

Contents

1. CARDIOLOGY 1

Introduction, Symptomatology and Clinical Examination	1
Conduction System of the Heart	20
Electrocardiogram	21
Ischemic Heart Disease	28
Hypertension	52
Acute Rheumatic Fever	66
Valvular Heart Disease	73
Mitral Stenosis	74
Mitral Regurgitation	82
Mitral Valve Prolapse	87
Aortic Stenosis	88
Aortic Regurgitation	92
Infective Endocarditis	101
Heart Failure	110
Cardiac Arrhythmias	124
Diseases of the Myocardium	137
Cardiomyopathy	138
Congenital Heart Diseases	143
Diseases of the Pericardium	152
Pulmonary Hypertension	158
Sudden Cardiac Death	159
Cardiac Arrest	160
Syncope	163
Cor Pulmonale	164
Diseases of Vessels	165
Raynaud's Phenomenon and Raynaud's Disease	167
Circulatory Failure: Shock	169
Pulmonary Embolism and Venous Thrombosis	173
Disorders of Blood Lipids and Lipoproteins	178

2. RESPIRATORY SYSTEM AND TUBERCULOSIS 187

Introduction, Basic Approach, Symptomatology, and Investigations	187
Respiratory (Pulmonary) Function Tests	191
Bronchial Asthma	195
Chronic Obstructive Pulmonary Disease	215
Cigarette Smoking	228
Pulmonary Tuberculosis	229
Extrapulmonary Tuberculosis	250
Suppurative Lung Disease	255
Pleural Effusion	268
Pneumothorax	278
Pneumonia	282
Diffuse Parenchymal Lung Disease/ Interstitial Lung Disease	299

Lung Cancer (Bronchial Carcinoma)	308
Mediastinum	319
Respiratory Failure	321
Sleep Apnea/Hypopnea Syndrome	324
Acute Lung Injury and the Acute Respiratory Distress Syndrome	329
Pulmonary Eosinophilic Syndromes	345

3. INFECTIOUS DISEASES 350

Bacterial Infections	350
Streptococcal Infections	350
Enterococci	352
Staphylococci	352
Community-acquired Methicillin-resistant <i>Staphylococcus aureus</i> (CA-MRSA)	352
Meningococcal Infections	353
Diphtheria	353
Tetanus	354
Anthrax	356
Plague	357
Botulism	359
Whooping Cough	359
Enteric Fever	361
Food Poisoning	363
Dysentery	364
Amebiasis	365
Brucellosis	367
Cholera	369
Leptospirosis	370
Weil's Syndrome	372
Meliodosis	373
Rickettsial Diseases	374
Viral Infections	374
Measles	374
Rubella (German Measles)	376
Mumps	378
Herpes Viruses Infecting Humans	378
Infectious Mononucleosis (Glandular Fever)	378
Chickenpox (Varicella)	380
Shingles (Herpes Zoster)	382
Prevention	383
Human Papillomaviruses	383
Arthropod-Borne Viruses (Arboviruses)	384
Dengue	385
Chikungunya	390
Japanese Encephalitis	391
Smallpox (Variola)	392

COVID-19	393	Management of a Patients with HIV/AIDS	473
CO-RADS (COVID-19 Reporting and Data System)		Treatment Failure in HIV	476
Staging	395	HIV Resistance	477
Rabies	397	Postexposure Prophylaxis for HIV	482
Ebola Virus Disease	399	Pre-exposure Prophylaxis in HIV	483
Swine Flu	399	HIV-Vaccine	485
Zika Virus	400	Recent Advances in Treatment of HIV	485
Molluscum Contagiosum	401		
Nipah Virus Encephalitis	401		
Fungal Infections	402		
Candidiasis (Moniliasis)	402		
Superficial Mycoses	403		
Opportunistic Mycoses	404		
Aspergillosis	404		
Mucormycosis	405		
Rhinocerebral Mucormycosis	405		
Mycetoma	406		
Nocardiosis	406		
<i>Actinomyces israelii</i>	407		
Protozoal Infections	407		
Malaria	407		
Tropical Splenomegaly Syndrome (TSS)	417		
Leishmaniasis	418		
Toxoplasmosis	421		
Infections caused by Helminths	422		
Cestodes (Tapeworms)	422		
<i>Echinococcus granulosus</i> (<i>Taenia and Echinococcus</i>) and Hydatid Disease	424		
<i>Enterobius vermicularis</i> (Threadworm/Pinworm)	426		
<i>Ascaris lumbricoides</i> (Roundworm)	427		
<i>Trichuris trichiura</i> (Whipworm)	427		
<i>Ancylostomiasis</i> (Hookworm)	428		
Cutaneous Larva Migrans (Creeping Eruption)	428		
Strongyloidiasis	429		
Filariasis	430		
Nosocomial Infections (Hospital Infections)	431		
Sepsis	435		
Pyrexia (Fever) of Unknown Origin	438		
Anti-Infective Therapy	443		
Miscellaneous	445		
4. HIV INFECTION AND AIDS	448		
Structure of HIV	448		
Transmission of HIV	449		
Pathogenesis of HIV Infection and AIDS	450		
Life Cycle of HIV	451		
Natural History of HIV Infection	452		
Patterns of HIV Progression	453		
HIV Clinical Staging and Classification	454		
Important Infections and Presenting Problems in AIDS	455		
HIV and Organ System Involvement	455		
AIDS and Malignancy	470		
Investigations in Patients with HIV/AIDS	471		
		5. GASTROENTEROLOGY	487
		Symptomatology and Evaluation of Gastrointestinal Disease	487
		Hiccough	488
		Constipation	489
		Chronic Blood and Mucus in the Stools	490
		Occult Blood in the Stool	490
		Weight Loss	492
		Glossitis	492
		Dyspepsia	492
		Nonulcer Dyspepsia (Functional Dyspepsia, Nervous Dyspepsia; Nonorganic Dyspepsia)	492
		Gastrointestinal Bleeding	494
		Upper Gastrointestinal Bleeding	494
		Variceal Bleeding	497
		Lower Gastrointestinal Bleed	497
		Approach to Diarrhea	499
		Large-volume versus Small-volume Diarrhea	499
		Secretory versus Osmotic Diarrhea	499
		Watery versus Fatty versus Inflammatory Diarrhea	499
		Traveler's Diarrhea	503
		Diseases of the Esophagus	503
		Dysphagia	503
		Odynophagia	505
		Gastroesophageal Reflux Disease	505
		Barrett's Esophagus	508
		Hiatus Hernia	508
		Achalasia of the Esophagus	509
		Eosinophilic Esophagitis	510
		Diseases of the Stomach and Duodenum	510
		Peptic Ulcer Disease	510
		Dumping Syndrome	517
		Diseases of the Intestine	517
		Malabsorption Syndrome	517
		Celiac Disease	521
		Tropical Sprue	523
		Lactose Intolerance	523
		Whipple's Disease	524
		Giardiasis	524
		Carcinoid Tumors (Neuroendocrine Tumors)	525
		Ischemic Colitis	526
		Pseudomembranous Colitis	526
		Psychosomatic Disorders of the Gastrointestinal Tract	527
		Irritable Bowel Syndrome	528

Abdominal Tuberculosis	531	Spondyloarthropathies (Spondyloarthritides)	687
Ulcers in Intestine	533	Adult-Onset Still's Disease	694
Inflammatory Bowel Disease	533	Juvenile Idiopathic Arthritis/ Juvenile Rheumatoid Arthritis	694
Ulcerative Colitis	534	Vasculitis	695
Crohn's Disease	539	Osteoarthritis	703
Toxic Megacolon	542	Systemic Sclerosis (Scleroderma)	706
Probiotics and Prebiotics	544	Sjögren's Syndrome	710
Miscellaneous Topics	545	Crystal Arthropathies	711
Gardner's Syndrome	545	Osteoporosis	716
Peutz-Jeghers Syndrome	546	Antiphospholipid Antibody Syndrome	719
Indications, Contraindications and Complications of Upper Gastrointestinal Endoscopy	546	Inflammatory Muscle Diseases	721
Indications for Colonoscopy	546		
Protein-losing Enteropathy	546	9. HEMATOLOGY	724
Generalized Abdominal Distension	547	Disorders of Red Blood Cell	724
Causes of Oral Ulceration	547	Introduction	724
Disorders of Pituitary and Hypothalamus	986	Anemia	725
Pituitary Hormones and their Principal Actions	986	Iron Metabolism	729
Hypopituitarism	986	Iron Deficiency Anemia (IDA)	732
		Macrocytic Anemia	736
6. HEPATOBILIARY SYSTEM	548	Hemolytic Anemias	744
Liver Function Tests	548	Disorders of White Blood Cell	764
Diagnostic Procedures	552	Acute Leukemias	766
Jaundice	554	Chronic Myeloid Leukemia	776
Viral Hepatitis	561	Chronic Lymphocytic Leukemia	779
Chronic Hepatitis	568	Myeloproliferative Neoplasms	782
Acute Liver Failure	576	Myelodysplastic Syndromes	787
Fatty Liver	578	Plasma Cell Neoplasms	789
Alcoholic Liver Disease	581	Hodgkin Lymphoma	795
Cirrhosis	583	Non-Hodgkin Lymphoma	798
Portal Hypertension	592	Hematopoietic Stem Cell Transplantation	803
Hepatic Encephalopathy	599	Drugs used in Hematological Diseases	807
Ascites	607	Generalized Lymphadenopathy	813
Drug and Toxin-induced Hepatitis	617	Hemostasis	814
Hepatic Venous Outflow Tract Obstruction	619	Bleeding Disorders (Hemorrhagic Diathesis)	817
Hepatocellular Carcinoma	622	Disorders of Platelets	819
Liver Transplantation	623	Thrombocytopenia	819
Pyogenic Abscess	624	Disorders of Coagulation (Clotting)	824
Amebic Liver Abscess	625	Microangiopathic Hemolytic States and Thrombocytopenias	828
Metabolic Liver Disease	627	Transfusion Medicine	833
Hepatic Disorders of Pregnancy	634		
Cholecystitis	635	10. KIDNEY	843
Cholelithiasis	637	Approach to Renal Diseases	844
7. PANCREAS	640	Acute Kidney Injury (Acute Renal Failure)	853
Pancreatitis	640	Glomerulonephritis	861
Pancreatic Cancer	650	Nephrotic Syndrome	866
Endocrine Tumors of Pancreas/ Pancreatic Neuroendocrine Tumors (PNETS)	652	Tubulointerstitial Diseases	871
		Renal Tubular Acidosis	873
8. RHEUMATOLOGY AND CONNECTIVE TISSUE DISORDERS	656	Chronic Kidney Disease	875
Introduction	656	Cystic Diseases of Kidney	885
Rheumatoid Arthritis	670	Obstructive Uropathy	886
Systemic Lupus Erythematosus	679	Nephrolithiasis	886
		Urinary Tract Infections	889
		Renal Replacement Therapies	896

11. FLUID AND ELECTROLYTE DISTURBANCES	904		
Disorders of Water Balance	904	Subclinical Thyroid Diseases	1016
Assessing Volume Status	906	Thyroiditis	1017
Volume Depletion (Hypovolemia)	908	Subacute Thyroiditis (De Quervain's Thyroiditis)	1017
Volume Expansion (Hypervolemia)	910	Hashimoto's Thyroiditis	1018
Disorders of Sodium Balance	915	Riedel's Thyroiditis (Sclerosing Thyroiditis/Ligneous Thyroiditis/Invasive Fibrous Thyroiditis)	1019
Disorders of Potassium Balance	925	Goiter	1020
Approach to Acid-Base Disorder	933	Simple (Nontoxic) Goiter	1020
		Diffuse Nontoxic (Simple) Goiter	1020
12. DIABETES MELLITUS	941	Parathyroid Disorders	1021
Introduction	941	Calcium Homeostasis	1021
Classification and Etiology	941	Hyperparathyroidism	1022
Etiopathogenesis of Type 1 Diabetes Mellitus	943	Hypercalcemia	1026
Pathogenesis of Type 2 Diabetes Mellitus	944	Hypoparathyroidism	1027
Clinical Features of Diabetes Mellitus	946	Tetany	1028
Latent Autoimmune Diabetes in Adults	947	Pseudohypoparathyroidism	1029
Maturity-Onset Diabetes of the Young	948	Adrenal Gland Disorders	1030
Diagnosis of Diabetes Mellitus	950	Hormones Secreted by the Adrenal Gland	1030
Management of Diabetes Mellitus	953	Cushing's Syndrome	1030
Oral Hypoglycemic (Glucose-Lowering) Drugs	954	Nelson's Syndrome	1034
Insulin Treatment	960	Hyperaldosteronism/Conn's Syndrome	1034
Complications of Diabetes	968	Primary Hyperaldosteronism	1035
Diabetic Ketoacidosis	968	Secondary Hyperaldosteronism	1036
Hyperosmolar Hyperglycemic State	972	Adrenocortical Insufficiency	1036
Lactic Acidosis	973	Addison's Disease	1036
Hypoglycemia	973	Acute Adrenal Crisis/Addisonian Crisis	1039
Chronic Complications of Diabetes	976	Steroid Therapy	1040
Gestational Diabetes Mellitus	983	Waterhouse–Friderichsen Syndrome	1040
Metabolic Syndrome	984	Pheochromocytoma	1041
		Gonadal Disorders	1043
13. ENDOCRINOLOGY	986	Male Hypogonadism	1043
Disorders of Pituitary and Hypothalamus	986	Impotence	1044
Pituitary Hormones and their Principal Actions	986	Gynecomastia	1044
Hypopituitarism	986	Short Stature	1045
Sheehan's Syndrome	989	Tall Stature	1046
Empty Sella Syndrome	989		
Kallmann Syndrome	990	14. ONCOLOGY	1047
Growth Hormone Therapy	990	Cell Cycle	1047
Pituitary Apoplexy	990	Genetic Basis of Transformation of a Normal Cell into a Malignant Cell	1050
Pituitary Tumors	991	Cancer Screening and Prevention	1055
Acromegaly	992	Diagnosis and Staging of Cancer	1056
Prolactinoma	996	Cancer Treatment	1060
Diabetes Insipidus	998	Oncologic Emergencies	1072
Thyroid Disorders	1000	Paraneoplastic Syndromes	1073
Thyroid Function Tests	1000	Cancer Pain	1077
Thyrotoxicosis	1002	End-of-Life Care	1083
Hyperthyroid Crisis/Thyrotoxic Crisis/Thyroid Storm	1011		
Hypothyroidism	1012	15. NUTRITION	1085
Adverse Reactions of Thyroxine	1015	Nutritional Assessment	1085
Myxedema Coma	1015	Vitamin A	1087
Myxedema Madness	1016	Vitamin B Complex	1090
Sick Euthyroid Syndrome/Nonthyroid Illness State	1016		

Vitamin C	1097	Social Problems/Changes in Older Adults	1282
Vitamin D	1099	Ethics in Geriatrics	1285
Vitamin E (Alpha Tocopherol)	1103		
Vitamin K	1104	19. DERMATOLOGY, VENEREOLOGY AND LEPROSY 1287	
Trace Elements	1105	Introduction	1287
Fluorosis	1105	Papulosquamous Disorders	1288
Enteral and Parenteral Nutrition Support	1106	Blistering (Bullous) Disorders of Skin	1298
Protein–Energy Malnutrition	1109	Reactive Disorders of Skin	1301
Obesity	1109	Pigmentary Disorders of Skin	1304
		Skin Tumors	1307
16. NEUROLOGY 1119		Phakomatoses	1310
Introduction and Symptomatology	1119	Disorders of Skin Appendages	1312
Abnormal Speech and Language	1124	Panniculitis	1318
Headache	1127	Leprosy	1319
Migraine	1128	Scabies	1324
Stroke and Cerebrovascular Disease	1135	Lice Infection	1326
Demyelinating Diseases	1154	Sexually Transmitted Infections	1327
Seizures and Epilepsy	1157	Chlamydial Infections	1330
Neuroinfections	1166	Granuloma Inguinale (Donovanosis)	1331
Diseases of the Spinal Cord	1174	Syphilis	1331
Motor Neuron Diseases	1185	Approach to a Case of Genital Ulcer	1335
Diseases of the Peripheral Nervous System	1189	Approach to Vaginal Discharge	1336
Neuromuscular Junction Disorders	1196		
Diseases of Muscle	1198	20. PSYCHIATRY 1340	
Disorders of Cerebellar Function	1200	Antipsychotic Drugs	1343
Movement Disorders	1203	Antidepressants	1344
Organic Brain Syndrome	1213	Mood-Stabilizing Agents	1345
Coma	1213	Anxiolytic (Antianxiety) Medications	1345
Diseases of Cranial Nerves	1219	Electroconvulsive Therapy	1346
Intracranial Pressure	1228	Psychotherapy	1347
Tumors of the Nervous System	1231	Psychosis	1348
Miscellaneous	1232	Mood Disorders	1351
		Obsessive–Compulsive Disorder	1354
17. TOXICOLOGY AND ENVENOMATION 1237		Impulse Control Disorders	1355
Clinical Examination of Poisoning Case	1237	Neurotic Disorders	1355
Toxidromes	1239	Anxiety Disorders	1355
Insecticide Poisoning	1243	Somatoform Disorders	1357
Snakebite/Ophitoxemia	1246	Dissociative (Conversion) Disorder	1357
Scorpion Bite	1251	Factitious Disorder/Munchausen’s Syndrome	1358
Hymenoptera (Bee, Wasp, Hornet) Stings	1253	Psychosomatic Disorder	1358
Corrosive Poisoning	1253	Organic Mental Disorders	1359
Common Drug Overdosages	1254	Substance use Disorders	1360
Plant Poisons	1259	Eating Disorders	1365
Carbon Monoxide	1261	Sleep Disorders	1366
Alcohol Poisoning	1262	Narcolepsy	1368
		Psychosexual and Gender Identity Disorders	1369
18. GERIATRICS 1265		Personality Disorders	1370
Geriatrics	1265	Child Psychiatry	1370
Gerontology	1265	Geriatric Psychiatry	1372
Demographics of Aging	1265	Puerperal Disorders	1372
Biology of Aging	1266	Emergencies in Psychiatry	1373
Comprehensive Geriatric Assessment	1269	Community Psychiatry	1374
Common Clinical Problems of Aging	1269	Forensic Psychiatry	1374
Guidelines for Drug Therapy in the Elderly	1282	Miscellaneous Topics	1375

21. AETCOM—ATTITUDE, ETHICS AND COMMUNICATION MANUAL	1381	25. EMERGENCIES AND CRITICAL CARE	1448
Module 4.1: The Foundations of Communication—5	1381	Case 1: Management of Severe Hyperkalemia	1448
Module 4.4: Case Studies in Ethics Empathy and the Doctor-Patient Relationship	1384	Case 2: Metabolic Acidosis	1449
Module 4.8: Dealing with Death	1387	Case 3: Hypoglycemia	1449
22. IMMUNOLOGY	1391	Case 4: Management of Acute Pulmonary Edema	1450
Introduction	1391	Case 5: Management of Severe Hypercalcemia	1450
Duality of Immune System	1391	Case 6: Tension Pneumothorax	1451
Cytokines	1393	Case 7: Myxedema Coma	1452
Complement System	1395	Case 8: Thyrotoxic Crisis/Thyroid Storm	1452
Immunodeficiency	1398	Case 9: Acute Adrenal Insufficiency	1452
Hypersensitivity Reactions	1402	Case 10: Coma	1453
Autoimmunity	1409	Case 11: Snakebite	1453
Adult Immunization	1410	Case 12: Hypovolemia	1453
Amyloidosis	1413	Case 13: Management of Shock	1454
23. GENETICS	1417	Case 14: Ischemic Stroke	1455
Common Genetic and Chromosomal Disorders	1417	Case 15: Hyperventilation	1455
Down Syndrome (Trisomy 21)	1419	Case 16: Acute Pulmonary Embolism	1455
Klinefelter Syndrome	1420	Case 17: Hemoptysis	1456
Turner Syndrome	1421	Case 18: Hypertensive Emergency/Crisis	1456
Intellectual Disability	1422	Case 19: Severe Dehydration	1457
Inheritance	1422	Case 20: Cardiac Arrest	1457
Gene Therapy	1428	Case 21: Ventricular Fibrillation	1458
Human Genome Project	1430	Case 22: Upper Gastrointestinal Bleed	1458
Genetic Mutations	1431	Case 23: Management of Angina	1459
Genetic Testing	1434	Case 24: Acute Myocardial Infarction	1459
Genetic Counseling	1437	Case 25: Organophosphate Poisoning	1460
24. CLINICAL PHARMACOLOGY	1439	Case 26: Management of Anaphylaxis	1461
Introduction	1439	Case 27: Management of Acute Severe Asthma	1462
Adverse Drug Reaction	1439	Case 28: Diabetic Ketoacidosis	1462
Drug Interaction	1441	Case 29: Status Epilepticus	1463
Drugs and Liver	1443	26. ENVIRONMENTAL DISEASES	1464
Drugs and Kidney	1443	Radiation Exposure	1464
Drug usage in Pregnancy	1444	High Altitude	1466
Clinical Trials Basic Concepts	1444	Heat-related Illness	1468
		Drowning (Submersion Injuries)	1472
		<i>Appendix 1475</i>	
		<i>Index 1481</i>	