

VOLUME ONE

PART I Host-Parasite Relationships and the Pathogenesis of Infectious Diseases

- 1 Molecular Determinants of Microbial Pathogenesis, 2
David A. Hunstad, Ravi Jhaveri, Audrey R. Odom John, and Joseph W. St. Geme III
- 2 Normal and Impaired Immunologic Responses to Infection, 15
Michael F. Tosi
- 3 Host Response to Infections: The “-omics” Revolution, 41
Asuncion Mejias and Octavio Ramilo
- 4 Fever: Pathogenesis and Treatment, 52
Mark A. Ward and Nicole L. Hannemann
- 5 The Human Microbiome, 56
Berkley Luk, Douglas S. Swanson, and James Versalovic
- 6 Epidemiology and Biostatistics of Infectious Diseases, 63
Eugene D. Shapiro and Robert S. Baltimore

PART II Infection of Specific Organ Systems

SECTION 1 Upper Respiratory Tract Infections

- 7 The Common Cold, 90
James D. Cherry
- 8 Infections of the Oral Cavity, 96
Constantine Simos and Blanca E. Gonzalez
- 9 Pharyngitis (Pharyngitis, Tonsillitis, Tonsillopharyngitis, and Nasopharyngitis), 108
James D. Cherry
- 10 Uvulitis, 116
Ellen R. Wald
- 11 Peritonsillar, Retropharyngeal, and Parapharyngeal Abscesses, 117
Nira A. Goldstein and Margaret R. Hammerschlag
- 12 Cervical Lymphadenitis, 124
C. Mary Healy and Carol J. Baker
- 13 Parotitis, 134
Judith R. Campbell
- 14 Rhinosinusitis, 137
James D. Cherry, Edward C. Kuan, and Nina L. Shapiro
- 15 Otitis Externa, 144
Ellen M. Friedman and Maria Carrillo-Marquez
- 16 Otitis Media, 149
Janet R. Casey and Charles D. Bluestone
- 17 Mastoiditis, 169
James D. Cherry, Andrew M. Vahabzadeh-Hagh, and Nina L. Shapiro
- 18 Croup (Laryngitis, Laryngotracheitis, Spasmodic Croup, Laryngotracheobronchitis, Bacterial Tracheitis and Laryngotracheobronchopneumonitis) and Epiglottitis (Supraglottitis), 175
Leidy Johana Tovar Padua and James D. Cherry

SECTION 2 Lower Respiratory Tract Infections

- 19 Acute Bronchitis, 191
James D. Cherry

- 20 Chronic Bronchitis, 193
Celine Hanson and William T. Shearer
- 21 Bronchiolitis and Infectious Asthma, 199
Robert C. Welliver Sr
- 22 Pediatric Community-Acquired Pneumonia, 208
Samir S. Shah and John S. Bradley
- 23 Empyema and Lung Abscess, 219
J. Gary Wheeler and Richard F. Jacobs
- 24 Children’s Interstitial Lung Disease and Hypersensitivity Pneumonitis, 231
Minh L. Doan and Leland L. Fan
- 25 Cystic Fibrosis, 240
Peter W. Hiatt, Michelle C. Mann, and Kathryn S. Moffett

SECTION 3 Infections of the Heart

- 26 Infective Endocarditis, 256
Sheldon L. Kaplan and Jesus G. Vallejo
- 27 Infectious Pericarditis, 270
Sheldon L. Kaplan
- 28 Myocarditis, 277
Jesus G. Vallejo
- 29 Acute Rheumatic Fever, 290
Diana R. Lennon
- 30 Mediastinitis, 306
Morven S. Edwards

SECTION 4 Central Nervous System Infections

- 31 Bacterial Meningitis Beyond the Neonatal Period, 309
Kwang Sik Kim
- 32 Parameningeal Infections, 336
Xavier Sáez-Llorens and Javier Nieto Guevara
- 33 Fungal Meningitis, 345
José R. Romero and Richard F. Jacobs
- 34 Eosinophilic Meningitis, 349
Jill Weatherhead and Rojelio Mejia
- 35 Aseptic Meningitis and Viral Meningitis, 355
David E. Bronstein and Carol A. Glaser
- 36 Encephalitis and Meningoencephalitis, 361
David E. Bronstein and Carol A. Glaser
- 37 Parainfectious and Postinfectious Disorders of the Nervous System, 376
- 37A Parainfectious and Postinfectious Demyelinating Disorders of the Central Nervous System, 376
Stuart R. Tomko and Timothy E. Lotze
- 37B Infection-Associated Myelitis and Myelopathies of the Spinal Cord, 381
Timothy E. Lotze
- 37C Guillain-Barré Syndrome, 388
Stuart R. Tomko and Timothy E. Lotze

SECTION 5 Genitourinary Tract Infections

- 38 Urethritis, 391
Ellen R. Wald
- 39 Cystitis and Pyelonephritis, 395
Ellen R. Wald
- 40 Renal Abscess, 408
Sheldon L. Kaplan

- 41** Prostatitis, 412
Sheldon L. Kaplan
- 42** Genital Infections, 413
Mariam R. Chacko, Heather E. Needham, and Charles R. Woods Jr
- SECTION 6 Gastrointestinal Tract Infections**
- 43** Esophagitis, 436
Paul Krogstad and Robert S. Venick
- 44** Approach to Patients With Gastrointestinal Tract Infections and Food Poisoning, 440
Theresa J. Ochoa and Elsa Chea-Woo
- 45** Antibiotic-Associated Colitis, 465
Victoria A. Statler and Kristina A. Bryant
- 46** Whipple Disease, 470
Zev Davidovics and Mark A. Gilger
- SECTION 7 Liver Diseases**
- 47** Hepatitis, 476
Samer S. El-Kamary and Ravi Jhaveri
- 48** Cholangitis and Cholecystitis, 483
Pia S. Pannaraj and Douglas S. Fishman
- 49** Pyogenic Liver Abscess, 492
Sheldon L. Kaplan
- 50** Reye Syndrome, 495
James D. Cherry
- SECTION 8 Other Intraabdominal Infections**
- 51** Appendicitis and Pelvic Abscess, 497
Thomas L. Kuhls
- 52** Pancreatitis, 503
Thomas L. Kuhls
- 53** Peritonitis and Intraabdominal Abscess, 507
Judith R. Campbell
- 54** Retroperitoneal Infections, 513
Alice Pong and John S. Bradley
- SECTION 9 Musculoskeletal Infections**
- 55** Osteomyelitis, 516
Paul Krogstad
- 56** Septic Arthritis, 529
Paul Krogstad
- 57** Bacterial Myositis and Pyomyositis, 535
Sanjay Verma and Charles Grose
- SECTION 10 Skin Infections**
- 58** Cutaneous Manifestations of Systemic Infections, 539
James D. Cherry
- 59** Roseola Infantum (Exanthem Subitum), 559
James D. Cherry
- 60** Skin Infections, 562
- 60A** Bacterial Skin Infections, 562
Duha Al-Zubeidi and Mary Anne Jackson
- 60B** Viral and Fungal Skin Infections, 569
Meena R. Julapalli and Moise L. Levy
- SECTION 11 Ocular Infectious Diseases**
- 61** Ocular Infections, 578
Amit Bhatt
- SECTION 12 Systemic Infectious Diseases**
- 62** Bacteremia and Septic Shock, 598
Sheldon L. Kaplan and Jesus G. Vallejo
- 63** Fever Without Source and Fever of Unknown Origin, 608
Debra L. Palazzi
- 64** Toxic Shock Syndrome, 616
Jeffrey Suen
- 65** Pediatric Acute Respiratory Distress Syndrome, 624
Jessica E. Ericson and Ira M. Cheifetz
- SECTION 13 Infections of the Fetus and Newborn**
- 66** Approach to Infections in the Fetus and Newborn, 631
Gail J. Harrison
- SECTION 14 Infections of the Compromised Host**
- 67** Primary Immunodeficiency Diseases, 640
Ivan K. Chinn, Javier Chinen, and William T. Shearer
- 68** The Febrile Neutropenic Patient, 657
Brian T. Fisher and Lillian Sung
- 69** Opportunistic Infections in Hematopoietic Stem Cell Transplantation, 665
Christopher C. Dvorak and William J. Steinbach
- 70** Infections in Pediatric Heart Transplantation, 675
Sheldon L. Kaplan and Claire E. Bocchini
- 71** Infections in Pediatric Lung Transplantation, 685
Jill A. Hoffman
- 72** Opportunistic Infections in Liver and Intestinal Transplantation, 705
Michael D. Green and Marian G. Michaels
- 73** Opportunistic Infections in Kidney Transplantation, 715
Gail J. Harrison
- 74** Infections Related to Prosthetic or Artificial Devices, 725
Tina Q. Tan and Leena B. Mithal
- 75** Infections Related to Craniofacial Surgical Procedures, 744
Marc A. Mazade and Gail J. Harrison
- 76** Infections in Burn Patients, 746
Janak A. Patel, Gregory J. Berry, and Natalie M. Williams-Bouyer
- SECTION 15 Unclassified Infectious Diseases**
- 77** Kawasaki Disease, 759
Stanford T. Shulman and Anne H. Rowley
- 78** Chronic Fatigue Syndrome (Systemic Exertion Intolerance Disease), 773
Leonard R. Krilov
- PART III Infections With Specific Microorganisms**
- SECTION 16 Bacterial Infections**
- 79** Nomenclature for Aerobic and Anaerobic Bacteria, 780
David A. Bruckner
- SUBSECTION I Gram-Positive Cocci**
- 80** *Staphylococcus aureus* Infections (Coagulase-Positive Staphylococci), 794
Sheldon L. Kaplan, Kristina G. Hulten, and Edward O. Mason Jr
- 81** Coagulase-Negative Staphylococcal Infections, 807
David Y. Hyun
- 82** Group A, Group C, and Group G β -Hemolytic Streptococcal Infections, 813
Linette Sande and Anthony R. Flores
- 83** Group B Streptococcal Infections, 823
Pia S. Pannaraj and Carol J. Baker
- 84** Enterococcal and Viridans Streptococcal Infections, 835
- 84A** Enterococcal Infections, 835
J. Chase McNeil
- 84B** Viridans Streptococcal Infections, 849
J. Chase McNeil

- 85** Pneumococcal Infections, 856
Stephen I. Pelton and Michael R. Jacobs
- 86** Miscellaneous Gram-Positive Cocci, 893
Randall G. Fisher
- SUBSECTION II Gram-Negative Cocci**
- 87** *Moraxella catarrhalis*, 896
Barbara W. Stechenberg
- 88** Meningococcal Disease, 898
Lucila Marquez
- 89** Gonococcal Infections, 912
Charles R. Woods Jr
- SUBSECTION III Gram-Positive Bacilli**
- 90** Diphtheria, 931
Barbara W. Stechenberg
- 91** Anthrax, 938
Morven S. Edwards
- 92** *Bacillus cereus* and Other *Bacillus* Species, 942
Sarah M. Labuda and Richard A. Oberhelman
- 93** *Arcanobacterium haemolyticum*, 946
Natascha Ching
- 94** *Erysipelothrix rhusiopathiae*, 951
Randall G. Fisher
- 95** Listeriosis, 952
Sing Sing Way, Ghada N. Al-Rawahi, and Tobias R. Kollmann
- 96** Tuberculosis, 957
Andrea T. Cruz and Jeffrey R. Starke
- 97** Other Mycobacteria, 988
W. Matthew Linam and Richard F. Jacobs
- 98** Leprosy and Buruli Ulcer: The Major Cutaneous Mycobacterioses, 995
Andrea T. Cruz
- 99** *Nocardia*, 1013
Nada Harik and Richard F. Jacobs
- 100** *Corynebacterium* and *Rhodococcus*, 1017
Randall G. Fisher
- SUBSECTION IV Gram-Negative Bacilli**
- 101** *Citrobacter*, 1020
Lawrence A. Ross and Randall G. Fisher
- 102** *Enterobacter*, 1024
Laura A. Sass and Randall G. Fisher
- 103** Extraintestinal Pathogenic *Escherichia coli*, 1028
Patrick C. Seed
- 104** Diarrhea-Causing and Dysentery-Causing *Escherichia coli*, 1034
Jorge J. Velarde and James P. Nataro
- 105** *Klebsiella*, 1046
Debra J. Lugo and Randall G. Fisher
- 106** *Morganella morganii*, 1050
Leidy J. Tovar Padua and Randall G. Fisher
- 107** *Proteus*, 1051
Randall G. Fisher
- 108** *Providencia*, 1054
Randall G. Fisher
- 109** *Shigella*, 1055
Theresa J. Ochoa and Margaret Kosek
- 110** *Serratia*, 1064
Randall G. Fisher
- 111** *Salmonella*, 1066
Theresa J. Ochoa and Javier Santisteban-Ponce
- 112** Plague (*Yersinia pestis*), 1081
Walter Dehority and Gary D. Overturf
- 113** Other *Yersinia* Species, 1085
Charles R. Woods Jr
- 114** Miscellaneous Enterobacteriaceae, 1097
Randall G. Fisher
- 115** *Aeromonas*, 1101
Santhosh Nadipuram and James D. Cherry
- 116** *Pasteurella multocida*, 1106
Deborah Lehman
- 117** Cholera, 1109
Randy G. Mungwira and Matthew B. Lauren
- 118** *Vibrio parahaemolyticus*, 1115
Deborah Lehman
- 119** *Vibrio vulnificus*, 1118
Randall G. Fisher
- 120** Miscellaneous Non-Enterobacteriaceae Fermentative Bacilli, 1120
Randall G. Fisher
- 121** *Acinetobacter*, 1124
Armando G. Correa
- 122** *Achromobacter (Alcaligenes)*, 1128
Randall G. Fisher
- 123** *Eikenella corrodens*, 1130
Jeffrey M. Bender and Randall G. Fisher
- 124** *Elizabethkingia* and *Chryseobacterium* Species, 1132
Jeffrey M. Bender and Randall G. Fisher
- 125** *Pseudomonas* and Related Genera, 1135
Monica I. Ardura and Amy Leber
- 126** *Stenotrophomonas (Xanthomonas) maltophilia*, 1152
Katherine Y. King
- SUBSECTION V Gram-Negative Coccobacilli**
- 127** *Aggregatibacter* Species, 1155
Suzanne Whitworth, Morgan A. Pence, and Richard F. Jacobs
- 128** Brucellosis, 1156
Edward J. Young
- 129** Pertussis and Other *Bordetella* Infections, 1159
James D. Cherry and Ulrich Heininger
- 130** *Klebsiella granulomatis*, 1178
Mariam R. Chacko
- 131** *Campylobacter jejuni*, 1181
Ramia Zakhour, Gloria P. Heresi, and James R. Murphy
- 132** Tularemia, 1193
Gordon E. Schutze
- 133** *Haemophilus influenzae*, 1199
Stephen J. Barenkamp
- 134** Other *Haemophilus* Species (*Ducreyi*, *Haemolyticus*, *Influenzae* Biogroup *Aegyptius*, *Parahaemolyticus*, and *Parainfluenzae*) and *Aggregatibacter (Haemophilus) aphrophilus*, 1211
Stephen J. Barenkamp
- 135** *Helicobacter pylori*, 1216
Aldo Maspons and Mark A. Gilger
- 136** *Kingella kingae*, 1222
Eric A. Porsch and Joseph W. St. Geme III
- 137** Legionnaires' Disease, Pontiac Fever, and Related Illnesses, 1228
Paul H. Edelstein
- 138** *Streptobacillus moniliformis* (Rat-Bite Fever), 1236
Kara A. DuBray and Carol A. Glaser
- 139** *Bartonella* Infections, 1240
Leigh M. Howard and Kathryn M. Edwards

SUBSECTION VI Treponemataceae

- 140** Lyme Disease, 1246
Sunil K. Sood and Peter J. Krause
- 141** Relapsing Fever, 1253
Peter J. Krause and Kenneth M. Boyer
- 142** Leptospirosis, 1256
Delma J. Nieves
- 143** *Spirillum minus* (Rat-Bite Fever), 1267
Kara A. DuBray
- 144** Syphilis, 1268
Simon R. Dobson and Pablo J. Sánchez
- 145** Nonvenereal Treponematoses, 1284
David C. Hilmers

SUBSECTION VII Anaerobic Bacteria

- 146** Clostridial Intoxication and Infection, 1291
Martha Muller and Gary D. Overturf
- 147** Infant Botulism, 1298
Jessica M. Khouri and Stephen S. Arnon
- 148** Tetanus, 1304
James D. Cherry and Myke Federman
- 149** Actinomycosis, 1312
Suzanne Whitworth, Morgan A. Pence, and Richard F. Jacobs
- 150** *Bacteroides*, *Fusobacterium*, *Prevotella*, and *Porphyromonas*, 1316
Catherine Foster, Lucila Marquez, and Steven C. Buckingham

VOLUME TWO**SECTION 17 Viral Infections**

- 151** Classification and Nomenclature of Viruses, 1325
Marjorie J. Miller

SUBSECTION I DNA—Parvoviridae

- 152** Human Parvovirus B19, 1330
Danica J. Schulte
- 153** Human Bocaviruses, 1341
Jennifer E. Schuster and John V. Williams

SUBSECTION II DNA—Polyomaviridae

- 154** Human Polyomaviruses, 1345
John A. Vanchiere
- 155** Human Papillomaviruses, 1351
Adriana Cadilla and Kenneth A. Alexander

SUBSECTION III DNA—Adenoviridae

- 156** Adenoviruses, 1364
Tempe K. Chen and James D. Cherry

SUBSECTION IV DNA—Hepatoviridae

- 157** Hepatitis B and D Viruses, 1383
Yen H. Pham and Daniel H. Leung

SUBSECTION V DNA—Herpesviridae

- 158** Herpes Simplex Viruses 1 and 2, 1403
Gail J. Harrison, Benjamin A. Pinsky, and Ann M. Arvin
- 159** Cytomegalovirus, 1429
Gail J. Harrison
- 160** Epstein-Barr Virus, 1450
Luis A. Castagnini and Charles T. Leach
- 161** Human Herpesviruses 6A, 6B, 7, and 8, 1472
Charles Grose

- 162** Varicella-Zoster Virus, 1476
Anne A. Gershon

SUBSECTION VI DNA—Poxviridae

- 163** Smallpox (Variola Virus), 1484
James D. Cherry
- 164** Monkeypox and Other Poxviruses, 1489
Samantha H. Johnston and Anne W. Rimoin
- 165** Mimiviruses, 1496
Ramya Ramraj and Gail D. Harrison

SUBSECTION I RNA—Picornaviridae

- 166** Enteroviruses, Parechoviruses, and Saffold Viruses, 1499
James D. Cherry and Paul Krogstad
- 167** Rhinoviruses, 1545
Robert L. Atmar and Janet A. Englund
- 168** Hepatitis A Virus, 1558
Yen H. Pham and Daniel H. Leung

SUBSECTION II RNA—Caliciviridae

- 169** Calicivirus (*Norovirus*, *Sapovirus*, *Vesivirus*, *Lagovirus*, *Nebovirus*), 1571
Yalda C. Lucero and Miguel L. O’Ryan
- 170** Hepatitis E Virus, 1578
Ravi Jhaveri

SUBSECTION III RNA—Reoviridae

- 171** Reoviruses, 1585
James D. Cherry
- 172** Orbiviruses, Coltiviruses, and Seadornaviruses, 1588
Gail J. Harrison and Theodore F. Tsai
- 173** Rotavirus, 1592
Timo Vesikari, Maria Hemming-Harlo, and Suvi Heinimäki

SUBSECTION IV RNA—Togaviridae

- 174** Rubella Virus, 1601
James D. Cherry and Amira Baker
- 175** Alphaviruses, 1622
- 175A** Eastern Equine Encephalitis, 1622
Gail J. Harrison and Theodore F. Tsai
- 175B** Western Equine Encephalitis, 1626
Gail J. Harrison and Theodore F. Tsai
- 175C** Venezuelan Equine Encephalitis, 1631
Gail J. Harrison and Theodore F. Tsai
- 175D** Chikungunya, 1634
Scott B. Halstead
- 175E** Ross River Virus Arthritis, 1639
John G. Aaskov and Roy A. Hall
- 175F** Other Alphaviral Infections, 1641
Gail J. Harrison and Theodore F. Tsai

SUBSECTION V Flaviviridae

- 176** Flaviviruses, 1644
- 176A** St. Louis Encephalitis, 1644
Kimberly C. Martin and José R. Romero
- 176B** West Nile Virus, 1649
José R. Romero
- 176C** Yellow Fever, 1658
Duane J. Gubler and Gail J. Harrison
- 176D** Dengue, Dengue Hemorrhagic Fever, and Severe Dengue, 1661
Scott B. Halstead

- 176E Japanese Encephalitis, 1671**
Theresa Barton
- 176F Murray Valley Encephalitis, 1678**
Roy A. Hall and John Askov
- 176G Tick-Borne Encephalitis, 1680**
Gail J. Harrison, Andrea Duppenhaler, Christoph Aebi, and Theodore F. Tsai
- 176H Zika Virus Infections, 1687**
Mistina Adachi, Claudia Raja Gabaglia, Patricia Brasil, and Karin Nielsen-Saines
- 176I Other Less Commonly Recognized Flaviviruses, 1719**
Theodore F. Tsai and Gail J. Harrison
- 177 Hepatitis C Virus, 1723**
Ravi Jhaveri and Samer S. El-Kamary
- SUBSECTION VI Orthomyxoviridae**
- 178 Influenza Viruses, 1729**
Jonathan A. McCullers
- SUBSECTION VII Paramyxoviridae**
- 179 Parainfluenza Viruses, 1745**
Robert C. Welliver Sr
- 180 Measles Virus, 1754**
James D. Cherry and Debra Lugo
- 181 Mumps Virus, 1771**
James D. Cherry and Kevin K. Quinn
- 182 Respiratory Syncytial Virus, 1780**
Robert C. Welliver Sr and Caroline B. Hall
- 183 Human Metapneumovirus, 1797**
Jennifer E. Schuster and John V. Williams
- SUBSECTION VIII Rhabdoviridae**
- 184 Rabies Virus, 1804**
Charles E. Rupprecht and Stephen J. Scholand
- SUBSECTION IX Arenaviridae and Filoviridae**
- 185 Lymphocytic Choriomeningitis Virus, 1818**
Rémi N. Charrel and Xavier de Lamballerie
- 186 Arenaviral Hemorrhagic Fevers, 1821**
Rémi N. Charrel, Priya R. Soni, and James D. Cherry
- 187 Filoviral Hemorrhagic Fever: Marburg and Ebola Virus Fevers, 1830**
Amy S. Arrington, David Hilmers, Judith R. Campbell, and Gail J. Harrison
- SUBSECTION X Coronaviridae and Toroviridae**
- 188 Human Coronaviruses, Including Middle East Respiratory Syndrome Coronavirus, 1846**
Janet A. Englund, Yae-Jean Kim, and Kenneth McIntosh
- SUBSECTION XI Bunyaviridae**
- 189 Hantaviruses, 1854**
Louisa E. Chapman, C.J. Peters, James N. Mills, and Kelly T. McKee Jr
- 190 La Crosse Encephalitis and Other California Serogroup Viruses, 1866**
W. Garrett Hunt and James E. McJunkin
- 191 Other Bunyaviridae, 1877**
- 191A Rift Valley Fever, 1877**
Gail J. Harrison
- 191B Crimean-Congo Hemorrhagic Fever, 1879**
Gail J. Harrison
- 191C Phlebotomus Fever (Sandfly Fever), 1882**
Gail J. Harrison
- 191D Oropouche Fever, 1884**
Francisco de Paula Pinheiro, Amelia P.A. Travassos da Rosa, Pedro Fernando da C. Vasconcelos, and Gail J. Harrison
- 191E Toscana Virus, 1890**
Rémi N. Charrel and Xavier de Lamballerie
- SUBSECTION XII Retroviridae**
- 192 Human Retroviruses, 1894**
- 192A Oncoviruses (Human T-Cell Lymphotropic Viruses) and Lentiviruses (Human Immunodeficiency Virus Type 2), 1894**
Michael A. Tolle and Susan L. Gillespie
- 192B Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome, 1921**
Karin Nielsen-Saines, Mary E. Paul, and William T. Shearer
- SUBSECTION XIII Prion-Related Diseases**
- 193 Transmissible Spongiform Encephalopathies (Creutzfeldt-Jakob Disease, Gerstmann-Sträussler-Scheinker Disease, Kuru, Fatal Familial Insomnia, New Variant Creutzfeldt-Jakob Disease, Sporadic Fatal Insomnia), 1941**
Gail J. Harrison and William J. Britt
- SECTION 18 Chlamydia**
- 194 Chlamydia Infections, 1952**
Margaret R. Hammerschlag and Stephan A. Kohlhoff
- SECTION 19 Rickettsial Diseases**
- 195 Rickettsial and Ehrlichial Diseases, 1963**
Paul M. Lantos and Ross McKinney Jr
- SECTION 20 Mycoplasma**
- 196 Mycoplasma and Ureaplasma Infections, 1976**
Natalie M. Quanquin and James D. Cherry
- SECTION 21 Fungal Diseases**
- 197 Classification of Fungi, 2004**
David Bruckner
- 198 Aspergillosis, 2006**
William J. Steinbach
- 199 Blastomycosis, 2021**
Gregory M. Gauthier and Bruce S. Klein
- 200 Candidiasis, 2030**
Brian T. Fisher, P. Brian Smith, and Theoklis E. Zaoutis
- 201 Coccidioidomycosis, 2048**
Kareem W. Shehab and Ziad M. Shehab
- 202 Paracoccidioidomycosis, 2056**
Gil Benard and Maria José Soares Mendes-Giannini
- 203 Cryptococcosis, 2067**
David L. Goldman and John R. Perfect
- 204 Histoplasmosis, 2075**
Martin B. Kleiman, Elaine G. Cox, and John C. Christenson
- 205 Sporotrichosis, 2091**
Bernhard L. Wiedermann
- 206 Mucormycosis and Entomophthoromycosis, 2094**
Rachel L. Wattier and William J. Steinbach
- 207 Fusariosis and Scedosporiosis, 2102**
Damian J. Krysan, Melanie Wellington, and William J. Steinbach
- 208 Miscellaneous Mycoses, 2106**
William J. Steinbach
- SECTION 22 Parasitic Diseases**
- 209 Classification and Nomenclature of Human Parasites, 2113**
Lynne S. Garcia
- SUBSECTION I Protozoa**
- 210 Amebiasis, 2118**
Shinjiro Hamano and William A. Petri Jr

- 211** *Blastocystis hominis* and *Blastocystis* spp. Infection, 2124
Peter J. Hotez
- 212** *Entamoeba coli* Infection, 2125
Peter J. Hotez
- 213** Giardiasis, 2126
Tina Q. Tan
- 214** *Dientamoeba fragilis* Infections, 2131
Damien Stark
- 215** *Trichomonas* Infections, 2133
Joan S. Purcell and Mariam R. Chacko
- 216** *Balantidium coli* Infection, 2138
Peter J. Hotez
- 217** Cryptosporidiosis, 2139
Poonum S. Korpe and A. Clinton White Jr
- 218** Cyclosporiasis, Cystoisosporiasis, and Microsporidiosis, 2145
Martin Montes, Seher Anjum, and A. Clinton White Jr
- 219** Babesiosis, 2151
Peter J. Krause
- 220** Malaria, 2156
Rosemary M. Olivero and Elizabeth D. Barnett
- 221** Leishmaniasis, 2178
Lynne S. Garcia
- 222** Trypanosomiasis, 2187
Louis V. Kirchhoff
- 223** *Naegleria*, *Acanthamoeba*, and *Balamuthia* Infections, 2199
Tina Q. Tan
- 224** Toxoplasmosis, 2208
Kenneth M. Boyer and Santhosh M. Nadipuram
- 225** *Pneumocystis* Pneumonia, 2224
Francis Gigliotti and Terry W. Wright
- SUBSECTION II Nematodes**
- 226** Parasitic Nematode Infections, 2229
Peter J. Hotez
- SUBSECTION III Cestodes**
- 227** Cestodes, 2242
Jose A. Serpa, Miguel M. Cabada, and A. Clinton White Jr
- SUBSECTION IV Trematodes**
- 228** Foodborne Trematodes, 2256
Miguel M. Cabada, Philip R. Fischer, and A. Clinton White Jr
- 229** Schistosomiasis, 2263
Philip R. Fischer and A. Clinton White Jr
- SUBSECTION V Arthropods**
- 230** Arthropods, 2270
Jan E. Drutz
- SECTION 23 Global Health**
- 231** Global Health, 2277
Holly E. McBride, Peter J. Hotez, and Gail J. Harrison
- 232** International Travel Issues for Children, 2287
Nava Yeganeh, Michelle Weinberg, Nicholas Weinberg, and Susan A. Maloney
- 233** Infectious Disease Considerations in International Adoptees and Refugees, 2308
Mary Allen Staat

PART IV Therapeutics

- 234** Antibiotic Resistance, 2320
Latania K. Logan, Jeffrey L. Blumer, and Philip Toltzis
- 235** The Pharmacokinetic-Pharmacodynamic Interface: Determinants of Antiinfective Drug Action and Efficacy in Pediatrics, 2339
Jennifer L. Goldman, Susan M. Abdel-Rahman, and Gregory L. Kearns
- 236** Antibacterial Therapeutic Agents, 2356
Ruston S. Taylor and Debra L. Palazzi
- 237** Antimicrobial Prophylaxis, 2399
Walter N. Dehority and Gary D. Overturf
- 238** Outpatient Intravenous Antimicrobial Therapy for Serious Infections, 2410
Alice L. Pong and John S. Bradley
- 239** Antiviral Agents, 2417
Gail J. Harrison
- 240** Antifungal Agents, 2437
Andreas H. Groll and Thomas J. Walsh
- 241** Drugs for Parasitic Infections, 2466
- 242** Immunomodulating Agents, 2492
Justin E. Caron, Harry R. Hill, and Timothy R. La Pine
- 243** Probiotics, 2504
Jonathan D. Crews

PART V Prevention of Infectious Diseases

- 244** Health Care–Associated Infections, 2514
W. Charles Huskins, Julia Shaklee Sammons, and Susan E. Coffin
- 245** Active Immunizing Agents, 2542
Penelope H. Dennehy, Ian C. Michelow, Michael P. Koster, Michael A. Smit, and Jerome Larkin
- 246** Passive Immunization, 2601
Danica J. Schulte

SECTION 24 Other Preventative Considerations

- 247** Public Health Aspects of Infectious Disease Control, 2633
Kathleen H. Harriman and Laurene Mascola
- 248** Infections in Out-of-Home Child Care, 2638
Sheryl L. Henderson and Ellen R. Wald
- 249** Animal and Human Bites, 2653
Morven S. Edwards
- 250** Bioterrorism, 2660
Robert J. Leggiadro

PART VI Approach to the Laboratory Diagnosis of Infectious Diseases

- 251** Bacterial Laboratory Diagnosis, 2666
Paula A. Revell and Lakshmi Chandramohan
- 252** Fungal Laboratory Analysis, 2671
David A. Bruckner
- 253** Viral Laboratory Diagnosis, 2674
Romney M. Humphries and Marjorie J. Miller
- 254** Parasitic Laboratory Diagnosis, 2690
David A. Bruckner and Robyn Shimizu-Cohen