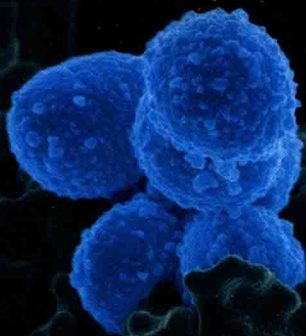


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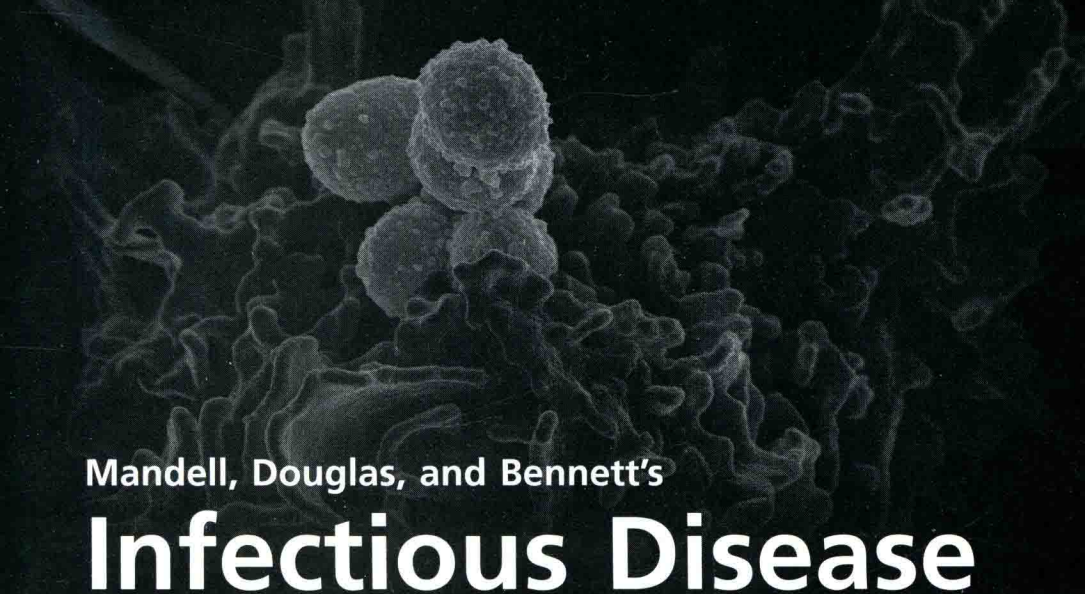


Mandell, Douglas, and Bennett's

Infectious Disease **ESSENTIALS**

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Mandell, Douglas, and Bennett's

Infectious Disease **ESSENTIALS**

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Infectious Disease **ESSENTIALS**

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Professor of Pediatrics, Columbia University College of Physicians and Surgeons, New York, New York
Rubella Virus (German Measles); Measles Virus (Rubeola)

Janet R. Gilsdorf, MD

Robert P. Kelch Research Professor of Pediatrics and Communicable Diseases, University of Michigan Medical School and C.S. Mott Children's Hospital, Ann Arbor, Michigan
Infections in Asplenic Patients

Ellie J. C. Goldstein, MD

Clinical Professor of Medicine, David Geffen School of Medicine at University of California, Los Angeles, California; Director, R.M. Alden Research Laboratory, Santa Monica, California
Bites

Fred M. Gordin, MD

Professor of Medicine, George Washington University School of Medicine; Chief, Infectious Diseases, Veterans Affairs Medical Center, Washington, DC
Mycobacterium avium Complex

Paul S. Gorman, MD

Professor of Medicine, University of Rochester School of Medicine and Dentistry; Attending Physician and Clinical Director, Infectious Diseases Division, Strong Memorial Hospital, Rochester, New York
Esophagitis

Patricia M. Griffin, MD

Chief, Enteric Diseases Epidemiology Branch, Division of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia
Foodborne Disease

Richard L. Guerrant, MD

Professor of Medicine, Infectious Diseases, and International Health, University of Virginia School of Medicine, Charlottesville, Virginia
Nausea, Vomiting, and Noninflammatory Diarrhea; Bacterial Inflammatory Enteritides

H. Cem Gul, MD

Department of Infectious Diseases and Microbiology, Gulhane Military Medical Academy, Ankara, Turkey
Brucella Species

David A. Haake, MD

Professor, Departments of Medicine, Urology, and Microbiology, Immunology, & Molecular Genetics, The David Geffen School of Medicine at UCLA; Staff Physician, Department of Medicine, Division of Infectious Diseases, The Veterans Affairs Greater Los Angeles Healthcare System, Los Angeles, California
Leptospira Species (Leptospirosis)

David W. Haas, MD

Professor of Medicine, Pharmacology, Pathology, Microbiology, and Immunology, Vanderbilt University School of Medicine, Nashville, Tennessee
Mycobacterium tuberculosis

Charles Haines, MD, PhD

Division of Infectious Diseases, Johns Hopkins University School of Medicine, Baltimore, Maryland
Gastrointestinal, Hepatobiliary, and Pancreatic Manifestations of Human Immunodeficiency Virus Infection

Caroline Breese Hall, MD[†]

Professor of Pediatrics and Medicine, University of Rochester School of Medicine and Dentistry, Rochester, New York
Respiratory Syncytial Virus (RSV)

Joelle Hallak, BS, MS

Research Assistant, Department of Ophthalmology and Visual Science, University of Illinois at Chicago, Chicago, Illinois
Microbial Keratitis

Scott A. Halperin, MD

Professor, Departments of Pediatrics and Microbiology & Immunology, Director, Canadian Center for Vaccinology, Dalhousie University; Head, Pediatric Infectious Diseases, IWK Health Centre, Halifax, Nova Scotia, Canada
Bordetella pertussis

Margaret R. Hammerschlag, MD

Professor of Pediatrics and Medicine, State University of New York Downstate College of Medicine; Director, Division of Pediatric Infectious Diseases, State University of New York Downstate Medical Center, Brooklyn, New York
Chlamydia pneumoniae

[†]Deceased.

Rashidul Haque, MD

Scientist and Head of Parasitology Laboratory, Laboratory Sciences Division, International Centre for Diarrhoeal Disease Research, Bangladesh, Dhaka, Bangladesh
Entamoeba Species, Including Amebic Colitis and Liver Abscess

Jason B. Harris, MD, MPH

Assistant Professor of Pediatrics, Harvard Medical School; Division of Infectious Diseases, MassGeneral Hospital for Children, Boston, Massachusetts
 Enteric Fever and Other Causes of Fever and Abdominal Symptoms

Claudia Hawkins, MD, MPH

Assistant Professor, Department of Medicine, Division of Infectious Diseases, Northwestern University Feinberg School of Medicine, Chicago, Illinois
 Hepatitis B Virus and Hepatitis Delta Virus

Roderick J. Hay, DM

Professor of Cutaneous Infection, Department of Dermatology (KCH Campus), Kings College London, London, United Kingdom
 Dermatophytosis (Ringworm) and Other Superficial Mycoses

David K. Henderson, MD

Deputy Director for Clinical Care, Clinical Center, National Institutes of Health, Bethesda, Maryland
 Infections Caused by Percutaneous Intravascular Devices; Human Immunodeficiency Virus in Health Care Settings; Nosocomial Herpesvirus Infections

David R. Hill, MD, DTM&H

Professor, Department of Medical Sciences, Director, Global Public Health, Frank H. Netter MD School of Medicine, Quinnipiac University, Hamden, Connecticut
Giardia lamblia

Martin S. Hirsch, MD

Professor of Medicine, Harvard Medical School; Professor of Infectious Diseases and Immunology, Harvard School of Public Health; Senior Physician, Infectious Diseases Service, Massachusetts General Hospital, Boston, Massachusetts
 Antiretroviral Therapy for Human Immunodeficiency Virus Infection

Aimee Hodowanec, MD

Assistant Professor, Department of Medicine, Division of Infectious Diseases, Rush University Medical Center, Chicago, Illinois
 Tetanus (*Clostridium tetani*); Botulism (*Clostridium botulinum*)

Robert S. Holzman, MD

Professor Emeritus of Medicine, Department of Medicine, Division of Infectious Diseases and Immunology, New York University School of Medicine, New York, New York
Mycoplasma pneumoniae and Atypical Pneumonia

Edward W. Hook III, MD

Professor and Director, Division of Infectious Diseases, University of Alabama at Birmingham, Birmingham, Alabama
 Endemic Treponematoses

Thomas M. Hooton, MD

Professor of Clinical Medicine, Department of Medicine, Clinical Director, Division of Infectious Diseases, University of Miami Miller School of Medicine; Chief of Medicine, Miami Veterans Affairs Healthcare System, Miami, Florida
 Nosocomial Urinary Tract Infections

Harold W. Horowitz, MD

Professor of Medicine, Infectious Diseases and Immunology, Department of Medicine, New York University School of Medicine; Chief of Service Infectious Diseases, Bellevue Hospital Center, New York, New York
 Acute Exacerbations of Chronic Obstructive Pulmonary Disease

C. Robert Horsburgh, Jr., MD, MSc

Professor of Epidemiology, Biostatistics, and Medicine, Boston University Schools of Public Health and Medicine, Boston, Massachusetts
Mycobacterium avium Complex

James M. Horton, MD

Chief, Division of Infectious Diseases, Department of Internal Medicine, Carolinas Medical Center, Charlotte, North Carolina
 Relapsing Fever Caused by *Borrelia* Species

Duane R. Hoshenthal, MD, PhD

Adjunct Professor of Medicine, Department of Medicine, Infectious Disease Division, University of Texas Health Science Center at San Antonio, San Antonio, Texas
 Agents of Chromoblastomycosis; Agents of Mycetoma; Uncommon Fungi and Related Species

Nicole M. Iovine, MD, PhD

Assistant Professor of Medicine, Director, Antimicrobial Stewardship Program, Department of Medicine, Division of Infectious Diseases and Global Medicine, University of Florida School of Medicine, Gainesville, Florida
Campylobacter jejuni and Related Species

Jonathan R. Iredell, MBBS, PhD

Associate Professor, University of Sydney Faculty of Medicine, Sydney, New South Wales, Australia; Director, Department of Infectious Diseases, Centre for Infectious Diseases and Microbiology, Westmead Hospital, Westmead, New South Wales, Australia
Nocardia Species

Michael G. Ison, MD, MS

Associate Professor, Divisions of Infectious Diseases and Organ Transplantation, Northwestern University Feinberg School of Medicine, Chicago, Illinois
Parainfluenza Viruses

J. Michael Janda, PhD, D(ABMM)

Laboratory Director, Public Health Laboratory, Department of Public Health, County of Los Angeles, Downey, California
Capnocytophaga

Edward N. Janoff, MD

Professor of Medicine, Microbiology, and Immunology, Departments of Medicine and Infectious Diseases, University of Colorado Denver, Aurora, Colorado; Director, Mucosal and Vaccine Research Center, Denver Veterans Affairs Medical Center, Denver, Colorado
Streptococcus pneumoniae

Eric C. Johannsen, MD

Assistant Professor of Medicine, University of Wisconsin School of Medicine and Public Health; Physician, Division of Infectious Diseases, University of Wisconsin Hospitals and Clinics, Madison, Wisconsin
Epstein-Barr Virus (Infectious Mononucleosis, Epstein-Barr Virus–Associated Malignant Diseases, and Other Diseases)

Donald Kaye, MD

Professor of Medicine, Drexel University College of Medicine, Philadelphia, Pennsylvania
Urinary Tract Infections

Kenneth M. Kaye, MD

Associate Professor, Department of Medicine, Harvard Medical School; Attending Physician, Division of Infectious Diseases, Brigham and Women's Hospital, Boston, Massachusetts
Epstein-Barr Virus (Infectious Mononucleosis, Epstein-Barr Virus–Associated Malignant Diseases, and Other Diseases); Kaposi's Sarcoma–Associated Herpesvirus (Human Herpesvirus 8)

James W. Kazura, MD

Professor of International Health, Center for Global Health and Diseases, Case Western Reserve University School of Medicine, Cleveland, Ohio
Tissue Nematodes (Trichinellosis, Dracunculiasis, Filariasis, Loiasis, and Onchocerciasis)

Jay S. Keystone, MD, MSc (CTM)

Professor of Medicine, University of Toronto; Senior Staff Physician, Tropical Disease Unit, Toronto General Hospital, Toronto, Canada
Cyclospora cayetanensis, Cystoisospora (Isospora) belli, Sarcocystis Species, Balantidium coli, and Blastocystis Species

Yury Khudyakov, PhD

Division of Viral Hepatitis, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Centers for Disease Control and Prevention, Atlanta, Georgia
Hepatitis A Virus

Rose Kim, MD

Associate Professor of Medicine, Division of Infectious Diseases, Cooper Medical School of Rowan University, Cooper University Hospital, Camden, New Jersey
Other Coryneform Bacteria and Rhodococci

Charles H. King, MD

Professor of International Health, Center for Global Health and Diseases, Case Western Reserve University, Cleveland, Ohio
Tapeworms (Cestodes)

Louis V. Kirchhoff, MD, MPH

Professor of Internal Medicine, University of Iowa; Staff Physician, Medical Service, Department of Veterans Affairs Medical Center, Iowa City, Iowa; Professor of Medicine, State University of New York Upstate Medical University, Syracuse, New York
Trypanosoma Species (American Trypanosomiasis, Chagas' Disease): Biology of Trypanosomes; Agents of African Trypanosomiasis (Sleeping Sickness)

Jerome O. Klein, MD

Professor, Department of Pediatrics, Boston University School of Medicine; Former Director, Division of Pediatric Infectious Diseases, Boston Medical Center, Boston, Massachusetts
Otitis Externa, Otitis Media, and Mastoiditis

Michael Klompas, MD, MPH

Associate Professor of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute; Associate Hospital Epidemiologist, Brigham and Women's Hospital, Boston, Massachusetts
Nosocomial Pneumonia

Bettina M. Knoll, MD, PhD

Assistant Professor of Medicine, Warren Alpert Medical School of Brown University; Physician, Miriam Hospital and Rhode Island Hospital, Providence, Rhode Island
Prosthetic Valve Endocarditis

Kirk U. Knowlton, MD

Professor of Medicine, Chief of Cardiology,
University of California San Diego School of
Medicine, La Jolla, California
Myocarditis and Pericarditis

Jane E. Koehler, MA, MD

Professor of Medicine, Division of Infectious
Diseases, University of California San Francisco,
San Francisco, California
Bartonella, Including Cat-Scratch Disease

Stephan A. Kohlhoff, MD

Assistant Professor of Pediatrics and Medicine,
State University of New York Downstate College
of Medicine; Co-Director, Division of Pediatric
Infectious Diseases, State University of New York
Downstate Medical Center, Brooklyn, New York
Chlamydia pneumoniae

Dimitrios P. Kontoyiannis, MD

Frances King Black Endowed Professor,
Department of Infectious Diseases, Deputy Head,
Division of Internal Medicine, University of Texas
MD Anderson Cancer Center, Houston, Texas
*Agents of Mucormycosis and
Entomophthoromycosis*

Igor J. Koralnik, MD

Professor of Neurology, Harvard Medical School;
Chief, Division of Neuro-Virology, Director,
HIV/Neurology Center, Beth Israel Deaconess
Medical Center, Boston, Massachusetts
*JC, BK, and Other Polyomaviruses: Progressive
Multifocal Leukoencephalopathy (PML)*

Anita A. Koshy, MD

Assistant Professor, Departments of Neurology
and Immunobiology, University of Arizona,
Tucson, Arizona
Free-Living Amebae

Joseph A. Kovacs, MD

Senior Investigator, Head, AIDS Section, Critical
Care Medicine Department, National Institute of
Health Clinical Center, Bethesda, Maryland
Toxoplasma gondii

Phyllis Kozarsky, MD

Professor of Medicine, Division of Infectious
Diseases, Emory University School of Medicine;
Medical Director, TravelWell, Emory University
Hospital, Atlanta, Georgia
*Cyclospora cayentanensis, Cystoisospora (Isospora)
belli, Sarcocystis Species, Balantidium coli, and
Blastocystis Species*

John Krieger, MD

Professor, Department of Urology, University of
Washington; Chief, Urology Section, Veterans
Affairs Puget Sound Health Care System, Seattle,
Washington
Prostatitis, Epididymitis, and Orchitis

Matthew J. Kuehnert, MD

Director, Office of Blood, Organ, and Other
Tissue Safety, Division of Healthcare Quality
Promotion, Centers for Disease Control and
Prevention, Atlanta, Georgia
*Transfusion- and Transplantation-Transmitted
Infections*

Nalin M. Kumar, DPhil

Professor, Department of Ophthalmology and
Visual Sciences, College of Medicine, University
of Illinois at Chicago, Chicago, Illinois
Microbial Conjunctivitis

Paul N. Levett, PhD, DSc

Assistant Clinical Director, Saskatchewan Disease
Control Laboratory, Regina, Saskatchewan,
Canada
Leptospira Species (Leptospirosis)

Donald P. Levine, MD

Professor of Medicine, Associate Vice Chair for
Continuing Medical Education and Community
Affairs, Department of Medicine, Wayne State
University, Detroit, Michigan
Infections in Injection Drug Users

Matthew E. Levison, MD

Professor of Public Health, Drexel University
School of Public Health; Adjunct Professor of
Medicine, Drexel University College of Medicine,
Philadelphia, Pennsylvania
Peritonitis and Intraperitoneal Abscesses

Russell E. Lewis, PharmD

Associate Professor, Department of Medical
Sciences and Surgery, University of Bologna
Infectious Diseases Unit, S. Orsola Malpighi
Hospital, Bologna, Italy
*Agents of Mucormycosis and
Entomophthoromycosis*

Aldo A. M. Lima, MD, PhD

Professor, Institute of Biomedicine, Federal
University of Ceara, Fortaleza, Ceará, Brazil
Bacterial Inflammatory Enteritides

Ajit P. Limaye, MD

Professor, Division of Allergy and Infectious
Diseases, University of Washington School of
Medicine, Seattle, Washington
Infections in Solid-Organ Transplant Recipients

W. Ian Lipkin, MD

Director, Center for Infection and Immunity,
Mailman School of Public Health, Columbia
University, New York, New York
Zoonoses

Nathan Litman, MD

Professor of Pediatrics, Albert Einstein College of Medicine; Vice Chair, Clinical Affairs, Department of Pediatrics, Chief, Division of Pediatric Infectious Diseases, Children's Hospital at Montefiore, Bronx, New York
Mumps Virus

Bennett Lorber, MD, DSc (Hon)

Thomas M. Durant Professor of Medicine, Professor of Microbiology and Immunology, Temple University School of Medicine, Philadelphia, Pennsylvania
Bacterial Lung Abscess; Listeria monocytogenes

Rob Roy MacGregor, MD

Professor, Department of Medicine, Division of Infectious Diseases, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania
Corynebacterium diphtheriae (Diphtheria)

Philip A. Mackowiak, MD, MBA

Professor and Vice Chairman, Department of Medicine, University of Maryland School of Medicine; Chief, Medical Care Clinical Center, Veterans Affairs Maryland Health Care System, Baltimore, Maryland
Fever of Unknown Origin

Lawrence C. Madoff, MD

Professor of Medicine, University of Massachusetts Medical School; Director, Division of Epidemiology and Immunization, Massachusetts Department of Public Health; Division of Infectious Disease and Immunology, University of Massachusetts Memorial Medical Center, Worcester, Massachusetts
Infections of the Liver and Biliary System (Liver Abscess, Cholangitis, Cholecystitis); *Splenic Abscess*

Alan J. Magill, MD

Director, Malaria, Bill and Melinda Gates Foundation, Seattle, Washington
Leishmania Species: Visceral (Kala-Azar), Cutaneous, and Mucosal Leishmaniasis

James H. Maguire, MD, MPH

Professor of Medicine, Harvard Medical School; Senior Physician, Division of Infectious Disease, Brigham and Women's Hospital, Boston, Massachusetts
Intestinal Nematodes (Roundworms); *Trematodes* (Schistosomes and Liver, Intestinal, and Lung Flukes)

Frank Maldarelli, MD, PhD

Head, Clinical Retrovirology Section, HIV Drug Resistance Program, National Cancer Institute—Frederick, National Institutes of Health, Frederick, Maryland
Diagnosis of Human Immunodeficiency Virus Infection

Lewis Markoff, MD

Chief, Laboratory of Vector-Borne Virus Diseases, Office of Vaccines, Center for Biologics Evaluation and Research, U.S. Food and Drug Administration, Bethesda, Maryland
Alphaviruses

Jeanne M. Marrazzo, MD, MPH

Associate Professor of Medicine, Division of Allergy and Infectious Diseases, University of Washington School of Medicine, Seattle, Washington
Neisseria gonorrhoeae (Gonorrhea)

Thomas J. Marrie, MD

Dean, Faculty of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada
Coxiella burnetii (Q Fever)

Thomas Marth, MD

Professor of Internal Medicine, Chief, Division of Internal Medicine, Krankenhaus Maria Hilf, Daun, Germany
Whipple's Disease

David H. Martin, MD

Harry E. Dascomb, M.D., Professor of Medicine, Department of Internal Medicine, Professor of Microbiology, Immunology, and Parasitology, Louisiana State University Health Sciences Center, New Orleans, Louisiana
Genital Mycoplasmas: Mycoplasma genitalium, Mycoplasma hominis, and Ureaplasma Species

Gregory J. Martin, MD

Chief, Infectious Diseases—Tropical Medicine, Office of Medical Services, U.S. Department of State, Washington, DC; Associate Professor of Medicine and Preventive Medicine and Biometrics, Uniformed Services University of the Health Sciences, Bethesda, Maryland
Bacillus anthracis (Anthrax)

Francisco M. Marty, MD

Associate Professor of Medicine, Department of Medicine, Harvard Medical School; Brigham and Women's Hospital, Boston, Massachusetts
Cystic Fibrosis

Henry Masur, MD

Chief, Critical Care Medicine Department, Clinical Center, National Institutes of Health, Bethesda, Maryland
Management of Opportunistic Infections Associated with Human Immunodeficiency Virus Infection

John T. McBride, MD

Professor of Pediatrics, Northeast Ohio Medical University, Rootstown, Ohio; Vice Chair, Department of Pediatrics, Akron Children's Hospital, Akron, Ohio
Croup in Children (Acute Laryngotracheobronchitis); Bronchiolitis

William M. McCormack, MD

Distinguished Teaching Professor of Medicine and of Obstetrics and Gynecology, Emeritus, Division of Infectious Diseases, Department of Medicine, SUNY Downstate Medical Center, Brooklyn, New York
Urethritis; Vulvovaginitis and Cervicitis

Catherine C. McGowan, MD

Associate Professor, Department of Medicine, Division of Infectious Diseases, Vanderbilt University School of Medicine, Nashville, Tennessee
Prostatitis, Epididymitis, and Orchitis

Kenneth McIntosh, MD

Professor of Pediatrics, Harvard Medical School; Senior Physician, Department of Medicine, Children's Hospital, Boston, Massachusetts
Coronaviruses, Including Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS)

Paul S. Mead, MD, MPH

Chief, Epidemiology and Surveillance Activity, Bacterial Disease Branch, National Center for Zoonotic, Vector-Borne, and Enteric Diseases, Centers for Disease Control and Prevention, Fort Collins, Colorado
Yersinia Species (Including Plague)

Malgorzata Mikulska, MD

Division of Infectious Diseases, IRCCS AOU San Martino-IST; Department of Health Sciences, University of Genova, Genova, Italy
Prophylaxis and Empirical Therapy of Infection in Cancer Patients

Robert F. Miller, MBBS

Reader in Clinical Infection, Honorary Professor, London School of Hygiene and Tropical Medicine; Honorary Consultant Physician, Camden Provider Services, Central and North West London NHS Foundation Trust, and at University College London Hospitals, University College London, London, United Kingdom
Pneumocystis Species

Samuel I. Miller, MD

Professor of Medicine, Microbiology, Genome Sciences, and Immunology, Department of Immunology, University of Washington School of Medicine, Seattle, Washington
Salmonella Species

David H. Mitchell, MBBS

Clinical Senior Lecturer, University of Sydney Faculty of Medicine, Sydney, New South Wales, Australia; Senior Staff Specialist, Centre for Infectious Diseases and Microbiology, Westmead Hospital, Westmead, New South Wales, Australia
Nocardia Species

John F. Modlin, MD

Professor of Pediatrics and Medicine, Chair, Department of Pediatrics, Senior Advising Dean, Geisel School of Medicine at Dartmouth; Interim Director, Children's Hospital at Dartmouth, Lebanon, New Hampshire
Poliovirus; Coxsackieviruses, Echoviruses, and Numbered Enteroviruses; Human Parechoviruses

Rajal K. Mody, MD, MPH

Lead, National Surveillance Team, Enteric Diseases Epidemiology Branch, Division of Foodborne, Waterborne, and Environmental Diseases, National Center for Emerging and Zoonotic Diseases, Centers for Disease Control and Prevention, Atlanta, Georgia
Foodborne Disease

José G. Montoya, MD

Professor of Medicine, Division of Infectious Diseases and Geographic Medicine, Stanford University School of Medicine, Stanford, California
Toxoplasma gondii

Philippe Moreillon, MD, PhD

Professor and Vice Rector for Research, Department of Fundamental Microbiology, University of Lausanne, Lausanne, Switzerland
Staphylococcus aureus (Including Staphylococcal Toxic Shock Syndrome)

J. Glenn Morris, Jr., MD, MPH&TM

Director, Emerging Pathogens Institute, University of Florida; Professor of Medicine, Division of Infectious Diseases, University of Florida College of Medicine, Gainesville, Florida
Human Illness Associated with Harmful Algal Blooms

Robert S. Munford, MD

Senior Clinician, Laboratory of Clinical Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland
Sepsis, Severe Sepsis, and Septic Shock