

SCHEME OF EXAMINATION

PATTERN OF QUESTION PAPER (at the end of third year)

Paper	Title
Paper – I	Applied Basic Sciences as applied to Emergency Medicine
Paper – II	Medical Emergencies in Adult and Pediatrics
Paper – III	General Principles of Emergency Care in Surgery and Surgical Specialties
Paper – IV	Recent Advances in Emergency Medicine

Paper	Pattern	Total Marks
I	10 Short Notes- 10 x 10=100 Marks	100
II	a) 2 Long Essays- 2 x 20=40 Marks b) 6 Short Notes - 6 x 10=60 Marks	100
III	a) 2 Long Essays- 2 x 20=40 Marks b) 6 Short Notes - 6 x 10=60 Marks	100
IV	10 Short Notes- 10 x 10=100 Marks	100
Total		400

CLINICAL EXAMINATION

	EXAMINATION TIME	DISCUSSION time	MARKS
LONG CASE - 1X 80	60 MIN	60 MIN	80
SHORT CASES – 3 x 20 MARKS	45 MIN	30 MIN	60
WARD ROUNDS 4 CASES X 10 marks (one case per examiner)	50 MIN	30 MIN	40
OSCE : 4 STATIONS X 5 MARKS			20
TOTAL	155 MIN	90 MIN	200 (A)
VIVA- Each examiner -20 marks			80
LOGBOOK			20
VIVA TOTAL			100 (B)
TOTAL AGGREGATE			300 (A+B)
MINIMUM REQUIRED FOR PASS (50 %)			150
DISSERTATION			APPROVED/ NOT APPROVED

DETAILS OF TRAINING

FIRST YEAR

Emergency Medicine	7 months
General Medicine	1 month
Paediatrics	1 month
Orthopedics	1 month
Obstetrics and Gynaecology	1 month
ENT	15 days
Ophthalmology	15 days

SECOND YEAR

Emergency Medicine	4 months
Multi disciplinary ICU	2 months
Cardiology ICU	1 month
Nephrology	1 month
Anesthesiology	1 month
Neurology	15 days
Neuro surgery	15 days
Radiology	15 days
Pulmonology	15 days
General Surgery	1 month

THIRD YEAR

Emergency Medicine	7 months
Pediatrics	1 month
Cardiology ICU	1 month
General medicine	1 month
Orthopedics	1 month
General Surgery	1 month

SYLLABUS

Pre-hospital Care

Emergency Medical Services

Prehospital Equipment and Adjuncts

Air Medical Transport

Neonatal and Pediatric Transport

Mass Gatherings

Disaster Preparedness

Disaster Medical Services

Bioterrorism Response: Implications for the Emergency Clinician

Disaster Management for Chemical Agents of Mass Destruction

Blast and Crush Injuries

Radiation Injuries

Resuscitative Problems and Techniques

Sudden Cardiac Death

Basic Cardiopulmonary Resuscitation in Adults

Neonatal Resuscitation and Emergencies

Pediatric Cardiopulmonary Resuscitation

Pediatric Airway Management

Resuscitation Issues in Pregnancy

Ethical Issues of Resuscitation

Noninvasive Airway Management

Tracheal Intubation and Mechanical Ventilation

Surgical Airway Management

Vascular Access

Invasive Monitoring, Pacing Techniques, and Automatic and Implantable Defibrillators

Cerebral Resuscitation

Newer Resuscitative Techniques

Acid-Base Disorders

Blood Gases: Pathophysiology and Interpretation

Fluid and Electrolyte Problems

Disturbances of Cardiac Rhythm and Conduction

Pharmacology of Antidysrhythmic and Vasoactive medications

TRAUMA CARE

TRAUMATIC DISORDERS

Principles of care

Prehospital trauma care

Triage

Resuscitation and stabilization

- Hemorrhagic shock
- Neurogenic shock

Role of emergency physician

Team response

Reassessment and monitoring

Diagnosis

Treatment

Consultation

Disposition

Injury prevention and control

Cause of injury

Homicide

Suicide

Family violence

Motor vehicle crashes

Falls

Drowning/near drowning

Poisoning

Burns and fire related injuries

Occupational injuries

Radiological evaluation

Plain radiography

Contrast radiography

CT scan

Angiography

MRI

Ultrasound

Mechanism of injury

Blunt

Penetrating

- Gunshot wounds
- Stab wounds

Kinematics

Diagnosis and management by anatomic areas

Head trauma

- Scalp lacerations/avulsions
- Skull fractures
- Brain concussions, contusions
- Intracranial hematomas
- Brain stem injuries
- Penetrating head trauma
- Cerebro spinal fluid leaks

Spinal cord and peripheral nervous system trauma

Complete spinal cord injuries
Incomplete cord injuries
Cauda equina injuries
Nerve root injuries
Brachial and lumbo sacral injuries
Peripheral nerve injuries

Injuries of the spine

Fractures

- Cervical
- Thoracic
- Lumbar
- Sacral/coccygeal

Dislocations/subluxations

- Dislocations/subluxations
 - Unilateral facet
 - Bilateral facet

Ligamentous injuries

- Ligamentous injuries

Facial fractures

Frontal sinus

Mandibular

Maxillary

Nasal

Orbital

Dental fractures and avulsions

Zygomatic

Soft tissue facial injuries

Complex lacerations

Avulsions

Severe abrasions

Parotid gland/duct injuries

Nerve injuries

Ophthalmologic trauma

Corneal abrasions/lacerations

Foreign bodies

Iritis

Hyphema

Lens dislocations

Retinal detachment

Penetrating globe injuries

Eyelid lacerations

Lacrimal duct injuries

Corneal burns

- Acid
- Alkali
- Ultra violet

Otologic trauma

Lacerations
Avulsions
Sub-pericondrial hematoma
Tympanic membrane perforation

Neck trauma

Vascular injuries

- Carotid artery
- Internal and external jugular veins
- Thoracic duct

Penetrating neck trauma

- Anterior and posterior triangle injuries

Laryngotracheal injuries

Lacerations
Crush injuries
Vocal cord avulsions/hematomas
Fracture larynx
Tracheal transection
Compression with hematomas

Chest trauma

Penetrating chest trauma
Rib fractures
Sternal fractures
Flail chest
Clavicle fracture/dislocation
Aortic disruption
Myocardial contusion
Pulmonary contusion
Pericardial tamponade
Vascular injuries
Tracheo bronchial tree injuries
Pneumo thoraces
Hemothorax

Abdominal trauma

Penetrating abdominal trauma
Abdominal wall contusion
Solid-viscus injuries
Hollow viscus injuries
Vascular injuries
Diaphragmatic rupture
Evisceration
Mesenteric avulsion, hematoma
Bladder rupture, contusion
Renal injuries
Ureteral injuries

Upper extremity bony trauma

Fractures (open and closed)

- Phalangeal
- Metacarpal
- Carpal

- Forearm
 - Supra condylar
 - Humeral shaft and head
 - Scapula
- Dislocations / subluxations / fracture dislocation
- Shoulder
 - Elbow
 - Wrist
 - Hand

Lower extremity bony trauma

Fractures (open and closed)

- Phalangeal
- Metatarsal
- Tarsal
- Ankle
- Leg (tibia-fibula)
- Patellar
- Midshaft and distal femur
- Proximal femur (hip)

Pelvic fractures

Pubic rami
Straddle
Iliac crest
Malgaigne

Dislocations / fracture dislocations

Phalangeal
Lisfranc
Ankle
Knee
Patellar
Hip

Soft tissue extremity injuries

Tendon injuries
Periarticular injuries
Injuries to joints
Compartment syndromes/crush injuries
Penetrating soft tissue injuries
Degloving injuries
Amputations/replantation
Vascular injuries

Injuries of the genitalia

Cutaneous injuries

Lacerations
Avulsions
Burns
Puncture wounds
Bite wounds

Poly trauma / multiple skeletal injuries

Trauma in pregnancy

Principles of care

Clinical assessment and management

- Anatomic/physiologic alterations in the pregnant woman
- Fetal monitoring
- Emergency department cesarean section

Type of injuries

- Uterine rupture
- Placental abruption
- Preterm labor
- Inutero injuries to the fetus
- Penetrating injuries to the uterus

Special considerations for pediatric trauma victim

Clinical assessment and management

- Anatomic/physiologic differences from adults
- Airway management
- Fluid resuscitation
- Recognition of child abuse

Head injury

Spinal injuries

- Without radiological abnormality

Chest trauma

Abdominal trauma

Burns

Fractures

- Green stick
- Torus
- Epiphyseal

UROGENITAL / GYNAECOLOGICAL DISORDERS

Genital tract/ female

Ovarian disorders

- Ovarian cyst
- Ovarian torsion
- Tumors

Vagina and vulva

Uterus

- Endometriosis
- Dysfunctional uterine bleeding
- Tumors
- Uterine prolapse

Cervix

- Carcinoma
- Cysts
- Leukoplakia

Infectious disorders

Genital tract / Male

Congenital

Structural

Inflammatory/ infection

Tumours

Sexual assaults

Genital lesions

Chanchroid

Condyloma acuminata

When Pregnancy is not likely abdominal pain and abnormal vaginal bleeding

Ectopic pregnancy

Abortions - Molar pregnancy

Twisted ovarian tumours

Emergency contraception

Rape victims

Domestic battering

CLINICAL PHARMACOLOGY

Principles

Pharmacokinetics

Drug interactions

Allergic reactions

Drugs in pregnancy / breast feeding

Effect of age

Withdrawal syndrome

Neonatal / pediatric considerations

Drug classes

Analgesics/ anaesthetics

- Fentanyl

- Morphine

- Pethidine

- Ketamine

- Nitrous oxide

Antibiotics

Anticoagulants

Anticonvulsants

Antihistamines

Anti psychotics

Bronchodilating agents

Cardiovascular drugs

- Antiarrhythmic

- Antihypertensives

- Digoxin

- Calcium-channel blockers

- Beta blockers

- Antianginals

Hormones/ steroids

Hypoglycemics

- Oral agents

- Insulin

Intravenous fluids

Local anaesthetics

- Esters

- Amides

Locally acting drugs

- Antacids

- Antiseptics

- Cathartics

- Laxatives

Neuromuscular blocking agents

- Depolarising

- Non-depolarising

NSAIDS

Opioid

Sedatives/ hypnotics

- Barbiturates
- Benzodiazepines
- Chloral hydrate

Thrombolytics

Tocolytics

Inotropes

Vasodilators

Anti snake venom

Fibrinolytics

Diuretics

PROCEDURES/ SKILLS

Airway techniques

Cricothyrotomy

Heimlechs maneuver

Intubation

- Esophageal obturator airway
- Nasotracheal
- Oratracheal
- Rapid sequence
- Fiber optic

Mechanical ventilation

Percutaneous transtracheal ventilation

Airway adjuncts

Anaesthesia

Local

Regional

Intravenous anaesthesia

Regional nerve blocks

General anaesthesia

Diagnostic procedures

Arthrocentesis

Cystourethrogram

Lumbar puncture

Nasogastric intubation

Pericardiocentesis

Peritoneal lavage

Bed side USG

Anoscopy

Thoracocentesis

Tonometry

Slit lamp examination

ECG interpretation

Radiographic interpretation

Central venous line placement

Chest tube placement

Genital / Urinary

Bladder catheterization

Suprapubic catheterisation

Delivery of new born

Head and neck

Control of epistaxis

Laryngoscopy

Naso / Pharyngeal endoscopy

Hemodynamic techniques

Arterial catheter insertion

Central venous access

- Femoral
- Jugular
- Subclavian
- Umbilical
- Venous cut down
- Intraosseous infusion

Military anti shock trouser suit application and removal

Peripheral venous cut down

Pulmonary artery catheter insertion

Skeletal procedures

Fracture / dislocation immobilisation techniques

Fracture dislocation reduction techniques

Spine

- Cervical traction techniques
- Immobilisation techniques
- Back board techniques

Thoracic

Cardiac pacing

- Cutaneous
- Transvenous

Defibrillation / cardioversion

Cardiorraphy

Pericardiotomy

Thorocostomy

Thorocotomy

Intra aortic balloon insertion

Other techniques

End tidal CO₂ Monitoring

Gastric lavage

Incision and drainage

Intestinal tube insertion

Burr holes

Pulse oximetry

Sensgtagen blakemore insertion technique

Wound closure techniques

Traphanisation – Nails

Peak expiratory flow rate measurement

Excision of thrombosed hemorrhoids

Foreign body removal

Conscious sedation

Wound debridement

Laboratory skills

Venepuncture

Arterial blood gas sampling

Microscopy

Gram stain

Preparation / interpretation

Multiple patient management

Universal precautions

ACLS

Pericardio centesis

Intraosseous needle

GENERAL MEDICINE

ENDOCRINE, METABOLIC AND NUTRITIONAL DISORDERS

Acid base disturbances

Metabolic

- Acidosis
- Alkalosis

Mixed acid base disorders

Respiratory

- Acidosis
- Alkalosis

Fluid and electrolyte disturbances

Calcium

Chloride

Magnesium

Phosphorus

Potassium

Sodium

Water

Syndrome of inappropriate antidiuretic hormone

Glucose metabolism

Diabetes mellitus

- Diabetic ketoacidosis
- Hyper osmolar coma

Hypoglycemic syndrome

Nutritional disorders

Wernicke - korsakoff syndrome

Vitamin deficiency

Vitamin excess

Endocrine Emergencies

Thyroid storm

Myoedema coma

Acute adrenal insufficiency

Hyper and hypo calcemia

ENVIRONMENTAL DISORDERS

Diving emergencies / dysbarism

Acute gas embolism

Decompression sickness

Submersion incidence

Cold water immersion+

Near drowning

Electrical injury

Lightning injury
AC/DC current
High voltage

High altitude illness

Acute mountain sickness
High-altitude cerebral edema
High-altitude pulmonary edema

Radiation injury**Poisonous plants****Smoke inhalation****Temperature related illness**

Heat
Cold
· Hypothermia
· Frost bite

Bites and stings

Arthropods
· Insects
· Spiders
· Scorpions
Reptiles

HEMATOLOGICAL DISORDERS**Hemostatic disorders**

Clotting factor disorders
· Hemophilias
· Acquired
Disseminated Intravascular Coagulation
Platelet disorders
· Immune thrombocytopenic purpura
· Thrombotic thrombocytopenic purpura
· Drug inactivation of platelets
Von Willebrand's disease

Red Blood cell disorders

Anemia
· Aplastic
· Hemolytic
 - Glucose-6-phosphate dehydrogenase deficiency
 - Hemolytic uremic syndrome
· Hypochromic / microcytic
· Megaloblastic
· Normochromic normocytic
· Hemoglobinopathies
 - Sickle cell disease/trait
 - Thalassemia
Polycythemia

Transfusions

Autotransfusion

Complications

- Febrile
- Hemolytic
- IgA-mediated
- Disease transmission risk
- HIV
- Hepatitis
- Massive transfusions

Component therapy

Synthetic blood replacement

Indications for transfusion

IMMUNE SYSTEM DISORDERS

Hypersensitivity

Anaphylactic/anaphylactoid reactions

Angioedema

Allergic rhinitis

Drug allergies

Serum sickness

SYSTEMIC INFECTIOUS DISORDERS

Bacterial

Botulism

Gonococcal disease

Bacteremia/sepsis

Mycobacterial infections

- Tuberculosis
- Atypical mycobacteria

Meningococemia

Plague

Tetanus

Dengue

Typhoid

Toxic shock syndrome

Spirochaetes

Chlamydia

Mycoplasma

Protozoal – parasites

Malaria

Toxoplasmosis

Viral

HIV

Infectious mononucleosis

Influenza

Mumps

Polio

Rabies

Rubellas

Roseola

Varicella/zoster

Herpes simplex

Travel related

Prevention

Prophylaxis
Immunisations

MUSCULOSKELETAL DISORDERS (NON TRAUMATIC)

Bony abnormalities

Asceptic Necrosis of hip
Osteogenesis imperfecta
Osteomyelitis
Tumours
Bone cysts
Osteoporosis
Osteomalacia
Bone spurs
Pagets disease

Joint abnormalities

Arthritis
· Septic
· Gout
· Collagen vascular
· Degenerative
Osteochondritis dissicans

Disorders of the spine

Ankylosing spondilits
Spondilolysis / spondylolisthesis
Disc disorders
· Herniated nucleus pulposus
· Discitis
Low back syndromes
· Acute sprain
· Sacroiliitis
· Sciatica
· Tumors
· Cauda equina syndrome
· Spinal stenosis
Overuse syndromes
· Tendonitis
· Bursitis
· Fibrositis
· Muscle strains
· Carpal tunnel syndrome
Muscle abnormalities
· Muscular dystrophies
· Rhabdomyolysis
· Myositis
· Myositis ossificans
Soft tissue infections
· Necrotising faciitis
· Gangrene
· Paronychia
· Felon
· Tenosynovitis

NERVOUS SYSTEM DISORDERS

Subarachnoid hemorrhage

- Cerebral aneurysm
- Arteriovenous malformation

Intracerebral hemorrhage

Ischaemic stroke

- Embolic
- Thrombotic

Transient ischaemic attack

Cranial nerve disorders

Bell's palsy

Trigeminal neuralgia

Other cranial nerves

Demyelinating disorders

Multiple sclerosis

Infections/ inflammatory disorders

Abscess

- Brain
- Epidural

Encephalitis

Meningitis

Myelitis

Neuritis

Neuromuscular disorders

Landry's / Guillain - Barre syndrome

Myasthenia gravis

Amyotrophic lateral sclerosis

Peripheral neuropathy

Compression syndromes

Toxic and other neuropathies

Spinal cord compression

Seizure disorders

Status epilepticus

Focal seizures

Generalised seizures

Pseudo seizures

Headache

Acute spinal cord injury

Management of radiculopathy and myopathy

Status epilepticus

Acute neuro muscular respiratory failures and management

Unconscious patients with good flow chart

PSYCHOBEHAVIORAL DISORDERS

Thought disorders

- Schizophrenia

- Delusional paranoia
- Mood disorders
 - Bipolar disorder
 - Depression
- Anxiety disorders
 - Post traumatic stress
 - Panic
 - Phobia
 - Obsessive compulsive
 - Catatonic
- Somatoform disorders
 - Hysterical conversion
 - Hypochondriasis
- Factitious disorders
 - Munchausen syndrome
 - Drug seeking behaviour
- Addictive behaviour
 - Substance abuse
 - Eating disorders
- Personality disorders
 - Antisocial
 - Histrionic
 - Obsessive compulsive
 - Passive / aggressive
 - Borderline personality
- Organic brain syndromes
 - Delirium
 - Dementia
 - Amnesia
 - Intoxication and withdrawal
- Risk assessment
 - Suicidal risk or self abuse
 - Risk of violence against others
- Involuntary competency assessment/commitment
- Treatment modalities
 - Major tranquilizers
 - Sedatives/ hypnotics
 - Physical restraints
 - Management of violence
 - Community resource utilisation
- Patterns of violence/ abuse/ neglect
 - Family violence
 - Sexual assault

RENAL DISORDERS

Structural disorders

- Renal calculi
- Obstructive uropathy
- Renal obstruction

Infections

- Pyelonephritis
- Perinephric abscess

Acute and chronic renal failure

Complications of dialysis

THORACIC RESPIRATORY DISORDERS

Acute upper airway obstruction

Breast disorders

- Fibrocystic disease
- Tumor
- Infections

Disorders of pleura, mediastinum and chest wall

- Costochondritis
- Mediastinal masses
- Mediastinitis
- Pleural effusions/ empyema
- Pleurisy
- Pneumomediastinum
- Pneumothoraces
 - Spontaneous
 - Iatrogenic
 - Tension

Hyperventilation syndrome

Non cardiogenic pulmonary edema

Obstructive restrictive lung disease

- Asthma
- Bronchitis
- Chronic obstructive pulmonary disease
- Environmental / industrial exposure

Physical and chemical irritants / insults

- Chemical agents
- Foreign bodies
- Aspiration of gastric contents

Pulmonary embolism/ infarct

- Venous thromboembolism
- Fat
- Septic
- Amniotic fluid

Pulmonary infections

Bacterial

Fungal

Mycoplasma

Lung abscess

Bronchiectasis

Opportunistic

Septic emboli

Tuberculosis

Viral

Thoracic outlet syndrome

Pulmonary tumours

Sarcoidosis

Sleep apnea syndrome

TOXICOLOGICAL DISORDERS

Principles

Toxicology information

Toxicology diagnostic modalities

Toxidromes

Treatment modalities

- Antidotes
- Skin decontamination
- Gastric decontamination
 - Emetics
 - Lavage

Enhanced elimination

Activated charcoal

Cathartics/whole bowel irrigation

Diuresis

Dialysis

Hyperbaric oxygen

Withdrawal syndrome

Drug and chemical classes

- Acetaminophen
- Alcohol
 - Ethanol
 - Ethylene glycol
 - Isopropyl alcohol
 - Methanol
- Analgesics/ Anaesthetics
- Anti cholinergics/ Cholinergics
- Anti coagulants
- Anti convulsants
- Anti depressants
 - Lithium
 - Monoamine oxidase inhibitors
 - Cyclic antidepressants
- Anti parkinsonism drugs
- Anti histamines
- Anti psychotics
- Bronchodilators
- Cannabis
- Carbon monoxide
- Cardiovascular drugs
- Caustic agents
- Cocaine
- Cyanides
- Hydrogen sulphides
- Food additives
- Halucinogens
- Hazardous material spills
- Heavy metals and chelation
- Household / industrial poisons
- Hormones and steroids
- Hydrocarbons / Halogenated hydrocarbons
- Hypoglycemics
- Inhaled toxins
- Iron
- Isoniazid
- Local anaesthetics
- Local acting drugs
- Irritant bases
- Marine toxins
- Methemoglobinemia
- Mushrooms/ poisonous plants
- Nitrogen compounds
- NSAID's
- Organophosphates
- Opioids
- Salicylates
- Sedatives
- Stimulants
- Strychnine

CRITICAL CARE

Anti microbial therapy in critical care setting

Catheter colonization and Catheter related bacteremia

Invasive and noninvasive monitoring

Infections after solid organ transplantation

Management of HIV and AIDS related infection in the ICU

Malaria and Other tropical infections in the ICU

Intra abdominal sepsis

Laboratory diagnosis of infections

Mechanical ventilation

Noninvasive ventilation

Acute hypoxic respiratory failure

- Pathology of Acute Lung injury
- Pathophysiology and Management of Acute Respiratory distress syndrome
- Pulmonary aspiration
- Weaning from ventilatory support in hypoxic respiratory failure

Acute ventilatory failure

- Life threatening asthma
- Acute respiratory failure in patients with COPD
- Weaning from respiratory support in airflow obstruction states

Brain death

- Definition
- Determination
- Physiological effects on donor organs

Interventional therapy for cardiogenic shock

Hypertensive crises – emergencies and urgencies

Pulmonary embolism

Inotropic therapy in critically ill patient

Sedatives and analgesics in critical care

Neuro muscular blocking drugs in patients in the ICU

Critical care imaging of chest

CT and MRI of the abdomen in the Critical care patient

Interventional radiology in the critical ill patient

Imaging of the central nervous system in the critical care patient

Echocardiography in critical care

CARDIOLOGY

CARDIOVASCULAR DISORDERS

Pathophysiology

- Congenital disorders
- Acquired disorders
- Aging

Diseases of the myocardium – acquired

- Cardiac failure
 - High output
 - Low output
 - Cor pulmonale
- Cardiomyopathy
- Ischemic heart disease
 - Angina
 - Stable
 - Variant
 - Unstable
 - Myocardial infarction
 - Cardiogenic shock
 - Ventricular aneurysm
- Endocarditis

- Valvular heart disease
 - Aortic insufficiency / stenosis
 - Mitral insufficiency / stenosis
 - Pulmonary insufficiency / stenosis
 - Tricuspid insufficiency / stenosis
- Myocarditis
- Diseases of the pericardium
 - Pericarditis
 - Pericardial effusion/tamponade
 - Tumors
- Diseases of the conduction system
 - Dysrhythmias
 - Atrial flutter / fibrillation
 - Atrial / junctional ectopy
 - Preexcitation syndromes
 - Supraventricular tachycardia / bradycardia
 - Ventricular flutter / fibrillation
 - Ventricular tachycardia
 - Ventricular ectopy
 - QT-Interval syndrome
 - Conduction blocks
 - Sinotrial block
 - Sick sinus syndrome
 - Atrioventricular blocks (1; 2; 3)
 - Bundle - branch blocks
- Diseases of the circulation – acquired
 - Arterial
 - Atherosclerosis / insufficiency
 - Aneurysm
 - Aortic / iliac
 - Peripheral arterial
 - Arteritis
 - Emboli
 - Spasm
 - Thrombosis
 - Aortic dissection
 - Venous
 - Venous insufficiency varicosities
 - Thromboembolism
 - Thrombophlebitis
 - Lymphatics
- Congenital abnormalities of the CVS
 - Familial/ Genetically transmitted disorders
 - Disorders due to anatomic anomalies
 - Hypertrophic heart disease
 - Mitral valve prolapse
 - Patent foramen ovale
- Cardiac transplant patient
- Hypertension
 - Acute hypertensive crisis
 - Chronic hypertension
 - Essential
 - Secondary
- Primary tumors of the heart
- Myocardial manifestations of the systemic diseases
- Treatment modalities
 - Thrombolytic therapy
 - Pharmacologic agents

- Cardiac pacemakers
 - Temporary
 - Permanent
- Surgical interventions
 - Vascular reconstruction
 - Embolectomy
 - Angioplasty
 - Circulatory augmentation
 - Implantable defibrillators

DERMATOLOGY

CUTANEOUS DISORDERS

Dermatitis

- Acne
- Atopic
- Contact
- Dyshidrotic eczema
- Exfoliative
- Lichen simplex
- Psoriasis
- Seborrhea
- Stasis
- Photosensitivity

Infections

- Bacterial
 - Abscess
 - Cellulitis/lymphangitis
 - Erysipelas
 - Folliculitis
 - Impetigo
 - Bacterial exanthems
- Fungal
 - Candida
 - Tinea
- Parasitic
 - Pediculosis
 - Scabies
- Viral
 - Aphthous ulcers
 - Herpes simplex
 - Herpes zoster
 - Molluscum contagiosum
 - Warts
 - Viral exanthems

Maculopapular lesions

- Pityriasis rosea
- Purpura and petechiae
- Urticaria

Papular/ nodular lesions

- Epidermal inclusion cysts
- Fibroma
- Hemangioma
- Lipoma
- Nevi
- Lichen planus

Erythemas

- Erythema multiforme
 - Erythema nodosum
- Vesicular / Bullous lesions
- Pemphigus / pemphigoid
 - Scalded skin syndrome
 - Toxic epidermal necrolysis

Cancers

- Basal cell
- Kaposi sarcoma
- Melanoma
- Squamous cell

Cutaneous manifestations of allergic reactions

Cutaneous manifestations of systemic diseases

PAEDIATRICS

GI Tract

Colic, formula intolerance

Foreign body

Gastroenteritis

Viral / Bacterial / Parasite / Allergic / Inflammatory bowel disease

Gastro oesophageal reflux

GI bleeding

- Upper
- Lower

Surgical emergencies

- Tracheo oesophageal fistula / esophageal atresia
- Pyloric stenosis
- Biliary atresia
- Meckel's diverticulum
- Hirschsprungs
- Malrotation / volvulus
- Intussuception
- Hernia – inguinal, umbilical
- Appendicitis
- Duplication cyst
- Tumours – Neuroblastoma / Wilm's tumour

Acute pancreatitis

Hepatic coma / Fulminant hepatic failure

Cardio Vascular

Arrhythmia

Congenital heart disease

- Left to right shunt
- Right to left shunt with hypoxic spells
- Obstructive lesions – Pulmonary / systemic

Acquired heart diseases

- Pericardial effusion / pericarditis
- Infective endocarditis
- Myocarditis
- Rheumatic fever.

Congestive cardiac failure

Hypertension

Endocrine / Metabolic Disorders

Diabetes mellitus / Diabetic Ketoacidosis

Hypoglycemia

Diabetes insipidus

SIADH

Hyper and hypoparathyroidism / hypocalcemia

Hypo and hyper thyroidism

Congenital adrenal hyperplasia / crisis

Cushing's syndrome

Inborn errors of metabolism

Urea cycle, organic acidemia, amino acid metabolism, glycogen storage disorder

Hematologic

Anaemia – Aplastic, nutritional, hemoglobin

Thalassemia, Sickle cell anaemia, Spherocytosis

Hemostatic disorders

· ITP

· DIC

· Inherited disorders

· Fever and neutropenia

· Transfusion Medicine

Hypercoagulation states

Methemoglobinemia

Leukemias

Lymphomas

Tumor lysis syndrome, Superior mediastinal syndrome

Neurology

Acute encephalopathies – including Reye's syndrome

Meningitis / Encephalitis – viral, bacterial, tuberculosis

Seizures

Febrile, Non-febrile, Epilepsy

Status epilepticus

Hypoxic ischaemic encephalopathy

Coma

Raised intracranial tension – hydrocephalus, pseudo tumour cerebri

Acute flaccid paralysis

Chorea

Migraine

CNS tumours

Nerocysticercosis

Intracranial bleed

Orthopedics

Septic arthritis

Osteomyelitis

Transient synovites / reactive arthritis

Tumours

· Ewing's sarcoma

· Osteogenic sarcoma

Congenital dislocation of hip

ENT

Epistaxis

Foreign body

Naso pharyngitis

Otitis externa

Otitis media

Tonsillitis

Ludwig's angina

Torticollis

R S

Croup

- ACTB
- Epiglottitis
- Spasmodic croup

Foreign body

Bronchiolitis

Asthma

Status asthmaticus

Pneumonia

- Bacterial
- Viral
- Myoplasma
- Chlamydial
- Tuberculosis

Aspiration pneumonia

Pulmonary edema

Pleural effusion / emphysema

Pneumothorax

Congenital abnormalities in respiratory tract

Congenital diaphragmatic hernia

Apnea / Respiratory failure / Respiratory distress

ARDS

Psychiatry

Depression / attempted suicide

Psychosis

Eating disorder

Malingering / conversion reaction

Substance abuse

Infection

Diphtheria

Tetanus

Pertusis

Viral hemorrhagic fever / dengue

Poliomyelitis

Septic shock

TB

Measles

Staphylococcus infection

Meningococcus

Hemophilus influenza

Pneumococcus

Rabies

Herpes simplex

Cholera

Food poisoning

Bacteremia / septicemia

Viral exanthematous fevers

Immunization

Fever without localizing signs

Scrub Typhus

Rheumatology

Juvenile Rheumatoid arthritis
Henoch-schonlein purpura / vasculitis
Kwasaki syndrome
SLE

Skin

Cellulitis / Impetigo
Urticaria / angioedema

Renal / genitourinary

Congenital abnormalities of kidney
Urinary tract infection – uncomplicated, complicated
Acute glomerulonephritis
Nephrotic syndrome
Urolithiasis
Renal tubular acidosis
Acute renal failure
· Chronic renal failure
Hemolytic uremic syndrome
Penis
· Balanitis
· Phimosis / paraphimosis
Testis
· Torsion
Undescended Testis

New born

Resuscitation
Transport
Assessment – gestational age, sick new born
Preterm / IUGR
Jaundice
Sepsis – local, general
Seizures
Birth asphyxia
Birth trauma
Bleeding neonate
Temperature regulation and hypothermia
Hyaline membrane disease
Anemia

Fluid and electrolytes

General principles including type of fluid, composition, daily requirements
Fluids in special situation including newborn
Specific disturbance
· Hyponatremia
· Hypernatremia
· Hypokalemia
· Hyperkalemia
· Disorders of calcium/magnesium
Acid base balance

Critical care / problems

BLS, PALS in children
Airway management
Rapid sequence intubation
Post intubation
Assisted ventilation
Pre hospital care
Transport of sick child / post resuscitation stabilization
Shock
Anaphylaxis
Temperature regulation
Blood Component transfusion
Infection control
Vascular access
Drugs

Drug therapy in neonate and children**Poisoning and animal bites**

General principles of management
Salicylate poisoning
Acetaminophen poisoning
OPC, Organochlorines
Hydrocarbons
Acids / alkali
Oleander, Datura
Dapsone, anti convulsants, anti histamine, iron
Scorpion sting
Snake bite

Environment

Electrical injuries
CO poisoning / smoke injuries
Near drowning / drowning
Heat stroke

Burns**Paediatric trauma**

Epidemiology of child hood injuries
Setting up of regional pediatric trauma centre
Trauma score
Thoracic injuries
Abdominal trauma
Genitourinary trauma

Evaluation of hand, soft tissue injuries, envenomation injuries
Musculoskeletal trauma
CNS injuries / spinal injuries
Vascular injuries

Child abuse – physical, sexual**Emergency procedures**

Passing NG tube
Catheterization, LMA, Pain management
Application of collagen in burns, Intubation

ICT drainage, pleural tap
Umbilical vein cannulation
Ascitic tap
Pericardial tap, peripheral venous access, venepuncture.
Arterial line, Introsseous access, C-Spine immobilisation.

Growth and development

Medico legal aspects

OBSTETRICS & GYNAECOLOGY

OBSTETRICS AND DISORDERS OF PREGNANCY

Contraception

Pregnancy, Uncomplicated

Pregnancy, complicated

- Ectopic
- Hyperemesis gravidarum
- Abortion
 - Threatened
 - Inevitable
 - Incomplete
 - Complete
 - Septic
 - Missed
- Abruptio placenta
- Placenta praevia
- Toxemia / pregnancy induced hypertension
 - Pre-eclampsia
 - Eclampsia
- Rh Incompatibility
- Hydatiform mole
- Underlying illness

Labor uncomplicated

Labor complicated

- Premature rupture of membranes
- Preterm labor
- Failure to progress
- Fetal distress
- Ruptured uterus

Delivery, uncomplicated

- Presentation
- Position
- Lie
- Episiotomy

Delivery complicated

- Presentation
- Dystocia
- Prolapsed cord
- Retained placenta
- Uterine inversion
- Multiple births
- Still birth
- Emergency cesarean section

Post partum complication

- Retained products of conception
- Hemorrhage
- Endometritis

- Mastitis
- When Pregnancy is suspected
- Bleeding in pregnancy - SHOCK Retained placenta
 - Abdominal pain during pregnancy
 - Vomiting in pregnancy
 - Seizures in pregnancy
 - Headache and fever in pregnancy/puerperal
 - Injury to a pregnant woman (RTA)
 - Recognition of risk factors in pregnancy
 - Septic shock (CPR in Pregnancy)

GENERAL SURGERY

ABDOMINAL AND GASTROINTESTINAL DISORDERS

Oesophagus

Motor abnormalities

- Esophageal spasm
- Achalasia

Structural disorders

- Varices
- Rupture
- Perforation (Boerhaave's syndrome)
- Tears (Mallory - Weiss syndrome)
- Hematoma
- Foreign body
- Diaphragmatic hernia
- Diverticula
- Hiatal hernia
- Webs, strictures, stenosis, fistulas

Inflammatory disorders

- Reflux esophagitis
- Caustic injury

Infectious disorders

- Herpetic esophagitis
- Monilial esophagitis

Tumours

Liver

- Hepatitis
 - Viral
 - Bacterial
 - Parasitic
 - Drug and toxin
 - Alcoholic
 - Prophylaxis
- Cirrhosis
 - Alcoholic
 - Viral
 - Biliary obstructive
 - Drug-induced
 - Toxin-induced
- Hepatic hepatorenal failure
- Tumours of liver
- Abscess
 - Primary abscess
 - Metastatic abscess

- Hydatid liver
- Portal hypertension

Gall bladder and biliary tract

- Cholecystitis
- Cholangitis
- Cholelithiasis and choledocholithiasis
- Gallstone ileus
- Tumours
- Inflammatory disorders
- Gall stones

Pancreas

Inflammatory disorders

- Acute pancreatitis
- Chronic pancreatitis
- Pseudocyst/abscess
- Pancreatic insufficiency

Tumours

- Islet cell tumors
- Carcinoma

Stomach

Structural lesions

- Volvulus
- Foreign bodies
- Rupture
- Gastric outlet obstruction

Inflammatory disorders

- Acute gastritis
 - Stress-related
 - Corrosive gastritis
 - Drug induced

Peptic ulcer disease

- Duodenal ulcer
- Gastric ulcer
- Acute gastrointestinal hemorrhage

Tumours

Small bowel

Motor abnormalities

- Obstruction
 - Mechanical
 - Adynamic
- Pseudoobstruction

Structural disorders

- Aortoenteric fistula
- Malabsorption
- Meckel's diverticulum

Inflammatory disorders

- Acute appendicitis
- Regional enteritis/crohn's disease

Infectious disorders

- Viral
- Bacterial
- Parasitic

Tumours

Vascular disorders

- Mesenteric ischemia
- Ischemic colitis

Large bowel

Motor abnormalities

- Irritable bowel
- Constipation
- Aganglionic megacolon/Hirschsprung's
- Obstruction / pseudo obstruction

Structural disorders

- Diverticular disease
- Volvulus
- Vascular dysplasia (angiodysplasia)

Inflammatory disorders

- Ulcerative colitis
- Radiation colitis

Infectious disorders

- Bacterial
- Viral
- Parasitic
- Antibiotic-associated

Tumors

Rectum and Anus

Structural disorders

- Anal fissure
- Anorectal fistula
- Hemorrhoids
 - Internal
 - External
- Rectal prolapse
- Foreign body
- Perirectal abscess
- Perianal / pilonidal abscess

Inflammatory disorders

- Proctitis

Tumors

Abdominal wall

Hernias

Peritoneum

Ascites

Peritonitis

Varicose veins

Subcutaneous tumours

Lipomas

Dermoids

Sebaceous cyst

Breast

Inguinal hernia

Hydrocele

Testis

Oesophago gastroscopy

PLASTIC & RECONSTRUCTIVE MICRO SURGERY

Theory	-	Lectures
Emergency Care	-	Trauma centre
Basic Surgical Skill	-	Trauma centre minor OT/Casualty OT & A6 OT

LECTURES

Wound healing

Wound care and dressings

Suturing

Skin grafting

Hand injury

- History and examination
- First AID
- Emergency room management
- Definitive treatment

Burns

Types / classification / medicolegal aspects

Assessment of depth / % surface area % management of shock respiratory burns and complication

First AID at site

Management - initial at emergency room

Management subsequently

Other types of burns - Electrical, Chemical and Radiation

Microsurgical emergency

Limbs / digits with vascular compromise

Amputation

Preservation of amputated part and care of stump

Do's and Don't's

Degloving injuries of limbs

Management and counselling in plastic surgical birth anomalies

Life threatening

Non life threatening

Management of hand infection

EMERGENCY CARE

Demonstration, supervision and joint ventures

- Wound care in degloving injuries
- Wound care in hand injuries
- Wound care in burns
- Venotomy in burns
- Managing major burns
- Management of facial wounds
 - Controlling bleeding
 - Suturing
 - Areas:- Regular face (fore head / cheek / chin etc.)
 - Specific:- Eyelids
 - Eyebrows
 - Lips
 - Intra oral
- Management of finger tip injuries
 - SSG

- V-Y Flaps
- Terminalisation

BASIC SURGICAL SKILLS

- Suturing with fine suture 6.0 - 4.0 size
- Terminalisation
- Harvesting of small skin graft
- Terminalisation
- I & D in hand infection
- I & D in facial abscesses
- Hand injury: debridement, repair, splinting
- Emergency escharotomy in burns

OPHTHALMOLOGY

Eye

- External eye
- Anterior pole
- Posterior pole
- Orbit

Cavernous sinus thrombosis

Basic techniques of ophthalmic examination

- Orbit
- Adnexa
- Ocular motility
- Anterior segment
- Pupillary examination
- Posterior segment
- Orbital trauma
- Adnexal trauma
- Anterior segment trauma
- Optic nerve trauma

PROCEDURE/SKILLS

- Bedside ophthalmic examination
- Direct ophthalmoscopy
- Eye patching, use of protective eye shield
- Taping of lids to prevent exposure
- Temporary tarsorrhaphy
- Eyelid laceration repair

OTO-RHINO-LARYNGIOLOGY

EAR

Cellulitis / abscess of external ear

Foreign body

Labryntitis

Malignant otitis externa

Mastoiditis

Meneires disease

Otitis externa

Otitis media

Tympanic membrane perforation

Acute inflammation of ear

- Furuncle
- Otomycosis
- Malignant ottits externa

- Neuro permatitis
- Herpes zoster oticus
- Emergency management
- Foreign bodies of external and middle ear
 - Diagnosis and management
- Trauma to external ear
 - Haematoma auris
 - Trauma to external auditory canal
 - Fracture of temporal bone
- Trauma to tympanic membrane
 - Traumatic perforation
 - Blast injuries
 - Fracture of skull base
- Neoplasam of external ear
 - Osteoma
 - Exostosis
 - Tumours of external canal
 - Carcinoma of external canal
 - Kerotosis obturans
 - Impacted cerumen of external ear - diagnosis and management
- Inflammation of middle ear
 - Acute ottits media with effusion
 - Chronic ottits media - acute manifestations
 - Complications of ottits media inter cranial and extra cranial
 - Diabetic ottits media
 - Diabetic mastoiditis
- Trauma middle ear
 - Hemo tympanom
 - Baro trauma
 - Fracture of temporal bone - classification, mechanism, diagnosis and management
 - Trauma to ossicular chain
- Tumours of middle ear
 - Acute presentations
 - Glomus tympanium
 - Glomus jugularae
 - Carcinoma middle ear
- Pathology of inner ear
 - Sudden hearing loss - emergency management, etiology and diagnosis
 - Management of acute vertigo - etiology, diagnosis and management
 - Meniere's diseases
 - Benign paroxismal, positional vertigo
 - Labrinthits - viral, bacterial
 - Ototoxicity - drugs/chemicals
 - Otosclerosis
 - Noise induced hearing loss - blast injuries

NOSE

- Epistaxis
- Nasal foreign body
- Rhinitis
- Sinusitis
- Anatomy of nose and para nasal sinus
- Basic physiology
- Epistaxis etio - pathology clinical features and management
- Vestbulitis - anterior rhinitis
- Acute sinusitis / rhinitis
- Baro traumatic sinusitits
- Complications of sinusitis

Fracture nasal bone
Tumours of nose, paranasal sinus and nasopharynx, benign and malignant tumours
CFS Rhinorrhea
Fracture maxilla (le forts)
Proptosis
Choanal atresia

OROPHARYNX / THROAT

Foreign body
Gingivitis
Laryngitis
Ludwigs angina
Oral candidiasis
Pericoronitis
Periodontal abscess
Tonsillitis / Peritonsillar abscess
Pharyngitis
Retropharyngeal abscess
Sialoadenitis
Stomatitis
Temporomandibular joint disorders
Uvulitis
Catongue
Ca cheek
Salivary tumours
Odontomes
Ranula
Anatomy of oral cavity & pharynx
Physiology of oral cavity & pharynx
Diseases of oral cavity & pharynx
· Cleft palate & cleft lip
· Stomatitis
· Oral submucous fibrosis, Ludwig's angina
Tumours of oral cavity
· Ranula
· Haemangioma
· Lymphangioma
· Leucoplakia
Tonsillitis & adenoiditis
· Acute
· Chronic
Peritonsillar abscess
Acute & chronic pharyngitis
· Retropharyngeal abscess/parapharyngeal abscess
· Foreign bodies in pharynx
· Globus hystericus
· Sleep-apnoea syndrome
· Chemical trauma to pharynx
· Tumours of pharynx
· Temporomandibular joint dislocation
· Oesophagus
- Anatomy & physiology of oesophagus
- Oesophagitis
- Foreign bodies of oesophagus
- Dysphagia
- Achalasia cardia
- Malignant disease of oesophagus
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LARYNX

Anatomy of larynx
Physiology of larynx
Injuries of larynx (open & closed)
Laryngo-tracheal stenosis
Acute laryngitis, epiglottitis, laryngo tracheo bronchitis
Foreign bodies in the larynx (diagnosis & management)
Benign & malignant tumours of larynx
Vocal cord paralysis
Airway obstruction (stridor)
Occult primary

TRACHEA & BRONCHI

Anatomy of trachea & bronchi
Acute laryngo-tracheo-bronchitis
Foreign bodies in the air & food passage (diagnosis & management)
Neoplasms of trachea & bronchi
Tracheostomy

HEAD & NECK

Anatomy of neck
Benign tumors of neck
Parotid tumors
Thyroid tumors
Parapharyngeal space tumors & infection
Fracture cervical spine
Fracture skull base
Fascial spaces of the neck
Facial palsy

Special Situations

Injection Drug Users
The elder patient
Adults with Physical Disabilities
The Mentally Retarded Adult
The Homeless Patient
The Morbidly Obese Patient
Patient Safety in Emergency Medicine

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RECOMMENDED BOOKS

1. Emergency Medicine – Concept and Clinical Practice –VII Edition, Rosen Barkin
2. Principle and Practice of Emergency Medicine – George Schwartz - IV Edition
3. Emergency Medicine – Hamilton
4. Essential of Immediate Medical Care, II Edition – Dr. C. John Eaton
5. Clinical Management of Drug Overdose and Poisoning, - Haddad, Shannon, Winchester
6. Emergency Department Management Principles and Application - Richard F Salluzzo
7. The Five Minute Emergency Medicine Consult - Rosen Barkin – III Edison
8. Disaster Medicine - David E Hagan
9. Text Book of Paediatric Emergency Medicine – Fleisher – XVII Edition
10. Medical Emergencies In Children - Meherban Singh
11. Drugs Therapy in Emergency Medicine - Joseph P. Ornato/Edgar R. Gonzalez
12. Hamilton Bailey's 1995 - Emergency Surgery - BW Ellis, 12th edition.
13. Davidson's Principles and Practices of Medicine
14. Clinical Medicine - Kumar & Clark
15. Harrisons Principles of Internal Medicine
16. Emergency Medicine – A comprehensive Study Guide – VII Edition. – Judith Tintinalli
17. Text Book of Critical Care – V Edition – Shoe maker
18. Gold frank's Toxicologic Emergencies – V Edition
19. Pediatric Emergency Medicine: A Comprehensive Study Guide by Gary [R. Strange](#), [William R. Ahrens](#), [Steven Lelyveld](#), [William Ahrens](#)- McGraw-Hill Professional; 1st edition (August 1, 1995)
20. Emergencies in Obstetrics and Gynaecology (Oxford Handbooks in Emergency Medicine, Vol 8) by [Lindsey Stevens](#), [Anthony Kenney](#)- Oxford University Press; (July 1, 1994)
21. Principles of Critical Care by [Jesse B. Hall](#), [Gregory A. Schmidt](#), [Lawrence D. H. Wood](#)- McGraw-Hill Professional Publishing; 2nd edition (January 1, 1998)
22. Critical Care by [Joseph M. Civetta](#), [Robert W. Taylor](#), [Robert R. Kirby](#)- Lippincott Williams & Wilkins; 3rd edition (January 15, 1997)
23. Emergency Medicine: Topics and Problems for Students by [Jelinek](#)- Blackwell Science Ltd; (September 28, 1999)
24. Accidents and Emergencies in Children (Oxford Handbooks in Emergency Medicine)
25. Acute Medical Emergencies by [Ursula Guly](#), [Drew Richardson](#)- Oxford University Press; 3rd edition (January 15, 1996)
26. Outline of Fractures (Churchill Livingstone), 12th Edition, John Crawford Adams, David L. Hamblen
27. Outline of Orthopedics (Churchill Livingstone), 14th Edition, John Crawford Adams, David L. Hamblen.

LIST OF JOURNALS

Emergency Medical Journal BMJ

Canadian journal of emergency medicine

1. Annals of Emergency Medicine
2. Paediatric Emergency Medicine journals
3. Journal of Accident and Emergency Medicine
4. The American journal of Emergency Medicine