



Curriculum for the training programme to achieve CSST in Emergency Medicine

The curriculum that is expected to be covered by a candidate to be eligible to achieve the CSST in emergency medicine is divided in 2 sections, namely generic skills curriculum and the speciality specific curriculum. The former is concerned on basic skills that are expected in many specialities including history taking, examination and ethics. The latter is concerned on practical skills in various fields that are more specific to emergency medicine. Both sections will be spread over Part 1 and Part 2 of the training programme. All skills will have to be assessed so as to ascertain that the candidate has achieved the level of competence which is expected from him.

Generic skills curriculum

The following are the basic skills that are expected to be obtained in many specialities. In many cases there is a focus on points which are more specific to emergency medicine. Each section has the general objectives, then knowledge application and skills which should be obtained.

1. History and examination

Objectives	Knowledge application	Skills
<p>To be able to take a focused history from patients in all circumstances</p> <p>To be able to clinically examine patients and detect and interpret relevant clinical signs</p>	<p>Recognise critical symptoms and symptom patterns.</p> <p>Know the difference between open and closed questioning and when to utilise each type</p> <p>Be aware of cultural and language differences in the description of common symptoms.</p> <p>Be familiar with methods to elicit accurate histories</p> <p>Recognise the relevance of clinical signs in a given clinical situation</p> <p>Incorporate clinical, social and psychological factors in the history.</p>	<p>Elicit a relevant focused history and identify and synthesise problems.</p> <p>Take a history in difficult circumstances, (eg, busy noisy department with competing demands, patients who are often abusive, aggressive, confused or unable to co-operate).</p> <p>Apply knowledge of symptomatology to determine the likely differential diagnosis.</p> <p>Take a history from a third party</p> <p>Examine a patient whilst maintaining dignity and privacy</p> <p>Elicit clinical signs effectively and be able to teach examination techniques to others</p>



2. Documentation

Objectives	Knowledge application	Skills
<p>To provide clear, legible accurate and contemporaneous records of patient care where the author of the record is clearly identified</p> <p>To keep accurate and relevant medical records.</p> <p>To ensure that written referrals for patients are complete and logical</p> <p>To ensure all results are checked & x-rays reviewed in real time</p> <p>To ensure that clinical details are clear and critical information is present in the notes.</p>	<p>Be familiar with Emergency Department notes (triage, information, observation data nursing and pre-hospital notes, and provisional treatments).</p> <p>Know other sources of important patient information and how to access them (GP, previous Emergency Department notes, inpatient notes).</p>	<p>Record accurately and legibly the history, examination, diagnosis and differential diagnosis.</p> <p>Record a management plan that includes investigation and treatment.</p> <p>Record the results of appropriate tests and any action taken.</p> <p>Record in the notes advice and information given to the patient.</p> <p>Sign notes and to record times and dates appropriately.</p> <p>Give clinical details accurately and succinctly when requesting investigations to allow appropriate choice of investigation and expert interpretation.</p> <p>Write clear letters to GPs or letters of referral which document clearly the details and reason for the letter</p> <p>Document relevant times and details to provide evidence of care.</p>



3. Diagnosis

Objectives	Knowledge application	Skills
<p>To be able to recognise those who are critically ill</p> <p>To make a diagnosis that is both likely and clinically relevant</p> <p>To construct a comprehensive and likely differential diagnosis</p>	<p>Identify the most likely diagnosis in a given situation and the discriminatory investigations to confirm that diagnosis</p> <p>Construct a working differential diagnosis for a given clinical scenario</p> <p>Interpret the results of tests and apply the results to a given patient</p>	<p>Identify those that require admission and those that can be safely discharged. This requires integration of the history, examination, appropriate investigation and seeking more senior advice where necessary.</p> <p>Consider the relevance and likely contribution of an investigation to the management of a patient and utilise such resources effectively, valuing clinical judgement</p> <p>In those patients presenting with cardinal symptoms e.g chest pain, headache – ensure that the important differential diagnoses are covered.</p> <p>Recognise atypical presentations of important conditions</p>



4. Management

Objectives	Knowledge application	Skills
<p>Initiate appropriate treatment.</p> <p>To formulate a management plan including diagnostic testing, provisional diagnosis, differential diagnosis and treatment plan.</p> <p>To identify those requiring admission and those who may be safely discharged.</p> <p>To treat patients effectively and efficiently by prioritising tasks using a focused history and examination and seeking advice from senior colleagues when needed</p>	<p>Know which conditions require immediate treatment appreciating that some presentations do not require immediate intervention but nevertheless are appropriate to be treated in EMERGENCY</p> <p>Select the most effective immediate treatment for a given diagnosis</p> <p>Evaluate the benefit of hospital based treatment versus community care for a given condition in a particular patient</p> <p>Be able to prioritise patients according to clinical need</p> <p>Be aware of guidelines</p> <p>Understand the limits and importance of time and the relationship to the patient and departmental needs</p>	<p>Integrate rapid assessment with immediate and life saving treatment in a timely way.</p> <p>Plan future care either as an inpatient, discharged to Primary Care or followed up at outpatients clinic</p> <p>Consider the relevance and likely contribution of an investigation to the management of a patient and utilise such resources effectively</p> <p>Be able to solve complex clinical problems in a timely way</p> <p>Manage uncertainty of diagnosis in the emergency setting and make appropriate decisions based on what is best for patient and minimal risk</p>

5. Safe prescribing

Objectives	Knowledge application	Skills
<p>Be able to prescribe emergency and continuing medications for patients in a safe and reliable way</p>	<p>Apply the principles of therapeutics and pharmacology to the patient who presents as an emergency</p> <p>Know the implications of pregnancy, old age, childhood and other factors in the safe use of commonly used drugs</p>	<p>Safely prescribe intravenous fluids for adults and children</p> <p>Safely prescribe and administer emergency drugs</p> <p>Select the most appropriate method of drug administration in a given situation</p>



6. Continuity of care

Objectives	Knowledge application	Skills
<p>Be the link between primary and secondary care for patients who present as emergencies.</p> <p>For those patients discharged without formal follow up provide clear guidance about the predicted course of the disease and when and where to seek help</p>	<p>Appreciate the place of primary, secondary care in the Health care service</p>	<p>Evaluate the need for continued medical and nursing care</p> <p>Assess the whole needs of the patient and how they might be met within the health & social care system</p> <p>Complete appropriate letters to the GP explaining diagnosis, treatment and follow up arrangements required</p> <p>Communicate with the in-patient teams and complete effective safe hand over</p>

7. Communication skills

Objectives	Knowledge application	Skills
<p>The Emergency Department should be a place of excellence for team working.</p> <p>Effective communication between team members is essential for safe care</p> <p>To be able to refer patients appropriately to specialists.</p> <p>Being able to break bad news in a empathic way whilst giving clear and unambiguous information</p>	<p>Be aware of the importance of communication in patient care and the risks associated with poor communication</p> <p>Know which patients need specialist input & why</p> <p>Know which investigations to be completed before specialist review and which investigations do not add value</p> <p>Be aware of best practice in the location and setting to give bad news</p>	<p>Be professional at all times in dealing with others</p> <p>Utilise language and tone to convey messages in an appropriate way</p> <p>Put your own opinion across in a straight forward and succinct manner</p> <p>Listen to other views and evaluate the evidence in an open way</p> <p>Make clear and concise referrals both verbally and in writing</p> <p>Ensure the patient understands the management plan and need for specialist advice</p> <p>When giving bad news one must be empathetic, clear, honest and work with other team members to ensure this task is done well.</p>



8. Audit

Objectives	Knowledge application	Skills
Be able to complete audit as a way of continuously improving clinical practice and use clinical outcomes as a way of improving practice	<p>Know the principles of the audit cycle</p> <p>Appreciate variation in practice & the reasons for variation</p> <p>Know how to apply the outcomes of audit to support and develop best practice</p>	<p>Plan and complete an audit cycle</p> <p>Make recommendations based on the audit for the improvement of patient care.</p> <p>Interpret the audit findings and anticipate the impact of the audit findings on the department .</p> <p>Identify key clinical outcomes – and the standard for those outcomes for a given dept. Suggest and utilise ways of measuring outcomes</p>

9. Ethics

Objectives	Knowledge application	Skills
Emergency practitioners must perform interventions in a timely fashion but should seek informed consent whenever possible	<p>Describe the principles of informed consent.</p> <p>Identify procedures where written consent is mandatory.</p> <p>Know the law on consent in children & incompetent adults.</p> <p>Be able to define competence in an adult.</p>	<p>Provide adequate clear information for patients to make informed consent particularly in high risk procedures e.g thrombolysis</p> <p>Obtain informed consent through excellent communication</p> <p>Seek to obtain verbal consent whenever possible by clear explanation of risk and benefits of a given procedures</p>



10. Education

Objectives	Knowledge application	Skills
The emergency physician should be able to plan, deliver and evaluate learning programmes for others	<p>Understand the place of questioning in educational encounters</p> <p>Identify key topics for a given learner in an informal curriculum</p>	<p>Is able to facilitate learning in the clinical environment by encouraging questions, supervising practice and giving feedback on performance</p> <p>Encourages a good learning environment</p>

11. Medico-legal issues

Objectives	Knowledge application	Skills
The emergency physician must operate within the legal framework of the country in which they work.	<p>Understand the law as it applies to the practice of medicine</p> <p>Know the limits of the law.</p>	<p>Work with the patient and the national legal institutions to provide the best possible care to patients and to protect society.</p> <p>Work within the law .</p> <p>Interpret the law for the patient and for those who are less informed.</p>



Speciality specific curriculum

This part of the curriculum is concerned with the knowledge and skills required of an Emergency Physician in specific areas of specialist training. Each section has the general objectives, then knowledge application and skills which should be obtained.

1. Resuscitation

General Objectives:

- To be able to use a structured prioritised approach to life threatening situations.
- To be able to undertake resuscitation procedures in a timely and effective manner.
- Understand the pharmacology, indications, and contra indications of resuscitation drugs.
- Lead and supervise the resuscitation team.
- Effectively interact with other specialties to ensure optimal care.
- To be supportive of relatives and friends of the patient whilst giving clear information.
- Exercise good judgement as to when resuscitation is futile or inappropriate



Resuscitation - Airway

Objectives	Knowledge	Skills
<p>To be able to assess, establish and maintain a patent airway, using both Basic Life Support and Advanced Life Support techniques.</p>	<p>Identification of the obstructed airway and its causes.</p> <p>Methods of maintaining a patent airway i.e. head positioning, jaw thrust, adjuncts, suction.</p> <p>Bag valve mask ventilation</p> <p>Oxygen delivery systems.</p> <p>Indications for tracheal intubation.</p> <p>Complications of tracheal intubation.</p> <p>Understand the appropriate use of pharmacological agents in induction and maintenance of anaesthesia and be aware of their complications and side effects</p> <p>Understand the principles of simple ventilators</p> <p>Have knowledge of monitoring techniques (SpA₀₂, ETCO₂)</p> <p>Failed airway drill, including LMA, needle & surgical cricothyroidotomy</p>	<p>Airway assessment & optimising the patient's position for airway management.</p> <p>Be able to identify the difficult or potentially difficult airway and summon expertise.</p> <p>Airway management with the use of oral/nasal airways.</p> <p>Ventilation using bag valve and mask.</p> <p>Appropriate choice and passage of tracheal tubes using appropriate laryngoscope blades.</p> <p>Use of gum elastic bougie/introducers.</p> <p>Tracheal suction.</p> <p>Identifying correct/incorrect placement of tube (oesophagus, right main bronchus).</p> <p>Perform needle/surgical cricothyroidotomy</p> <p>Interpretation of capnograph trace.</p> <p>Introduction and checking correct placement of laryngeal mask airway.</p>



Resuscitation – Cardiac Arrest / Peri-arrest

Objectives	Knowledge	Skills
<p>To confirm cardiac arrest, establish Basic Life Support, use defibrillation appropriately and use appropriate drugs.</p> <p>To be able to recognise and manage peri arrest arrhythmias.</p>	<p>Familiarity with the ALS and EPLS algorithms and pharmacology.</p> <p>Knowledge of cardiac arrests in special situations, e.g. hypothermia, trauma, overdose.</p> <p>Knowledge of the outcomes of pre-hospital arrest.</p> <p>Post arrest management.</p> <p>Peri-arrest arrhythmias and pharmacology of drugs used.</p>	<p>Perform effective B.L.S. and A.L.S.</p> <p>Rhythm recognition and treatment.</p> <p>Safe defibrillation.</p> <p>To know when to discontinue resuscitation.</p> <p>Central venous access.</p> <p>External pacing</p> <p>Endotracheal drug administration</p>

Resuscitation - Shock

Objectives	Knowledge	Skills
<p>To be able to recognise the shocked patient, the likely cause and to initiate treatment.</p>	<p>Know the differential diagnosis of the shocked patient and the distinguishing features of hypovolaemic shock, distributive shock, obstructive shock and cardiogenic shock.</p> <p>Patho-physiology of shock.</p> <p>Role and types of monitoring</p> <p>Appropriate use of inotropes and vasopressors.</p> <p>The role of imaging, e.g. FAST scanning and echocardiography in the shocked patient.</p>	<p>To be able to gain peripheral and central venous access in the shocked patient.</p> <p>Arterial line insertion</p> <p>Judicious use of fluids especially in the elderly and the trauma patient.</p> <p>Recognition of the need for urgent surgical intervention.</p>



Resuscitation - Coma

Objectives	Knowledge	Skills / Attitudes
To be able to look after the comatose patient safely and establish the diagnosis and differential diagnosis by systematic history and examination and appropriate diagnostic testing.	Understand the differential diagnosis of the comatose patient and be able to undertake investigation (routine blood tests/arterial blood gas/radiology) and commence treatment.	Apply the A, B, C, D approach to manage and stabilize the patient. Protection of the comatose patient including log rolling and urinary catheterisation.

2. Pain Relief

Objectives	Knowledge	Skills
<p>To safely and effectively relieve pain, the commonest presenting complaint in the Emergency Department, in a timely way.</p> <p>To use local anaesthesia appropriately and safely.</p>	<p>Assessment of pain including pain scoring</p> <p>Understand the appropriate use of analgesics (including paracetamol, NSAIDs, opioids, ketamine, Entonox) and be aware of their complications and side effects.</p> <p>Routes of administration: Oral, IV, IM, and nasal/PR.</p> <p>Monitoring</p> <p>Knowledge of controlled drug policy.</p> <p>Knowledge of adjuncts such as local anaesthesia, splinting, distraction.</p> <p>Understand the appropriate use of local anaesthetic agents and be aware of complications and side effects</p> <p>Anatomy of nerve blocks and physiology of nerve function.</p>	<p>Selection and safe prescribing of appropriate analgesic, dosage and route of administration.</p> <p>Appropriate monitoring.</p> <p>Be able to discuss options for pain relief with the patient.</p> <p>To treat the underlying cause of pain</p> <p>To be able to undertake the following nerve blocks and know their contra-indications: especially haematoma blocks, wrist blocks, digital blocks, supra orbital blocks and auricular blocks</p> <p>To calculate max. dose of local anaesthetic for each patient.</p>



3. Safe Conscious Sedation

Objectives	Knowledge	Skills
To be able to deliver safe conscious sedation to selected patients	<p>Recognition of risk factors: airway, co- morbidity, and drugs/alcohol.</p> <p>Drug pharmacology, selection, dosage.</p> <p>Knowledge of antagonists.</p> <p>Monitoring, O₂ therapy, resuscitation equipment.</p> <p>Safe discharge.</p>	<p>Airway assessment and management.</p> <p>Safe titration of drugs in a monitored environment.</p> <p>Prompt recognition of over sedation and recognition that loss of verbal responsiveness equates with general anaesthesia in terms of the level of patient care required.</p>

4. Wound Management

Objectives	Knowledge	Skills
<p>To be able to assess a wound and its under-lying structures, provide analgesia to ensure adequate exploration, cleansing and debridement.</p> <p>Decide if wound should be closed or not and select appropriate technique.</p> <p>Recognise those wounds that require more senior Emergency Department staff or specialist referral.</p>	<p>Classification and description of wounds.</p> <p>Closure techniques: sutures, adhesive strips, delayed primary closure.</p> <p>Wound infections.</p> <p>Wound dressings/splintage.</p> <p>Special wounds: puncture, bites, amputation, degloving, foreign bodies.</p> <p>Tetanus immunisation schedules.</p> <p>Special patients, e.g. the immunocompromised</p> <p>Role of antibiotics.</p> <p>Detailed knowledge of hand, wrist and facial anatomy</p>	<p>Local anaesthetic techniques.</p> <p>Recognition of underlying structures.</p> <p>Ensure thorough mechanical wound cleansing and removal of foreign bodies.</p> <p>Ensure the best conditions for wound management i.e. good lighting, good analgesia, good equipment.</p> <p>Correct closure technique.</p> <p>Appropriate follow up, recognising those patients at risk of wound infection and delayed healing.</p>



Objectives	Knowledge	Skills
To be able to assess for suspected Non Accidental Injuries in all ages	Detailed knowledge of features of wounds related to NAI.	Appropriate assessment, and management of wounds; accurate documentation; appropriate reporting and referral of such cases

5. Major Trauma

General objectives

- To be able to assess, resuscitate and stabilise victims of major trauma based on ATLS/ETC principles.
- To identify those that need life or limb saving surgery.
- To use diagnostic testing appropriately

Head injury

Objectives	Knowledge	Skills
To be able to assess the head injured patient using history and examination and appropriate investigation.	<p>Knowledge of the anatomy of the scalp, skull and brain.</p> <p>Physiology of cerebral perfusion and intracranial pressure.</p> <p>To be able to stratify head injured patients, identify those who need CT/plain radiology, identify those who need neurosurgical referral.</p> <p>Intracranial consequences of a head injury i.e. extradural, subdural, intracerebral haematoma, diffuse axonal injury, post concussion syndrome.</p> <p>Plain radiology/CT appearances.</p>	<p>To recognise the major head injury and institute an A, B, C, D approach, optimise therapy to avoid secondary brain injury.</p> <p>Identify those patients who will need intubation and ventilation.</p> <p>Appropriate and timely involvement of neurosurgery.</p> <p>Management of scalp lacerations.</p> <p>To be able to safely recognise and treat for minor head injury.</p> <p>Ensure the safe discharge of patients with minor head injury.</p>



Chest Trauma

Objectives	Knowledge	Skills
<p>To be able to recognise and treat those patients who have life-threatening or potentially life-threatening chest injuries.</p>	<p>Knowledge of the anatomy of the intrathoracic organs and surface anatomy of the major thoracic structures.</p> <p>Knowledge of the pathophysiology of cardiothoracic injury.</p> <p>To be able to identify life threatening chest trauma, i.e. tension, pneumothorax, open pneumothorax, flail chest, massive haemothorax, and cardiac tamponade.</p> <p>To be able to identify those patients with a potential aortic injury, diaphragmatic rupture, pulmonary contusion, myocardial contusion, oesophageal rupture, tracheobronchial injury, rib fracture and sternal fracture and to appreciate the plain radiology and CT appearances of these injuries.</p>	<p>To undertake the ATLS/ETC approach.</p> <p>Identify life threatening chest conditions.</p> <p>To be able to undertake a needle thoracocentesis, place an intercostal chest drain, pericardiocentesis.</p> <p>Know when to call cardiothoracic surgery.</p> <p>To provide advice and care for those patients with isolated chest wall injuries who are to be discharged.</p>

Abdominal Trauma

Objectives	Knowledge	Skills
<p>Recognition of those patients who have sustained significant abdominal trauma by thorough history and examination and appropriate investigation.</p>	<p>Knowledge surface markings of the abdominal organs.</p> <p>Knowledge of the different presentation of abdominal trauma and the structures that may be damaged.</p> <p>Specifically blunt splenic, hepatic, renal pancreatic trauma, hollow viscus injury, penetrating abdominal injury, urethral / bladder / testicular trauma.</p> <p>Indications for CT / early surgical involvement.</p>	<p>To be able to assess and reassess the traumatic abdomen, initiate treatment and investigation and involve appropriate specialists.</p> <p>Recognise the influence of injuries elsewhere on abdominal assessment.</p> <p>Be able to undertake a FAST scan.</p>



Spinal Injury

Objectives	Knowledge	Skills
To be able to recognise those patients who have suffered a spinal cord, peripheral nerve or plexus injury by appropriate history, examination and investigation.	<p>Knowledge of anatomy and physiology of spinal cord, myotomes and dermatomes.</p> <p>Recognition of injury to vertebrae (fracture / dislocation), cord (including spinal cord syndromes / SCIWORA) and ligaments.</p> <p>Methods of appropriate imaging (plain radiology / CT / MRI).</p> <p>Neurogenic shock / spinal shock – recognition and treatment.</p> <p>To be able to interpret plain radiology of the spine.</p>	<p>Safe initial care of the potential spinally injured patient (spinal immobilisation).</p> <p>Techniques of spinal immobilisation and log roll</p> <p>Appreciate how spinal cord injury affects assessment.</p> <p>Identify when CT and MRI is appropriate.</p> <p>To record accurately the neurological status of the patient.</p> <p>Liaise with appropriate specialist.</p> <p>To safely ‘clear’ the c-spine.</p>

Maxillo-facial Trauma

Objectives	Knowledge	Skills
<p>To identify those patients with maxillo-facial trauma, specifically those that may have airway threat.</p> <p>To be able to characterise maxillo-facial injuries.</p>	<p>Anatomy and physiology of facial structure</p> <p>Nasal fractures</p> <p>Le Fort fractures</p> <p>Mandibular fractures</p> <p>Zygomatic fractures</p> <p>To be able to identify underlying structures at risk from facial lacerations, specifically parotid duct, facial nerve and lacrimal duct.</p> <p>Soft tissue injury and wounds to the neck.</p>	<p>To be able to recognise a threat to the airway – initiate emergency treatment and call for help.</p> <p>Assess the facio-maxillary bones and associated structures.</p> <p>Identify those patients who will need inpatient or outpatient care.</p> <p>Avoidance of facial tattooing by thorough cleansing.</p> <p>To ensure a good cosmetic result after facial suturing</p>



Burns

Objectives	Knowledge	Skills
<p>To be able to evaluate patients with burns.</p> <p>To be able to commence resuscitation and refer appropriately whilst providing effective analgesia.</p> <p>To manage minor burns.</p>	<p>Know and understand the pathophysiology of burns.</p> <p>To recognise the particular risks to the upper airway from heat and lower airway from inhalation injury.</p> <p>To be able to assess the size and depth of a burn and calculate the fluid loss.</p> <p>To recognise the importance of burns in special areas (i.e. face, joints, perineum).</p> <p>Have knowledge of electrical and chemical burns</p>	<p>To recognise the burns patient who has an airway at risk and the need for early intubation. The A, B, C, D approach.</p> <p>To be able to calculate fluid replacement.</p> <p>To identify those patients that need referral to a specialist centre.</p> <p>To be able to manage minor burns and arrange appropriate follow up.</p>



6. Musculoskeletal conditions

General objectives

- To be able to take an appropriate history, examination, investigation and initiate treatment of patients presenting with musculoskeletal pathology. This includes splintage, POP and pain relief.
- Emergency Physicians should be aware of the predicted clinical course and specific complications for these conditions.
- Recognise those that need further in- patient/outpatient care, the role of physiotherapy and those who can be discharged directly from the Emergency Department.
- Detailed knowledge including plain radiology of both traumatic and atraumatic pathologies is required (see below for specific anatomical regions).

Upper limb

Anatomical region	Knowledge	Skills
Shoulder region.	<p>Trauma Fracture of the clavicle, proximal humerus, scapula, ACJ and SCJ injuries Dislocation of shoulder, Rotator cuff injuries.</p> <p>Non-trauma Sub acromion bursitis Supraspinatus tendonitis Ruptured biceps tendon Shoulder joint inflammation including capsulitis and impingement syndrome</p>	<p>To be able to examine the shoulder region, identify injuries and any associated neurovascular problems.</p> <p>To be able to safely reduce a dislocated shoulder (anterior/posterior) and treat any associated conditions appropriately.</p> <p>Ensure appropriate follow up including physiotherapy.</p> <p>To be thorough and to identify serious underlying pathology, e.g. pathological fractures.</p> <p>Application of broad arm sling / collar and cuff / U slab</p>
Long bones of the upper limb	<p>Trauma Fractures of the humerus, radius and ulna. Understand their common fracture patterns and associations /complications. Compartment syndrome.</p>	<p>To be able to undertake appropriate examination and determine any associated injuries and the need for urgent intervention.</p> <p>To be able to interpret plain radiology.</p> <p>To be able to splint appropriately including application of above and below elbow POP</p>
Elbow	Trauma	Be able to exam the elbow region,



Anatomical region	Knowledge	Skills
	<p>Supracondylar, radial head, olecranon, condyle fractures</p> <p>Dislocated elbow and pulled elbow.</p> <p>Non trauma Bursitis</p> <p>Tendonitis.</p>	<p>identify injuries and any associated neurovascular problems.</p> <p>To be able to safely reduce a dislocated elbow / pulled elbow and treat the other conditions appropriately.</p> <p>To recognise which supracondylar fractures require urgent orthopaedic referral.</p>
Wrist	<p>Trauma Colles' / Smith's, scaphoid and Barton's fractures.</p> <p>Management of the "clinical scaphoid" fracture</p> <p>Fractures of other carpal bones.</p> <p>To be able to recognise dislocation of the carpal bones.</p> <p>Non trauma Tenosynovitis</p> <p>Carpal tunnel syndrome</p>	<p>To be able to recognise the conditions listed and safely reduce distal wrist fractures and identify carpal dislocations.</p> <p>Application of below elbow POP/short arm backslab</p> <p>Arrange appropriate follow up.</p>
Hand	<p>Trauma To be able to identify metacarpal and phalangeal fracture/ dislocations.</p> <p>To be able to evaluate wounds of the hand including nail bed injuries, nerve injury, foreign body, high pressure injection injury, amputations and crush injuries.</p> <p>Identify tendon injuries, Mallet finger and Boutoniere deformity.</p> <p>Non trauma Infections: paronychia, pulp space, flexor sheath infection, deep space hand infections.</p>	<p>Reduction of phalangeal dislocation and simple phalangeal fractures</p> <p>To be able to assess the neurovascular function and tendon function of the hand. To be able to interpret x-rays.</p> <p>To be able to explore wounds appropriately and refer those who need inpatient care.</p> <p>Ideally tendons should be repaired by a hand surgeon especially flexor tendons.</p>



Lower limb & Pelvis

Anatomical region	Knowledge	Skills
Pelvis and hip.	<p>Trauma Fractured neck of femur – types.</p> <p>Dislocation of the hip – types, including dislocation of THR.</p> <p>Pelvic fractures, sacral fractures, acetabular fractures, coccygeal fracture – types.</p> <p>To understand management of the exsanguinating pelvic fracture including the role of external fixation and arteriography/embolisation.</p>	<p>To be able to examine the hip, pelvis and SI joints.</p> <p>Recognise those patients who need urgent specialist care.</p> <p>To recognise the injury patterns and associations.</p> <p>Femoral nerve block and splintage of femoral shaft fractures.</p> <p>Apply a pelvic splint.</p>
Long bones of lower limb	<p>Fractures of the femur, tibia and fibula</p> <p>Understand their common fracture patterns and associations / complications.</p> <p>Compartment syndrome.</p>	<p>To be able to undertake appropriate examination and determine any associated injuries and the need for urgent intervention.</p> <p>To be able to interpret plain radiology.</p> <p>To be able to undertake a femoral nerve block.</p> <p>To be able to splint appropriately</p>
Knee	<p>Trauma Meniscal injury,</p> <p>Ligamentous injury (cruciate / collateral)</p> <p>Dislocation and fracture of the patella.</p> <p>Dislocation of the knee and, knowledge of associated injuries.</p> <p>Tibial plateau fractures, fractured neck of fibula, supracondylar fractures.</p> <p>Gastrocnemius tear.</p>	<p>To be able to examine the knee in detail.</p> <p>Use plain radiography (Ottawa Knee Rules) appropriately.</p> <p>To be able to reduce a patella dislocation and knee dislocation with limb threatening vascular compromise.</p> <p>Arthrocentesis</p> <p>Above and below knee POP.</p>



Anatomical region	Knowledge	Skills
	<p>Non trauma Acute arthritis / bursitis</p> <p>Quadriceps & patellar tendon rupture.</p> <p>Ruptured Baker's cyst</p>	
Ankle	<p>Trauma To understand the classification of ankle fractures.</p> <p>To understand the grading of ligamentous injury and to recognise dislocation of the ankle joint.</p> <p>Non trauma Achilles tendonitis</p> <p>Achilles rupture.</p>	<p>To be able to examine and assess the ankle joint and identify who needs plain radiography (Ottawa Ankle Rules).</p> <p>Recognise those patients who need urgent reduction of a dislocated ankle, and to be able to reduce it.</p> <p>Recognition of those ankle fractures that require operative intervention.</p>
Foot	<p>Trauma Talar, calcaneal, tarsal bone, metatarsal and phalangeal fractures.</p> <p>Sub-talar, talar, mid-tarsal, tarso-metatarsal dislocations.</p> <p>Crush injury of the foot.</p> <p>Non trauma Plantar fasciitis and metatarsalgia.</p> <p>Stress fractures.</p> <p>Diabetic foot.</p>	<p>To be able to examine the foot.</p> <p>Recognise those patients who need urgent intervention (reduction of dislocations, compartment syndrome).</p>



Spinal conditions

Anatomical region	Knowledge	Skills
Spine	<p>Trauma See Spinal Injury section above</p> <p>Non trauma Myotomes/Dermatomes.</p> <p>Cord syndromes, including cauda equina</p> <p>Low back pain – recognition of important causes.</p> <p>Ankylosing spondylitis, Rheumatoid Arthritis</p>	<p>To be able to immobilise the spine; log roll.</p> <p>Examine the spine.</p> <p>Understand the indications for radiology and interpret spinal X-rays.</p>

7. Vascular Emergencies

Arterial

Objectives	Knowledge	Skills
To be able to undertake a history and examination focussed on the vascular system and identify those conditions that threaten life or limb.	<p>The symptoms, signs, presentation, causes and treatment of peripheral ischaemia, abdominal and thoracic aortic aneurysms and aortic dissection.</p> <p>Mesenteric ischaemia.</p> <p>Traumatic vascular injury and associated fractures/dislocations.</p>	To be able to resuscitate, use appropriate investigations (bed side, ultrasound and CT) and to ensure timely referral to appropriate specialist.

Venous

Objectives	Knowledge	Skills
Differential diagnosis of the painful / swollen calf.	Investigation and management of DVT including role of risk stratification, d-dimers and ultrasound.	Focused clinical examination to establish most likely diagnosis
DVT	Proximal vein thrombosis	



8. Abdominal conditions

Undifferentiated Abdominal Pain

Objectives	Knowledge	Skills
To be able to take a full history and examination, elicit relevant physical signs, commence resuscitation and investigation.	To have knowledge of the causes of acute abdominal pain, including peptic ulcer disease, pancreatitis, cholecystitis, cholangitis, biliary colic, bowel obstruction, diverticular disease, viscus perforation, acute appendicitis and ischaemic colitis, AAA, hernias, renal calculi, pyelonephritis, chronic inflammatory bowel disease, volvulus and the medical and gynae - causes of abdominal pain.	<p>To have an A, B, C, D approach ensuring effective fluid resuscitation, pain relief and appropriate use of a nasogastric tube and antibiotics.</p> <p>Identify those who need resuscitation and urgent surgery.</p> <p>Those that require admission and those who may be safely discharged.</p> <p>Investigation using plain radiology, CT, ultrasound and blood tests.</p> <p>Hernia reduction</p>

Haematemesis / malena

Objectives	Knowledge	Skills
To be able to undertake appropriate history and examination and initiate appropriate treatment for patients presenting haematemesis	<p>Causes.</p> <p>Indications for blood administration, central venous pressure monitoring, urgent endoscopy and surgical involvement</p> <p>Specific knowledge of the management of bleeding oesophageal varices, including understanding of the appropriate use of pharmacological agents</p> <p>Scoring systems/risk stratifications</p>	<p>Recognition of shock.</p> <p>IV access in the shocked patient.</p> <p>Coordination of teams</p>



Anal Pain and Rectal Bleeding

Objectives	Knowledge	Skills / Attitudes
To be able to undertake appropriate history and examination to establish diagnosis and initiate appropriate treatment with patients presenting with anal pain or rectal bleeding.	<p>Know the causes of anal pain, specifically thrombosed haemorrhoids, anal fissure, anorectal abscess, pilonidal disease, rectal prolapse.</p> <p>To know the causes of lower G I bleeding</p> <p>To know the causes of rectal bleeding including haemorrhoids / fistula / tumour / colitis etc.</p> <p>Options for appropriate and adequate analgesia</p>	<p>Identify those patients who need admission and those who can be appropriately managed as an outpatient. .</p> <p>Recognition and treatment of shock.</p>
Sexual assault	A knowledge of procedures in examining , reporting and referring of alleged sexual assault victims.	

9. Urology

Problem	Knowledge	Skills
Acute urinary retention.	<p>To recognise patients with acute urinary retention, relieve symptoms and establish diagnosis.</p> <p>Suprapubic catheterisation – its indications and how to do it</p>	Urethral catheterisation.
Acute scrotal pain.	<p>Knowledge of the common cause of scrotal pain, i.e. epididymo-orchitis, testicular torsion, torsion of testicular appendix, trauma, and tumour.</p> <p>Understand the role of ultrasound.</p>	Recognition that testicular torsion is an emergency and ensuring timely referral.
Other conditions	<p>Priapism</p> <p>Renal colic/renal calculi</p> <p>Phimosis and paraphimosis</p> <p>Urinary tract infections</p> <p>Fracture of the penis</p>	Manual Reduction Paraphimosis



Problem	Knowledge	Skills
	Haematuria Gangrene of the scrotum Prostatitis	

10. Gynaecology

Problem	Knowledge	Skills
Abdominal Pain (ectopic pregnancy, endometriosis, complications of ovarian/corpus luteum cysts, pelvic inflammatory disease, ovarian torsion)	A knowledge of the differential diagnosis, diagnostic features, investigation and management of gynaecological abdominal pain An awareness of the more unusual presentations of ectopic pregnancy	
Sexual assault	A knowledge of procedures in examining , reporting and referring of alleged sexual assault victims.	

11. Cardiology

Objectives: To undertake a structured approach to the history, examination and investigation of patients presenting with symptoms that may be due to a cardiological cause. To be able to interpret the results of investigations such as ECG, chest x-ray and cardiac marker testing. See below for specific conditions.

Problem	Knowledge	Skills
Chest pain	Causes (cardiac/vascular, respiratory gastrointestinal, locomotor, psychological, trauma/musculoskeletal, other)	Appropriate monitoring, treatment and investigation and be familiar with local guidelines for the management of patients with chest pain of possible cardiac origin and pulmonary embolism. To be able to risk stratify patients with chest pain and to be able to follow appropriate departmental pathways.
Patients presenting with syncope.	Causes (cardiac, neurological, endocrine and others) To be able to risk stratify. Appropriate diagnostic testing of patients with syncope.	To be able to identify those patients that require admission, those that need out patient follow up and those that can be safely discharged.



Problem	Knowledge	Skills
<p>Patients presenting in heart failure.</p>	<p>Causes, precipitating factors and prognosis.</p> <p>Knowledge of which drugs to use, contraindications and side effects.</p> <p>Non-invasive ventilation.</p> <p>Understand pathophysiology of cardiac failure.</p>	<p>Initiate investigations to identify the cause.</p> <p>Initiate treatment including non-invasive ventilation.</p> <p>To be able to identify those who require invasive ventilation.</p>
<p>Acute coronary syndromes</p>	<p>Understand stable and unstable angina and myocardial infarction. (ACS)</p> <p>Pathophysiology of STEMI/non STEMI.</p> <p>Recognise ECG changes related to ACS, including right ventricular infarct and posterior infarct.</p> <p>Indications, contraindications and complications of thrombolysis. Adjunctive treatments.</p> <p>Indications for interventional cardiology.</p> <p>Causes of ST elevation in the absence of myocardial infarction.</p> <p>Management of left ventricular failure in the setting of myocardial infarction.</p> <p>Management of cardiogenic shock</p> <p>Pharmacology of cardiac drugs.</p>	<p>Recognise the need for urgent assessment and prompt treatment with thrombolysis when indicated.</p> <p>To be able to obtain assent for thrombolysis.</p> <p>To identify and treat complications such as arrhythmias, pulmonary oedema and hypotension.</p>



Problem	Knowledge	Skills
Arrhythmias	<p>ECG recognition of narrow and broad complex tachycardias and bradycardias.</p> <p>Indications, contraindication and side effects of anti-arrhythmic drugs.</p> <p>Knowledge of ALS guidelines for management of arrhythmias.</p> <p>Recognition of complex arrhythmias, eg Wolff-Parkinson-White in AF</p> <p>Indications for pacing.</p>	<p>To recognise and correctly identify arrhythmias.</p> <p>Ability to perform carotid sinus massage.</p> <p>Explain the valsalva manoeuvre.</p> <p>Perform DC cardioversion.</p> <p>Manage arrhythmias according to Resuscitation Council Guidelines.</p> <p>Use of external pacing equipment.</p> <p>To be able to manage those patients haemodynamically compromised</p>
Severe haemodynamic compromise	<p>Cardiogenic shock, secondary to myocardial infarction, massive PE, aortic dissection, valve rupture etc.</p> <p>Emergency imaging including echocardiogram and CT.</p> <p>Role of thrombolysis / angioplasty / surgery.</p> <p>Use of inotropes.</p>	<p>Recognise the need for rapid assessment.</p> <p>Initiate investigation and treatment.</p> <p>Liaise with appropriate in-patient teams and co-ordinate investigation.</p>
Other topics.	<p>Endocarditis</p> <p>Implantable cardiac devices</p> <p>External and internal emergent cardiac pacing</p> <p>Hypertensive emergencies</p> <p>Disorders of the myocardium and pericardium</p> <p>Valve disorders</p> <p>Cardiac transplantation</p> <p>Congenital abnormalities as they</p>	



Problem	Knowledge	Skills
	<p>present in adults</p> <p>Indications for exercise ECG testing</p>	

12. Respiratory Medicine

Objectives: To be able to undertake a history and clinical examination of the respiratory system and interpret the clinical signs. Detailed knowledge of investigations of the respiratory system including interpretation of blood gases and chest x-ray. Principles of invasive and non-invasive ventilation. Principles of oxygen therapy. See below for specific conditions.

Objectives	Knowledge	Skills
Asthma	<p>Pathophysiology of asthma.</p> <p>Detailed knowledge of drug therapy including magnesium.</p> <p>To recognise the difficulties of rapid sequence induction and ventilation in asthmatics</p>	<p>To be able to recognise acute severe asthma and institute emergency treatment.</p> <p>To be able to recognise early those patients with life threatening asthma who may require ventilation.</p> <p>To be able to organise safe discharge of patients suffering from an acute asthma exacerbation.</p>
Spontaneous pneumothorax.	Causes	To be able to aspirate a pneumothorax and insert a intercostal
Pulmonary embolism	<p>Causes and risk factors.</p> <p>Differential diagnosis.</p> <p>Severity stratification, investigation and initial treatment including anticoagulation, thrombolysis and thromboembolism</p>	Recognise the need for urgent investigation (ECG, blood gas, analysis, echocardiography) and treatment.
COPD	<p>Management of acute exacerbations of COPD.</p> <p>Oxygen therapy, drug therapy.</p> <p>Management of type II respiratory failure.</p>	<p>To be able to initiate appropriate therapy.</p> <p>Recognise and treat precipitating factors.</p> <p>Identify those who can be safely discharged.</p>



Objectives	Knowledge	Skills
	Principles of non-invasive ventilation	<p>Assessment and timely initiation of non invasive ventilation in appropriate patients</p> <p>Recognition of those patients who need intubation and ventilation</p>
Pneumonia	<p>Assessment and management of community acquired pneumonia</p> <p>Recognition of the severity of pneumonia.</p> <p>Knowledge of the causes of pneumonia and appropriate antibiotic therapy.</p>	<p>To be able to undertake appropriate investigation (chest x-ray, arterial blood gases, full blood count, blood cultures).</p> <p>To be able to record the markers of severity of pneumonia.</p> <p>Identify those patients needing ventilation and intensive care.</p> <p>To initiate O₂/ IV antibiotics.</p> <p>To identify those patients suitable for community care.</p> <p>To identify those patients with associated septicaemia.</p>
Respiratory failure	<p>Identification of the causes of respiratory failure and knowledge of appropriate investigations.</p> <p>Indications for ventilation.</p>	<p>Recognition of those patients in respiratory failure.</p> <p>Initiate therapy, including oxygen and bag valve mask ventilation if needed.</p> <p>Identify those that need non-invasive ventilation/invasive ventilation.</p>
Other topics	<p>Aspiration pneumonia.</p> <p>Acute lung injury</p> <p>Pleural effusion.</p> <p>Foreign body inhalation.</p> <p>Haemoptysis.</p> <p>Presentation of TB, neoplasia and lung abscess.</p> <p>Physical and chemical irritants</p> <p>Non cardiogenic pulmonary</p>	



Objectives	Knowledge	Skills
	oedema Pneumomediastinum Adult cystic fibrosis	

13. Neurological Emergencies

Objectives: To be able to undertake a full neurological history and examination and interpret the clinical findings in the Emergency Department setting. To be able to undertake appropriate investigation, and manage those with life-threatening neurological emergencies. See below for specific conditions.

Problem	Knowledge	Skills
Headache	Causes of headache presenting to the Emergency Department, in particular <ul style="list-style-type: none"> ▪ Subarachnoid haemorrhage, AV malformation, meningitis, encephalitis. ▪ Glaucoma ▪ Raised intracranial pressure. ▪ Temporal arteritis. ▪ Migraine and cluster headaches. ▪ Sinusitis 	Initiate investigations to explore the differential diagnosis. Appropriate use of CT, ESR, LP. To be able to identify unusual headaches and liaise with Radiology / Neurology / Neuro-surgery. To be able to identify after appropriate investigation those who are suffering from benign headache and therefore suitable to be discharged.



Problem	Knowledge	Skills
Status epilepticus.	<p>Understand the appropriate use of pharmacological agents</p> <p>Follow an algorithm for status epilepticus and be aware of complications and side effects</p> <p>Indications for general anaesthetic.</p> <p>Causes and complications.</p>	<p>A, B, C, D, E approach.</p> <p>Initial focus on the readily remediable causes, but ability to retain a broader differential and appropriate investigation.</p>
Coma	<p>Assessment including GCS.</p> <p>Causes and treatment.</p> <p>Indications for intubation and ventilation.</p> <p>Indications for imaging.</p>	<p>Stabilisation and initiation of investigations.</p> <p>Be able to undertake a detailed neurological examination of the comatose patient</p>
Meningitis, encephalitis, brain abscess	<p>Clinical features, antiviral and antimicrobial therapy, complications.</p> <p>Prognosis and differential diagnosis.</p>	<p>Differential diagnosis,</p> <p>Urgent treatment</p> <p>Appropriate investigations: CT, LP antigen testing etc.</p>
Cerebrovascular disease	<p>The aetiology of stroke, TIAs and stroke syndromes.</p> <p>Subarachnoid haemorrhage.</p> <p>Carotid artery dissection.</p> <p>Venous sinus thrombosis.</p>	<p>Ensure timely referral for further investigation of those patients suffering a TIA.</p>
Others	<p>Understand vertigo, ataxia and dystonia (causes and how to investigate and treat these patients).</p> <p>Detailed knowledge of the acute presentation of myasthenia gravis, Guillain-Barré syndrome, MS and tetanus.</p> <p>Knowledge of cranial nerve disorders.</p> <p>Knowledge of dementia &</p>	<p>Recognise own limitations and know how to obtain appropriate advice</p>



Problem	Knowledge	Skills
	<p>Parkinsonism.</p> <p>Knowledge of peripheral neuropathy and entrapment syndromes.</p> <p>Recognition of raised intracranial pressure and its initial treatment.</p> <p>Knowledge of the causes and management of hydrocephalus, shunts and their complications.</p> <p>Knowledge of the presentation of brain tumours.</p>	

14. Hepatic Disorders

Problem	Knowledge	Skills
Liver failure (Acute, Acute on chronic)	<p>Causes and precipitants.</p> <p>Specific complications including encephalopathy, sepsis, fluid and electrolyte balance, renal impairment, hypoglycaemia, coagulopathy, bleeding and malnutrition.</p> <p>Interpretation of LFTs</p>	<p>Initiative investigations to establish diagnosis and cause.</p> <p>To manage the complications of liver failure.</p> <p>Avoid precipitating/exacerbating drugs.</p>
Alcohol withdrawal syndrome	<p>Identify this syndrome and its complications, e.g. Wernicke Korsakoff Syndrome.</p>	<p>Recognise the need for vitamin administration.</p> <p>Initiate appropriate drug treatment.</p> <p>Involve other specialties e.g. psychiatry, social services, General Practitioner, rehabilitation services.</p> <p>To be sympathetic and non judgemental.</p>
Other topics	<p>Spontaneous bacterial peritonitis.</p> <p>Jaundice</p> <p>Liver transplant</p> <p>Alcoholic liver disease</p>	



Problem	Knowledge	Skills
	Hepatorenal syndrome Portal hypertension and variceal haemorrhage Hepatitis	

15. Toxicology

Objectives: To be able to assess and initiate the management of patients presenting with toxicological problems. To be able to recognise common toxidromes, understand the role of antidotes. To be able to access poisons information and understand the legal, psychiatric and social aspects of overdose. To understand the pharmacology of common poisons. See below for specific problems

Problem	Knowledge	Skills
Poisoning and drug overdose.	Initial management of common poisonings with salicylates, paracetamol, antidepressants, opioids, benzodiazepines, carbon monoxide, SSRIs. (This list is not exhaustive.) The role of drug testing / screening.	Assess and provide emergency care. To be able to use poisons information. and know the role of charcoal and alkalinisation and antidotes.
Illicit drugs	Psychological and physiological effects of opioids, amphetamines, ecstasy, cocaine and alcohol. To understand addiction, dependence and withdrawal.	Recognise illicit drug use, acquire accurate history, and be able to use poisons information services.
Other topics.	Industrial toxicology, pesticides, etc., bioterrorism, envenomation Carbon monoxide poisoning	



16. Renal Disease

Objectives: To be able to undertake history and examination, establish diagnosis, differential diagnosis and initiate management of common renal emergencies. See below for specific problems.

Objectives	Knowledge	Skills
Acute renal failure	<p>To be able to identify pre-renal uraemia, causes of oliguria, strategies to treat reversible causes of acute renal failure.</p> <p>Identify the patient with possible urinary tract obstruction.</p> <p>First line methods of investigating the severity and cause of acute renal failure.</p> <p>Indications for dialysis.</p> <p>Understand the different type of dialysis and their complications.</p>	<p>Use clinical findings and laboratory results to detect and treat pre renal uraemia and urinary tract obstruction.</p> <p>Initiate investigations to identify the cause and assess the severity of renal failure.</p> <p>Liaise with renal physicians.</p>
Urinary tract infections	<p>To be able to diagnose lower urinary tract infection, pyelonephritis and recognise the patient with an infected or obstructed urinary tract.</p> <p>To be able to select appropriate antimicrobial agents and identify those patients who warrant further investigation, e.g. male with UTI.</p>	<p>Identify those patients who require admission, those who require out patient follow up or those whose treatment can continue with Primary Care.</p>
Patients with renal replacement therapy.	<p>Recognise common emergencies in patients with a renal transplant or those on dialysis</p>	<p>Timely recognition and emergency treatment of life threatening conditions in these patients e.g. hyperkalaemia.</p> <p>To be able to initiate emergency management, identify those who need emergent dialysis and liaise with renal physicians.</p>
Other topics.	<p>Rhabdomyolysis, acute and chronic renal failure, haemolytic uraemic syndrome, hepato-renal syndrome.</p> <p>Haematuria, proteinuria.</p>	



17. Diabetes and Endocrinology

Objectives: To be able to assess and initiate management of patients presenting with diabetic and the other common endocrinology emergencies. To understand the pathophysiology. See below for specific problems.

Problem	Knowledge	Skills
Diabetic ketoacidosis	To be able to make the diagnosis and recognise the precipitating causes and undertake appropriate investigations. To be aware of protocols for the management of diabetic ketoacidosis.	To be able to prescribe fluids, insulin and potassium appropriately.
Hyperosmolar non-ketotic coma.	To be able to make the diagnosis and identify precipitating causes.	To prescribed fluids, insulin and potassium appropriately.
Hypoglycaemia	Clinical features and precipitating causes.	To be able to measure blood glucose at the bedside. To be able to rapidly administer glucose and Glucagon.
Acute adreno cortical insufficiency.	To be able to identify the types and causes of insufficiency and to be able to recognise an adrenal crisis.	To be able to manage the emergency, initiate appropriate investigations and treatment.
Other topics	Thyroid storm and hypothyroid crisis Phaeo-chromocytoma Pituitary failure Diabetes Insipidus Complications of long-standing diabetes	



18. Haematology

Objectives: By taking appropriate history, examination and investigation identify the following common haematological emergencies. See below for specific problems.

Problem	Knowledge	Skills
Sickle Cell crisis and other common haemoglobinopathies	<p>Understand their pathogenesis.</p> <p>Clinical features and precipitating circumstances.</p> <p>Complications: Sepsis, aplasia, acute sequestration, haemolysis.</p> <p>Treatment of crises and complications</p>	<p>Manage fluid balance and analgesia.</p> <p>Liaison with haematology.</p> <p>Patient education and prevention.</p>
Disseminated intravascular coagulation.	<p>Understand the pathophysiology.</p> <p>Diagnostic criteria.</p> <p>Recognition of underlying causes: trauma, massive transfusion, fluid, embolism, sepsis etc.</p>	<p>To initiate emergency treatment</p> <p>Close liaison with haematology</p> <p>Initiate investigations to identify the underlying cause.</p>
Other topics.	<p>Anaemia, haemophilia, recognition of marrow failure, complications of anticoagulants, especially in the head injured patient. Management of overanticoagulation. ITP.</p> <p>Presentation of the common haematological malignancies.</p>	



19. Infectious Diseases and Sepsis

Objectives: To be able to identify after complete history, examination and investigation those patients suffering from infectious diseases. See below for specific problems.

Problem	Knowledge	Skills
In general	To be able to identify those patients who present as infectious disease emergencies, e.g. malaria, meningococcal septicaemia, Weils' disease, Tuberculosis, necrotising fasciitis and HIV.	To recognise those patients whose presentation is due to infectious disease, initiate appropriate antibiotic and supportive therapy.
Sepsis	<p>Definition of sepsis, severe sepsis, septic shock and systemic inflammatory response syndrome.</p> <p>Complications of sepsis.</p> <p>Typical sites of origin and microbiology.</p> <p>Understand the pathophysiology of sepsis causing shock.</p>	<p>Assess severity.</p> <p>Select appropriate investigations.</p> <p>Recognise and rapidly resuscitate sick patients with presumed meningitis, toxic shock syndrome and severe sepsis / shock.</p> <p>Indications for vasopressors, and their initiation. To be able to select the appropriate antibiotic.</p>
Immunocompromised hosts.	To be able to identify those patients who are immunocompromised and have atypical presentation of infection (e.g. the elderly, those on steroids or other immunosuppressive drugs, chemotherapy, HIV).	<p>High index of suspicion of infection especially in the higher risk patient population.</p> <p>To liaise with the appropriate specialists regarding investigation and treatment</p>
Fever from abroad.	Likely causes, especially malaria, typhoid, TB and sexually transmitted diseases.	<p>To be able to take a travel history and check vaccination/prophylaxis especially compliance.</p> <p>To be able to select appropriate investigations.</p>



20. Dermatology

Objectives: To be able to assess patients with dermatological problems. To be able to describe dermatological lesions and recognise dermatological emergencies. See below for specific problems.

Problem	Knowledge	Skills
Urticaria Angio-oedema Anaphylaxis	Understand precipitating causes associations and complications. Understand the pathophysiology of these conditions.	Assess airway patency and manage upper airway obstruction and initiate rapid treatment. Knowledge of anaphylaxis guidelines. Recognise the importance of a follow up (allergy clinic) and the role of the EpiPen.
Cellulitis, erysipelas, impetigo, necrotising infection	Causal microbial agents and appropriate antibiotics. Knowledge of associated underlying problems	Identify those patients who are systemically unwell and require admission, those who may be managed as an outpatient. To identify those who have abscess formation and organise drainage.

21. Environmental Emergencies

Objectives	Knowledge	Skills / Attitudes
To identify, resuscitate, treat and appropriately refer environmental emergencies.	Heat stroke and heat exhaustion Drug related hyperthermias Hypothermia/Frost bite Electric burns / electric shock / lightning Decompression illness Barotrauma Near drowning	A, B, C, D approach To be able to provide specific treatments e.g. cooling / warming. Recognise associated problems e.g. myoglobinuria.



22. Psychiatry

Problem	Knowledge	Skills
Deliberate self-harm/parasuicide	Risk factors for suicide. Liaison with psychiatric services.	Assessment of suicide risk. Management within the Emergency Department Appropriate referral and discharge.
Acute psychosis	Causes including organic. Initial management options including drug indications/contraindications.	Establish if organic causes present.
Other topics	Violent behaviour (domestic, sexual assault, staff safety, restraint) Dementia – assessment and causes	

23. Major Incident Management

Objectives	Knowledge	Skills
To understand the role of the E.D. and its staff in major incidents, to understand the planning and to be prepared for a major incident. To be able to take a senior coordinating and command role in the reception phase of a major incident in the E.D.	Definition of major incident. Understand typical major incident plan. To participate in major incident exercises. Understand the importance of triage, communication, equipment and documentation for the major incident. To understand the term CBRN and its implications for casualty handling and care.	To be a good communicator, (to be able to use the radio) calm, co-operative, flexible and demonstrate leadership within a team. Ability to triage. Work with other agencies



24. Paediatrics

Objectives : The paediatric content of this curriculum reflects what would be expected of a typical emergency physician in departments that see both children and adults. Most of the topics and skills mentioned previously in the curriculum are directly applicable to children. The following points are specific for the paediatric group.

Problem	Knowledge	Skills
Earache or discharge in children	Understand the presentation of otitis media and glue ear and their association with hearing loss in children	Be able to perform otoscopy correctly Be able to identify otitis externa and otitis media and treat them appropriately Recognise that language delay or attention deficit requires onward referral
Acute throat infections in children	Be aware of life-threatening airway obstruction in epiglottitis, and how to avoid it	Recognise the potentially life threatening nature of post-tonsillectomy bleeding
Acute stridor in children	Understand the infective, allergic and obstructive causes of this condition	Be able to institute appropriate acute airways management
Asthma in children	Understand the pharmacological therapies available and their indications and complications Understand the indications and complications of drugs used in intubating severely asthmatic patients	Be able to recognize patients with life-threatening asthma who may require ventilation Be able to provide bag valve mask ventilation and recognise the need for intubation in life-threatening asthma
Bronchiolitis	Understand the common presentations of bronchiolitis	Be able to prioritise and interpret investigations and treatment Be able to formulate a differential diagnosis Be able to recognize other conditions with similar presentations including cardiac causes
Seizures including status epilepticus in children	Know the differential diagnosis of seizures including febrile convulsions	Be able to recognize and treat the life-threatening complications Be able to institute appropriate management for status epilepticus (e.g. EPLS protocol)



Problem	Knowledge	Skills
UTI in children	<p>Understand the presentation, aetiology and management of urinary tract infections in the acute setting at different age groups</p> <p>Understand the range and accuracy of different methods of urine collection</p>	be able to interpret common urine microscopic and culture findings and institute appropriate treatment according to local policy
Leukaemia / lymphoma in children	Understand the presentations	Be able to recognize and ensure referral
Purpura and bruising in children	Understand the causes of purpura	Be able to recognise features in the presentation which suggest serious pathology including meningococemia and leukaemia
Febrile child	Understand the implication of fever without a focus in different age groups	Be able to appropriately investigate and treat children with fever without a focus in all age groups
Non Accidental Injury (NAI)	Be aware of signs of suspicious NAI	Be able to appropriately assess, document , manage and refer patients suspected to be suffering from NAI.



25. Radiology

Objectives : Knowledge of and indications for the following common studies in Emergency Medicine :

Investigation	Knowledge / Skills
<p>Plain radiology</p>	<p>Understand the indications , be able to systematically describe and diagnose abnormalities in x rays of the following regions:</p> <ul style="list-style-type: none"> • “Trauma” series • Chest • Abdomen • Shoulder • Elbow • Wrist • Hand* • Hip and Pelvis • Knee • Ankle • Foot • Spine • Skull
<p>Computed Tomography (CT)</p>	<p>Understand the indications , be able to systematically describe and diagnose abnormalities in CT scans of the following regions:</p> <ul style="list-style-type: none"> • Brain • C-spine • Thoracic and lumbar spine • Chest • Abdomen
<p>Magnetic Resonance Imaging (MRI)</p>	<p>Understand the indications , be able to systematically describe and diagnose abnormalities in MRI scans of the following regions:</p> <ul style="list-style-type: none"> • Brain • Spine • Joints – wrist, knee



Ultrasound	Understand the indications and be able to use and interpret: <ul style="list-style-type: none">• FAST• Assessment of Abdominal Aorta and IVC• Vascular Access• Echocardiography in Life Support
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