

<i>Contributors</i>	xxiii
<i>Preface</i>	xlili
<i>List of Clinical Decision Guides</i>	xlvi
<i>Rapid Access Guide</i>	RA1

## **PART 1: PRINCIPLES OF MEDICAL PRACTICE 1**

---

### **SECTION I: HUMANISM AND ETHICS 2**

---

- 1 Introduction to Internal Medicine as a Discipline 2**  
*William N. Kelley and Joel D. Howell*
- 2 Clinical Medicine, Clinical Ethics and Physicians' Professionalism 4**  
*Mark Siegler, Arthur L. Caplan, and Peter A. Singer*

### **SECTION II: BASIC MECHANISMS OF HEALTH AND DISEASE 9**

---

- 3 The Genome Project and Molecular Diagnosis 9**  
*Leslie G. Biesecker, Barbara B. Biesecker, and Francis S. Collins*
- 4 Cell Growth, Differentiation, and Death 11**  
*Max Wicha*
- 5 Principles of the Immune Response 14**  
*Robert Winchester*
- 6 Inflammation: Cells, Cytokines, and Other Mediators 22**  
*Zoltan Szekanecz and Alisa E. Koch*
- 7 Mechanisms of Hormone Action 25**  
*Daryl K. Granner*
- 8 Principles of Nutrition 33**  
*David H. Alpers*
- 9 Principles of the Renal Regulation of Fluid and Electrolytes 47**  
*L. B. Gardner and H. David Humes*
- 10 Pulmonary Gas Exchange 54**  
*John J. Marini and David R. Dantzker*

---

# ENTS

- 11** Vascular Biology 67  
*Elizabeth G. Nabel*
- 12** Disorders of Lipid Metabolism 72  
*Daniel J. Rader*
- 13** Pathogenesis of Atherosclerosis 94  
*Alan M. Fogelman, Franklin L. Murphy,  
and Peter A. Edwards*
- 14** Some Functional Pathways in the Central Nervous System 99  
*John A. Kiernan*
- 15** Biology and Genetics of Aging and Longevity 108  
*Richard A. Miller*
- 16** Clinical Physiology of Aging 118  
*Lewis A. Lipsitz*
- 17** Healthcare Implications of an Aging Society 127  
*Joan Weinryb, Dennis Hsieh, Risa Lavizzo-Mourey*
- 18** Host-Microbe Interaction 136  
*Herbert L. DuPont and Liliana Rodriguez*
- 19** Etiology of Malignant Disease 141  
*William A. Blattner*
- 20** Molecular and Cell Biology of Neoplasia 147  
*Peter C. Nowell*
- 21** Epidemiology of Malignant Disease 152  
*David Schottenfeld*
- 22** Prevention of Neoplasia 155  
*Peter Greenwald*
- 23** Transplantation Immunology 159  
*Judith A. Shizuru*

---

## SECTION III: APPROACH TO COMMON PRIMARY CARE ISSUES 164

---

- 24** Periodic Health Evaluation 164  
*Albert G. Mulley, Jr.*
- 25** Preoperative Medical Evaluation 168  
*Judi M. Woolger*
- 26** Immunizations 169  
*Theodore C. Eickhoff*

- 27** Infectious Disease Prevention in the International Traveler 174  
*David O. Freedman*
- 28** Cancer Screening and Early Detection 179  
*John K. Gohagan, Barnett S. Kramer,  
and William C. Black*
- 29** Epidemiology and Prevention of Cardiovascular Disease 182  
*Lori Mosca*
- 30** Systemic Hypertension 191  
*Myron H. Weinberger*
- 31** Approaches to Hypercholesterolemia and Other Abnormal Lipid Profiles 201  
*Daniel J. Rader*
- 32** Approach to the Patient With Chest Pain (Cardiac and Non-Cardiac) 214  
*Alberto A. Mitrani and Mark Multach*
- 33** Smoking and Smoking Cessation 219  
*Alfred Munzer*
- 34** Approach to the Problem of Alcohol Abuse and Dependence 224  
*Charles P. O'Brien*
- 35** Approach to the Problem of Substance Abuse 229  
*Charles P. O'Brien*
- 36** Obesity 233  
*Albert J. Stunkard and Thomas A. Wadden*
- 37** Anorexia Nervosa and Eating Disorders 242  
*Paul M. Copeland*
- 38** Approach to the Patient With Unintentional Weight Loss 245  
*Daniel M. Lichstein and Robert L. Hernandez*
- 39** Depression, Anxiety, and Other Psychiatric Disorders 247  
*Maria D. Llorente*
- 40** Care of the Dying Patient 251  
*Joanne Lynn and Betty Ferrell*

---

## **SECTION IV: PRINCIPLES OF CLINICAL EVALUATION 255**

---

- 41** The Clinical Approach to the Patient 255  
*James O. Woolliscroft*
- 42** Principles of Clinical Epidemiology 257  
*Jay M. Sosenko*
- 43** Evidence-Based Medicine 260  
*Mark T. O'Connell*

- 44** Computers in Support of Clinical Decision Making 264  
*Edward H. Shortliffe*
- 45** Quality Improvement and Clinical Outcomes Assessment 268  
*David Shulkin*
- 46** Assessment of Physician Performance in the New Health Care Environment 272  
*Roberta Parillo, Mark Rivo, and Laurence B. Gardner*
- 47** Medical Malpractice and Risk Management 275  
*Kimberly A. Cook and Juan D. Reyes*
- 

## **SECTION V: RELATED MEDICAL DISCIPLINES 278**

---

- 48** Adolescent Medicine 278  
*Gail B. Slap*
- 49** Principles of Occupational Medicine 282  
*Mark R. Cullen and Linda Rosenstock*
- 50** Medical Ophthalmology 288  
*Michele R. Piccone and Stuart L. Fine*
- 51** Medical Otolaryngology 291  
*Erica R. Thaler and David M. Kennedy*
- 52** Principles of Women's Medicine 299  
*Erin N. Marcus*
- 53** Principles of Sports Medicine 303  
*Paul McCaffrey Ford and Gordon O. Matheson*
- 54** Principles of Rehabilitation Medicine 308  
*Kresimir Banovac, Debbie Fertel, Joseph Bauerlein*
- 55** Principles of Clinical Pharmacology 311  
*D. Craig Brater*
- 56** Alternative Medicine: Prevalence, Cost, and Usefulness 319  
*Mark Multach*
- 

## **SECTION VI: SELECTED MEDICAL EMERGENCIES 324**

---

- 57** General Principles in the Approach to the Patient with an Acute Emergency 324  
*Sheldon Jacobson*
- 58** Animal Bites and Stings 335  
*Faith T. Fitzgerald*
- 59** Near Drowning 339  
*Leonard D. Hudson and Kenneth P. Steinberg*

- 60** Treatment of Anaphylaxis 342  
*Marc S. McMorris*
- 61** Cardiopulmonary Resuscitation 345  
*Kathleen S. Schrank*
- 62** Hyperthermia and Hypothermia 349  
*Faith T. Fitzgerald*
- 63** Ionizing Radiation Injuries 352  
*Brahm Shapiro*

## **PART 2: CARDIOLOGY 359**

---

### **SECTION I: APPROACH TO THE PATIENT WITH CARDIOVASCULAR DISORDERS 360**

---

- 64** Essential Features of the Cardiac History and Physical Examination 360  
*Elizabeth G. Nabel*
- 65** Approach to the Patient With Chest Pain 368  
*Elizabeth G. Nabel*
- 66** Approach to the Patient With Heart Failure 374  
*Robert J. Cody*
- 67** Approach to the Patient With Cardiac Arrhythmias 381  
*S. Adam Strickberger, Douglas P. Zipes, and Fred Morady*
- 68** Approach to the Patient With Heart Murmurs 389  
*Jonathan Abrams*
- 69** Approach to the Patient With Syncope 396  
*Patrick T. O'Gara and Kristin Ellison*
- 70** Approach to the Pregnant Patient With Heart Disease 406  
*G. Michael Felker and Kenneth L. Baughman*
- 71** Approach to the Patient With Hypotension and Shock 415  
*Todd M. Koelling and Robert J. Cody*

---

### **SECTION II: DISORDERS OF THE CARDIOVASCULAR SYSTEM 428**

---

- 72** Coronary Artery Disease 428  
*Mihai Gheorghiade and Robert O. Bonow*
- 73** Acute Myocardial Infarction 448  
*Robert Roberts*
- 74** Myocardial Diseases 464  
*Michael R. Bristow, John B. O'Connell, and Louisa Mestroni*

- 75** Tumors of the Heart 474  
*Joel S. Raichlen and Martin G. St. John Sutton*
- 76** Cardiac Arrhythmias 481  
*Bradley P. Knight, Douglas P. Zipes,  
and Fred Morady*
- 77** Valvular Heart Disease 503  
*David Bach and Kim A. Eagle*
- 78** Congenital Heart Disease in the Adult 521  
*Thomas J. Ryan and J. Kevin Harrison*
- 79** Pericardial Diseases 540  
*E. William Hancock*
- 80** Pulmonary Hypertension and Cor Pulmonale 547  
*Lewis J. Rubin*
- 81** Vascular Medicine 554  
*Mark A. Creager and Marie Gerhard-Herman*
- 82** Genetics of the Cardiovascular System 569  
*Craig T. Basson and Carl J. Vaughan*

---

**SECTION III: DIAGNOSTIC AND  
THERAPEUTIC MODALITIES IN  
CARDIOVASCULAR DISEASES 579**

---

- 83** Cardiovascular Radiology 579  
*Robert D. Tarver, Dewey J. Conces, Jr.,  
Lynn S. Broderick*
- 84** Electrocardiography, Exercise Stress Testing, and  
Ambulatory Monitoring 584  
*Charles Fisch*
- 85** Echocardiography 597  
*William F. Armstrong*
- 86** Radionuclide and Magnetic Resonance  
Techniques 610  
*Mark A. Lawson and Gerald M. Pohost*
- 87** Diagnostic and Therapeutic Catheterization 623  
*Richard A. Lange and L. David Hillis*
- 88** Electrophysiologic Testing 635  
*Fred Morady*
- 89** Principles of Cardiac Conditioning and  
Rehabilitation 644  
*Victor F. Froelicher and Jonathan N. Myers*
- 90** Clinical Pharmacology of Cardiovascular  
Drugs 651  
*D. Craig Brater*
- 91** Use of Anticoagulant Drugs 673  
*Michael D. Ezekowitz*

- 92** Principles and Applications of Cardiac Surgery 684  
*John G. Byrne, Raymond H. Chen,  
and David H. Adams*
- 93** Medical Management of the Cardiac Transplant Patient 691  
*Keith Aaronson and Robert Cody*

---

## **PART 3: GASTROENTEROLOGY 697**

---

### **SECTION I: APPROACH TO THE PATIENT WITH DIGESTIVE AND HEPATOBILIARY DISORDERS 698**

---

- 94** Approach to the Patient With Dysphagia 698  
*Joel E. Richter*
- 95** Approach to the Patient With Noncardiac Chest Pain 702  
*Henry P. Parkman*
- 96** Approach to the Patient With Abdominal Pain 707  
*Robert B. Stein and Gary R. Lichtenstein*
- 97** Approach to the Patient With Acute Abdomen 718  
*Stewart C. Wang and Michael W. Mulholland*
- 98** Approach to the Patient With Nausea and Vomiting 729  
*William L. Hasler*
- 99** Approach to the Patient With Diarrhea 738  
*Carol E. Semrad and Eugene B. Chang*
- 100** Approach to the Patient With Constipation, Fecal Incontinence, and Gas 755  
*Jeffrey L. Barnett*
- 101** Approach to the Patient With an Abdominal or Rectal Mass 763  
*Ilias Scotiniotis and Michael L. Kochman*
- 102** Approach to the Patient With Gastrointestinal Bleeding 770  
*Grace H. Elta*
- 103** Approach to the Patient With Jaundice 782  
*Richard H. Moseley*
- 104** Approach to the Patient With Abnormal Liver Chemistries 791  
*Richard H. Moseley*
- 105** Approach to the Patient With Complications of Chronic Liver Disease and Fulminant Hepatic Failure 801  
*Charmaine A. Stewart and Michael R. Lucey*

---

**SECTION IIA: DISORDERS OF THE ALIMENTARY TRACT 813**

---

- 106** Diseases of the Esophagus 813  
*Joel E. Richter*
- 107** Gastroduodenal Ulcer Disease and Gastritis 824  
*David C. Metz and John H. Walsh*
- 108** Motor Disorders of the Gastrointestinal Tract 844  
*Chung Owyang*
- 109** Irritable Bowel Syndrome 851  
*Yehuda Ringel and Douglas A. Drossman*
- 110** Disorders of Digestion and Absorption 856  
*Dennis J. Ahnen*
- 111** Inflammatory Bowel Disease 876  
*Lawrence S. Freidman and Daniel K. Podolsky*
- 112** Mesenteric Vascular Diseases 896  
*James C. Stanley*
- 113** Gastrointestinal Infections 905  
*C.M. Thorpe and Andrew G. Plaut*
- 114** Gastrointestinal Diseases With an Immune Basis 917  
*Charles O. Elson*
- 115** Upper Gastrointestinal Neoplasms 925  
*Anil K. Rustgi*
- 116** Colorectal Neoplasia 932  
*C. Richard Boland*

---

**SECTION IIB: DISORDERS OF THE PANCREAS, LIVER, AND BILIARY TRACT 943**

---

- 117** Pancreatitis 943  
*James H. Grendell*
- 118** Pancreatic Cancer and Gut Neuroendocrine Tumors 961  
*Daniel G. Haller*
- 119** Viral Hepatitis 970  
*Frederick Nunes*
- 120** Autoimmune Hepatitis and Primary Biliary Cirrhosis 978  
*Gillian Ann Zeldin and Albert J. Czaja*
- 121** Alcoholic Liver Diseases 984  
*David W. Crabb and Lawrence Lumeng*
- 122** Drug-Induced Hepatic Injury 996  
*Shelley C. Lu and Lawrence S. Maldonado*

- 123** Metabolic, Granulomatous, and Infiltrative Disorders of the Liver 1011  
*Bruce R. Bacon*
- 124** Gallstones and Cholecystitis 1017  
*John H. Sekijima and Sum P. Lee*
- 125** Biliary Tract Disease 1025  
*Jenny Heathcote*
- 126** Hepatobiliary Neoplasms 1032  
*Andrew Stolz*

---

**SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN DIGESTIVE AND HEPATOBILIARY DISORDERS 1040**

---

- 127** Endoscopic Diagnosis and Therapy 1040  
*Gregory G. Ginsberg*
- 128** Abdominal and Alimentary Tract Imaging and Interventional Radiology 1049  
*Stephen W. Trenker*
- 129** Diagnostic Tests in Gastrointestinal Motility and Physiology 1055  
*William L. Hasler*
- 130** Parenteral and Enteral Nutrition 1062  
*William F. Stenson and Patti Eisenberg*
- 131** Laproscopic Surgery for Gastrointestinal Disorders 1074  
*C. Daniel Smith and Timothy M. Farrell*
- 132** Liver Transplantation 1082  
*Christopher F. Schultz and Michael R. Lucey*

**PART 4: NEPHROLOGY 1091**

---

**SECTION I: APPROACH TO THE PATIENT WITH RENAL AND ELECTROLYTE DISORDERS 1092**

---

- 133** Approach to the Patient With Renal Disease 1092  
*H. David Humes*
- 134** Approach to the Patient With Hematuria 1095  
*John H. Galla*
- 135** Approach to the Patient With Proteinuria and Nephrotic Syndrome 1098  
*Jeffrey R. Schelling and John R. Sedor*
- 136** Approach to the Patient With Dysuria and Pyuria 1105  
*Eric W. Young*

- 137** Approach to the Patient With Polyuria or Nocturia 1108  
*Robert M.A. Richardson and Sheldon Tobe*
- 138** Approach to the Patient With Urinary Retention and Obstruction 1112  
*Nelson Leung, Amit K. Ghosh, and Karl A. Nath*
- 139** Approach to the Patient With Nephrolithiasis 1119  
*Rebeca D. Monk and David A. Bushinsky*
- 140** Approach to the Patient With Oliguria and Acute Renal Failure 1124  
*H. David Humes*
- 141** Approach to the Patient With Chronic Renal Failure 1133  
*Fuad N. Ziyadeh*
- 142** Approach to the Patient With Volume Depletion and Dehydration 1146  
*James A. Shayman*
- 143** Approach to the Patient With Edema 1148  
*James A. Shayman*
- 144** Approach to the Patient With Hyponatremia 1150  
*Lawrence S. Weisberg and Malcolm Cox*
- 145** Approach to the Patient With Hypernatremia 1157  
*Harold M. Szerlip and Malcolm Cox*
- 146** Approach to the Patient With Hypokalemia 1162  
*Manuel Martinez-Maldonado*
- 147** Approach to the Patient With Hyperkalemia 1167  
*Manuel Martinez-Maldonado*
- 148** Approach to the Patient With Altered Magnesium Concentration 1172  
*Anton C. Schoolwerth, George M. Feldman, and R. Michael Culpepper*
- 149** Approach to the Patient With Acid-Base Abnormalities 1176  
*Thomas D. DuBose, Jr.*

---

## **SECTION II: DISORDERS OF THE KIDNEY 1191**

---

- 150** Immune-Mediated Glomerulopathies 1191  
*Ian R. Rifkin and David J. Salant*
- 151** Tubulointerstitial Diseases 1208  
*Carolyn J. Kelly and Eric G. Neilson*

- 152** Vascular Diseases of the Kidney 1213  
*William L. Henrich*
- 153** Diabetes and the Kidney 1218  
*Frank C. Brosius III and Charles W. Heilig*
- 154** Dysproteinemias and the Kidney 1223  
*Paul W. Sanders*
- 155** Renal Tubular Acidosis and Fanconi Syndrome 1228  
*Peter C. Brazy*
- 156** Renal Cysts and Cystic Diseases 1232  
*William D. Kaehny*
- 157** Hereditary Nephropathies 1235  
*Martin C. Gregory*
- 158** Obstructive Nephropathy 1238  
*Nelson Leung, Amit K. Ghosh, and Karl A. Nath*
- 159** Renal Lithiasis 1243  
*David A. Bushinsky*
- 160** Tumors of the Kidney, Ureter, and Bladder 1248  
*Jia Bi and Derek Raghavan*
- 161** Congenital Anomalies of the Kidney, Ureter, and Bladder 1254  
*Patrick Brophy and Jean E. Robillard*
- 162** Pregnancy, the Kidney, and Hypertension 1260  
*Marshall D. Lindheimer and Adrian I. Katz*

---

**SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN RENAL AND ELECTROLYTE DISEASES 1266**

---

- 163** Laboratory Evaluation of Renal Disorders 1266  
*Majd I. Jaradat and Bruce A. Molitoris*
- 164** Renal Biopsy and Treatment of Glomerular Disease 1273  
*Ronald J. Falk*
- 165** Renal Substitution Treatment in Acute and Chronic Renal Failure 1290  
*Paul Sakiewicz and Emil Paganini*
- 166** Renal Transplantation 1297  
*Christopher Y. Lu, Miguel A. Vazquez, Mariusz Kielar, D. Rohan Jeyarajah, and Xin J. Zhou*
- 167** Adjustment of Drug Dosage in Patients With Renal Insufficiency 1304  
*Suzanne K. Swan*

## **PART 5: RHEUMATOLOGIC, ALLERGIC, AND DERMATOLOGIC DISEASES 1315**

### **Rheumatology and Allergy 1316**

---

#### **SECTION I: APPROACH TO THE PATIENT WITH RHEUMATOLOGIC AND ALLERGIC DISORDERS 1316**

---

- 168** Approach to the Patient With Musculoskeletal Complaints 1316  
*Eric L. Radin*
- 169** Approach to the Patient With Pain in One or a Few Joints 1320  
*Alisa E. Koch*
- 170** Approach to the Patient With Polyarthritits or Generalized Musculoskeletal Pain 1324  
*Theodore Pincus*
- 171** Approach to the Patient With Back Pain 1331  
*Glen S. O'Sullivan*
- 172** Approach to the Patient With Anergy 1338  
*Abba I. Terr*
- 173** Approach to the Patient With Allergy 1340  
*Abba I. Terr*
- 

#### **SECTION II: DISORDERS OF THE RHEUMATOLOGIC AND ALLERGIC SYSTEMS 1347**

---

- 174** Rheumatoid Arthritis 1347  
*Gary S. Firestein*
- 175** Osteoarthritis and Polychondritis 1359  
*Marc C. Hochberg*
- 176** Spondyloarthropathies 1364  
*Frank C. Arnett*
- 177** Crystal-Induced Synovitis 1370  
*Michael M. Ward*
- 178** Systemic Lupus Erythematosus and Overlap Syndromes 1375  
*Ronald F. van Vollenhoven*
- 179** Scleroderma and Raynaud's Syndrome 1392  
*James R. Seibold*
- 180** Idiopathic Inflammatory Myopathies 1399  
*Robert L. Wortmann*
- 181** Vasculitis: Its Many Forms 1404  
*Gary S. Hoffman, Brian Mandell*
- 182** Infectious Arthritis 1418  
*Mary M. Stimmler*

- 183** Lyme Disease 1424  
*Leonard H. Sigal*
- 184** Infiltrative, Neoplastic, and Endocrinologic Causes of Musculoskeletal Complaints 1431  
*Juan J. Canoso*
- 185** Fibromyalgia (Fibrositis), Chronic Fatigue Syndrome, Bursitis, and Other Nonarticular Rheumatic Complaints 1436  
*Juan J. Canoso*
- 186** Heritable Disorders of Connective Tissue 1439  
*Uta Francke*
- 187** Inherited Deficiencies of Complement and Immunoglobulins 1445  
*George F. Moxley*

---

### **SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN RHEUMATOLOGIC AND ALLERGIC DISEASES 1451**

---

- 188** Use of Laboratory Tests in Rheumatic and Immunologic Diseases 1451  
*John A. Hardin*
- 189** Arthroscopy 1458  
*William J. Arnold*
- 190** Imaging Techniques for Rheumatologic Diagnosis 1460  
*Curtis W. Hayes and Avinash A. Balkissoon*

### **Dermatology 1469**

---

### **SECTION I: APPROACH TO THE PATIENT WITH DERMATOLOGIC DISEASES 1469**

---

- 191** Approach to the Patient With Skin Lesions 1469  
*Christopher M. Barnard*
- 192** Approach to the Patient With Alopecia or Balding 1478  
*Susan M. Swetter*

---

### **SECTION II: DISORDERS OF THE DERMATOLOGIC SYSTEMS 1481**

---

- 193** Psoriasis, Lichen Planus, and Pityriasis Rosea 1481  
*Christopher M. Barnard*
- 194** Infections of Skin 1486  
*Gary L. Darmstadt*

- 195** Bullous Diseases of Skin and Mucous Membranes 1490  
*Mark C. Udey*
- 196** Atopic and Contact Dermatitis 1494  
*Teresa A. Borkowski and Mark C. Udey*
- 197** Allergic Urticaria and Erythema Multiforme 1496  
*Christopher M. Barnard*
- 198** Approach to the Management of Skin Cancer 1499  
*Susan M. Swetter*
- 199** Cutaneous Reactions to Drugs 1503  
*Martin Vazquez*

---

### **SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN DERMATOLOGIC DISEASES 1508**

---

- 200** Dermatologic Diagnosis: Fundamentals for the Internist 1508  
*Julie Anne Winfield*

### **PART 6: ONCOLOGY AND HEMATOLOGY 1521**

---

#### **SECTION I: APPROACH TO THE PATIENT WITH ONCOLOGIC AND HEMATOLOGIC DISORDERS 1522**

---

- 201** Approach to the Patient With Lymphadenopathy 1522  
*David J. Vaughn*
- 202** Approach to the Patient With Splenomegaly 1530  
*Lynn M. Schuchter*
- 203** Approach to the Patient With a Mediastinal Mass 1535  
*Kevin R. Fox*
- 204** Approach to the Patient With Superior Vena Cava Syndrome 1540  
*Janice P. Dutcher*
- 205** Approach to the Patient With a Palpable Breast Mass and/or An Abnormal Mammogram 1543  
*Helen Pass, Mark Helvie, and Sofia D. Merajver*
- 206** Approach to the Patient With a Testicular Mass 1551  
*Stephen D. Williams*
- 207** Approach to the Patient With a Prostate Nodule or Elevated Prostate-Specific Antigen Level 1553  
*David C. Smith and James E. Montie*

- 208** Approach to the Patient With an Adnexal Mass 1556  
*Ivor Benjamin and Stephen C. Rubin*
- 209** Approach to the Patient With an Abnormal Papanicolaou Smear 1562  
*Andrew W. Menzin and Stephen C. Rubin*
- 210** Approach to the Patient With A Pathologic Fracture 1567  
*Janice P. Dutcher*
- 211** Approach to the Patient With Anemia 1570  
*Thomas P. Duffy*
- 212** Approach to the Patient With Leukopenia 1575  
*Laurence A. Boxer*
- 213** Approach to the Patient With Thrombocytopenia 1582  
*Douglas B. Cines*
- 214** Approach to the Patient With Pancytopenia 1589  
*Joel M. Rapoport*
- 215** Approach to the Patient With an Elevated Hemoglobin Level 1594  
*Eugene P. Frenkel*
- 216** Approach to the Patient With Leukocytosis 1598  
*Stephen G. Emerson*
- 217** Approach to the Patient With Thrombocytosis 1601  
*Allen M. Gewirtz*
- 218** Approach to the Patient With Bleeding 1606  
*Keith R. McCrae*
- 219** Approach to the Patient With Thrombosis 1614  
*Joel S. Bennett*

---

## **SECTION II: DISORDERS OF ONCOLOGY AND HEMATOLOGY 1618**

---

- 220** Breast Cancer 1618  
*Teresa Gilewski and Larry Norton*
- 221** Gynecologic Malignancies 1634  
*Mark A. Morgan and Stephen C. Rubin*
- 222** Germ Cell Malignancies in Men 1639  
*Stephen D. Williams*
- 223** Prostate Cancer 1644  
*Kenneth J. Pienta and David C. Smith*
- 224** Sarcomas of Soft Tissue and Bone 1648  
*J. Sybil Biermann and Laurence H. Baker*
- 225** Epithelial Malignancies of the Head and Neck 1653  
*George J. Bosl and David G. Pfister*

- 226** Cancer of Unknown Primary Origin 1659  
*John D. Hainsworth and F. Anthony Greco*
- 227** Acute Leukemias 1663  
*Peter H. Wiernik*
- 228** Chronic Leukemias 1672  
*George P. Canellos*
- 229** Myelodysplastic Syndrome 1676  
*Frederick R. Appelbaum*
- 230** Aplastic Anemia and Bone Marrow Failure  
Syndromes 1680  
*Joel M. Rappeport*
- 231** Myeloproliferative Disorders: Polycythemia Vera,  
Thrombocythemia, and Myelofibrosis 1684  
*Eugene P. Frenkel*
- 232** Hodgkin's Disease 1689  
*Sandra J. Horning*
- 233** Non-Hodgkin's Lymphomas 1694  
*R. Gregory Bociek, Julie M. Vose,  
and James O. Armitage*
- 234** Plasma Cell Disorders 1700  
*Phillip R. Greipp*
- 235** Amyloidosis 1707  
*Robert A. Kyle*
- 236** Waldenström's Macroglobulinemia 1710  
*Robert A. Kyle*
- 237** Inherited Disorders of Blood Coagulation 1712  
*David Ginsburg*
- 238** Acquired Disorders of Blood Coagulation 1718  
*Alvin H. Schmaier*
- 239** Disorders of Platelet Function 1723  
*Keith R. McCrae and Sanford J. Shattil*
- 240** Thrombotic Disorders 1733  
*Joel S. Bennett*
- 241** Hemoglobinopathies 1740  
*George F. Atweh and Edward J. Benz, Jr.*
- 242** Iron Deficiency and Iron Loading Anemias 1753  
*Kenneth R. Bridges*
- 243** Megaloblastic Anemias 1758  
*Ralph Carmel*
- 244** Hemolytic Anemias 1769  
*Joseph P. Catlett*
- 245** Sickle Cell Anemia 1788  
*Bertram H. Lubin*

**246** Anemia of Chronic Disease 1794  
*Robert T. Means, Jr.*

**247** Paraneoplastic Syndromes 1797  
*Gregory P. Kalemkerian*

---

**SECTION III: DIAGNOSTIC AND  
THERAPEUTIC MODALITIES IN ONCOLOGIC  
AND HEMATOLOGIC DISORDERS 1801**

---

**248** Imaging in Oncology 1801  
*Stephen I. Marglin and Ronald A. Castellino*

**249** Pathology and Cytology 1806  
*Virginia A. LiVolsi and John E. Tomaszewski*

**250** Tumor Markers 1811  
*Daniel F. Hayes*

**251** Molecular Diagnosis of Cancer 1815  
*Jeffrey Sklar and Neal Lindeman*

**252** Principles of Surgical Oncology 1825  
*John M. Daly and Michael D. Lieberman*

**253** Principles of Radiation Oncology 1830  
*Allen S. Lichter*

**254** Principles of Chemotherapy and Hormonal  
Therapy 1835  
*Bruce A. Chabner, Michael Seiden, and Jeffrey Clark*

**255** Principles of Biologic Therapy 1849  
*John W. Smith II and Walter J. Urba*

**256** Hematopoietic Growth Factors 1854  
*Malcolm A.S. Moore*

**257** Blood Types, Tissue Typing, and Transfusion of  
Blood Products 1858  
*Frank T. Hsieh, Steven A. Mechanic, Edward Snyder,  
and Albert Deisseroth*

**258** Hematopoietic Stem Cell Transplantation 1865  
*Stephanie J. Lee and Joseph H. Antin*

**259** Anticoagulant and Fibrinolytic Therapy 1872  
*Bruce Furie*

**260** Cancer Pain Management 1875  
*Janet L. Abraham*

**261** Antiemetic Treatment 1880  
*Richard J. Gralla*

**262** Design and Conduct of Cancer Clinical  
Trials 1883  
*Michael A. Friedman and Richard Simon*

**PART 7: INFECTIOUS DISEASES AND AIDS 1887****Infectious Diseases 1888**

---

**SECTION I: APPROACH TO THE PATIENT WITH INFECTIOUS DISEASES 1888**

---

- 263** Approach to the Patient With Cellulitis and Other Soft-Tissue Infections 1888  
*Ronald T. Lewis*
- 264** Intra-Abdominal Abscess: Diagnosis and Management 1895  
*Marianne Cinat and Samuel E. Wilson*
- 265** Approach to the Patient With Osteomyelitis 1900  
*Layne O. Gentry*
- 266** Approach to the Febrile Patient 1906  
*Philip A. Mackowiak*
- 267** Approach to Infection in the Immunocompromised Host 1911  
*Kenneth V.I. Rolston and Gerald P. Bodey*
- 268** Approach to the Patient With Bacteremia and Sepsis 1918  
*Gary A. Noskin and John P. Phair*
- 269** Approach to the Patient With Recurrent Infections 1926  
*Burke A. Cunha*

---

**SECTION II: INFECTIOUS DISEASES 1931**

---

- 270** Endocarditis, Intravascular Infections, Pericarditis and Myocarditis 1931  
*C. Glenn Cobbs and Michael Saccente*
- 271** Approach to Infections of the Genitourinary Tract, Including Perinephric Abscess and Prostatitis 1941  
*Baldwin Toye and Allan R. Ronald*
- 272** Sexually Transmitted Diseases and Genital Tract Infections 1948  
*William C. Levine*
- 273** Surgical Infections, including Burns and Postoperative Infections 1957  
*E. Patchen Dellinger*

**Bacterial Infections**

- 274** Staphylococcal Infections 1961  
*Dennis R. Schaberg*
- 275** Streptococcal Infections 1965  
*Monica M. Farley and Benjamin Schwartz*

- 276** Anthrax 1978  
*Raymond A. Smego, Jr.*
- 277** Listeria and Erysipeloid Infections 1980  
*Barry Zeluff, Marcia Kielhofner, and Susan J. Burgert*
- 278** Corynebacterial Infections 1984  
*Robert T. Chen and Charles R. Vitek*
- 279** Meningococcal Infections 1986  
*Peter Densen*
- 280** Gonococcal Infections 1990  
*Geo F. Brooks*
- 281** Salmonellosis 1997  
*Sonja J. Olsen and Robert V. Tauxe*
- 282** Shigellosis 2000  
*Karen Kotloff and Myron M. Levine*
- 283** Infections Caused by *Vibrio* and *Campylobacter* Species 2005  
*J. Glenn Morris, Jr. and Martin J. Blaser*
- 284** Infection Caused by *Helicobacter pylori* 2012  
*David Y. Graham*
- 285** Brucellosis, Tularemia, Pasteurellosis, and Yersiniosis 2015  
*Edward J. Young*
- 286** Infections Caused by *Hemophilus* and *Bordetella* Species 2022  
*Charles J. Schleupner and Kenneth M. Sosnowski*
- 287** Legionellosis 2028  
*Emanuel N. Vergis and Robert R. Muder*
- 288** Chancroid and Granuloma Inguinale 2032  
*George P. Schmid*
- 289** Bartonellosis 2034  
*Norbert J. Roberts, Jr.*
- 290** Clostridial Infections 2036  
*W. Lance George*
- 291** Infections Caused by Nonclostridial Anaerobes 2041  
*Sydney M. Finegold and W. Lance George*
- 292** Cat-Scratch Disease, Bacillary Angioimmunosis, and Peliosis Hepatitis 2050  
*Thomas H. Belhorn*
- 293** Rat-Bite Fever 2053  
*Ronald G. Washburn*
- Mycobacterial Infections**
- 294** Tuberculosis 2055  
*Lisa K. Fitzpatrick and Christopher Braden*
- 295** Nontuberculous Mycobacterial Diseases 2065  
*David E. Griffith and Richard J. Wallace, Jr.*

- 296** Leprosy 2072  
*Robert R. Jacobson*

### **Spirochetal Infections**

- 297** Syphilis 2073  
*Naiel N. Nassar and Justin David Radolf*
- 298** Nonvenereal Treponematoses: Yaws, Pinta and Endemic Syphilis 2082  
*Naiel N. Nassar and Justin David Radolf*
- 299** Leptospirosis 2085  
*George J. Alangaden*
- 300** Relapsing Fever 2087  
*Thomas Butler*

### **Infections Caused by Fungi and Higher Bacteria**

- 301** Actinomycetes: Nocardiosis, Actinomycetoma, Actinomycosis 2090  
*Richard J. Wallace*
- 302** Infections Caused by Dimorphic Fungi 2094  
*Thomas F. Patterson*
- 303** Opportunistic Fungal Infections 2099  
*John E. Edwards, Jr.*

### **Rickettsial Infections**

- 304** Infections Caused by *Rickettsia*, *Ehrlichia Orienta*, and *Coxiella* 2105  
*Daniel B. Fishbein*

### **Mycoplasmal and Chlamydial Infections**

- 305** Infections Caused by *Mycoplasma pneumoniae* and the Genital Mycoplasmas 2110  
*Charles M. Helms*
- 306** Chlamydial Infections 2113  
*Robert B. Jones*

### **Viral Infections**

- 307** Infections Caused by Arboviruses 2118  
*James P. Luby*
- 308** Infections Caused by Arenaviruses, Hantaviruses and Filoviruses 2123  
*Ali Khan and Anne K. Pflieger*
- 309** Poxvirus Infections 2136  
*Brian W. J. Mahy*
- 310** Respiratory Viral Infections 2138  
*Robert L. Atmar*
- 311** Measles, Mumps, and Rubella 2147  
*Walter A. Orenstein and Melinda Wharton*
- 312** Herpes Simplex Virus Infections 2152  
*Michael N. Oxman*

- 313** Cytomegalovirus 2177  
*Sarah H. Cheeseman*
- 314** Epstein-Barr Virus, and the Infectious Mononucleosis Syndrome 2179  
*Joseph S. Pagano*
- 315** Varicella-Zoster Virus Infection 2185  
*Anne A. Gershon*
- 316** Enterovirus Infections 2189  
*Ross E. McKinney, Jr.*
- 317** Viral Gastroenteritis 2192  
*Roger I. Glass*
- 318** Rabies 2194  
*Charles E. Rupprecht*
- 319** Human Papillomaviruses 2199  
*William Bonnez*
- 320** Human Herpesvirus 6 2204  
*Thomas H. Belhorn*

#### Parasitic Infections

- 321** Intestinal Protozoa 2206  
*Pablo C. Okhuysen and Cynthia L. Chappell*
- 322** Malaria 2210  
*Donald J. Krogstad*
- 323** Leishmaniasis 2215  
*A. Clinton White, Jr. and Peter C. Melby*
- 324** African and American Trypanosomiasis 2220  
*Mario Paredes-Espinoza and Patricia Paredes-Casillas*
- 325** Babesiosis 2226  
*Murray Wittner*
- 326** Toxoplasmosis 2230  
*Benjamin J. Luft*
- 327** Pneumocystosis 2236  
*Donald Armstrong and Edward M. Bernard*
- 328** Trichomoniasis 2240  
*Jose A. Prieto and Jorge D. Blanco*
- 329** Free-living Amebae Infections: *Naegleria*, *Acanthameba*, and Leptomyxids 2241  
*Richard J. Duma*
- 330** Introduction to Helminthic Diseases 2245  
*Adel A.F. Mahmoud*
- 331** Tissue Nematode Infections 2245  
*James W. Kazura*
- 332** Intestinal Nematodes 2252  
*Robert A. Salata*
- 333** Cestode Infections 2257  
*Robert Blanton*

- 334** Trematode Infections 2262  
*Charles H. King*

---

**SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN INFECTIOUS DISEASES 2268**

---

- 335** Antimicrobial Therapeutic Agents 2268  
*William A. Craig*
- 336** Approach to the Treatment of Systemic Fungal Infections 2279  
*John H. Rex*
- 337** Antimicrobial Chemoprophylaxis 2281  
*F. Marc LaForce*
- 338** Hospital Epidemiology and Infection Control 2283  
*Jan Evans Patterson*

**HIV & AIDS 2293**

---

**SECTION I: APPROACH TO THE PATIENT WITH HIV INFECTION 2293**

---

- 339** Approach to the Patient With HIV Exposure 2293  
*Elise M. Jochimsen and Denise M. Cardo*
- 340** Approach to the Patient With Asymptomatic HIV Infection (and Counseling) 2298  
*Abraham Verghese*
- 341** Approach to the Symptomatic Patient With HIV Infection 2301  
*Henry Masur*
- 342** HIV/AIDS: Approach to the Patient With Pulmonary Disease 2307  
*Philip C. Hopewell*
- 343** HIV/AIDS: Approach to the Patient With Diarrhea and/or Wasting 2310  
*Roberto C. Arduino*
- 344** HIV/AIDS: Approach to the Patient With Neurologic Symptoms 2312  
*Richard W. Price*
- 345** Pathogenesis of HIV Infection 2316  
*Sharon Lewin and Martin Markowitz*

---

**SECTION II: DISORDERS OF HIV INFECTION 2320**

---

- 346** HIV/AIDS: Clinical Considerations 2320  
*Stephen B. Greenberg and Christopher J. Lahart*

- 347** Neoplasms in AIDS 2328  
*David M. Aboulafta and Ronald T. Mitsuyasu*

---

**SECTION III: MANAGEMENT, PREVENTION,  
AND CONTROL 2332**

---

- 348** Principles of Antiretroviral Treatment and Vaccines 2332  
*Christopher J. Lahart*
- 349** HIV/AIDS: Epidemiology, Prevention and Control 2339  
*Subhash K. Hira*

**PART 8: PULMONARY AND CRITICAL CARE  
MEDICINE 2343**

---

**SECTION I: APPROACH TO THE PATIENT  
WITH RESPIRATORY DISEASE OR CRITICAL  
ILLNESS 2344**

---

- 350** Approach to the Patient With Hypoxemia 2344  
*David H. Ingbar*
- 351** Approach to the Patient With Dyspnea 2349  
*Kathy E. Sietsema*
- 352** Approach to the Patient With Cough 2354  
*K. F. Chung*
- 353** Approach to the Patient With Hemoptysis 2361  
*Edward F. Haponik*
- 354** Approach to the Critically Ill Patient 2366  
*Leonard D. Hudson and Kenneth P. Steinberg*
- 355** Management of the Critically Ill Patient With Multiple Organ Dysfunction 2369  
*Paul M. Dorinsky and Michael A. Matthay*
- 356** Approach to the Patient With Acute Respiratory Failure 2377  
*Thomas Corbridge*
- 357** Approach to the Management of the Patient With Acute Respiratory Distress Syndrome 2383  
*Kenneth P. Steinberg and Leonard D. Hudson*
- 358** Approach to the Patient With Pleural Disease 2389  
*Steven A. Sahn and John E. Heffner*
- 359** Approach to the Patient With a Solitary Pulmonary Nodule 2399  
*Joseph P. Lynch, III and Ella A. Kazerooni*
- 360** Approach to the Patient With Interstitial Lung Disease 2403  
*Kevin K. Brown*

- 361** Approach to the Patient With Suspected Pneumonia 2412  
*Galen B. Toews*
- 362** Evaluation of Pulmonary Disease in the Immunocompromised Host 2419  
*Phillip C. Hopewell*

---

## **SECTION II: DISORDERS OF THE RESPIRATORY SYSTEM 2427**

---

- 363** Asthma 2427  
*Sally E. Wenzel*
- 364** Chronic Obstructive Pulmonary Disease (COPD) 2433  
*Andrew L. Ries*
- 365** Bronchiectasis 2439  
*John M. Luce and Robert M. Jasmer*
- 366** Diseases of the Upper Airway 2443  
*Michael G. Glenn and Ernest A. Weymuller Jr.*
- 367** Lung Abscess 2450  
*Hugh A. Cassiere and Michael S. Niederman*
- 368** Pulmonary Tuberculosis 2454  
*Charles L. Daley*
- 369** Bronchopulmonary Aspergillosis 2460  
*Alan F. Barker*
- 370** Cystic Fibrosis 2462  
*Maira L. Aitken*
- 371** Idiopathic Interstitial Pneumonias 2469  
*Talmadge E. King, Jr.*
- 372** Hypersensitivity Pneumonitis 2477  
*William W. Merrill*
- 373** Sarcoidosis 2481  
*Lee S. Newman and Cecile S. Rose*
- 374** The Granulomatous Vasculitides 2486  
*Ulrich Specks*
- 375** Occupational Lung Diseases 2495  
*Patrick G. Hartley and David A. Schwartz*
- 376** Miscellaneous Pulmonary Disease 2510  
*Leslie Zimmerman*
- 377** Lung Cancer 2521  
*Eric J. Olsen and James R. Jett*
- 378** Pulmonary Thromboembolism 2531  
*Thomas M. Hyers*
- 379** Diseases of the Mediastinum and Chest Wall 2536  
*Cameron D. Wright*

- 380** Diseases of Respiratory Muscles 2539  
*Thomas K. Aldrich*
- 381** Diseases of Ventilatory Control 2541  
*Clifford W. Zwillich and Sogol Nowbar*
- 382** Sleep Apnea Syndrome, Hypersomnolence, and  
Other Sleep Disorders 2545  
*David R. White*
- 383** Inhalation and Aspiration Syndromes 2553  
*Norman E. Adair and Edward F. Haponik*
- 384** Diseases of High Altitude 2559  
*Robert B. Schoene*

---

### **SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES 2563**

---

- 385** Essential Points of the Pulmonary History and  
Physical Examination 2563  
*Michael E. Hanley*
- 386** Approach to Imaging of the Chest 2569  
*David A. Lynch*
- 387** Pulmonary Function Testing 2579  
*Jack L. Clausen*
- 388** Hemodynamic and Respiratory Monitoring in  
Critical Care 2585  
*Barbara A. Cockrill*
- 389** Diagnostic Procedures in Pulmonary and Critical  
Care Medicine 2593  
*Suzette Garofano and Diane E. Stover*
- 390** Respiratory Therapy Techniques 2601  
*Carolyn H. Welsh*
- 391** Lung Transplantation 2608  
*Robert M. Kotloff*

### **PART 9: ENDOCRINOLOGY, METABOLISM, AND GENETICS 2617**

---

#### **SECTION I: APPROACH TO THE PATIENT WITH ENDOCRINOLOGIC, METABOLIC, AND GENETIC DISORDERS 2618**

---

- 392** Approach to the Patient With a Thyroid  
Nodule 2618  
*James A. Fagin*
- 393** Approach to Menstrual Disorders and  
Galactorrhea 2620  
*Robert L. Barbieri*
- 394** Approach to the Patient With Virilization 2623  
*Richard S. Legro*

- 395** Approach to the Patient With Gynecomastia 2626  
*Glenn D. Braunstein*
- 396** Approach to the Infertile Male 2628  
*Frances J. Hayes*
- 397** Approach to Sexual Dysfunction in the Female 2631  
*Robert L. Barbieri*
- 398** Approach to Sexual Dysfunction in the Male 2632  
*Max Hirshkowitz and Glenn R. Cunningham*
- 399** Approach to the Patient With Hyperglycemia 2635  
*Jay S. Skyler*
- 400** Approach to the Patient With Hypoglycemia 2648  
*John F. Service*
- 401** Approach to the Patient With Flushing 2651  
*Jerome M. Feldman*
- 402** Approach to Hypercalcemia and Hypocalcemia 2652  
*Bruce Lobaugh and Marc K. Drezner*

---

## **SECTION II: DISORDERS OF ENDOCRINOLOGY, METABOLISM, AND GENETICS 2663**

---

- 403** Disorders of the Hypothalamic and Anterior Pituitary Gland 2663  
*John C. Marshall and Ariel L. Barkan*
- 404** Disorders of Posterior Pituitary Function 2684  
*Alan G. Robinson*
- 405** Disorders of the Pineal Gland 2691  
*Warner Burch*
- 406** Disorders of the Thyroid Gland 2693  
*Leonard Wartofsky*
- 407** Adrenal Cortical Disorders 2720  
*David E. Schteingart*
- 408** Adrenal Medullary Disorders 2735  
*Brahm Shapiro and Milton D. Gross*
- 409** Endocrinology of the Female 2740  
*Robert L. Barbieri*
- 410** Disorders of Gonadal Function in Men 2743  
*Peter J. Snyder*
- 411** Diabetes Mellitus, Types I and II 2751  
*Jay S. Skyler*
- 412** Metabolic Bone Disease 2769  
*Dolores Shoback and Coleman Gross*

- 413** Disorders of Carbohydrate Metabolism (Excluding Diabetes) 2784  
*Stanton Segal*
- 414** Disorders of Amino Acid Metabolism 2788  
*Robert J. Smith*
- 415** Multiple Endocrine Neoplasia 2793  
*Stephen J. Marx*
- 416** Genetic Disorders 2796  
*Richard W. Erbe*

---

**SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN ENDOCRINOLOGIC, METABOLIC, AND GENETIC DISORDERS 2812**

---

- 417** Testing and Evaluation of Pituitary End-Organ Function 2812  
*Ariel L. Barkan and John C. Marshall*
- 418** Evaluation of Thyroid Function Tests 2821  
*Rasa Kazlauskaitė, Bruce Weintraub, and Kenneth Burman*
- 419** Human Gene Therapy 2829  
*James M. Wilson*

**PART 10: NEUROLOGY 2833**

---

**SECTION I: APPROACH TO THE PATIENT WITH NEUROLOGIC DISEASES 2834**

---

- 420** Approach to the Patient With Neurologic Complaints 2834  
*Vincent P. Sweeney and Donald W. Paty*
- 421** Approach to the Patient With Headache 2836  
*James W. Lance*
- 422** Approach to the Patient With Dizziness and Vertigo 2844  
*Mark F. Walker and David S. Zee*
- 423** Approach to the Patient With Tumors of the Central Nervous System 2846  
*Lisa M. DeAngelis and J. Gregory Cairncross*
- 424** Approach to the Patient With Impairment of Consciousness 2856  
*John J. Caronna*
- 425** Approach to the Patient With a Sleep Disorder 2862  
*Roger J. Broughton*
- 426** Approach to the Patient With Seizures 2864  
*Antonio V. Delgado-Escueta*

- 427** Approach to the Patient With Visual Complaints 2876  
*Preston C. Calvert*
- 428** Approach to the Patient With a Gait Disorder 2881  
*Stephen G. Reich*
- 429** Approach to the Patient With Abnormal Movements and Tremors 2884  
*Stephen G. Reich*
- 430** Approach to the Patient With Disorders of Sensation 2888  
*John W. Griffin*
- 431** Approach to the Patient With Suspected Infection of the Central Nervous System 2894  
*Anthony W. Chow and Donald W. Paty*
- 

## **SECTION II: DISORDERS OF THE NERVOUS SYSTEM 2904**

---

- 432** Cerebrovascular Diseases 2904  
*John J. Caronna*
- 433** Demyelinating Diseases 2912  
*John J. Richert*
- 434** Parkinson's Disease and Related Disorders 2915  
*Stephen G. Reich*
- 435** Chronic Dementing Conditions 2918  
*Bruce L. Miller*
- 436** Cerebellar Degeneration 2921  
*Ging-Yuek Robin Hsiung and Oksana Suchowersky*
- 437** Amyotrophic Lateral Sclerosis 2923  
*Andrea M. Corse*
- 438** Huntington's Disease 2926  
*Michael R. Hayden and Blair R. Leavitt*
- 439** Central Nervous System Poisoning 2928  
*J. William Langston, Ian Irwin, Sarah A. Jewell*
- 440** The Neurologic Complications and Consequences of Ethanol Use and Abuse 2933  
*Stanley A. Hashimoto and Donald W. Paty*
- 441** Bacterial Infections of the Nervous System 2936  
*Anthony W. Chow and Donald W. Paty*
- 442** Viral Infections of the Nervous System 2946  
*Jorge T. Gonzalez*
- 443** Slow Virus Infections in the Nervous System, Including AIDS 2953  
*Jerry S. Wolinsky and Justin C. McArthur*
- 444** Seizures and Epilepsies 2958  
*Antonio V. Delgado-Escueta*

- 445** Structural Disorders of the Spinal Column 2972  
*John Dean Ryboch*
- 446** Disorders of the Peripheral Nervous System 2975  
*Ahmet Höke and Thomas E. Feasby*
- 447** Mononeuropathies and Entrapment  
Neuropathies 2987  
*Andrew A. Eisen*
- 448** Muscle Disease 2991  
*Andrew A. Eisen and Kenneth Berry*

---

**SECTION III: DIAGNOSTIC AND  
THERAPEUTIC MODALITIES IN  
NEUROLOGIC DISEASES 2996**

---

- 449** Lumbar Puncture and Cerebrospinal Fluid  
Analysis 2996  
*George C. Ebers*
- 450** Electroencephalography and Evoked  
Potentials 2999  
*David B. MacDonald*
- 451** Neurophysiology: Nerve Conduction and  
Electromyography 3000  
*Andrew A. Eisen*
- 452** Neuroimaging 3004  
*Jack O. Greenberg*
- 453** Serologic and Molecular Genetic Diagnoses 3015  
*Russell Margolis and Christopher Ross*

**PART 11: GERIATRICS 3019**

---

**SECTION I: APPROACH TO ASSESSMENT  
AND MANAGEMENT OF THE ELDERLY  
PATIENT WITH A MAJOR GERIATRIC  
PROBLEM COMPLEX 3020**

---

- 454** Diagnosis and Management of the Elderly  
Patient 3020  
*Michele F. Bellantoni*
- 455** Approach to the Elderly Patient With  
Hypertension 3026  
*William B. Applegate*
- 456** Approach to the Elderly Patient With  
Diabetes 3032  
*Jeffrey B. Halter*
- 457** Approach to the Elderly Patient With  
Dyslipidemia 3037  
*Walter H. Ettinger, Jr. and William R. Hazzard*
- 458** Approach to the Elderly Patient With  
Incontinence 3041  
*Joseph G. Ouslander and Theodore M. Johnson, II*

- 459** Approach to the Elderly Patient With Altered Mental Status 3047  
*Sharon K. Inouye*
- 460** Approach to the Elderly Patient With Depression 3053  
*Dan G. Blazer*
- 461** Approach to the Elderly Patient With Disorders of Fluid and Osmolality Regulations 3055  
*Jo Wiggins*
- 462** Approach to the Elderly Patient With Falls and Impaired Mobility 3060  
*Mary E. Tinetti*
- 463** Approach to the Patient With Pressure Ulcers 3067  
*Richard M. Allman*
- 464** Approach to the Frail Elderly Patient 3069  
*Linda P. Fried and Jeremy Walston*

---

## **SECTION II: DISORDERS PROMINENT IN GERIATRIC MEDICAL PRACTICE 3074**

---

- 465** Diagnosis and Management of Osteoporosis in Older Adults 3074  
*Karen Prestwood*
- 466** Dementia, Including Alzheimer's Disease 3082  
*Christopher M. Clark*
- 467** Benign Prostatic Hyperplasia/Urinary Obstruction 3085  
*J. Lisa Tenover*

---

## **SECTION III: DIAGNOSTIC AND THERAPEUTIC MODALITIES IN THE ELDERLY: SPECIAL ASPECTS AND CONSIDERATIONS 3091**

---

- 468** Geriatric Assessment 3091  
*David B. Reuben*
- 469** Geriatric Clinical Pharmacology 3095  
*Janice B. Schwartz*
- 470** Geriatric Clinical Nutrition, Including Malnutrition, Obesity, and Weight Loss 3107  
*Jeffrey I. Wallace, Robert S. Schwartz*
- 471** Exercise in the Elderly 3114  
*Alice S. Ryan and Andrew P. Goldberg*
- 472** Geriatric Rehabilitation 3123  
*Kenneth Brummel-Smith*
- 473** Philosophical and Ethical Issues in Geriatrics 3127  
*Christine K. Cassel*