Measles
Meningococcaemia
Rabies
Sepsis
Tetanus
Viral haemorrhagic fever

19 Poisoning

Anticholinergic toxidrome
Beta-blocker/calcium channel antagonist intoxication
Cholinergic toxidrome
Coumarin and NOAC intoxications
Digoxin intoxication
Ethanol intoxication and withdrawal
Malignant hyperthermia
Mushroom poisoning
Neuroleptic malignant syndrome

Opioid toxidrome
Paracetamol intoxication
Salicylate intoxication
Sedative / hypnotic toxidrome
Serotonin syndrome
Sympathomimetic toxidrome
Sodium channel poisoning
Smoke inhalation, in particular carbon monoxide and cyanide poisoning
Toxic alcohol intoxication

20 Psychiatry

Conversion disorders
Delusional disorders
Mood disorders

21 Trauma

Abdominal trauma
Barotrauma
Chest trauma
Crush syndrome
Facial trauma
Head trauma
Limb trauma
Neck trauma
Pelvic trauma
Spinal trauma
Urogenital and anorectal trauma

22 Exposure to External Factors

Blast and crush injuries
Decompression sickness
Drowning
Electricity and Lightning
High-altitude
Hyperthermia
Hypothermia
Needle-stick injury
Post-exposure prophylaxis
Nuclear, biological, chemical, and radiological (NBCR) exposures

1.4 Procedures and diagnostic tests
Introduction
This section lists the procedures that an emergency physician should be able to carry out
and the diagnostic tests that an emergency physician should be able to appropriately order
and interpret.

For each procedure, the physician should
- know its indications
- know its contraindications
- be able to systematically and efficiently carry out the procedure
- know its potential complications and how to initially manage them
- know post-procedure management

When a procedure requires pharmacotherapy, the physician should know the indications, contraindications, interactions, side-effects and dosages of the relevant medications.

For each diagnostic test, the physician should:
- know its sensitivity and specificity for time-sensitive conditions
- know its potential complications
- be able to systematically interpret its results; for point-of-care ultrasound and CT investigations, the pathological entities that a specialist in Emergency Medicine should be able to identify are listed.

Some procedures, e.g., resuscitative thoracotomy, are potentially life-saving yet seldom indicated, and for which finding the means to achieve and maintain competence among all specialists in an Emergency Medicine program is challenging.
 Achieving and *maintaining* competence with these procedures is highly desirable yet not likely achievable for all emergency medicine specialists. For some countries this competence is therefore not considered "core" . An asterix identifies those procedures which may be considered optional.

1 Cardiopulmonary Resuscitation

Chest compressions and ventilation
Defibrillation
Use of medications
Use of PoCUS
External pacing
Finger/needle thoracostomy
Pericardiocentesis
Open chest cardiopulmonary resuscitation*
Perimortem caesarian section*
Resuscitative thoracotomy*

2 Airway

Simple airway opening maneuvers
Oropharyngeal and nasopharyngeal airways
Laryngeal mask airway
Endotracheal intubation
Rapid sequence intubation
Cricothyrotomy
Needle cricothyrotomy and jet insufflation

Replacement of tracheostomy
Fiberoptic examination of the upper airway*

3 Breathing
Oxygen therapy
Blood gas analysis
Pulse oximetry
Capnography
Peak expiratory flow measurement
Bag-valve-mask ventilation
Non-invasive ventilation
Invasive (mechanical) ventilation
Finger/needle thoracostomy
Chest tube insertion
Thoracocentesis

4 Circulation
Fluid therapy
Blood product therapy
Control of active bleeding
Cardioversion (electrical/pharmacological)
Transcutaneous pacing
Pericardiocentesis
Peripheral venous access
Central venous access
Intraosseous access
Arterial access
12-lead EKG interpretation
Vasoactive drugs
TEG/ROTEM

5 Disability
Neurological examination
Fundoscopy
Lumbar puncture

6 Exposure
Log roll, transfer and spine immobilisation
Cervical spine clearance
Body temperature assessment
Escharotomy*
Cooling techniques
Warming techniques
Decontamination

Isolation[1]

7 Analgesia and Procedural Sedation

Pain and sedation assessment
Procedural sedation and analgesia
Local, topical and regional anaesthesia

8 Point-Of-Care Ultrasound

Focused cardiac ultrasound:
- Pericardial fluid/tamponade
- Dilated right ventricle
- Decreased contractility/left ventricular function
- Inferior vena cava assessment

Lung ultrasound:
- Pleural fluid
- Pulmonary consolidation
- Pneumothorax
- Interstitial syndromes

FAST (Focussed Assessment with Sonography in Trauma)
Abdominal ultrasound:
- Hydronephrosis
- Distended urinary bladder
- Abdominal aorta measurement
- Gallstones
- Cholecystitis
- Small bowel obstruction
- Intrauterine pregnancy

Soft-tissue ultrasound:
- foreign body
- fluid collection/abscess
- cellulitis

Proximal deep venous thrombosis
Ultrasound-guided procedures:
- nerve blocks
- peripheral/central vascular access
- pericardiocentesis

Musculoskeletal ultrasound*[2]
Ocular ultrasound*[3]

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[1] Routines for recognition, isolation and management of patients with suspected NBCR including highly infectious diseases, e.g., cholera, tuberculosis, EBOLA, MERS.
[2] Identification of fracture, dislocation, joint effusion, tendon injury
[3] Identification of globe rupture, intraocular foreign body, retinal detachment, elevated intracranial pressure, eye movement, vitreous hemorrhage, pupillary reflex

9 Musculoskeletal

Arthrocentesis
Fracture reduction
Joint examination
Joint reduction
Limb immobilisation
Pelvic binder application
Compartment pressure measurement*

10 Wound

Peripheral neurovascular examination
Local and regional anaesthesia
Wound exploration, cleaning, irrigation, debridement, closure
Incision and drainage
Nail bed repair
Burn wound management

11 Ear-Nose-Throat

Anterior rhinoscopy using nasal speculum
Nasal cautery
Insertion of nasal pack (anterior and posterior packing)
Inspection of oropharynx and larynx
Otoscopy
Dix-Hallpike and Epley's Maneuvers
Head impulse test and test of skew
Removal of nasal, aural and laryngeal foreign body
Aspiration or incision/drainage of peri-tonsillar abscess

12 Ophthalmic

Eye examination
Removal of corneal foreign body
Lateral canthotomy
Eye irrigation
Application of eye pad or shield

13 Oral and Maxillofacial

Temporomandibular joint reduction
Temporary stabilisation of injured tooth
Haemostasis following dental extraction

14 Gastrointestinal

Abdominal paracentesis or insertion of drain
Gastric lavage
Hernia reduction
Insertion of nasogastric or orogastric tube
Management of dislodged percutaneous endoscopic gastrostomy tube
Removal of rectal foreign body

15 Genitourinary

Evaluation of patency of urethral catheter
Insertion of indwelling urethral catheter
Reduction of paraphimosis
Suprapubic cystostomy
Testicular torsion reduction

16 Obstetric and Gynaecological

Vaginal examination using speculum
Measurement of foetal heart rate
Emergency delivery:
- Normal delivery
- Shoulder dystocia
- Breech

Removal of products of conception from cervical os
Removing vaginal foreign body

17 Psychiatric

Mental status examination
Assessment of suicidal ideations
Chemical/physical restraint in accordance with national laws

18 Radiology

Indications, contraindications and risks with contrast studies
Indications and benefits of MRI in special circumstances
Basic interpretation of the following studies:
Abdominal X-ray
Cervical spine X-ray
Chest X-ray
Extremities X-ray
Pelvic X-ray
Thoracolumbar spine X-ray
CT head:
- haemorrhage
- raised intracranial pressure

- mass effect
- skull fracture
- hydrocephalus

CT facial bones/orbits:
- fracture
- orbital entrapment

CT thorax:
- fracture
- pneumothorax
- haemothorax
- infiltrative process
- effusion or consolidation
- major vessel aneurysm, dissection, rupture or occlusion

CT spine:
- fracture
- disc prolapse

CT kidneys-urinary tract-bladder
- calculus
- signs of obstruction

CT abdomen/pelvis:
- organ perforation/laceration
- mass lesion
- inflammatory process
- major vessel aneurysm, dissection, rupture or occlusion

CT angiogram:
- aortic dissection
- pulmonary embolism
- extra-cranial arterial occlusion/dissection

19 Transport and transfer

Basic communication modalities and protocols
Monitoring and treatment during transfer/transportation/retrieval

1.5 Clinical reasoning and decision-making
Introduction
Following the acquisition of bedside information and the assessment of the likelihoods of time-sensitive conditions, emergency physicians need to decide on *disposition*, e.g., which further tests and treatments are in the patient's interest, and whether these tests and treatments can be delivered out-of-hospital or whether the patient requires hospital admission.

These decisions are based not only on the likelihoods of conditions but also on the risks and benefits of investigations and treatments for the individual patient, taking into consideration the patient's comorbidities, wishes, values, social circumstances, functional ability among others.

EPs must be aware of the limitations of their personal decision making processes.

While making these decisions, emergency physicians should bear in mind their responsibility to the patient collective and the limitations of health care resources.

The emergency physician should be aware of how certain patient characteristics, comorbidities and specific situations impacts on decision-making. These specific situations are listed below.

Specific Situations
Cancer patient
Dementia
Drug-seeking patient
Frailty
"long lie" patients
Frequent visitors
Homeless patient
Immunocompromised patient
Low-income patient
Migrants
Neonates
Palliative/end-of-life care
Polypharmacy
Potential organ donor
Pregnancy
Suspected/confirmed abuse/neglect
Suspected poisoning

1.6 Professional competences

1 Organisational Competences
EPs must be able to organise the delivery of care within the emergency medical setting in order to ensure optimal patient care. This competence deals with the ability to prioritise between health care needs, optimally allocate available health care resources (personnel, equipment, medications , etc.) to address these health care needs, and adept to and anticipate changes in nature and number of needs and resources. A prerequisite of optimal resources utilisation is knowledge of the nature and number of resources available in the emergency department, the hospital, the out-of-hospital environment, and how and when to activate these resources. A number of specific circumstances and competences are highlighted below.

Disaster Medicine
EPs must be knowledgeable of the local plans to be implemented in the setting of major/mass casualties and able to implement these plans when necessary. EPs should understand the principles of managing major incidents and be able to adapt local plans to the actual circumstances in and out of hospital. EPs should be involved in regularly

rehearsing the response to major incidents. EPs should participate in debrief after major incidents and aware of available resources for crisis intervention.

EPs must develop expertise in:
- disaster response preparedness
- major incident response planning/procedure/practice
- mass gatherings medical safety plans
- debriefing and mitigation

Safety and Violence Management and Prevention

EPs must be able to manage, limit and prevent violence in the Emergency Department as well as in the out-of-hospital setting. In the pre-hospital environment, EPs must be able to implement measures to ensure safety at the scene.

Home Support

EPs must be knowledgeable of and able to activate resources to support patient discharge from the ED (e.g., district nurse, carers, community services) and consider care of dependents if the sole caretaker is admitted to the hospital. EPs should be aware of alternatives to admission including temporary residential care and nursing homes.

Pre-hospital Care

Pre-hospital care includes medical dispatch and emergency medical services. EPs should be knowledgeable about and able to demonstrate competence in:
- Interagency Team management
- Managing the Medical Response Team within a challenging hazardous environment
- Enhancing Specialist training in Emergency Medicine through the implementation of knowledge and skills working in medical response within the pre-hospital environment
- Understanding the principles in managing the victim within various entrapment situations
- Operational Practice within Pre-Hospital Emergency Medicine
- Understanding the principles of patient transfer to receiving medical facilities

2 Communication & Collaboration

Effective communication, both verbal and non-verbal, is essential for safe patient care as well as for building and maintaining good relationships with patients, relatives and colleagues.

With patients and relatives

When communicating with patients and relatives, EPs should use language adapted to the circumstances and confirm understanding. EPs should give special consideration to:
• obtaining informed-consent prior to diagnostic and therapeutic procedures
• informing patients and/or relatives about test results
• involving the patient and/or relatives in decision making
• providing clear instructions upon discharge, ideally in writing
• the challenges associated with language barriers and receptive/expressive difficulties (e.g. secondary to stroke)

With colleagues and other health care providers

EPs should be proficient at working as team-members or team-leaders in multidisciplinary teams. This competence requires an understanding of the role of colleagues in other specialities, non-technical skills such as situational awareness and the ability to judiciously delegate tasks, and stress tolerance. EPs should be proficient at communicating relevant information relating to patient care to other colleagues and health care providers.

With other care providers such as the police, the fire department and social services
EPs must be able to communicate and collaborate with other agencies to obtain and share information relevant to specific patients within the medico-legal boundaries of patient confidentiality.

With mass media and the general public
EPs must be able to interact with the mass media in a constructive way, giving correct information to the public through the local hospital communication process while respecting patient and staff privacy.

Special circumstances
EPs should be able to lead an initial defusing session following stressful events, and be aware that some staff members may require a follow-up debriefing session. EPs must be able to communicate in a professional and constructive manner, orally or in writing, when conflicts arise between patients, relatives, caretakers and/or health care personnel.

Documentation
EPs are responsible for clear, legible, accurate, contemporaneous and complete records of patient care where the author, date and time are clearly identified. Documentation is a continuous process and all entries must be made in real time as far as possible. Medical records should include:
• main complaints and abnormal findings
• relevant past medical history, medications, allergies, risk factors and social circumstances
• relevant history and physical findings
• relevant test results
• diagnosis or differential diagnosis
• treatment
• plan for further investigations and/or treatment
• patient information
• patient handover when appropriate

3 Education & Research
Reflective practice & self-education
EPs must continuously reflect upon their own clinical practice, identify gaps in knowledge and competence, and fills these gaps through self-education. EPs should be aware of the value and limitations of various educational modalities.

Teaching & mentoring
EPs must be able to teach Emergency Medicine to undergraduate, graduate and post-

graduate health care personnel, within the classroom as well as within the clinical setting. In particular,

EPs must be able to supervise more junior staff and promote competence development through questions, guidance, feedback and reference to educational material. EPs must be able to provide longitudinal supervision of and mentorship for trainees and complete an annual appraisal to confirm a trainee's progression. EPs must continually reflect upon the teaching process and develop their pedagogical skills.

Critical appraisal

EPs must be able to systematically search the medical literature to answer specific clinical questions, critically appraise studies, and determine whether these studies ought to impact on local practice according to the principles of Evidenced-Based Medicine.

4 Health Care Evaluation & Improvement

EPs must be involved in the evaluation and improvement of local health care processes.

Quality standards, audit and clinical outcomes

EPs should recognise the value of quality standards and the benefits of measuring key performance indicators to improve patient care. They must be able to complete an audit cycle and use clinical outcomes, including critical incident reporting, in order to continuously improve clinical practice through actions with demonstrable outcomes that can be measured against performance indicators.

Critical incident analysis

EPs should be able to recognise when care has been unsatisfactory, complete a medico-legal report that accurately describes the events and patient outcomes, contribute to the analysis of the reasons for the unsatisfactory care, and determine which actions can be taken to decrease the risk of repeat events. EPs should be able to contribute to morbidity and mortality conferences.

Knowledge translation

EPs should be able to design, implement and evaluate programs that introduce new health care processes locally.

5 Professionalism, Ethics & Medico-Legal

EPs must operate within the legal framework of the country in which they are working. Yet, the law does not always provide the answer to many ethical problems. In these circumstances, EPs must be able to make a reasoned analysis based on ethical principles to determine moral duty, obligation and conduct (medical deontology).

Professional behaviour and attributes

EPs must be able to work professionally and efficiently with a diverse patient population under stressful circumstances. EPs must be aware of their own limitations, recognise their own errors and value participation in the peer review process.

Colleague in difficulty
EPs must be able to support colleagues in difficulty, know how to access support to improve resilience, and contribute to the disciplinary process when the performance of colleagues is unacceptable.

Patient confidentiality
EPs must understand the law regarding patient confidentiality and data protection.
Autonomy, informed consent & competence
EPs must respect the rights of competent patients to be fully informed about the aspects of their care, to be fully involved in decisions about their care, and to refuse clinical procedures or treatment. EPs must understand when and how to use advance directives such as living wills and durable powers of attorney. EPs must be able to assess whether a patient has the competence to make an informed decision. EPs must understand the legal rights of a guardian (stake-holder) or adult with power of attorney and when they treat minors. They must be familiar with those aspects of mental health legislation which relate to competence.

Abuse and violence
EPs must be able to recognise patterns of illness or injury that suggest psychological, physical or sexual abuse of children and adults. They must be able to initiate appropriate child or adult protection procedures.

End-of-life/palliative care
EPs must be able to discuss in a professional and empathetic manner, with patients, relatives, caregivers and colleagues, the withholding or withdrawal of active medical interventions when these are deemed futile. EPs must be able to engage in discussions regarding end-of-life/palliative care.

Forensic Issues
EPs should be aware of the relevant legislation in the country of practice regarding the preservation of forensic evidence. They should be able to document and appropriately handle evidence suggesting abuse, neglect or crime.

Global health
EPs should have general knowledge about international situations that might lead people to seek asylum or refugee status in Europe. They should be able to list and explain the health disparities commonly experienced by people who seek asylum or are refugees. They must enquire sensitively about refugee status when appropriate. EPs
should be able to incorporate their knowledge about the medical conditions that disproportionally affect refugee populations when formulating a diagnosis and differential diagnosis. EPs should coordinate emergency care with the involvement of appropriate refugee support services to provide holistic care for a refugee patient as well as promote and sustain relationships with external organisations to improve the delivery of health care to the refugee patient.

6 Health Advocate

EPs should advocate healthy life-styles and where appropriate lobby for health of the population and sustainability of the health care system.

For the emergency physician
EPs should adopt life-style practices to maximise their own resilience and lobby their institutions and employers to improve their working environment in order to maximise their own resilience and those of their colleagues. (move to Section 3)

7 Continuous professional development

The EP must continue to develop their knowledge and practice in EM by continuous education. They must identify for personal improvement and learn to apply scientific evidence and advances to improve patient care.

8. Utilization of technology and information management

The EP must understand the role of technology in delivering safe healthcare and the utility of data to manage resources and support innovation.

2. Level of competence expected:

The Emergency Physician will progress in competence from a novice to expert and in being able to recognise a clinical condition or problem to being able to independently provide definitive treatment. There will also be progression in skills in managing time, multi-tasking, supervision, leadership and other core professional skills. In this regard 5 levels of competence are recognised:

Level 1: The physician is able to recognise that the patient potentially suffers from the condition or diagnosis. The physician manages single patients and requires supervision

Level 2: The physician is able to estimate the likelihood that the patient suffers from a specific condition on the basis of bedside information (history, physical examination, bedside tests e.g. ultrasound, ECG, initial blood tests, urinalysis) and using clinical decision tools. The physician may manage simple conditions independently.

Level 3: The physician knows how and acts to further evaluate the patient to rule-in or rule-out the diagnosis and may manage more than one patient at a time.

Level 4: The physician knows how to initially manage the majority of patients in the ED and is able to undertake much of the initial work independently. The physician will manage more than one patient at a time and provide limited supervision and support to others.

Level 5: The physician knows how to arrange further care either in-hospital or out-of-hospital and can coordinate the care as required or completes the care themselves where appropriate. The physician can provide leadership to others and supervise a department during a shift.

3. Organisation of training

3.1. Schedule of training

According to the EU-directive 2005/36 /EC the minimum requirement of training to be recognised as an Emergency Physician as a primary specialty is 5 years of full time training. A minimum of three of these years should be in an Emergency Department supervised by trained emergency physicians or approved trainers (see below), where the workload is between 30-35,000 attendances a year and where the full range of emergency cases is received and which includes the care of adults and children (see below).

The trainee will acquire competences by deliberate practice in an emergency department, and from supervision and feedback from senior emergency physicians. In addition, some time will be spent in formal educational setting (classroom teaching), self directed learning and on formal courses. The trainee will need to have allocated time to develop professional competences including academic, quality improvement and educational skills.

Within the training programme it is recognised that the trainee must spend significant time developing skills in anaesthetics and critical care and this may be best achieved by a period of time working in those specialties. A possible programme may include 6 months in critical care, 6 months in anaesthetics and 6 months in paediatric emergency care (or the equivalent thereof) as well as a range of placements in other specialties as required by the National programme. Other local arrangements may be required to acquire the necessary skills and knowledge required of an Emergency Medicine specialist. Countries will vary in the precise allocation of time within the programme for specialty experience according to case mix, emergency care organisation in that country and availability of appropriate experience.

Within the programme, a trainee must be evaluated **at the end of each year** and a personal learning programme devised that allows the trainee to acquire skills and competences not yet achieved.

3.2. Curriculum of training

The European Curriculum for Emergency Medicine is the standard curriculum for Europe. The list of competences above forms the basis of the syllabus within the curriculum. Many countries in Europe have modified the European curriculum for the purposes of the specialty training in that country.

3.3. Documentation and assessment of the trainee including assessment of progress
3.3.1 Documentation
A portfolio based on the core curriculum **must** be used for assessment. The purpose of the portfolio is to demonstrate progression against agreed educational objectives and coverage of the curriculum.

There is no European portfolio at present for Emergency Medicine; countries have developed their own portfolios but the following are required elements:
- A log book of experience, clinical cases and procedures

- Documentation of workplace based assessments
- Personal reflection on learning
- Personal development plans
- A record of the review of progression by the supervisor
- Certificates of courses and successful examinations

The progress should be formally monitored by the programme lead, at least annually, by review of the portfolio and documentation of the discussion of progression should be included in the portfolio.

3.3.2 Assessment
Formative assessment

Formative assessment is used as part of an ongoing learning or developmental process in giving feedback and advice. It **must** provide benchmarks to orientate the trainee. These benchmarks must include evaluation of the non-technical skills defined in the curriculum as much as technical expertise.

It **must** evaluate the trainee's progress and identify the strengths and weaknesses of that individual. The evaluation and any recommendations **must** be fully shared with the trainee.

The following **should** be part of formative assessment:

Formal Documentation of trainee's development and progress after review of evidence collected.

Workplace based Assessments
- Observed clinical care of unselected patients during working time including team behaviours, communication, and non-technical skills.
- Video or observed behaviour of the trainee within a team.
- Mini Clinical Examination (or Direct Observation of Procedural Skills), to assess the knowledge, procedural and practical skills and attitudes of the trainee's interaction with a patient
- Case-Based Discussion, to explore clinical reasoning on a recent case.

Non-workplace based Assessment
- Record of participation in simulation
- Record of courses
- Personal reflection of cases and development
- Record of e-learning completed
- Record of teaching received
- Record of teaching delivered with feedback
- Multi-source feedback from multi-professional team members
- Patient experience feedback
- Academic activity including critical appraisal, original research, editorial activity
- Quality improvement activity including audit
- Serious incident review and other governance activity

Summative assessment

Summative assessment is usually a formal assessment that takes place after a specified training period with the purpose of deciding whether the trainee has reached a standard to proceed to the next level of training or to be awarded a certificate of Completion of Training. The methods of summative assessment **should** include:

- Written examinations (multiple choice questions, short answered questions, essays).
- Oral and practical examinations (clinical vivas and objective structured clinical examinations or OSCEs i.e. stations to assess medical knowledge, clinical, communication and ethical skills in short predetermined scenarios).
- Evaluation of trainee's Portfolio and confirmation of appropriate progression
- The Section and Board recommend that the European Board Examination in Emergency Medicine is adopted by all European countries as the final assessment of competence to promote freedom of movement of specialists in Europe.

3.3.3 Assessment of progress

Specialist education and training **must** include continuous assessment which tests whether the trainee has acquired the requisite knowledge, skills, attitudes and professional qualities to practise in the specialty of Emergency Medicine. This must include formal annual and final evaluations. The annual evaluation **must** formalise the assessment of a trainee's competence to promote the trainee's improvement.

Final completion of a training programme should be dependent upon review of the trainee's portfolio as well as success in the final examination. The Training programme director must provide an overall judgment about the trainee's competence and fitness to practice as an independent specialist in Emergency Medicine.

II. TRAINING REQUIREMENTS FOR TRAINERS

1. Definitions of trainers

The faculty is defined as all senior physicians and healthcare professionals who contribute to the training of the trainee. Faculty are made up of:

Training programme directors (TPD) who supervise a training programme, ensure quality of trainers and training placements and coordinate placements to ensure trainees achieve the correct experience

Educational supervisors who provide ongoing individual professional development advice, monitor progression, provide placement reports on an annual basis and who are responsible for a limited number of trainees. Educational supervision activity usually occurs outside of clinical time in the emergency department and the majority of educational supervision does not include patient contact. Each trainee should have a named educational supervisor who provides advice and support over an extended period in one or more placements

Clinical supervisors who provide support in patient contact activity – giving clinical advice and maintaining standards of care for patients. Clinical supervisor supervise multiple trainees at one time, and the activity is usually within their clinical time. Clinical supervisors may undertake workplace based assessment as part of the clinical supervision.

All physicians **should** participate in practice-based training as emphasised. Trainers should receive training for their educational activity and demonstrate ongoing regular professional development in educational matters.

2. Requirements for trainers

The faculty for Emergency Medicine **must** include a TPD and an appropriate number of trainers. Trainers **should** devote a large proportion of their professional efforts to training and **should** be given sufficient time to meet the educational requirements of the programme.

This is likely to be at least 1 hour per week for the educational supervisor for each individual trainee in addition to the contact time in clinical working.

Training programme director

The Training Programme Director **must** be a full time physician in the Emergency Department and **must** be either a specialist in Emergency Medicine (in countries where the specialty has been recognised for at least 5 years) or a specialist who has been practising Emergency Medicine for at least 5 years. The Director **must** be approved by the National Training Authority and fully direct the Training Programme.

Trainers **must** be accredited or selected by the TPD and accept responsibility for the day-to-day supervision and management of trainees as delegated by the TPD.

Clinical and educational supervisors

Clinical and educational supervisors must be Emergency Physicians and either a specialist in Emergency Medicine or a specialist who has been practising Emergency Medicine for a minimum of 3 years. There **must** be a sufficient number of trainers in the Emergency Department to ensure adequate educational and clinical supervision of trainees as well as efficient, high quality clinical care. At times, depending on the local circumstances, the clinical supervisor may not be a formally trained emergency physician but should be familiar with the content and standards of the curriculum in order to provide appropriate clinical supervision to maintain patient and trainee safety.

3. Evaluation of trainers

The Training Program Director **must** evaluate trainer performance at least annually. This appraisal **should** include evaluation of clinical teaching ability, clinical knowledge, professional attitude and academic activities. Trainers should be supported in developing their supervisory skills.

III. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS
(if not covered by EU Directive on Professional Qualifications)
1. Criteria for recognition as training centre/programme

a. Requirement for staff and clinical activities in a centre

There must be a minimum number of undifferentiated new attendances of between 30,000-35,000 per annum for a training department. This number should include a minimum of 25% children under 16 years of age in order to provide experience to maintain skills. A significant number of these patients must be ambulance conveyed.

The case mix in a training department should reflect the presentations and conditions in the syllabus. If a centre does not see an appropriate case mix, a programme of rotational posts between relevant centres or an alternative method for gaining practical experience must be in place.

The ratio of trainers to the number of trainees **must** be sufficient to allow training to proceed without difficulty and to ensure close personal interaction and monitoring of the trainee during their training . The recommended optimal trainer/ Emergency Medicine trainee ratio is **1 to 2 within a department.**

An appropriate supervisor should be present for a minimum of 75% of the clinical working hours of the trainee and that there should be a supervisor available for immediate advice at all times. Indirect clinical supervision (supervisor immediately available for advice) is recommended for senior trainees only. Junior trainees may be clinically supervised by appropriately experienced senior trainees as part of the senior trainee development providing there is adequate indirect clinical supervision available.

Departments should consider the working environment and conditions and the impact of this on learning opportunities. Emergency Medicine imposes an intense workload on the staff and appropriate time between shifts, rest breaks within a shift and annual leave arrangements must be provided to ensure trainees are able to learn and develop their personal skills. Appropriate rest areas within a department and access to refreshments are part of the training environment.

A department is expected to undertake quality improvement activity such as audit, mortality and morbidity meetings, performance monitoring and serious adverse incident investigation. In addition there should be a named trainer responsible for training in scientific methodology including critical appraisal and statistical analysis.

b. Requirement for equipment, accommodation and facilities in a centre

The department must provide accommodation for trainees which includes access to:
- Sufficient formal training space with projection facilities, access to the internet and audio-visual equipment
- Access to simulation facilities for team based and critical skills training
- Office space for trainees to carry out quality improvement and scientific activity sufficient computers to allow for private study
- internet access for clinical decision support in the clinical area

- access to academic library
- sufficient clinical equipment to allow trainees to deliver safe patient care
- rest facilities providing food and hot drinks 24/7 and separate quiet space

c. Structure for coordination of training within a programme

There will be central coordination of the training programme within a country. Where there is only one institution delivering the training programme this will constitute the central coordination and will give advice to other institutions who wish to commence a programme.

The UEMS Section and Board will receive reports on national training programmes on a yearly basis including the number of accredited training places, training placements, trainees enrolled on programmes, expected progression, attrition rate and appointment to specialist positions. The success rate at the EBEEM and national examinations will be compared and monitored.

2. Quality Management within Training programmes

2.1 Criteria for training centre

Training should generally be carried out in university hospitals or affiliated teaching hospitals although some training can take place on rotations in general hospitals or the community/pre-hospital environment providing case-mix and supervision is adequate (as above).

Each training institution should have an internal system of medical audit or quality assurance, including a mortality review process for reporting adverse events.

The curriculum should be delivered through a variety of learning experiences. The foundation of postgraduate education in Emergency Medicine is predominately experiential training in conjunction with formal teaching sessions with the aim of integrating theory and clinical activities.
The trainees should be given opportunities for self-directed learning and professional development with agreed learning objectives and goals for the learning period.

The structure of rotas should reflect the needs of the service, the educational needs of the trainee and the safety of all.

Clinical supervision should be sufficient and balanced according to the experience of the trainee with increasing clinical independence and corresponding acceptance of responsibility.

2.2 Evaluation of training centres

Training Centres **must** be evaluated in accordance with national rules and EU legislation as well as UEMS recommendations. Where there are no national standards, the Section and Board recommend standards defined by relevant UEMS bodies (NASCE/CESMA). Evaluation **must** also take into account the spectrum of services within the hospital.

2.3 Evaluation of training programmes

Regular internal and external evaluation of the Training Programme **must** be assured in a systematic manner both as regards adherence to the curriculum and the attainment of educational goals. Both trainees and trainers **must** have the opportunity to evaluate the programme confidentially and in writing at least annually. External evaluation may be requested to the Section and Board (at the expense of the local organisation).

2.4 Accreditation of training centres/programmes

At the national level a standardised process of accreditation should be in place.
In Europe, a training centre/programme would be recognised by the UEMS Section and Board for Emergency Medicine if the centre complies with the following:
• it is recognised by the national competent authority as a formal training centre in Emergency Medicine in that country

<div align="center">AND</div>

• has a training programme that is in accordance with the European curriculum of Emergency Medicine

<div align="center">AND</div>

• submits a 5-yearly self-evaluation of the training programme according to certification guidelines (to be developed)

<div align="center">AND</div>

• submits the training programme and its assessment system for approval by the Section and Board

3. Manpower planning

It is expected that national societies work with the competent authorities in the country to determine the manpower required for the specialty. This will include consideration of the utilisation of a multi-professional workforce and take into account the requirements of pre-hospital Emergency Medicine as well as the in hospital provision of care.
The development of training programmes and the training placements is expected to be matched to the likely demand for specialists to ensure appropriate supply of trained specialists in Emergency Medicine for the future delivery of care.

Appendix 1 Glossary of terms
EM = Emergency Medicine
EP = Emergency Physician
TPD = Training programme director
CS = Clinical supervisor
ES = Educational Supervisor
EBEEM = European Board Examination in Emergency Medicine
EUSEM = European Society for Emergency Medicine

Appendix 2 - References

European Curriculum : *https://www.eusem.org/images/pdf/european_curriculum_for_em-aug09-djw.pdf*

European Board Examination in Emergency Medicine https://www.ebeem.eu/