

***International Foundations of Medicine
Clinical Science Exam Blueprint***

General Principles: 5%–7%

Infancy and Childhood (normal growth and development)

Adolescence (sexuality, separation from parents/autonomy, physical changes of puberty)

Senescence (normal physical and mental changes associated with aging)

Medical Ethics and Jurisprudence

- consent to treatment and research issues
- physician-patient relationship
- death and dying and palliative care
- professional conduct/integrity

Applied Biostatistics and Clinical Epidemiology

- fundamental concepts of study design and interpretation
- fundamental concepts of data analysis, data interpretation, hypothesis testing, and statistical inference
- fundamental concepts for drawing conclusions from data (eg, causation, efficacy, effectiveness, subgroup analysis, and safety)
- clinical applications of decision sciences (eg, sensitivity, specificity, and predictive value)

Public/Population Health

- communicable disease transmission
- community approaches to primary health care
- disease surveillance and outbreak investigation
- epidemics following natural disasters
- maternal child health and breastfeeding
- points of intervention
- sanitation and water supply/waste water management
- population pyramids and impact of demographic changes
- measures of health status
- measures of disease frequency

Immunologic Disorders: 4%-5%

Health and Health Maintenance

- anaphylaxis and other allergic reactions
- HIV infection/AIDS
- immunization against infectious agents

Mechanisms of Disease

- abnormalities of cell-mediated immunity
- abnormalities of humoral immunity

Diagnosis

- anaphylactic reactions and shock
- connective tissue disorders
- HIV infection/AIDS and deficiencies of cell-mediated immunity
- deficiencies of humoral immunity and combined immune deficiency

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Diseases of the Blood and Blood-forming Organs: 4%-5%

Health and Health Maintenance

- anemia
- systemic infection

Mechanisms of Disease

- red cell disorders
- coagulation disorders
- white cell disorders

Diagnosis

- anemia; disorders of red cells, hemoglobin, and iron metabolism
- bleeding disorders, coagulopathies, and thrombocytopenia
- neoplastic disorders
- eosinophilia and reactions to transfusion of blood components, including complications; leukopenic disorders; and agranulocytosis
- infection

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Mental Disorders: 4%–5%

Health and Health Maintenance

- early identification and intervention (eg, suicide potential, depression, and alcohol/substance abuse)

Mechanisms of Disease

- biologic markers of mental disorders and mental retardation syndromes
- intended/unintended effects of therapeutic interventions, including effects of drugs on neurotransmitters

Diagnosis

- mental disorders usually first diagnosed in infancy, childhood, or adolescence
- substance-related disorders
- schizophrenia and other psychotic disorders
- mood disorders
- anxiety disorders
- child, spouse, and elder abuse
- adjustment disorder
- psychological factors affecting medical conditions

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Diseases of the Nervous System and Special Senses: 8%–10%

Health and Health Maintenance

- cerebrovascular disease and cerebral infarction
- nutritional deficiencies, toxic injuries, and occupational disorders
- infection involving the nervous system, eyes, or ears
- degenerative and demyelinating disorders

Mechanisms of Disease

- localizing anatomy (brain and special senses, brain stem, spinal cord, and neuromuscular system)
- anatomy of cerebral circulation
- increased intracranial pressure and altered state of consciousness
- infection
- degenerative/developmental and metabolic disorders

Diagnosis

- disorders of the eye
- disorders of the ear, olfaction, and taste
- disorders of the nervous system
 - headache
 - seizure disorders
 - syncope
 - cerebrovascular disease
 - traumatic and toxic injury
 - infections
 - neoplasms
 - metabolic disorders
 - degenerative/developmental disorders
 - neuromuscular disorders, gait abnormalities, and disorders relating to the spine and spinal nerve roots
 - sleep disorders

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Cardiovascular Disorders: 10%–12%

Health and Health Maintenance

- arterial hypertension
- atherosclerosis and coronary artery disease, hyperlipidemia
- prevention of rheumatic heart disease, thromboembolic disease, pulmonary emboli, and bacterial endocarditis

Mechanisms of Disease

- cardiac output, resistance, and central venous pressure
- valvular stenosis and incompetence
- congenital heart disease
- regulation of blood pressure
- disorders of the arteries and veins

Diagnosis

- dysrhythmias, palpitations, and syncope
- heart failure, dyspnea, fatigue, and peripheral edema of cardiac origin
- ischemic heart disease and chest pain of cardiac origin
- diseases of the myocardium
- diseases of the pericardium
- valvular heart disease
- congenital cardiovascular disease
- systemic hypotension, hypovolemia, cardiogenic shock, and cyanosis
- arterial hypertension
- atherosclerosis - lipoproteins
- disorders of the great vessels
- peripheral arterial vascular diseases and vasculitis
- diseases of the veins, peripheral edema
- traumatic injury

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Diseases of the Respiratory System: 9%–11%

Health and Health Maintenance

- bronchitis, asthma, emphysema, carcinoma of the larynx, carcinoma of the lung, pulmonary aspiration, atelectasis, and tuberculosis

Mechanisms of Disease

- ventilatory dysfunction
- respiratory failure, acute and chronic, including oxygenation failure
- circulatory dysfunction
- neoplastic disorders

Diagnosis

- disorders of the nose, paranasal sinuses, pharynx, larynx, and trachea
- infections of the lung
- obstructive airways disease
- atelectasis and pulmonary aspiration
- pneumothorax, hemothorax, traumatic injury to the lungs, and disorders involving the pleura
- pneumoconiosis and fibrosing or restrictive pulmonary disorders
- respiratory failure, hypoxia, hypercapnia, and dyspnea
- pulmonary vascular disorders
- neoplastic disorders of the lungs and pleura

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Nutritional and Digestive Disorders: 8%–10%

Health and Health Maintenance

- screening
- viral hepatitis and alcohol-related hepatopathy

Mechanisms of Disease

- malabsorption/malnutrition
- jaundice
- infections/parasites
- obstruction/mechanical

Diagnosis

- disorders of the mouth, salivary glands, oropharynx, and esophagus
- disorders of the stomach, small intestine, colon, and rectum/anus
- disorders of the pancreas
- disorders of the liver and biliary system
- traumatic injury

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Gynecologic Disorders: 7%–9%

Health and Health Maintenance

- postmenarchal/reproductive
- peri/postmenopausal

Mechanisms of Disease

- infections
- urinary incontinence and obstruction
- menstrual and endocrinologic disorders, infertility

Diagnosis

- pelvic relaxation and urinary incontinence
- neoplasms
- benign conditions of the breast
- menstrual and endocrinologic disorders

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Renal, Urinary, and Male Reproductive Systems: 7%–9%

Health and Health Maintenance

- infection
- acute and chronic renal failure, including risk factors, prevention, and methods of limiting progression
- male health maintenance examination

Mechanisms of Disease

- disorders of the male reproductive system
- urinary incontinence and obstruction and enuresis
- renal insufficiency/failure
- electrolyte and water metabolism and acid-base balance

Diagnosis

- disorders of the male reproductive system
- disorders of the urinary bladder and urinary collecting system
- disorders of the kidneys
- traumatic injury

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Disorders of Pregnancy, Childbirth, and the Puerperium: 4%–5%

Health and Health Maintenance

- prenatal care (eg, nutrition and prenatal diagnosis/prevention)
- assessment of the at-risk pregnancy and risk of preterm labor
- intrapartum care and signs of fetal compromise
- contraception, sterilization, and prevention of pregnancy after rape

Mechanisms of Disease

- placenta and placental dysfunction
- pregnancy and labor, including infection
- postpartum disorders, including infection
- fetus and newborn

Diagnosis

- pregnancy and labor, including obstetric complications
- nonobstetric complications of pregnancy
- complications of the puerperium

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Disorders of the Skin and Subcutaneous Tissues: 4%–5%

Mechanisms of Disease

- skin disorders, including cancer, infections, and inflammatory disorders

Diagnosis

- infections
- neoplasms
- other skin disorders, including occupational and inflammatory

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Diseases of the Musculoskeletal System and Connective Tissue: 7%–9%

Health and Health Maintenance

- epidemiology, impact, and prevention of degenerative joint and disc disease
- prevention of disability due to musculoskeletal disorders or infection

Mechanisms of Disease

- infections
- nerve compressions and degenerative, metabolic, and nutritional disorders
- inherited, congenital, and developmental disorders
- inflammatory and immunologic disorders

Diagnosis

- infections
- degenerative, metabolic and nutritional disorders
- inherited, congenital, and developmental disorders
- inflammatory, immunologic, and other disorders
- neoplasms
- traumatic injury and nerve compression and injury

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment

Endocrine and Metabolic Disorders: 8%–10%

Health and Health Maintenance

- diabetes mellitus, including prevention of morbidity and mortality due to complications
- screening

Mechanisms of Disease

- thyroid function
- diabetes mellitus and carbohydrate metabolism
- parathyroid and calcium metabolism
- pituitary and hypothalamic function
- adrenal function

Diagnosis

- thyroid disorders
- diabetes mellitus
- parathyroid and calcium disorders
- pituitary and hypothalamic disorders
- adrenal disorders
- heat-related illness

Principles of Management (*emphasis on topics covered in the Diagnosis section*)

- pharmacotherapy
- management decision (treatment/diagnosis steps)
- treatment