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1 PRINCIPLES OF EMERGENCY MEDICINE

1.1 Definitions and Background

- a. Emergency medicine
- b. Emergency department
- c. Emergency physician

1.2 Development of Emergency Medical Services

- a. History of development of emergency medicine in Hong Kong
- b. History of emergency medicine in other countries

1.3 Triage

- a. Principles of triage
- b. Triage system & guidelines in local emergency department

1.4 Patient care

- a. Commitment to deliver patient-centered care
- b. Ability to build own knowledge base and think analytically and critically in clinical practice
- c. Ability to react timely and appropriately in the management of patients including assessment, diagnosis, treatment, managing complications and rehabilitation
- d. Privilege to perform procedures/operations in accordance with local guidelines, and ability to use modern technology effectively

2 RESUSCITATION

2.1 Airway

- a. Basic airway maintenance techniques
- b. Emergency airway management
- c. Identification of the difficult and failed airway
- d. Oxygen delivery systems
- e. Bag mask ventilation
- f. Endotracheal intubation and rapid sequence intubation
- g. Alternative/different airway techniques
 - i. Laryngeal mask
 - ii. Combitube
 - iii. Supraglottic devices
 - iv. Lighted stylet
 - v. Flexible fiberoptic intubation
 - vi. Video laryngoscopy
 - vii. Blind intubation
 - viii. Awake intubation
- h. Surgical airway techniques
 - i. Needle/surgical cricothyroidotomy
 - ii. Tracheostomy
- i. Pharmacology of airway management
 - i. Pretreatment agents
 - ii. Sedative and induction agents
 - iii. Neuromuscular blocking agents
- j. Monitoring
 - i. Confirming endotracheal tube position
 - ii. Capnography
 - iii. Pulse oximetry
- k. Mechanical ventilation
 - i. Ventilator used in local emergency department
 - ii. Non-invasive ventilation
- l. Tracheal suctioning
- m. Extubation

2.2 Life Support

- a. Pathophysiology of cardiac arrest
- b. Basic life support
- c. Advanced life support algorithms and pharmacology
- d. Defibrillation
- e. Post-cardiac arrest syndrome and management
- f. Special arrest situations
 - i. Toxicology in emergency cardiovascular care
 - ii. Paediatric
 - iii. Pregnancy
 - iv. Trauma
 - v. Drowning
 - vi. Hypothermia
 - vii. Electrical current and lightning injury
 - viii. Severe, life-threatening asthma
 - ix. Anaphylaxis
 - x. Out-of-hospital

2.3 Hemodynamic and respiratory monitoring

- a. Clinical vital signs (BP, pulse, RR, temp, SpO₂)
- b. Non-invasive monitoring
- c. Invasive monitoring

2.4 Shock

- a. Pathophysiology
 - i. Cardiogenic
 - ii. Hypovolemic
 - iii. Distributive
 - iv. Obstructive
 - v. Dissociative
- b. Intravenous fluid composition and therapy
 - i. High volume intravenous infusion techniques
- c. Peripheral venous access
 - i. Accessing indwelling vascular devices
 - ii. Vascular access techniques in infants & children

- d. Central venous access
 - i. Subclavian
 - ii. Internal jugular
 - iii. Femoral
 - iv. Cubital

- e. Central venous pressure measurement

- f. Alternative venous access
 - i. Intraosseus
 - ii. Peripheral venous cutdown

- g. Inotropes

- h. Pressors

- i. Arterial puncture and cannulation

2.5 Coma

- a. Care of the comatose patient
- b. Brain death

2.6 Age-specific differences

- a. Neonatal
- b. Infant
- c. Paediatric
- d. Elderly

2.7 Breaking bad news

3 ANALGESIA, ANESTHETIC AND SEDATION

3.1 Pain Management

- a. Acute pain management
 - i. Common analgesic drugs
 - ii. Methods of delivery
 - iii. Adjuncts
 - iv. Trauma pain management
 - v. Burn pain management
- b. Breakthrough pain in Chronic pain condition
- c. Pain assessment and pain scores

3.2 Local Anaesthetic Techniques

- a. Local anaesthetic pharmacology and toxicity
- b. Regional nerve blocks
 - i. Digital
 - ii. Wrist
 - iii. Brachial plexus
 - iv. Femoral
 - v. Facial
 - vi. Foot
- c. Intravenous regional anaesthesia
- d. Local anaesthetic adjuncts and alternatives

3.3 Procedural Analgesia and Sedation

4 MEDICINE & SURGERY

4.1 Cardiovascular

- a. Clinical examination of the cardiovascular system
- b. Interpretation of symptoms and clinical signs of the cardiovascular system
- c. Acute coronary syndromes (ACS)
 - i. Approach to the patient with chest pain
 - ii. Prehospital management
 - iii. Low-risk chest pain
 - iv. Stable angina
 - v. Unstable angina
 - vi. Myocardial infarction
 - vii. Right ventricular myocardial infarction
 - viii. Thrombolysis in myocardial infarction
 - ix. Left ventricular failure and cardiogenic shock in myocardial infarction
 - x. Interventional cardiology in acute coronary syndromes
 - xi. Pharmacological agents used in acute coronary syndromes
 - xii. Interpreting the ECG in the setting of acute coronary syndromes
 - xiii. ST elevation in the absence of myocardial infarction
 - xiv. Chest pain pathways
- d. Syncope
 - i. Differential diagnosis
 - ii. Identification of at-risk groups
 - iii. Management and disposition
- e. Congestive cardiac failure
- f. Valvular disorders
 - i. Aortic
 - ii. Mitral
 - iii. Tricuspid
 - iv. Pulmonary
 - v. Conditions that are associated with valvular disorders
- g. Disorders of the myocardium
 - i. Cardiomyopathy
 - ii. Aneurysm
 - iii. Atrial septal defect

- iv. Ventricular septal defect
- v. Dextrocardia

- h. Disorders of the pericardium
 - i. Acute pericarditis
 - ii. Constrictive pericarditis
 - iii. Pericardial effusion
 - iv. Pericardial tamponade
 - v. Pericardiocentesis

- i. Cardiogenic shock

- j. Hypertension
 - i. Urgencies
 - ii. Emergencies
 - iii. Pharmacological agents used to treat hypertension

- k. Disturbances of cardiac rhythm
 - i. Mechanisms of arrhythmias
 - ii. Bradycardias
 - Sinus bradycardia
 - Heart block
 - Other bradycardias
 - iii. Tachycardias
 - Narrow complex regular
 - Narrow complex irregular
 - Wide complex regular
 - Wide complex irregular
 - Torsade des pointes
 - Ventricular fibrillation
 - iv. Ectopy
 - Narrow complex
 - Wide complex
 - v. Accessory pathways
 - Wolff-Parkinson-White syndrome
 - Others
 - vi. Electrophysiological testing
 - vii. Drugs associated with cardiac arrhythmias
 - viii. Pharmacological agents used to treat arrhythmias

- ix. Implantable cardiac devices (ICDs)
 - Implantable pacemakers
 - Implantable defibrillators
 - Complications of ICDs
- l. External emergent cardiac pacing
- m. Aortic aneurysm and dissection
- n. Disorders of the peripheral vasculature
 - i. Deep venous thrombosis
 - ii. Pulmonary embolism
 - iii. Mesenteric ischaemia
- o. Cardiac transplantation
- p. Endocarditis
- q. Tumours
- r. Congenital heart disease
 - i. Cyanotic heart disease
 - ii. Non-cyanotic heart disease
- s. Rheumatic fever

4.2 Respiratory

- a. Clinical examination of the respiratory system
- b. Interpretation of symptoms and clinical signs of the signs of the respiratory system
- c. Respiratory failure
- d. Upper airway obstruction
- e. Tracheobronchial foreign body
- f. Infectious diseases
 - i. Croup
 - ii. Bronchitis
 - iii. Pneumonia
 - iv. Empyema & Lung abscess
 - v. TB
 - vi. Bronchiectasis
- g. Aspiration
- h. Pneumothorax and tension pneumothorax
- i. Needle thoracocentesis

- j. Intercostal catheter insertion
- k. Pneumomediastinum
- l. Mediastinitis
- m. Mediastinal masses
- n. Acute lung injury/respiratory distress syndrome
- o. Asthma
- p. Chronic obstructive pulmonary disease
- q. Pleural effusions
- r. Haemoptysis
- s. Cavitating lung lesions
- t. Isolated "coin" lesions on chest x-ray
- u. Disorders of the chest wall
- v. Disorders of the mediastinum
- w. The respiratory effects of obesity
- x. Sleep apnoea
- y. Neoplastic disorders
- z. Congenital/neonatal
 - i. Bronchopulmonary dysplasia
 - ii. Cystic fibrosis
 - iii. Diaphragmatic hernia
 - iv. Oesophageal
 - v. Tracheobronchial
 - vi. Vascular ring

4.3 Gastrointestinal

- a. Clinical examination of the gastrointestinal system

- b. Interpretation of the symptoms and clinical signs of the gastrointestinal system
- c. Assessment and management of abdominal pain
- d. Gastrointestinal bleeding
 - i. Indications for urgent gastroscopy
 - ii. Techniques used with gastroscopy to control haemorrhage
 - iii. Pharmacological agents used in management
 - iv. Oesophageal varices
 - v. Balloon tamponade
 - vi. Medical treatment
 - vii. Peptic ulceration
 - viii. Angiodysplasia of the colon
- e. Oesophageal disorders
 - i. Infectious disorders
 - ii. Oesophagitis
 - iii. Gastroesophageal reflux
 - iv. Motor abnormalities
 - v. Mallory-Weiss syndrome
 - vi. Stricture and stenosis
 - vii. Tracheo-oesophageal fistula
 - viii. Neoplastic disorders
 - ix. Esophageal foreign body
 - x. Esophageal perforation
- f. Peptic ulcer disease and gastritis
- g. Feeding tube management
- h. Inflammatory bowel disease
- i. Irritable bowel syndrome
- j. Infectious disorders and gastroenteritis
- k. Hepatic disorders
 - i. Jaundice
 - ii. Interpretation of liver function tests
 - iii. Hepatic failure
 - iv. Hepatitis
 - v. Other infectious disorders of the liver
 - vi. Vascular disorders

- vii. Liver transplant patient
 - viii. Alcoholic liver disease
 - ix. Hepato-renal syndrome
 - x. Portal hypertension
-
- l. Abdominal paracentesis
-
- m. Pancreatitis
-
- n. Cholelithiasis
-
- o. Cholecystitis
-
- p. Cholangitis
-
- q. Non-traumatic splenic rupture
-
- s. Bowel obstruction
 - i. Post-surgical adhesions
 - ii. Malrotation
 - iii. Volvulus
 - iv. Congenital pyloric stenosis
 - v. Intussusception
 - vi. Insertion of a nasogastric tube
-
- t. Diverticular disease
-
- u. Meckel's diverticulum
-
- v. Perforated viscus
-
- w. Acute appendicitis
-
- x. Peritoneal adhesions
-
- y. Ischaemic colitis
-
- z. Peritonitis
-
- aa. Retroperitoneal haematoma
-
- bb. Intra-abdominal/retroperitoneal abscesses
-
- cc. Hernias

dd. Tumours

ee. Anorectal diseases

- i. Haemorrhoids
- ii. Perianal haematoma
- iii. Anal fissure
- iv. Anorectal abscesses
- v. Pilonidal disease
- vi. Rectal bleeding
- vii. Rectal prolapse
- viii. Idiopathic anal pain
- ix. Radiation proctitis
- x. Proctoscopy and sigmoidoscopy
- xi. Rectal foreign bodies

4.4 Neurological

- a. Clinical examination of the neurological system
- b. Interpretation of symptoms and clinical signs of the neurological system
- c. Disorders of the cranial nerves
 - i. Facial nerve paralysis
 - Upper & lower motor neuron lesions
 - Bell's Palsy, Ramsay Hunt syndrome
- d. Approach to dizziness & vertigo
- e. Headache and facial pain
 - i. Pharmacological agents
 - ii. Indications for imaging (CT, MRI)
 - iii. Migraine
 - iv. Cluster headache
 - v. Tension headache
 - vi. Raised intracranial pressure
 - vii. Temporal arteritis
 - viii. Neuralgia
 - ix. TMJ syndrome

- f. Acute Stroke
 - i. Transient ischaemic attacks
 - ii. RINDS
 - iii. Thrombotic stroke
 - iv. Embolic stroke
 - v. Haemorrhagic stroke
 - vi. Cerebellar stroke
 - vii. Thombolysis in stroke
 - viii. Stroke and hypertension
 - ix. Syndromes of stroke
 - x. Anterior cerebral artery
 - xi. Middle cerebral artery
 - xii. Posterior inferior cerebellar artery syndrome
 - xiii. Lacunar syndrome
 - xiv. Midbrain, pontine and brainstem syndromes
 - xv. Stroke units

- g. Altered mental state
 - i. Coma
 - ii. Acute brain syndrome
 - iii. Dementia
 - iv. Memory disorders

- h. Approach to ataxia and gait disturbances

- i. Seizures

- j. Status epilepticus

- k. Dystonic reactions

- l. Lumbar puncture
 - i. Interpretation of CSF fluid biochemistry, cell count and microbiology

- m. Infectious disorders of the CNS and PNS
 - i. Meningitis
 - ii. Encephalitis
 - iii. Abscess
 - iv. Tuberculosis
 - v. Toxoplasmosis
 - vi. Cryptococcal infection

- vii. HIV

- n. Guillain-Barré syndrome

- o. Multiple sclerosis

- p. Myasthenia gravis & Eaton-Lambert syndrome

- q. Botulism

- r. Tetanus

- s. Motor neurone disease

- t. Peripheral neuropathy

- u. Disorders of the peripheral nervous system
 - i. Peripheral nerve lesions
 - ii. Brachial plexus syndrome

- v. Myopathy

- w. Periodic paralysis

- x. Parkinson's disease

- y. Hydrocephalus

- z. Complications of the central nervous system devices

- aa. Disorders of the spinal cord

- bb. Medical problems in the spinally-injured patient

- cc. Paraneoplastic disorders of the CNS and PN

- dd. Intracranial aneurysms

- ee. AV malformations

- ff. Subarachnoid haemorrhage

- gg. Cerebral tumours

- hh. Shunt complications

- ii. Management of elevated intracranial pressure
- jj. Intracranial abscesses
- kk. Cerebral venous thrombosis
- ll. Spinal epidural abscess
- mm. Intravertebral disc disease
- nn. Spinal stenosis

4.5 Endocrine

- a. Clinical examination of the endocrine system
- b. Interpretation of symptoms and clinical signs of the endocrine system
- c. Diabetes Mellitus
 - i. brittle blood glucose
 - ii. poorly controlled blood glucose
 - iii. Hypoglycaemia
 - iv. Diabetic ketoacidosis
 - v. Hyperosmolar hyperglycaemic nonketotic syndrome
- d. Alcoholic ketoacidosis
- e. Adrenal disorders
 - i. Acute adrenal insufficiency (adrenal crisis)
 - ii. Congenital adrenal insufficiency
 - iii. Cushing's disease
 - iv. Conn's syndrome
 - v. Pheochromocytoma
- f. Thyroid disorders
 - i. Urgencies associated with thyroid disorders
 - ii. Thyroid storm
 - iii. Hypothyroid crisis
- g. Pituitary disorders: panhypopituitarism
- h. Parathyroid disorders

4.6 Haematological

- a. Clinical examination of the haematological system
- b. Interpretation of symptoms and clinical signs of the haematological system
- c. Interpretation of haematological investigations
- d. Anaemia
- e. Abnormal haemoglobins & sickle cell disease
- f. Disorders of haemostasis and coagulation
 - i. Congenital
 - Haemophilias, VWD, ITP
 - ii. Acquired
 - TTP, DIC
- g. Neutropenia
- h. Thrombocytopenia
- i. Thrombocytosis
- j. Disorders of white cells
- k. Leukaemia
- l. Myelodysplastic disorders
- m. Paraproteinaemia
- n. Anticoagulant agents
- o. Antiplatelet agents
- p. Blood transfusion and component therapy
- q. Transfusion reactions

4.7 Oncology

- a. Clinical examination in patients suspected of having a malignancy
- b. Interpretation of symptoms and clinical signs associated with malignancy
- c. Complications of chemotherapeutic agents
- d. Complications related to local tumour involvement
 - i. Acute spinal cord compression
 - ii. Upper airway obstruction
 - iii. Malignant pericardial effusion
 - iv. Superior vena cava syndrome
 - v. Pancoast's syndrome
- e. Hyperviscosity syndrome

- f. Complications related to myelosuppression
 - i. Febrile neutropenia
 - ii. Immunosuppression and opportunistic infections
 - iii. Thrombocytopenia and haemorrhage
- g. Malignancies specific to organ systems
- h. Paraneoplastic syndromes
- i. End of life care

4.8 Renal

- a. Clinical examination of the renal system
- b. Interpretation of symptoms and clinical signs of the renal system
- c. Assessment and management of pyuria
- d. Assessment and management of haematuria
- e. Interpretation of urine dipstick results
- f. Interpretation of urine microscopy and culture
- g. Urinary catheter insertion
- h. Suprapubic catheter insertion
- i. Infectious disorders
 - i. Urinary tract infection
 - ii. Balantitis
 - iii. Prostatitis
 - iv. Pyelonephritis
 - v. Infected obstructed kidney
- j. Nephrotic syndrome
- k. Glomerulonephritis
- l. Acute renal failure
- m. Chronic renal failure
- n. Hyperkalaemia in renal failure
- o. Renal dialysis
- p. Peritoneal
- q. Intermittent haemodialysis
- r. Continual renal replacement therapies
- s. Complications of renal dialysis
- t. Renal colic
- u. Urinary retention

- v. Obstructive uropathy
- w. Vesico-ureteric reflux
- x. Prostatic hypertrophy
- y. Tumours
- z. Acute scrotum
- aa. Epididymitis
- bb. Orchitis
- cc. Testicular torsion
- dd. Torsion of the testicular appendage
- ee. Priapism
- ff. Phimosis/paraphimosis

4.9 Musculo-skeletal disorders

- a. Clinical examination of the rheumatological system
- b. Interpretation of symptoms and signs of the rheumatological system
- c. Arthrocentesis
- d. Rheumatoid arthritis
- e. Osteoarthritis
- f. Crystal arthropathies
- g. Urgencies and emergencies in systemic rheumatic disease
- h. Thoracic and lumbar pain
- i. Neck pain
- j. Shoulder pain
- k. Tunnel syndromes
 - i. Carpal tunnel
 - ii. Ulnar tunnel
 - iii. Tarsal tunnel
- l. Drug management
 - i. First line & second line drugs
 - ii. Complications

4.10 Dermatology

- a. Clinical examination of the dermatology system
- b. Interpretation of symptoms and clinical signs of the dermatological system

- c. Examination and description of a lump, lesion ulcer of the skin, or rash
- d. Dermatitis and eczema
- e. Scabies
- f. Urticarial and allergic rashes
- g. Viral exanthems
- h. Macular rashes
- i. Maculopapular lesions
 - i. Erythema multiforme
 - ii. Erythema nodosum
 - iii. Others
- j. Papular and nodular rashes
- k. Petechial and purpuric rashes
- l. Vesicular and bullous rashes
 - i. Pemphigus
 - ii. Pemphigoid
 - iii. Staphylococcal scalded skin syndrome
 - iv. Stevens-Johnson syndrome
 - v. Toxic epidermal necrolysis
 - vi. Herpetic infections
 - vii. Others
- m. Ulceration
- n. Cellulitis
- o. Dermatological manifestations of underlying systemic disease
- p. Dermatological manifestations of neoplastic disorders

4.11 Infectious disorders

- a. Clinical examination in patients with infectious disease
- b. Interpretation of symptoms and signs in patients with infectious disease
- c. Blood cultures
- d. Universal and standard precautions
- e. Protection of staff from infectious disease
- f. Isolation of patients with infectious disease
- g. Infection control in the emergency department
- h. Body fluid exposure
- i. Tetanus, rabies vaccination
- j. Vaccination in the emergency department
- k. Infectious disease surveillance

- l. Infectious disease outbreaks
- m. Reportable communicable diseases
- n. Contact management of patients with serious infectious disease
- o. Antibiotic use in the emergency department
- p. Outpatient antibiotic therapy
- q. Febrile infant management: bacteraemia
- r. Systemic inflammatory response syndrome (SIRS)
- s. Sepsis, severe sepsis and septic shock
- t. Multiple organ dysfunction
- u. Toxic shock syndrome
- v. Infections in the returned traveller
 - i. Malaria
 - ii. Dengue fever
 - iii. Haemorrhagic fevers
 - iv. Typhoid
 - v. Others
- w. Bacterial
 - i. Food poisoning
 - ii. Meningococcaemia
 - iii. Disseminated gonococcal infection
 - iv. Tuberculosis and other mycobacterial infections
 - v. Gas gangrene
 - vi. Necrotising fasciitis
 - vii. Fournier's gangrene
 - viii. Diphtheria
 - ix. Haemophilus influenzae
- x. Sexually transmitted infections
- y. Viral
 - i. HIV
 - ii. Infectious mononucleosis
 - iii. Influenza/parainfluenza
 - iv. Herpes simplex
 - v. Herpes zoster
- z. Mycoplasma infections
- aa. Fungal infections
- bb. Protozoal infections
- cc. Tick-borne infections
- dd. Infection from a marine source
- ee. Infection in the burns patient

- ff. Biologic weapons

4.12 Immunology

- a. Clinical examination of the patient with a suspected immunological disorder
- b. Interpretation of symptoms and signs of the immunological systems
- c. Hypersensitivity
 - i. Allergic reactions
 - ii. Anaphylactoid reactions
 - iii. Anaphylaxis
 - iv. Angioedema
 - v. Drug allergies
- d. Collagen vascular disease
 - i. Raynaud's syndrome
 - ii. Reiter's disease
 - iii. Scleroderma
 - iv. Systemic lupus erythematosus
- e. Vasculitis
 - i. Polyarteritis nodosa
 - ii. Wegener's granulomatosis
- f. Kawasaki's disease
- g. Sarcoidosis
- h. Complication of immunosuppressant agents
- i. Fever in an immunocompromised patient

4.13 Metabolic

- a. Volumes and composition of the
 - i. Total body water
 - ii. Intracellular fluid
 - iii. Extracellular fluid

- iv. Plasma
- v. Blood

- b. Electrolytes
 - i. Hypokalaemia
 - ii. Hyperkalaemia
 - iii. Hyponatraemia
 - iv. Hypernatraemia
 - v. Hypocalcaemia
 - vi. Hypercalcaemia
 - vii. Hypermagnesaemia
 - viii. Hypomagnesaemia
 - ix. Hyperphosphataemia
 - x. Hypochloraemia
 - xi. Hyperchloraemia
 - xii. Inappropriate ADH syndrome
 - xiii. Interpretation of the electrocardiograph in electrolyte disturbance

4.14 Acid Base Disorders

- a. Interpretation of arterial blood gases
 - i. Alveolar gas equation
 - ii. A-a gradient

- b. Metabolic acidosis

- c. Metabolic alkalosis

- d. Respiratory acidosis

- e. Respiratory alkalosis

- f. Anion gap

- g. Osmolar gap

- h. Indications and monitoring for the administration of sodium bicarbonate

4.15 Vascular

- a. Peripheral ischaemia
- b. Arterial occlusion
- c. Venous occlusion
- d. Intestinal ischaemia
- e. Aortic disorders
 - i. Aortic aneurysms
 - ii. Aortic dissection
- f. Mycotic aneurysms: intra-arterial drug injection
- g. Varicosities - complications and management

4.16 Plastics

- a. Plastic surgical techniques
 - i. Grafts
 - ii. Flaps
 - iii. Advanced wound closure

4.17 Breast

- a. Approach to patient presenting with a breast lump
- b. Carcinoma of the breast
- c. Fibroadenoma of breast
- d. Mastitis
- e. Breast abscess

5 PEDIATRIC

5.1 General principles

- a. Understanding the basic anatomical and physiological difference
- b. Resuscitation and Pediatric Advanced Life Support (PALS)
- c. Approach to the febrile child

5.2 Neonates and Infants

- a. Approach to crying baby
- b. Apnoea of prematurity, Abdominal pain in a child
- c. Altered mental status
- d. Hyperbilirubinaemia
- e. Feeding problems
- f. Congenital heart disease
- g. Diaphragmatic hernia
- h. Congenital syndromes
- i. Hypertrophic pyloric stenosis
- j. Malrotation with midgut volvulus
- k. Intussusception
- l. Hirschprung's disease
- m. Gastroesophageal reflux
- n. Necrotising enterocolitis
- o. Metabolic disease
- p. Respiratory distress
- q. Seizures
- r. Infections/sepsis
- s. Occult bacteraemia
- t. Sudden infant death syndrome

5.3 Specific conditions

- a. Respiratory emergencies
 - i. Croup
 - ii. Epiglottitis
 - iii. Asthma
 - iv. Bronchiolitis
 - v. Pneumonia
 - vi. Foreign bodies in the respiratory tract

- b. Gastrointestinal emergencies
 - i. Appendicitis
 - ii. Henoch Schonlein Purpura (HSP)
 - iii. Gastrointestinal foreign bodies
 - iv. Infectious diarrhoeal disease and dehydration

- c. Central nervous system emergencies
 - i. Seizure and status epilepticus
 - ii. Febrile seizure
 - iii. Meningitis

- d. Non-accidental injuries

6 TRAUMA & ORTHOPEDIC

6.1 General principles

- a. Epidemiology of trauma
- b. Mechanisms of injury
- c. Principles of management of trauma
- d. Trauma team concepts
- e. Trauma scoring systems
- f. Imaging modalities in trauma
- g. Assessment and management of multiple trauma

6.2 Injuries by system

- a. Head injury
 - i. Assessment and management of head trauma
 - ii. Glasgow Coma Score
 - iii. Pathophysiology of brain injury
 - iv. Scalp lacerations
 - v. Skull fractures
 - vi. Extradural hematoma
 - vii. Subdural hematoma
 - viii. Intracerebral hematoma
 - ix. Diffuse axonal injury
 - x. Penetrating head injury
 - xi. Minor head injury
 - xii. Post concussive syndrome
 - xiii. Emergency department drainage of traumatic intracranial hematomas

- b. Maxillofacial trauma
 - i. Assessment and management of maxillofacial trauma
 - ii. Maxillofacial hemorrhage
 - iii. Facial lacerations
 - iv. Facial nerve and parotid duct injuries
 - v. Nasal fractures
 - vi. Le Fort fractures
 - vii. Zygomatic fractures
 - viii. Orbital injury

- ix. Temporal bone fractures
 - x. Mandibular fractures
 - xi. Temporomandibular joint dislocation
 - xii. Mandibular dislocation
 - xiii. Dentoalveolar trauma
 - Avulsed tooth
 - xiv. Intraoral lacerations
- c. Neck injuries
- i. Assessment and management of neck trauma
 - ii. Penetrating neck injury
 - iii. Laryngotracheal injury
 - iv. Vascular injury
 - v. Nerve injury
 - vi. Strangulation injury
- d. Spinal cord injuries
- i. Assessment and management of spinal cord injury
 - ii. Spinal immobilization techniques
 - iii. Spinal cord syndromes
 - iv. SCIWORA
- e. Thoracic trauma
- i. Assessment and management of chest trauma
 - ii. Pneumothorax
 - iii. Tension pneumothorax
 - iv. Open pneumothorax
 - v. Hemothorax
 - vi. Massive hemothorax
 - vii. Pulmonary contusion
 - viii. Myocardial contusion
 - ix. Ribs fracture
 - x. Sternal fracture
 - xi. Flail chest
 - xii. Pericardial tamponade
 - xiii. Tracheobronchial rupture
 - xiv. Oesophageal perforation
 - xv. Diaphragmatic rupture
 - xvi. Great vessel injury
 - xvii. Penetrating thoracic injury

- xviii. Traumatic asphyxia
 - xix. Air embolism
 - xx. Emergency department thoracotomy
- f. Abdominal trauma
- i. Assessment and management of abdominal trauma
 - ii. Diagnostic peritoneal lavage
 - iii. Splenic injury
 - iv. Hepatic injury
 - v. Renal injury
 - vi. Pancreatic injury
 - vii. Hollow viscus injury
 - viii. Great vessel injury
 - ix. Penetrating abdominal injury
 - x. Abdominal compartment syndrome
- g. Genitourinary trauma
- i. Assessment and management of genitourinary trauma
 - ii. Renal injury
 - iii. Ureteric injury
 - iv. Bladder injury
 - v. Urethral injury
 - vi. Penile rupture
 - vii. Scrotal injury
 - viii. Testicular trauma
 - ix. Penetrating genitourinary injury
- h. Pelvic trauma
- i. Assessment and management of pelvic trauma
 - ii. Major pelvic fracture
 - iii. Exsanguinating pelvic injury
- i. Soft tissue & peripheral vascular injury
- i. Assessment and management of soft tissue injury
 - ii. Traumatic amputation
 - iii. Arterial injury
 - iv. Compartment syndromes
 - v. Crush syndrome

6.3 Orthopedic injuries and related disorders

- a. General principles of fracture management
- b. Casting techniques
 - i. Short arm
 - ii. Long arm POP
 - iii. Short arm backslab
 - iv. Scaphoid POP
 - v. Volar splint
 - vi. U Slab
 - vii. Short leg POP
 - viii. Long leg cylinder
- c. Splintage techniques including splintage procedures
 - i. Broad arm sling
 - ii. Collar and cuff
 - iii. Figure-of-8 bandaging
 - iv. Knee immobiliser
 - v. Traction splint
 - vi. Thomas splint
 - vii. Pelvic stabilisation techniques
- d. Fracture & methods of close reduction
 - i. Hand fractures
 - ii. Wrist fractures
 - iii. Radius and ulna fractures
 - iv. Elbow fractures
 - v. Humerus fractures
 - vi. Clavicle fractures
 - vii. Acromioclavicular injury
 - viii. Scapula fractures
 - ix. Spine
 - x. Hip fractures
 - xi. Femur fractures
 - xii. Knee fractures
 - xiii. Patellar fractures
 - xiv. Tibia and fibula fractures
 - xv. Ankle fractures
 - xvi. Foot fractures

- e. Dislocation & methods of closed reduction
 - i. Hand dislocations
 - ii. Wrist dislocations
 - iii. Elbow dislocations
 - iv. Shoulder dislocations
 - v. Sternoclavicular joint dislocations
 - vi. Hip dislocations
 - vii. Knee dislocations
 - viii. Patellar dislocations
 - ix. Ankle dislocations

- f. Soft tissues
 - i. Shoulder
 - Rotator cuff tears
 - Bursitis
 - Tendinitis
 - ii. Elbow
 - Bursitis
 - Tendinitis
 - iii. Knee
 - Bursitis
 - Ligament injury
 - Cruciate injury
 - Menisceal injury
 - Bakers cyst
 - iv. Ankle
 - v. Foot

- g. Hand injuries
 - i. Metacarpal fractures/dislocations
 - ii. Phalangeal fractures/dislocations
 - iii. Lacerations
 - iv. Nail and nail-bed injuries
 - v. Extensor tendon injuries
 - vi. Mallet finger
 - vii. Boutonniere deformity
 - viii. Flexor tendon injuries
 - ix. Foreign bodies
 - x. Amputations
 - xi. Nerve injuries

- xii. High pressure injection injuries
- xiii. Crush injury
- h. Overuse syndromes
- i. Osteomyelitis
- j. Septic arthritis
- k. Complex regional pain syndrome type 1 (Sudeck's atrophy)

6.4 Burn

- a. Evaluation of the patient with burns
- b. Early management of severe burns
 - i. Fluid resuscitation
- c. Burn wound care
- d. Management of minor burns
- e. Inhalation injury
- f. Chemical burns
- g. Electrical burns
- h. Tar burns
- i. Sunburn
- j. Oral burns
- k. Escharotomy

6.5 Ballistic & blast injuries

- a. Evaluation and initial management of ballistic wounds & blast injury
- b. Pathophysiology of ballistic wounding
- c. Clinical and pathological effects of explosions

6.6 Trauma in special groups

- a. Pediatric trauma
 - i. Assessment and management of trauma in children
 - ii. Paediatric aspects of trauma management
 - iii. Non-accidental injury

- b. Trauma in pregnancy
 - i. Assessment and management of trauma in pregnancy
 - ii. Obstetric complications of trauma
 - iii. Uterine rupture
 - iv. Perimortem caesarean section
- c. Intimate partner violence
- d. Geriatric trauma
- e. Elder abuse
- f. Sport injuries

6.7 Wound management

- a. Classification of wounds
- b. Wound management
- c. Basic wound closure techniques
- d. Wound dressings
- e. Wound infections
- f. Chronic ulcers
- g. Special wounds
 - i. Puncture wounds
 - ii. Bites and stings
 - iii. Degloving injury
 - iv. Amputations

7 EYE, ENT, DENTAL

7.1 ENT

- a. Ear
 - i. Auroscopic examination of the ears
 - ii. Aural toilet / wick insertion
 - iii. Otagia
 - iv. Otitis media
 - v. Otitis externa
 - vi. Cholesteatoma
 - vii. Perforated tympanic membrane
 - viii. Chondritis/perichondritis
 - ix. Mastoiditis
 - x. Labyrinthitis
 - xi. Meniere's disease

- b. Nose
 - i. Epistaxis
 - Anterior packing
 - Cautery
 - Posterior packing
 - Balloon placement
 - ii. Sinusitis

- c. Throat/oropharynx
 - i. Ludwig's angina
 - ii. Stomatitis
 - iii. Pharyngitis
 - iv. Tonsillitis
 - v. Peritonsillar abscess
 - vi. Retropharyngeal abscess
 - vii. Epiglottitis
 - viii. Laryngitis
 - ix. Tracheitis
 - x. Post-tonsillectomy bleed

- d. Foreign bodies

- i. Nasal
- ii. Aural
- iii. Upper airway
- iv. Pharyngeal

7.2 Eye

- a. Use of the slit lamp
- b. Ophthalmoscopes
- c. Measurement of intraocular pressure
- d. Evaluation of the red eye
- e. Evaluation of the painful eye
- f. Sudden visual loss
- g. External eye
 - i. Blepharitis
 - ii. Dacryocystitis
 - iii. Conjunctivitis
 - iv. Corneal abrasions
 - v. Corneal ulcers
 - vi. Keratitis
 - vii. Foreign bodies
 - Conjunctival
 - Corneal
 - viii. Spontaneous subconjunctival haemorrhage
 - ix. Amblyopia
 - x. Ocular burns
 - Chemical
 - Flash burns
 - Thermal
- h. Anterior pole
 - i. Hyphaema
 - ii. Glaucoma
 - iii. Uveitis
- i. Posterior pole
 - i. Retinal detachment
 - ii. Vitreous haemorrhage
 - iii. Retinal haemorrhage
 - iv. Retinal vascular occlusions

- v. Optic neuritis
- j. Orbit
 - i. Cellulitis
 - Orbital
 - Pre-orbital
 - Endophthalmitis
 - ii. Ocular trauma
 - Blunt
 - Penetrating

7.3 Dental

- a. Normal dental development
- b. Dental infections without upper airway obstruction
 - i. Dental abscess
- c. Dental infections with possible upper airway obstruction

8 OBSTETRICS AND GYNAECOLOGY

8.1 Pregnancy

- a. High risk pregnancy
- b. Antepartum complications
 - i. Hyper-emesis gravidarum
 - ii. Miscarriage
 - iii. Gestational trophoblastic disease
 - iv. Septic abortion
 - v. Ectopic pregnancy
 - vi. Hypertensive disorder of pregnancy
 - vii. Pre-eclampsia and eclampsia
 - viii. HELLP syndrome
 - ix. First trimester bleeding
 - x. Haemorrhage, antepartum
 - xi. Abruptio placentae
 - xii. Placenta praevia, vasa praevia
 - xiii. Others
 - xiv. Infections, including urinary tract infection
 - xv. Fever
 - xvi. Isoimmunisation
 - xvii. Thromboembolism
- c. Emergency delivery
- d. Peripartum complications
 - i. Preterm labour
 - ii. Premature rupture of membrane (PROM)
 - iii. Foetal distress
 - iv. Cord prolapse
 - v. Nuchal cord
 - vi. Shoulder dystocia
 - vii. Mal-presentation and mal-position
 - viii. Rupture or inversion of uterus
 - ix. Retained placenta
 - x. Perineal tear

- xi. Amniotic fluid embolism
 - xii. Others
- e. Post-partum complications
- i. Haemorrhage, postpartum
 - ii. Primary
 - iii. Secondary
 - iv. Puerperal fever
 - v. Postpartum mood disorder
- f. Drugs safety in pregnancy

8.2 Gynaecology

- a. Vagina and vulva
- i. Abnormal vaginal bleeding and discharge
 - ii. Vaginitis/vulvovaginitis
 - iii. Foreign body
 - iv. Bartholin's cyst/abscess
 - v. Others
- b. Uterus
- i. Dysmenorrhoea
 - ii. Dysfunctional uterine bleeding
 - iii. Cervicitis, endocervicitis
 - iv. Endometriosis
 - v. Tumours
 - vi. Leiomyoma
 - vii. Gestational trophoblastic disease
 - viii. Others
 - ix. Prolapse
 - x. Complications of intrauterine contraceptive devices
- c. Ovaries
- i. Cysts and cyst complications
 - ii. Mittelschmerz
 - iii. Tumours
 - iv. Ovarian hyperstimulation syndrome
- d. Infections
- i. Pelvic inflammatory disease

- ii. Toxic shock syndrome
 - iii. Fitz-Hugh-Curtis syndrome
 - iv. Tubo-ovarian abscess
 - v. Herpes simplex
 - vi. Human papilloma virus
- e. Contraception
- i. Complications
 - ii. Post-coital

9 PSYCHIATRY

9.1 Evaluation

- a. History
- b. Physical examination
- c. Mental state examination
- d. Investigations

9.2 Organic brain syndrome

9.3 Violent/agitated behaviour

- a. Prevention
- b. Safety issues
- c. Restraint options and management
 - i. Physical
 - ii. Chemical

9.4 Deliberate self-harm

9.5 Depression

9.6 Anxiety disorders

- a. Phobias
- b. Panic disorder
- c. Post-traumatic stress disorder
- d. Obsessive–compulsive disorder
- e. Hypochondriasis
- f. Others

9.7 Psychose

- a. Acute and chronic
- b. Bipolar affective disorder
- c. Schizophrenia
- d. Mania and hypomania
- e. Others

9.8 The “challenging” ED patient

- a. Personality disorder DIS H
- b. Malingering DIS H
- c. Frequent presenter DIS H
- d. Conversion disorder DIS H
- e. Pain disorder DIS H
- f. Somatization disorder DIS H
- g. Munchausen’s by proxy DIS H
- h. Anorexia & bulimia
- i. Management strategies
- j. Others

9.9 The mental health patient in the ED

- a. Triage
- b. Appropriate psychiatric assessment area
- c. Community teams
- d. Psychiatry advanced practice nurse as part of the ED team
- e. In-patient psychiatry services
- f. Psychiatric facilities/units
- g. ED staff issues – appropriate training, debriefing

9.10 Therapy

- a. Pharmacology of therapeutic agents
 - i. Benzodiazepines
 - ii. Anti-psychotics
 - iii. Antidepressants
 - iv. SSRIs
 - v. Sedatives
 - vi. Others
- b. Non-pharmacologic therapy
 - i. ECT – complications
 - ii. Others

9.11 Involuntary detention

- a. Legal aspects of mental health care

10 TOXICOLOGY

10.1 General principles

- a. Prehospital care
- b. Epidemiology and prevention of poisoning
- c. Approach to poisoning management
- d. Toxidromes
- e. Risk assessment/prediction of toxicity
- f. Poison centers

10.2 Gastrointestinal decontamination

- a. Emesis
- b. Gastric lavage
- c. Activated charcoal
- d. Whole bowel irrigation
- e. Cathartics
- f. Endoscopy and surgery

10.3 Methods of enhanced elimination

- a. Activated charcoal, Multiple dose activated charcoal (MDAC)
- b. Gastrointestinal agents
 - i. Cholestyramine
 - ii. Kayexalate
 - iii. Prussian blue
- c. Urinary alkalinization
- d. Forced diuresis
- e. Continuous Arterial-Venous Hemofiltration Dialysis (CAVHD)
- f. Peritoneal Dialysis
- g. Hemodialysis and hemofiltration

10.4 Antidotes

- a. Atropine
- b. antivenom

- c. Desferioxamine (Desferal)
- d. Ethanol
- e. Flumazenil
- f. Fomepizole
- g. Glucagon
- h. Methionine
- i. N-acetylcysteine (NAC)
- j. Naloxone
- k. Physostigmine
- l. Pralidoxime
- m. Pyridoxine (Vitamin B6)
- n. Sodium bicarbonate
- o. Methylene blue
- p. Vitamin K
- q. Oxygen
 - i. Normobaric
 - ii. Hyperbaric
- r. Digibind

10.5 Chemical dependency and substance abuse

- a. Alcohol, Drug & Substance
- b. Abuse
- c. Dependence
- d. Withdrawal
- e. Tolerance

10.6 Anti-inflammatory agents and analgesic poisoning

- a. Paracetamol
- b. NSAIDs
- c. Salicylates
- d. Gout drugs
- e. Opioids

10.7 Antimicrobial poisoning

- a. Antibiotics
- b. Antifungal
- c. Antiparasitic

- d. Antiseptics
- e. Antiviral
- f. Anti-tuberculous

10.8 Autonomic agent poisoning

- a. Anticholinergics
- b. Antihistamines
- c. Serotonergic drugs
- d. Cholinergics
- e. Ergot alkaloids
- f. Methylxanthines
- g. Sympathomimetics

10.9 CNS drugs and muscle relaxant poisoning

- a. Alcohols
- b. Anticonvulsants
- c. Anti-Parkinsonian drugs
- d. Antidepressants
 - i. Tricyclic antidepressants (TCA)
 - ii. Selective serotonin re-uptake inhibitors (SSRI)
 - iii. Monoamine oxidase inhibitors (MAOI)
 - iv. Others
- e. Psychiatric drugs
 - i. Antipsychotics/neuroleptics
 - ii. Lithium
 - iii. Valproic acid
 - iv. Carbamazepine
- f. "Party drug" poisoning
 - i. Types: CNS stimulants, depressants, dissociatives, hallucinogens
 - ii. Amphetamine
 - iii. Cocaine
 - iv. Ketamine
 - v. Gamma-hydroxybutyrate (GHB)
 - vi. Benzodiazepines
 - vii. Cannabis
 - viii. Organic solvents
 - ix. Cough mixtures

- g. Sedatives, hypnotics, anxiolytics
- h. Smooth muscle relaxants

10.10 Cardiovascular

- a. Antiarrhythmics, including digoxin
- b. Anticoagulants
- c. Anti-hypertensives

10.11 GI agents

- a. Antacids
- b. Antidiarrhoeals
- c. Laxatives
- d. Antispasmodic

10.12 Household products poisoning

- a. Dettol
- b. Bleach
- c. Multi-purpose cleaner
- d. Mothball
- e. Hydrocarbons

10.13 Food poisoning in Hong Kong

- a. Ciguatera
- b. Shellfish poisoning
- c. Tetrodotoxin
- d. Scombroid
- e. Botulism
- f. Clenbuterol
- g. Vegetable-borne pesticide
- h. Mushroom poisoning

10.14 Chinese herbal medicine poisoning

- a. Cardiac glycoside
- b. Aconiti root

- c. Anticholinergic poisoning
- d. Podophyllotoxin poisoning

10.15 Industrial toxicology

- a. Metals
 - i. Arsenic (As)
 - ii. Mercury (Hg)
 - iii. Thallium (Tl)
 - iv. Lead (Pb)
 - v. Metal fumes
 - vi. Others
- b. Caustics
 - i. Acids
 - ii. Alkalis
 - iii. Hydrofluoric acid (HF)
- c. Nitrites

10.16 Inhalational poisoning

- a. Simple asphyxiants
 - i. Carbon dioxide
 - ii. Methane
- b. Pulmonary irritants
 - i. Phosgene
 - ii. Chlorine
 - iii. Sulfur dioxide
 - iv. Ammonia
 - v. Hydrogen chloride
 - vi. Chloramine
- c. Aspiration
 - i. Talc
 - ii. Hydrocarbon
- d. Mitochondrial toxins
 - i. Cyanide
 - ii. Hydrogen sulfide
 - iii. Carbon monoxide

10.17 Pesticides, rodenticides and herbicides poisoning

- a. Pesticides
 - i. Organophosphates
 - ii. Carbamates
 - iii. Pyrethrins / Pyrethroids
 - iv. Others

- b. Rodenticides
 - i. Warfarin and superwarfarin
 - ii. Tetramine
 - iii. Strychnine

- c. Herbicides
 - i. Paraquat
 - ii. Glyphosate

10.18 Vitamins, minerals, bone and endocrine agents

- a. Hypoglycaemic agents
- b. Electrolytes and minerals
- c. Iron
- d. Steroid
- e. Thyroid drugs
- f. Vitamins
- g. Hormones

10.19 Specific conditions

- a. Drug induced seizure
- b. Drug induced coma
- c. Drug induced tachycardia
- d. Drug induced bradycardia
- e. Drug induced hypoglycemia
- f. Drug induced metabolic acidosis
- g. Drug induced hyperthermia
- h. Pediatric poisoning

10.20 Hazmat

11 ENVIRONMENTAL

11.1 Heat-related illnesses

- a. Heat stroke
- b. Heat stress/exhaustion
- c. Heat syncope, edema, cramp
- d. Drug related hyperthermia

11.2 Cold-related illnesses

- a. Hypothermia
- b. Frostbite

11.3 Bites and stings

- a. Animal bites and rabies
- b. Snakes bites and antivenoms
- c. Spiders
- d. Hymenoptera – bees, wasps, ants
- e. Centipede, millipede, scorpion
- f. Jellyfish
- g. Stinging fish
- h. Blue-ringed octopus
- i. Others

11.4 Diving medicine

- a. Near drowning and drowning
- b. Decompression illness
- c. Barotrauma
- d. Hyperbaric oxygen

11.5 Electricity

- a. Electric shock
- b. Lightning strike

11.6 High Altitude illnesses

- a. Acute mountain sickness

- b. High altitude cerebral oedema
- c. High altitude pulmonary oedema

12 RADIOLOGY IN EMERGENCY MEDICINE

12.1 Physics

12.2 Safety issues/requirements

12.3 Limitations of modalities

- a. Plain x-ray
- b. Ultrasound
- c. CT scan
- d. MRI
- e. Nuclear medicine

12.4 Indications, techniques and interpretation of common studies in emergency medicine

- a. Plain radiology
 - i. Trauma series (chest, pelvis, cervical spine)
 - ii. Chest
 - iii. Abdomen
 - iv. Limbs
 - v. Spine
 - Cervical
 - Thoracic
 - Lumbo-sacral
 - Skull and facial skeleton
 - Soft tissue
- b. Contrast radiology
 - i. Angiography
 - Cerebral
 - Cardiac
 - Limb
 - Abdominal
 - Pulmonary
 - ii. IVP
 - iii. Cystography and urethrography
 - iv. GIT

- c. Computed tomography (CT)
 - i. Brain
 - ii. C-spine
 - iii. Thoracic and lumbar spine
 - iv. Chest

- d. CT pulmonary angiography
 - i. Abdomen
 - ii. CT urography
 - iii. Limbs and joints
 - iv. Facial bones

- e. Magnetic resonance imaging (MRI)
 - i. Brain
 - ii. Spine
 - iii. Others

- f. Nuclear med usu not a ED Ix tool
 - i. Ventilation/perfusion scans
 - ii. Bone scans
 - iii. Cardiac scans
 - iv. Infection and inflammation scans
 - v. GIT scans

- g. Ultrasound
 - i. Physics
 - ii. Focused abdominal sonography in trauma (FAST)
 - iii. Abdominal aortic aneurysm (AAA)
 - iv. Vascular access / procedural
 - v. Vascular Doppler and duplex
 - vi. Abdominal (Hepatobiliary, Renal)
 - vii. Pelvic, including early & late pregnancy, ectopic pregnancy
 - viii. Limb
 - ix. Echocardiography
 - x. Lung & pleura
 - xi. Testicular

12.5 Medical precautions in radiology

- a. Complications (including contrast agents)
- b. Pregnancy and shielding
- c. The unstable patient – transfer and monitoring in radiology

13 LEGAL

13.1 Duty of care

- a. Individual doctor
- b. Hospital

13.2 Medical error

- a. Concept of medical error
- b. Definitions of medical error
 - i. Negligence
 - ii. Systems versus individual failure
 - iii. Preventability
 - iv. Root cause analysis

13.3 Consent

- a. Legal definition of “emergency”
- b. Capacity to consent
 - i. Children and adolescents
 - ii. Intellectually disabled
 - iii. Mentally ill
 - iv. Impaired by drugs or alcohol
 - v. Impaired by physical illness
- c. Guardianship Board
- d. Valid consent
- e. Implied consent
- f. Verbal consent
- g. Written consent
- h. Refusal to consent

13.4 Coronial Investigations

- a. Reporting to coroner: requirements of coronial notification
- b. Expert opinion
 - i. Competencies required to provide expert witness
 - ii. Reason for the provision of service
 - iii. Obligation required once a service is rendered to the court

13.5 Involuntary detention under a Mental Health Act

- a. Definition of mentally ill
- b. Effects of drugs or alcohol
- c. Criteria for detention
- d. Physical restraint and sedation
- e. Emergency treatment
- f. Police powers
- g. Death in detention

13.6 Privacy and confidentiality

- a. Principles of privacy
- b. Patient confidentiality

13.7 Reporting

- a. Elderly abuse & neglect
- b. Domestic violence
- c. Occupational health and safety
- d. Mental health patients
- e. Medical conditions and driving

13.8 Medico-legal reports

- a. Components of a medico-legal document
- b. Ethical and legal responsibility associated with generation of such documents

13.9 Documentation and the Medical Record

- a. Components of a medical record
- b. Importance of the medical record in patient care
- c. Legal aspects of medical record entries
- d. How to write a medical record

13.10 Legal aspects of death and dying

- a. Death certificate
- b. Brain death
- c. Coroners Ordinance
- d. End-of-life care
- e. Advance directives (AD)

- f. Living wills

13.11 Forensic issues

- a. Drink driving
- b. Body packers
- c. Sexual assault
- d. Intimate partner violence

13.12 Court attendance

14 PATIENT SAFETY AND RISK MX

14.1 High risk areas

- a. Demonstrate knowledge of types of clinical situation in the ED associated with a high incidence of adverse outcomes

14.2 Telephone advice and triage

- a. Demonstrate knowledge of the medico-legal aspects of telephone advice
- b. Demonstrate knowledge of the importance of documentation of a non-face-to-face encounter (including follow up)

14.3 Consultation

- a. Demonstrate knowledge of the concepts of vertical and horizontal consultation

14.4 Transfer of responsibility

- a. Demonstrate knowledge that patient care is a continuum and of techniques that ensure that the standard of patient care is maintained at time of referral and handover of care/treatment
- b. Demonstrate knowledge of the issues of interface care between one service/ individual practitioner and another

14.5 Disposition

- a. Demonstrate knowledge of patient disposition from the ED in the following areas
 - i. Discharge/transfer
 - ii. Follow up
 - iii. Referral

14.6 Unscheduled return

14.7 Left without being seen (LWBS)

- a. Demonstrate knowledge of the outcomes associated with LWBS
- b. Demonstrate knowledge of techniques/ systems that can lessen the number of LWBS patients
- c. Demonstrate knowledge of the medico-legal implications of patients who LWBS

14.8 Patients who leave before treatment is completed

- a. Demonstrate knowledge of the responsibilities associated with patients who leave before treatment is completed
- b. Demonstrate knowledge of the principles of medico-legal obligations, mental status assessment, mental competency and guardianship

14.9 Handling of medical incidents

15 PREHOSPITAL CARE

15.1 Prehospital care

- a. The concept of emergency medical system (EMS)
 - i. Benefits of an EMS for emergency patient care
 - ii. Need for coordination of the components of EMS and the need for effective interfaces between EMS and other health care systems

- b. Models of prehospital care
 - i. Different models of pre-hospital care, both within Hong Kong and in other areas of the world
 - ii. Relative advantages and disadvantages of each

- c. Communication
 - i. Need for effective communication between components of the EMS system in the delivery of prehospital care
 - ii. Various means of communication available in the delivery of prehospital care

- d. Patient access in prehospital care: differences and the difficulties in accessing the patient for the delivery of emergency care in the prehospital setting as compared to the hospital setting

- e. Roles and responsibilities of EMS
 - i. Ambulance
 - ii. Fire
 - iii. Police

- f. Modes of transport
 - i. Different modalities of patient transport
 - ii. Relative advantages and disadvantages of the use of each of the different modalities of patient transport
 - Road ambulance
 - Aeromedical transport
 - Rotary wing & fixed wing aircraft

- g. Patient assessment in prehospital care: differences in assessment of a patient between the hospital and the prehospital environment

- h. Equipment considerations in prehospital care
 - i. Medical equipment utilized in prehospital care
 - ii. Limitations that the prehospital environment places on the use and function of that equipment
- i. Clinical procedures in prehospital care
 - i. Relevant considerations and adaptations that may be necessary to safely undertake a procedure in the prehospital environment
 - ii. Relative advantages and disadvantages of undertaking a clinical procedure in the prehospital environment as compared to delaying the procedure until arrival at hospital
 - iii. pain control
 - iv. Procedures in prehospital care
 - Airway and pulmonary resuscitation
 - Cardiopulmonary resuscitation
 - Defibrillation
 - Haemorrhage control
 - Spinal immobilisation
 - Splintage techniques
- j. Special circumstances
 - i. The entrapped patient
 - ii. Crush syndrome
 - iii. Field amputation
 - iv. Rescues: role and responsibilities of the emergency physician during a rescue operation at an accident scene

16 DISASTER MEDICINE

16.1 Disasters

- a. Definitions of a disaster, mass casualty incident (MSI) and the importance of the relativity of an incident to available resources
- b. Classification of disasters
- c. Epidemiology of disasters
- d. Hospital Authority, hospital & AED responsibilities

16.2 Disaster planning

- a. General principles - Planning Preparedness Response Recovery (PPRR)
 - i. Disaster management & mitigation
 - ii. Principles of prevention and risk reduction
 - iii. Principles of preparedness relative to risk of occurrence and impact
- b. Hospital / Department Disaster P
 - i. Hospitals as responders to an emergency: principles and procedures that are required for preparing the ED for a large influx of casualties
- c. Recovery: principles and procedures that are required in the aftermath of an incident
- d. Inter-department collaboration
 - i. Within the hospital
 - ii. With other organizations or agencies
- e. Incident command structure
 - i. Strategic: The overall command of the incident and interface between different responding agencies and the community
 - ii. Planning: The continual evaluation of the incident situation
 - iii. Financial: Tracking costs and administering the procurement of any necessary resources
 - iv. Operational: The practical management of incident
 - v. Logistics: The provision of services and support for all needs of the incident
- f. Liaison with media
 - i. Media management during incidents
 - ii. Use of media during an incident

16.3 Roles and responsibilities at the disaster site

- a. Medical
- b. Ambulance
- c. Police
- d. Fire

16.4 Disaster equipment and supplies

- a. Incident site
 - i. Medical bags
 - ii. Medical disposables & pharmaceuticals
 - iii. Medical monitoring equipment
- b. Emergency department
 - i. Disposables and pharmaceutical supplies
 - ii. Medical records and stationary

16.5 Occupational health and safety issues

- a. Incident site: personal protective equipment (PPE)
- b. Emergency department
 - i. Principles of hazardous materials incidents
 - ii. Recognising toxic gas exposures
 - iii. Chemical personal protective equipment (hospital)
 - iv. Personal protective equipment for biological hazards

16.6 Disaster site operations

- a. Organization of medical operations at an incident site
- b. Adapting clinical management in a disaster
 - i. Disaster triage: principles of disaster triage e.g. Simple Triage and Rapid Treatment (START)
 - ii. Record keeping
 - iii. Paediatric casualties:
 - important triage considerations
 - JUMPStart

16.7 Mental health & behavioural issues

- a. Disaster victims & Health professionals and responder
 - i. Role of counseling

- ii. Critical incident stress debriefing
- iii. Post traumatic stress disorder

16.8 Medical response to terrorist incidents

- a. Chemical weapons
 - i. Choking agents
 - ii. Cyanide
 - iii. Phosgene

 - iv. Blistering agents
 - v. Mustard
 - vi. Nerve agents

- b. Biological weapons
 - i. Small pox
 - ii. Anthrax
 - iii. Botulism
 - iv. Viral hemorrhagic fevers

- c. Radiation emergencies
 - i. Radiation exposure: different types of radiation exposure and their relative biological impact
 - ii. Radiation injury
 - iii. Radiation safety: principles of radiation safety, radiation monitoring and responding to a casualty contaminated with a radio-isotope safely

17 ADMINISTRATION AND MANAGEMENT

17.1 Quality improvement

- a. Principles
 - i. Pathways
 - ii. Development
 - iii. Implementation
 - iv. Evaluation
- b. Policies and procedures
- c. Clinical audit
- d. Clinical indicators
- e. Process measurement
- f. Outcome measurement
- g. Risk management
- h. Complaints & incident management
- i. Accreditation and verification processes
- j. Patient satisfaction: factors associated with patient satisfaction with ED care
- k. Task design: factors that influence the effectiveness of task design

17.2 Communications with external groups

- a. Relationship between patient perception and satisfaction
- b. Ability to manage patients with special needs in an appropriate manner
- c. Ability to conduct a media interview regarding a medical topic
- d. Importance of good relationships, and how these may be achieved, with the following groups
 - i. Interdepartmental relations
 - ii. Public relations
 - iii. Media relations
 - iv. Government relations
 - v. Legal relations
 - Law enforcement

- Coroner
- Courts
- Medical council

17.3 ED specific management issues

- a. Clinical practice guidelines (CPG)
 - i. Benefits of CPG
 - ii. Inappropriate use
- b. Patient flow, ED overcrowding and access block
 - i. Concepts of process mapping and concepts of patient flow
 - ii. Possible causes of ED overcrowding and the possible effects that ED overcrowding may have on patient care
 - iii. Factors that may contribute to access block
- c. Observation medicine, short-stay units & Emergency Medicine Ward (EMW)
 - i. Different models of care and observation medicine
 - ii. Potential benefits and limitations of a short-stay unit & EMW
 - iii. Types of cases that may be suitable for admission to a short-stay unit & EMW

17.4 Violence in the ED

18 RESEARCH, LITERATURE APPRAISAL & MEDICAL EDUCATION

18.1 Principles of research

- a. General
 - i. Importance of accurate data collection on the validity of a scientific work
 - ii. How the presentation of data may influence the perception of study results
 - iii. Importance of honesty and the influence of competing interests in research
 - iv. Importance of randomization in differentiating between an association and a cause

- b. Hypothesis formulation and testing
 - i. Generation of an appropriate hypothesis to answer a research question
 - ii. Types of error that may occur when testing research hypotheses

- c. Research ethics
 - i. Consent for research
 - ii. Ethics of research

18.2 Research methods

- a. Principles of medical research
 - i. Sample size
 - ii. Choice of research method
 - iii. Enrolment
 - iv. Randomisation
 - v. Concealment of treatment allocation
 - vi. Bias
 - vii. Validity
 - viii. "Gold standard" test

- b. Roles, benefits and limitations of the following
 - i. Trials
 - ii. Meta-analysis
 - iii. Case series and reports
 - iv. Literature reviews
 - v. Observational studies
 - vi. Letters

18.3 Statistical methods

- a. Basic statistical principles
 - i. Sensitivity
 - ii. Specificity
 - iii. Positive predictive value
 - iv. Negative predictive value
 - v. Accuracy
 - vi. Relative risk
 - vii. Odds ratio
 - viii. Confidence intervals
 - ix. Statistical significance

- b. Usage of statistical methods
 - i. Difference between dichotomous, nominal, ranked (ordinal) and continuous variables
 - ii. Difference techniques used to graphically display or plot data from dichotomous, nominal, ranked (ordinal) and continuous variables
 - iii. Difference between parametric and non-parametric data
 - iv. Difference between paired and non-paired data
 - v. Difference between descriptive and comparative statistics
 - vi. Distributions of continuous variables and the terms used to describe these distributions
 - vii. Principles and practical application of the following statistical tests
 - viii. Student's t test
 - ix. Mann Whitney U test
 - x. Chi squared test
 - xi. Sign test
 - xii. ANOVA
 - xiii. Correlation coefficients
 - xiv. Tests of agreement
 - xv. Multiple regression

- c. Measurement accuracy
 - i. Confidence intervals in data reporting
 - ii. Standard error of the mean

- d. Significance
 - i. Definition of clinical and statistical significance
 - ii. Difference between clinical and statistical significance

- e. Bayes' theorem
 - i. Principles and practical application of Bayes' theorem, including the following terms
 - ii. Prior probability
 - iii. Post-test probability
 - iv. Likelihood ratios (positive and negative)
 - v. Limitations of Bayes' theorem in clinical practice

18.4 Literature evaluation

- a. Evidence-based medicine: principles, practical application and limitations
- b. Clinical application of research and barriers of adoption of findings into practice
- c. Critical appraisal of emergency medicine specific literature
- d. Effectively critically appraise evidence in order to address a clinical question

18.5 Medical education

- a. Different levels of medical education
- b. Goals & objectives of medical education
- c. Educational strategies
- d. Implementation
- e. Evaluation & feedback