

CONTENTS

Volume 1







Part 1 Introduction

-  1. **The Practice of Medicine** 2
Yash Pal Munjal
-  2. **Disease Profile and Epidemiology of Communicable and Non-communicable Diseases in India** 11
Jugal Kishore

Part 2 Clinical Approach to Key Manifestations

1. **Pain: Mechanism and Management** 22
PN Kakar
-  2. **Headache** 24
K Ravishankar
3. **Chest Pain** 34
Sanjay Tyagi and Amit Mittal
4. **Acute Abdomen: Non-surgical Causes** 40
Sumeet Singla and AK Agarwal
5. **Cough** 47
Suman Kirti
6. **Haemoptysis** 52
Randeep Guleria and Jaya Kumar
7. **Jaundice** 56
Aparna Agrawal
8. **Clinical Approach to Upper Gastrointestinal Bleeding** 62
JC Vij
9. **Approach to Patient with Lower Gastrointestinal Bleeding** 65
Surinder S Rana
10. **Fever of Unknown Origin** 69
Priscilla Rupali
11. **Generalised Lymphadenopathy** 76
SK Verma
12. **Dizziness and Vertigo** 79
M Maiya
13. **Syncope** 83
Pushpa Yadav
14. **Coma** 87
B Vengamma
-  15. **Appropriate Ordering of Radiological Investigations** 94
Chandan J Das
16. **A Clinical Approach to Patients with Ascites** 107
Richa Dewan
17. **Anasarca: A Clinical Approach** 111
Yash Pal Munjal
18. **Approach to a Patient with Dyspnoea** 115
Praloy Chakraborty
19. **Clinical Approach to Exanthematous Fever** 120
Bibhuti Saha and Manab Kumar Ghosh

Part 3 Diagnostic Imaging

- | | | |
|---|--|-----|
|  | 1. Conventional Radiology | 126 |
| | <i>Ashu Seith Bhalla and Manisha Jana</i> | |
|  | 2. Ultrasound in Medicine | 141 |
| | <i>BS Rama Murthy</i> | |
|  | 3. Computed Tomography | 147 |
| | <i>Bhavin Jankharia and Nishigandha Burute</i> | |
|  | 4. Magnetic Resonance Imaging | 156 |
| | <i>Raju Sharma and Devasenathipathy Kandasamy</i> | |
|  | 5. Nuclear Imaging | 173 |
| | <i>BR Mittal</i> | |
|  | 6. Positron Emission Computed Tomography and Positron Emission Magnetic Resonance Imaging | 186 |
| | <i>Rakesh Kumar and Sellam Karunanithi</i> | |

Part 4 Clinical Pharmacology

- | | |
|--|-----|
| 1. Drug Discovery and Clinical Evaluation of New Drugs | 196 |
| <i>SK Gupta and Sushma Srivastava</i> | |
| 2. Introduction to Pharmacology | 204 |
| <i>CD Tripathi and Sachin Manocha</i> | |
| 3. Rational Use of Medicines | 210 |
| <i>Sangeeta Sharma</i> | |
| 4. Pharmacokinetic and Pharmacodynamic Basis of Pharmacotherapy | 213 |
| <i>Rajani Mathur</i> | |
| 5. Pharmacovigilance: Safety Monitoring of Medicines | 221 |
| <i>V Kalaiselvan</i> | |
| 6. Role of National Formulary of India in National Health Care System | 227 |
| <i>Jai Prakash and YK Gupta</i> | |

Part 5 Immunology








- | | |
|--|-----|
| 1. An Overview of the Immune System | 232 |
| <i>Sita Naik</i> | |
| 2. General Concepts of Immuno-inflammatory Disorders | 242 |
| <i>Ramnath Misra</i> | |
| 3. Immunology of Infectious Diseases | 246 |
| <i>Sita Naik</i> | |
| 4. Approach to a Patient with Suspected Primary Immunodeficiency Disorder | 249 |
| <i>Surjit Singh</i> | |
| 5. Laboratory Investigations in Immune-mediated Diseases | 256 |
| <i>Amita Aggarwal</i> | |
| 6. Pharmacological Manipulation of the Immune System | 261 |
| <i>Mitali Chatterjee and Alakendu Ghosh</i> | |
| 7. Immunology of Organ and Haematopoietic Stem Cell Transplantation | 270 |
| <i>Narinder K Mehra and Neeraj Kumar</i> | |

Part 6 Medical Genetics

- | | |
|---|-----|
| 1. Introduction to Medical Genetics | 278 |
| <i>Late Shyam Swarup Agarwal</i> | |
| 2. Mendel and Beyond | 282 |
| <i>Ratna Dua Puri</i> | |
| 3. Clinical, Conventional and Molecular Cytogenetics | 290 |
| <i>Ashutosh Halder</i> | |

4.	Genetic Tests <i>Ashwin Dalal</i>	301
5.	Inborn Errors of Metabolism <i>Madhulika Kabra</i>	306
6.	Molecular Genetics, Human Genome Project and Genomic Medicine <i>Girisha KM</i>	316
7.	Gene Therapy <i>Rita Mulherkar</i>	322
8.	Genetic Counselling and Prenatal Diagnosis <i>Shubha R Phadke</i>	325
9.	Pharmacogenomics and Personalised Medicine <i>C Adithan</i>	332
10.	Cancer Genetics <i>Rajiv Sarin</i>	335

Part 7 Critical Care Medicine

	1. Basic Considerations in Critical Care <i>RK Mani and P Saxena</i>	342
	2. Monitoring of Critically Ill Patients <i>M Hanumantha Rao</i>	346
	3. Fluid and Electrolyte Balance in Health and Disease <i>Sanjay Jain</i>	352
	4. Acid-Base Disorders <i>Alladi Mohan and Surendra K Sharma</i>	360
	5. Enteral and Parenteral Nutrition in Critically Ill Patients <i>Shilpa S Joshi</i>	368
	6. Acute Respiratory Failure <i>Ashit M Bhagwati</i>	374
	7. Sepsis and Acute Respiratory Distress Syndrome <i>Alladi Mohan and Surendra K Sharma</i>	381
	8. Mechanical Ventilation <i>Tamilarasu Kadiravan</i>	388
	9. Non-invasive Positive Pressure Ventilation <i>Dhruva Chaudhry and Rajesh Chawla</i>	395
	10. Hypotension and Shock <i>Piyush Jain and Rene P Eapen</i>	404
	11. Advanced Cardiac Life Support <i>Sanjeev Bhoi and Sameer Vankar</i>	407
	12. Brain Death and Support of Brain Dead Organ Donor <i>Rajesh Chawla and Prashant Nasa</i>	417

Part 8 Bone Disorders


	1. Bone and Mineral Metabolism in Health and Disease <i>Deepak Khandelwal and Ravinder Goswami</i>	424
	2. Investigation and Diagnosis of Bone Disorders <i>Sukumar Mukherjee and Somnath Bhar</i>	430
	3. Rickets and Osteomalacia <i>Bindu Kulshreshtha and Sachin K Jain</i>	437
	4. Osteoporosis <i>SNA Rizvi</i>	442
	5. Developmental Disorders of Bone <i>Rakesh K Sahay</i>	448
	6. Miscellaneous Bone Disorders <i>CV Harinarayan</i>	451

Part 9 Diabetes Mellitus


1. **Epidemiology and Basic Considerations of Diabetes** 457
A Ramachandran and C Snehalatha
2. **Pathogenesis of Type 1 Diabetes Mellitus** 461
Carani B Sanjeevi and Vijay Viswanathan
3. **Pathogenesis of Type 2 Diabetes Mellitus** 465
Hemraj B Chandalia
4. **Clinical Features and Diagnosis of Diabetes Mellitus** 470
Anupam Prakash
5. **Life-style Modification in the Management of Diabetes** 477
Banshi Saboo
6. **Oral Antidiabetic Drugs** 480
Anil Bhansali and Viral N Shah
7. **Insulins** 486
Yash Pal Munjal
8. **Newer Modalities of Treatment in Type 2 Diabetes Mellitus** 492
Anil Bhansali and G Shanmugasundar
9. **In-Hospital Management of Diabetes Mellitus** 497
Dukhabandhu Naik and Nihal Thomas
10. **Hypoglycaemia** 502
Siddharth N Shah
11. **Diabetic Ketoacidosis, Hyperosmolar Hyperglycaemic State and Lactic Acidosis** 508
Rajesh Rajput
12. **Infections in Diabetes Mellitus** 514
Samar Banerjee
13. **Macrovascular Complications of Diabetes** 519
Murlidhar S Rao
14. **Microvascular Diseases: Pathogenesis of Chronic Complications** 524
Suman Kirti
15. **Diabetes and Kidney Disease** 528
Raj Kumar Sharma
16. **Diabetic Retinopathy** 534
Amod Gupta and Reema Bansal
17. **Diabetic Neuropathy** 539
Manish Modi and Anu Gupta
18. **Sexual Dysfunction in Diabetes** 542
Shashank R Joshi
19. **Management of Diabetic Foot** 545
Rumneek Sodhi and Rajiv Parakh
20. **Diabetes and Pregnancy** 550
V Seshiah and V Balaji
21. **Diabetes in the Elderly** 554
Jamal Ahmad and Mohammad Asim Siddiqui
22. **Prevention of Diabetes Mellitus** 557
Yash Pal Munjal

Part 10 Endocrinology

1. **Basic Considerations of Endocrinology** 566
Ashok Kumar Das
2. **Endocrine Disorders: A Clinical Approach** 571
MS Seshadri
3. **Disorders of Hypothalamus and Pineal Gland** 576
Abdul Hamid Zargar and Shariq Rashid Masoodi
4. **Disorders of Anterior Pituitary** 580
RV Jayakumar









5.	Disorders of Posterior Pituitary <i>GR Sridhar</i>	589
 6.	Disorders of Thyroid Glands <i>Nikhil Tandon and Nishant Raizada</i>	592
7.	Disorders of Parathyroid Glands <i>Amrishi Mithal and Beena Bansal</i>	606
8.	Disorders of Adrenal Glands <i>Eesh Bhatia and Vijayalakshmi Bhatia</i>	610
9.	Disorders of Puberty <i>AC Ammini and Jyotsna VP</i>	621
10.	Disorders of Growth and Development <i>Nalini S Shah</i>	626
11.	Disorders of Gonads <i>Shashank R Joshi</i>	634
12.	Endocrine Disorders of Female Gonads <i>Pikee Saxena and Aruna Nigam</i>	645

Part 11 Dermatology

 1.	Introduction and Principles of Diagnosis in Dermatology <i>Vibhu Mendiratta</i>	656
2.	Infections and Infestations <i>Surabhi Dayal</i>	665
3.	Allergic and Inflammatory Disorders <i>Sanjeev Handa</i>	674
4.	Psoriasis and Paposquamous Disorders <i>Bela Shah</i>	678
5.	Acne and Acneiform Eruptions <i>V Ramesh</i>	685
6.	Bullous Diseases <i>Vibhu Mendiratta</i>	691
7.	Pigmentary Disorders <i>Sandipan Dhar</i>	695
8.	Cutaneous Responses to Environmental Factors <i>DM Thappa and M Malathi</i>	702
9.	Skin Manifestations of Systemic Diseases <i>Sunil Dogra and Rahul Mahajan</i>	708
10.	Pre-malignant Conditions and Malignant Tumours of the Skin <i>Arun C Inamadar and Aparna Palit</i>	720
11.	Sexually Transmitted Infections <i>Yogesh S Marfatia</i>	724
12.	Hair and Nail Disorders <i>S Sacchidanand and AS Savitha</i>	733
13.	Leprosy <i>Hemanta Kumar Kar</i>	741
14.	Dermatology Therapy <i>Asit Mittal</i>	747

Part 12 Cardiology




1.	Basic Considerations in Cardiology <i>Upendra Kaul and Aijaz H Mansoor</i>	757
2.	Cardiovascular Diseases: A Clinical Approach <i>GS Sainani</i>	763
 3.	Electrocardiology <i>MJ Gandhi</i>	774


	4. Exercise Testing <i>Yash Pal Munjal</i>	785
	5. Echocardiography <i>Satish Kumar Parashar</i>	794
	6. Cardiac Imaging <i>Priya Jagia and Sanjiv Sharma</i>	809
	7. Nuclear Cardiology <i>Vikram R Lele and Parag Aland</i>	821
	8. Cardiac Catheterisation and Angiocardiology <i>Lekha Adik Pathak and NO Bansal</i>	827
	9. Heart Failure <i>Donald Kikta and Veronica Franco</i>	834
	10. Treatment of Heart Failure <i>Veronica Franco and Khadijah Breathett</i>	838
	11. Acute Rheumatic Fever <i>R Krishna Kumar</i>	845
	12. Valvular Heart Disease (I) <i>CN Manjunath</i>	854
	13. Valvular Heart Disease (II) <i>VK Bahl and Neeraj Parakh</i>	862
	14. Infective Endocarditis <i>Shyam S Kothari</i>	873
	15. Atherosclerosis <i>KK Sethi and S Lahiri</i>	884
	16. Ischaemic Heart Disease <i>Inder S Anand and Shibba Takkar Chhabra</i>	890
	17. Acute Coronary Syndrome—NSTEMI <i>Ambuj Roy</i>	898
	18. Acute Myocardial Infarction—STEMI <i>Naved Aslam and Abhishek Goyal</i>	904
	19. Hypertension and Its Management <i>Sandhya A Kamath</i>	916
	20. Resistant Hypertension <i>BB Thakur and Smita Thakur</i>	930
	21. Bradyarrhythmias <i>Yash Y Lokhandwala and Gopi Krishna Panicker</i>	935
	22. Tachyarrhythmias <i>Amit Vora</i>	943
	23. Sudden Cardiac Arrest <i>Ashish K Thakur</i>	950
	24. Congenital Heart Disease <i>Sunita Maheshwari</i>	959
	25. Heart in Systemic Diseases <i>Aspi R Billimoria</i>	968
	26. Disorders of the Myocardium <i>KK Talwar and Ajay Bahl</i>	973
	27. Diseases of the Pericardium <i>Sanjay Tyagi and Amit Mittal</i>	985
	28. Surgical Management of Heart Disease <i>Muhammad Abid Geelani</i>	996
	29. Diseases of the Aorta <i>Manotosh Panja and Soumitra Kumar</i>	1005
	30. Vascular Disorders of the Extremities <i>Gurpreet Singh Wander and Bishav Mohan</i>	1015
	31. Pregnancy and Heart Disease <i>Amal Kumar Banerjee</i>	1023
	32. Prevention of Cardiovascular Diseases <i>SKD Bhardwaj</i>	1029

Part 13 Gastroenterology


1.	Basic Considerations in Gastroenterology	1034
	<i>Vineet Ahuja and V Pratap Mouli</i>	
2.	Clinical Approach to a Patient with Gastrointestinal Disease	1038
	<i>AC Anand and Pankaj Puri</i>	
3.	Investigations: Gastrointestinal Disorders	1042
	<i>Ashok Chacko</i>	
4.	Diagnostic and Therapeutic Utility of Endoscopy	1045
	<i>Gourdas Choudhuri</i>	
5.	Oesophageal Disorders	1051
	<i>Shobna Bhatia and Deepak Kumar Gupta</i>	
6.	Diseases of the Stomach and Duodenum	1061
	<i>Pankaj Dhawan and Rajesh Sainani</i>	
 7.	Gastrointestinal Bleeding	1069
	<i>Rakesh Kochhar and Jahangeer Basha</i>	
 8.	Acute Pancreatitis	1079
	<i>Pramod Kumar Garg</i>	
9.	Chronic Pancreatitis	1092
	<i>V Balakrishnan and Gopalakrishna Rajesh</i>	
10.	Neoplasms of the Pancreas	1098
	<i>V Balakrishnan and Gopalakrishna Rajesh</i>	
11.	Functional Gastrointestinal Disorders	1103
	<i>Philip Abraham</i>	
12.	Constipation: Diagnosis and Management	1108
	<i>Uday Chand Ghoshal</i>	
13.	Diarrhoea and Malabsorption	1112
	<i>BS Ramakrishna</i>	
 14.	Abdominal Tuberculosis	1120
	<i>Govind K Makharia</i>	
15.	Inflammatory Bowel Disease	1128
	<i>Ajit Sood and Vandana Midha</i>	
16.	Ischaemic Bowel Disorders	1134
	<i>Deepak Kumar Bhasin</i>	
17.	Gastrointestinal Symptoms in Extra-abdominal and Systemic Diseases	1137
	<i>Sudeep Khanna and Rakesh Tandon</i>	

Part 14 Hepatology

1.	Basic Considerations of Hepatobiliary Disorders	1144
	<i>Vivek Anand Saraswat</i>	
2.	Hepatobiliary Disorders: Clinical Approach and Investigations	1148
	<i>Nagaraja Rao Padaki</i>	
3.	Hepatobiliary Disorders: Imaging	1158
	<i>Shrinivas B Desai</i>	
 4.	Acute Viral Hepatitis	1167
	<i>DN Amarpurkar</i>	
 5.	Chronic Viral Hepatitis	1174
	<i>Radha K Dhiman</i>	
6.	Chronic Non-viral Hepatitis	1181
	<i>CE Eapen</i>	
7.	Alcoholic Liver Disease	1184
	<i>Rajesh Upadhyay and Nitin Gupta</i>	
 8.	Cirrhosis of the Liver	1190
	<i>Philip Abraham</i>	
9.	Extrahepatic Portal Venous Obstruction	1196
	<i>Yogesh K Chawla</i>	



10.	Non-alcoholic Fatty Liver Disease <i>Ajay Duseja</i>	1199
 11.	Acute Liver Failure <i>SK Acharya and Shalimar</i>	1204
12.	Inherited Metabolic Disorders of the Liver <i>P Advaitam and Shanthi Vijayaragavan</i>	1210
13.	Parasitic Diseases of the Liver <i>MP Sharma and Vaibhav Gupta</i>	1216
14.	Toxic and Drug-induced Liver Injury <i>Abraham Koshy</i>	1220
15.	Liver Transplantation <i>Subash Gupta and Ajay Kumar</i>	1222
16.	Pregnancy and Liver Diseases <i>Ashish Goel</i>	1225
17.	Liver in Systemic Diseases <i>Premashis Kar and Rajiv Singla</i>	1230
18.	Tumours of the Liver <i>Kaushal Madan and Pankaj Tyagi</i>	1234
19.	Diseases of the Gall Bladder and Biliary Tract <i>Usha Dutta and Rakesh Tandon</i>	1238

Part 15 Haematology

1.	Haematopoiesis <i>Shaji V Ramachandran and Vikram Mathews</i>	1245
 2.	Anaemia: A Clinical Approach <i>Renu Saxena and M Mahapatra</i>	1253
3.	Splenomegaly: A Clinical Approach <i>Pankaj Malhotra</i>	1258
4.	Iron Deficiency Anaemia <i>Subhash Varma</i>	1262
5.	Megaloblastic Anaemia <i>Tarun Kumar Dutta</i>	1268
6.	Hereditary Haemolytic Anaemia <i>MB Agarwal</i>	1274
7.	Acquired Haemolytic Anaemia <i>Farah Jijina</i>	1285
8.	Aplastic Anaemia <i>Dharma R Choudhary and Tuphan Kanti Dolai</i>	1291
 9.	Acute Leukaemia <i>SH Advani</i>	1297
 10.	Chronic Myeloid Leukaemia and Other Myeloproliferative Neoplasms <i>Tapan Kumar Saikia</i>	1306
11.	Myelodysplastic Syndromes <i>Rajat Kumar and Seema Tyagi</i>	1310
12.	Chronic Lymphocytic Leukaemia <i>M Mahapatra and Renu Saxena</i>	1316
13.	Hodgkin's Lymphoma <i>Bharath Rangarajan and PM Parikh</i>	1321
14.	Non-Hodgkin's Lymphoma <i>Auro Viswabandya</i>	1327
15.	Plasma Cell Dyscrasias <i>Pankaj Manubhai Shah</i>	1331
16.	Bleeding Disorders <i>Kanjaksha Ghosh</i>	1337
17.	Platelet Disorders <i>Prantar Chakrabarti</i>	1341

18. Idiopathic Thrombocytopenic Purpura	1346
<i>Cecil Ross</i>	
19. Disorders of Coagulation	1351
<i>Jina Bhattacharyya and Sangit Dutta</i>	
20. Hypercoagulable Disorders	1355
<i>Mammen Chandy</i>	
21. Transfusion Medicine	1360
<i>Neelam Marwaha</i>	
22. Haematopoietic Stem Cell Transplantation	1365
<i>Velu Nair</i>	

Part 16 HIV and AIDS

1. Epidemiology of Human Immunodeficiency Virus Infection	1374
<i>OC Abraham and Susanne A Pulimood</i>	
 2. HIV Virology and Immunology Including Diagnosis	1376
<i>V Ravi and Anita Desai</i>	
 3. Pathophysiology and Clinical Features	1380
<i>UL Wagholikar and Alaka Deshpande</i>	
4. Antiretroviral Therapy	1386
<i>BB Rewari</i>	
5. Drug Resistance	1390
<i>Alaka Deshpande</i>	
6. Non-opportunistic Infections	1394
<i>Anil Kumar Tripathi and D Himanshu</i>	
7. Opportunistic Infections	1398
<i>Jyoti Wadhwa</i>	
8. Non-pharmacologic Interventions and Prevention	1403
<i>R Sajithkumar</i>	

Volume 2

Part 17 Infectious Diseases

A. General Considerations

1. Basic Considerations of Infections	1411
<i>Subhasish Kamal Guha</i>	
2. Laboratory Diagnosis of Infections	1414
<i>Camilla Rodrigues and Niyati Desai</i>	
3. Syndromic Approach to Infectious Diseases	1422
<i>Rajeev Soman and Neha Gupta</i>	
4. Antimicrobial Therapy	1429
<i>Jagriti Bhatia and Dharamvir Singh Arya</i>	
5. Infection in the Immunocompromised Host	1437
<i>Ghan Shyam Pangtey and Anupam Prakash</i>	
6. Hospital-acquired Infections/Nosocomial Infections	1440
<i>A Shobhana</i>	
7. Prevention of Healthcare Associated Infections	1446
<i>BB Rewari and Usha K Baveja</i>	
8. Hospital Infection Control	1452
<i>Rohini Kelkar</i>	

B. Bacterial Infections

9. Staphylococcal Infections	1455
<i>Rita Sood</i>	

10.	Streptococcal Infections <i>Abhay Narain Rai</i>	1460
11.	Pneumococcal Infections <i>DP Bhadoria and Sanjay Pandit</i>	1463
 12.	Meningococcal Infections <i>RK Singal and Vivek Pal Singh</i>	1467
13.	Gonococcal Infections <i>Chander Grover</i>	1472
 14.	Typhoid Fever (Enteric Fever) <i>Swapan Kumar Niyogi</i>	1476
15.	Bacillary Dysentery <i>Pankaj Tyagi</i>	1480
16.	Cholera <i>Sujit K Bhattacharya and Sandipan Ganguly</i>	1483
17.	Diseases Caused by Gram-negative Enteric Bacilli <i>Richa Dewan</i>	1486
18.	Haemophilus Influenzae Infections <i>M Sabir and Mansoor Ahmed</i>	1491
19.	Legionnaires' Disease <i>PS Shankar</i>	1495
20.	Plague and Other Yersinia Infections <i>Veena Mittal</i>	1498
21.	Clostridial Infections <i>MK Daga and Arvind Kumar</i>	1502
22.	Diphtheria <i>Sandeep B Bavdekar</i>	1508
23.	Pertussis: Whooping Cough <i>YK Amdekar</i>	1511
C. Miscellaneous Bacterial Infections		
24.	Syphilis <i>Debabrata Bandyopadhyay</i>	1514
25.	Non-syphilitic Treponematoses <i>Taru Garg</i>	1519
26.	Leptospirosis <i>AP Sugunan</i>	1522
27.	Other Spirochaetal Infections: Lyme Disease and Rat Bite Fever <i>Kamlesh Tewary</i>	1526
28.	Anaerobic Infections <i>R Sajithkumar</i>	1529
29.	Atypical Mycobacterial Infection <i>Surendra Daga</i>	1531
30.	Brucellosis <i>BG Mantur</i>	1534
31.	Donovanosis <i>Dwijendra Nath Gangopadhyay</i>	1537
32.	Actinomycosis and Nocardiosis <i>A Muruganathan</i>	1539
33.	Bartonella Infections <i>Pallavi Bhargava</i>	1542
34.	Melioidosis <i>Kavitha Saravu</i>	1544
D. Rickettsial, Chlamydial and Mycoplasma Infections		
35.	Rickettsial Infections <i>Mala Chhabra and Veena Mittal</i>	1547
36.	Chlamydial Infections <i>TK Suma</i>	1553

37.	Mycoplasma Infections <i>Dilip Mathai</i>	1556
E. Viral Infections		
38.	Basic Considerations of Viral Diseases <i>Usha K Baveja</i>	1558
39.	Herpes Simplex Virus Infections <i>Aditya Prakash Misra</i>	1565
40.	Human Papillomavirus and Parvovirus Infections <i>Neerja Bhatla and Biswa B Dash</i>	1569
 41.	Swine Flu/Avian Flu <i>Arvind Mathur and Prabhu Prakash</i>	1575
42.	Dengue <i>ME Yeolekar and S Sukumaran</i>	1580
43.	Ebola and Marburg Infections <i>Partha Pratim Chakraborty</i>	1584
44.	Japanese Encephalitis <i>Deepshikha</i>	1586
45.	Rabies <i>Tarun Kumar Dutta</i>	1590
46.	Viral Gastroenteritis <i>Prabhash Chandra Bhattacharyya and Rupjyoti Talukdar</i>	1595
47.	Mumps <i>Falguni S Parikh</i>	1597
48.	Measles (Rubeola) <i>RK Goyal</i>	1599
49.	Smallpox <i>Ramesh Balwant Pandit</i>	1602
50.	Lymphocytic Choriomeningitis <i>Praveen Gupta</i>	1604
51.	Prion Disease <i>PK Maheshwari and Anjana Pandey</i>	1607
52.	Human Babesiosis <i>Yash Pal Munjal and Kusumita Chaudhuri</i>	1609
F. Protozoal Diseases		
 53.	Malaria <i>AK Agarwal and Sarit Chatterjee</i>	1611
54.	Amoebiasis and Giardiasis <i>MP Sharma and Vaibhav Gupta</i>	1620
55.	Leishmaniasis <i>Shyam Sundar</i>	1624
56.	Toxoplasmosis <i>Madhukar Rai</i>	1629
57.	Trypanosomiasis <i>Prashant P Joshi</i>	1632
58.	Cryptosporidiosis, Trichomoniasis, Balantidiasis and Isosporiasis <i>Atul Bhasin</i>	1636
G. Helminthic Diseases		
59.	Ankylostomiasis, Ascariasis and Other Nematodal Infections <i>Narender Pal Jain</i>	1639
60.	Tapeworm and Hydatid Diseases <i>Anurag Saxena</i>	1650
61.	Filariasis and Other Related Infestations <i>Sanjay Zachariah</i>	1658
62.	Schistosomiasis/Bilharziasis <i>Kirti C Patel</i>	1664



H. Fungal Infections

- | | |
|---|-------------|
| 63. Systemic Fungal Infections | 1667 |
| <i>Shruti Prem and Rajat Kumar</i> | |
| 64. Pneumocystis Jirovecii Pneumonia | 1678 |
| <i>V Ramasubramanian</i> | |

Part 18 Disorders of Metabolism

- | | |
|---|-------------|
| 1. Basic Considerations of Metabolism | 1682 |
| <i>BK Sahay</i> | |
| 2. Inborn Errors of Carbohydrate Metabolism | 1684 |
| <i>Siddharth N Shah</i> | |
| 3. Lipids and Lipoprotein Metabolism | 1687 |
| <i>Soneil Guptha</i> | |
| 4. Disorders of Purine and Pyrimidine Metabolism | 1698 |
| <i>RV Jayakumar</i> | |
| 5. Iron Metabolism and Iron Overload Syndrome | 1700 |
| <i>Mukesh Desai</i> | |
| 6. Porphyrias | 1711 |
| <i>Dhanpat Kumar Kochar</i> | |
| 7. Wilson's Disease | 1716 |
| <i>Sanjib Sinha and AB Taly</i> | |
| 8. Lysosomal Storage Disorders | 1722 |
| <i>Prasanta Kumar Bhattacharya</i> | |
| 9. Inherited Disorders of Membrane Transport | 1726 |
| <i>SK Singh</i> | |
| 10. Amyloidosis | 1730 |
| <i>Manisha Sahay</i> | |
| 11. Disorders of Adipose Tissue and Obesity | 1735 |
| <i>Shashank R Joshi</i> | |
| 12. The Metabolic Syndrome | 1740 |
| <i>Anoop Misra and Swati Bhardwaj</i> | |


Part 19 Nephrology

- | | |
|--|-------------|
| 1. Structure and Function of the Kidney | 1744 |
| <i>Sandeep Mahajan and Yasir S Rizvi</i> | |
| 2. Kidney Disease: A Clinical Approach | 1750 |
| <i>Vijay Kher and Pranaw Kumar Jha</i> | |
|  3. Acute Kidney Injury | 1757 |
| <i>Alan F Almeida and Amit Langote</i> | |
|  4. Chronic Kidney Disease | 1762 |
| <i>Ashok L Kirpalani and Hardik Shah</i> | |
| 5. Primary Glomerular Diseases | 1772 |
| <i>Vinay Sakhuja and Raja Ramachandran</i> | |
| 6. Secondary Glomerular Diseases | 1783 |
| <i>OP Kalra and Sandeep Mahajan</i> | |
| 7. Urinary Tract Infections | 1791 |
| <i>R Kasi Visweswaran and Praveen Namboodiri</i> | |
| 8. Nephrolithiasis and Urinary Tract Obstruction | 1797 |
| <i>PD Gulati</i> | |
| 9. Vascular Injury to Kidney | 1802 |
| <i>AK Hooda and AS Narula</i> | |
| 10. Polycystic Kidney Disease and Inherited Tubular Disorders | 1807 |
| <i>PP Varma and Ranjith Nair</i> | |

11.	Dialysis and Other Extracorporeal Therapies	1814
	<i>NK Hase</i>	
12.	Renal Transplantation	1827
	<i>George T John</i>	
13.	Tubulointerstitial Diseases of the Kidney	1833
	<i>Sree B Raju</i>	
14.	Drug Nephrotoxicity and Renal Dosage Adjustment	1839
	<i>Ankur Gupta and Pritam Gupta</i>	

Part 20 Neurology

	1. Neurological Disorders: Basic Consideration and Clinical Approach	1847
	<i>MV Padma Srivastava and RS Wadia</i>	
	2. Clinical Neurophysiology	1859
	<i>J Kalita and UK Misra</i>	
	3. Neuroimaging	1867
	<i>Rakesh K Gupta and Krishan K Jain</i>	
	4. Epilepsy	1874
	<i>Sanjeev V Thomas</i>	
	5. Disorders of Speech	1890
	<i>Apoorva Pauranik</i>	
	6. Disorders of Cranial Nerves	1900
	<i>Sankar Prasad Gorthi and Sundaram Venkatraman</i>	
	7. Ischaemic Cerebrovascular Diseases	1912
	<i>PM Dalal and M Bhattacharjee</i>	
	8. Haemorrhagic Cerebrovascular Diseases	1926
	<i>MV Padma Srivastava and Ajay Garg</i>	
	9. Cerebrovenous Thrombotic Disorders	1933
	<i>D Nagaraja and N Karthik</i>	
	10. Bacterial Meningitis and Brain Abscess	1937
	<i>Ravindra Kumar Garg and Praveen Kumar Sharma</i>	
	11. Neurotuberculosis	1944
	<i>Shyamal Kumar Das and Debal Laha</i>	
	12. Neurosyphilis	1954
	<i>S Prabhakar and Manish Modi</i>	
	13. Viral Infections of Central Nervous System	1958
	<i>Nadir E Bharucha</i>	
	14. Slow Virus Infections and Prion Diseases	1966
	<i>SK Shankar</i>	
	15. Fungal and Parasitic Diseases of the Nervous System	1971
	<i>Ashok Panagariya and Parul Dubey</i>	
	16. Raised Intracranial Pressure and Hydrocephalus	1977
	<i>Daljit Singh</i>	
	17. Dementia	1981
	<i>PS Mathuranath</i>	
	18. Extrapyramidal Disorders	1987
	<i>BS Singhal</i>	
	19. Cerebellar Disorders	1993
	<i>Netravathi M and Pramod Kumar Pal</i>	
	20. Hyperkinetic Movement Disorders	2013
	<i>Mohit Bhatt</i>	
	21. Amyotrophic Lateral Sclerosis and Other Motor Neuron Diseases	2018
	<i>BK Bajaj</i>	
	22. Demyelinating Diseases of Nervous System	2026
	<i>Man Mohan Mehndiratta and Prachi Mehndiratta</i>	

23.	Nutritional and Toxic Disorders of the Nervous System <i>UK Misra</i>	2034
24.	Metabolic Disorders of Nervous System <i>Vrajesh Udani and Neelu Desai</i>	2041
25.	Intracranial Space-occupying Lesions <i>P Sarat Chandra and PN Tandon</i>	2055
26.	Head Injury <i>AK Singh</i>	2065
	27. Peripheral Neuropathy <i>AK Meena and SA Jabeen</i>	2073
28.	Disorders of Autonomic Nervous System <i>Garima Shukla</i>	2086
29.	Myasthenia Gravis <i>Sumit Singh and Atma Ram Bansal</i>	2090
30.	Diseases of Muscles <i>SV Khadilkar</i>	2094
31.	Non-compressive Myelopathies <i>Mrinal Kanti Roy</i>	2107
32.	Compressive Myelopathies <i>Vibhor Pardasani</i>	2113

Part 21 Oncology

	1. Developments in Oncology <i>Lalit Kumar and Prabhat Singh Malik</i>	2120
	2. Principles of Cancer Biology and Pathology <i>Anita M Borges</i>	2125
	3. Cancer Screening and Prevention <i>Atul Sharma and MP Ram Prabhu</i>	2131
	4. Principles of Drug Treatment of Cancer <i>Lalit Kumar and Prabhat Singh Malik</i>	2134
	5. Principles of Radiotherapy <i>GK Rath</i>	2143
	6. Head and Neck Cancers <i>VP Gangadharan</i>	2147
	7. Breast Cancer <i>Vinay H Deshmane</i>	2150
	8. Tumours of the Gastrointestinal Tract (Stomach and Oesophagus) <i>KM Mohandas</i>	2157
	9. Colorectal Cancer <i>K Govind Babu</i>	2164
	10. Genitourinary Cancers <i>Sudeep Gupta</i>	2167
	11. Gynaecological Malignancies <i>PP Bapsy</i>	2173
	12. Bone and Soft Tissue Sarcoma <i>Avinash Deo</i>	2180
	13. Cancer of Unknown Primary Site <i>Hemant Malhotra and Ashwin Mathur</i>	2184
	14. Paraneoplastic Syndromes <i>Senthil Rajappa and D Raghunadharao</i>	2191
	15. Cancers in the Predisposed Host <i>K Pavithran</i>	2197
	16. Oncological Emergencies <i>Avinash Deo</i>	2202
	17. Supportive Care in Cancer <i>Madhuchanda Kar and Rakesh Roy</i>	2206

Part 22**Psychiatric Medicine**




1. Introduction and Basic Considerations in Psychiatry <i>Yatan Pal Singh Balhara and Koushik Sinha Deb</i>	2212
2. Organic Mental Disorders <i>SK Khandelwal</i>	2222
3. Substance Use Disorders <i>Debasish Basu</i>	2229
4. Psychosis and Schizophrenia <i>R Thara and Shiva Prakash Srinivasan</i>	2236
5. Mood Disorders <i>Yatan Pal Singh Balhara</i>	2241
6. Anxiety Disorders <i>A Shyam Sundar and YC Janardhan Reddy</i>	2247
7. Somatoform Disorders <i>Rakesh K Chadda</i>	2254
8. Emergency Psychiatry <i>Dipesh Bhagabati</i>	2260
9. Sexual Disorders <i>TS Sathyanarayana Rao and Abhinav Tandon</i>	2266
10. Biological and Somatic Treatment of Psychiatric Disorders <i>E Mohandas and Rajmohan V</i>	2276
11. Psychotherapies in Mental Health <i>Manoj K Sharma</i>	2284

Part 23**Pulmonary Medicine**

1. Respiratory System: Basic Anatomy and Physiology <i>SK Chhabra</i>	2290
2. Pulmonary Disorders: A Clinical Approach <i>Jyotsna M Joshi</i>	2300
3. Diagnostic Procedures in Pulmonary Disorders <i>Gautam Ahluwalia and Surendra K Sharma</i>	2306
4. Upper Respiratory Tract Infections <i>DG Jain</i>	2313
 5. Bronchial Asthma <i>Virendra Singh</i>	2317
 6. Chronic Obstructive Pulmonary Disease <i>Surendra K Sharma</i>	2328
7. Pneumonia <i>Digambar Behera</i>	2339
8. Suppurative Pleuro-pulmonary Diseases <i>Sahajal Dhooria and Navneet Singh</i>	2352
 9. Pulmonary Tuberculosis <i>MS Jawahar</i>	2363
10. Fungal Infections of the Lungs <i>Ashok Shah</i>	2371
11. Diffuse Interstitial Lung Diseases <i>Surinder K Jindal</i>	2378
12. Eosinophilic Lung Diseases and Tropical Pulmonary Eosinophilia <i>VK Vijayan</i>	2388
13. Sarcoidosis <i>VK Vijayan</i>	2395
14. Sleep-related Breathing Disorders <i>R Narasimhan and AR Gayathri</i>	2403
15. Deep Venous Thrombosis and Pulmonary Embolism <i>Jamshed D Sunavala and Shruti M Tandan</i>	2408

16.	Diseases of Pleura, Mediastinum, Diaphragm and Chest Wall <i>Alladi Mohan</i>	2417
17.	Benign and Malignant Tracheobronchial Tumours <i>Lalit Kumar and MP Ram Prabhu</i>	2428
18.	Atelectasis and Pulmonary Fibrosis <i>Prasanta Raghav Mohapatra</i>	2438
19.	Cor Pulmonale <i>Sandeep Singh</i>	2447
20.	Pulmonary Rehabilitation <i>Sanjeev Sinha and Faraz Ahmed Farooqui</i>	2454

Part 24 Rheumatology

	1. Basic Considerations of Rheumatology <i>Rohini Handa</i>	2458
	2. Soft Tissue Rheumatism and Regional Rheumatic Pain Syndromes <i>Ved Chaturvedi</i>	2463
	3. Low Back Pain <i>Ghan Shyam Pangtey and Hemant Gopal</i>	2469
	4. Osteoarthritis <i>Siddharth Kumar Das</i>	2478
	5. Gout and Other Crystal Arthritides <i>URK Rao and Sripurna Deepti</i>	2483
	6. Rheumatoid Arthritis <i>AN Malaviya</i>	2492
	7. Spondarthritides <i>Milind Y Nadkar and Manish W Itollikar</i>	2513
	8. Sjögren's Syndrome <i>Uma Kumar</i>	2522
	9. Systemic Lupus Erythematosus <i>VR Joshi</i>	2525
	10. Antiphospholipid Syndrome <i>Vikas Agarwal and Anupam Wakhlu</i>	2534
	11. Inflammatory Muscle Diseases <i>Alakendu Ghosh and Pradyot Sinhamahapatra</i>	2539
	12. Systemic Sclerosis <i>Shefali Khanna Sharma</i>	2545
	13. The Vasculitides <i>Pradeep Bambery</i>	2549
	14. Mixed Connective Tissue Disease and Overlap Syndromes <i>G Narsimulu</i>	2560
	15. Rheumatic Manifestations of Systemic Diseases <i>Debashish Danda</i>	2564
	16. Miscellaneous Rheumatic Disorders <i>Binoy J Paul</i>	2568
	17. Emergencies in Rheumatology <i>Madhumita P Das</i>	2574
	18. Tropical Rheumatic Diseases <i>Aman Sharma</i>	2579

Part 25 Nutrition

1.	Nutrition: Basic Considerations <i>SV Madhu</i>	2584
2.	Assessment of Nutritional Status <i>Prema Ramachandran</i>	2589

3. Protein Energy Malnutrition	2593
<i>Piyush Gupta</i>	
4. Water-soluble Vitamins	2598
<i>Milind Y Nadkar</i>	
5. Fat-soluble Vitamins	2603
<i>Ghan Shyam Pangtey and Moti Lal</i>	
6. Minerals, Trace Elements and Antioxidants	2608
<i>M Raghunath and D Sreeramulu</i>	
7. Food Allergy and Food Intolerance	2615
<i>UV Mani</i>	
8. Eating Disorders	2618
<i>Anupam Prakash</i>	
9. Enteral and Parenteral Nutrition Support	2621
<i>Varsha</i>	

Part 26 Poisoning and Toxicology

 1. Poisoning: Basic Considerations and Epidemiology	2628
<i>Narinder Pal Singh and Gurleen Kaur</i>	
 2. Aluminium Phosphide Poisoning	2632
<i>Surjit Singh</i>	
 3. Organophosphorous Poisoning	2634
<i>Surjit Singh</i>	
4. Corrosive Poisoning	2637
<i>Rakesh Kochhar</i>	
5. Alcohol Poisoning	2640
<i>Pritam Gupta and Ankur Gupta</i>	
6. Plant Poisoning	2644
<i>DKS Subrahmanyam and Muktha V</i>	
7. Drug Overdose	2649
<i>Narinder Pal Singh</i>	
8. Snake Bite Poisoning	2656
<i>HS Bawaskar</i>	
9. Scorpion Sting	2662
<i>HS Bawaskar</i>	
10. Fluorosis	2670
<i>D Raja Reddy</i>	
11. Lathyrism	2677
<i>UK Misra and J Kalita</i>	
12. Epidemic Dropsy	2679
<i>Vivek Suman and Shubha Laxmi Margekar</i>	
13. Heavy Metal Poisoning	2681
<i>Praveen Aggarwal</i>	
14. Miscellaneous Poisonings	2693
<i>Subhash Varma and Vikas Suri</i>	

Part 27 Environmental Medicine


1. Basic Considerations of Environmental and Occupational Diseases	2704
<i>Randeep Guleria</i>	
2. Climate Change: Health and Disease	2707
<i>Anil Gurtoo</i>	
3. Air Pollution and Public Health	2713
<i>Anumita R Chowdhury</i>	
4. Air-borne Pollutants and Smoke-related Hazards	2719
<i>Rajeev Gupta</i>	

5.	Drowning, Near Drowning and Submersion Injury <i>Yudh Dev Singh</i>	2725
6.	Electric Shock and Lightning Injury <i>Naveet Wig and Sourabh Malviya</i>	2728
7.	Effects of Extremes of Temperature <i>Rajvir Bhalwar</i>	2731
8.	High Altitude Medicine <i>Anuj Chawla</i>	2738
9.	Aerospace Medicine <i>JS Kulkarni</i>	2746
10.	Radiation Hazards <i>AM Samuel</i>	2752
11.	Environmental Disasters <i>G Immanuel</i>	2757

Part 28 Miscellaneous

1.	Oral Health and Systemic Diseases <i>Akshay Munjal and Shilpa Khullar</i>	2762
2.	Geriatric Medicine: An Overview <i>Vinod Kumar</i>	2766
3.	Frailty Syndrome <i>ME Yeolekar and S Sukumaran</i>	2771
4.	Polypharmacy in Elderly <i>Jyotirmoy Pal and Sattik Siddhanta</i>	2774
5.	Sexual Medicine <i>Prakash Kothari</i>	2778
6.	Sports Medicine <i>Jaspal S Sandhu and Shweta Shenoy</i>	2783
7.	Life-style Modifications to Prevent and Control Diseases <i>Shridhar Dwivedi and Ramesh Aggarwal</i>	2787
8.	Diet in Medical Diseases <i>Siddharth N Shah</i>	2790
9.	Tobacco Smoking-related Diseases and Tobacco Cessation <i>Raj Kumar</i>	2800
10.	Adult Immunisation <i>AK Agarwal and Sumeet Singla</i>	2805
11.	Travel Medicine <i>Yash Pal Munjal and Aditya Prakash Misra</i>	2818
12.	Perioperative Management <i>Prabha Adhikari</i>	2825
13.	Law and Medicine <i>A Muruganathan and Yash Pal Munjal</i>	2829
14.	Care of Terminally Ill <i>Anil Chaturvedi</i>	2834

Part 29 Future of Medicine

1.	Futuristic Medicine <i>Yash Pal Munjal and Anupam Prakash</i>	2840
 2.	Regenerative Medicine <i>Velu Nair</i>	2846
3.	Introduction to Space Medicine <i>R Gerzer</i>	2854
4.	Nanotechnology and Nanomedicine <i>RD Lele</i>	2861
5.	Robotic Surgery <i>Roman Dutta</i>	2868

Index	I-1
-------	-----