Foodborne Pathogens: Microbiology and Molecular Biology

Pina M. Fratamico, Arun K. Bhunia, and James L. Smith, editors

ISBN: 1-9044550-00-X
Pages: 453; Price: US $299.00

Foodborne pathogens can create a considerable amount of work at state and local health departments. Between foodborne outbreaks, restaurant inspections, environmental testing, botulism reports, customer complaints, and confirmation of isolates referred for testing, many health department resources are directed toward these pathogens and preventing illness from them. Moreover, the mass media are increasingly interested in food safety, particularly after large, multistate outbreaks caused by Escherichia coli O157:H7 and Salmonella, among other pathogens, and increasing public interest in raw and unpasteurized foods that are perceived as more natural or healthy. The audience for Foodborne Pathogens: Microbiology and Molecular Biology appears to be public health practitioners working on epidemiologic, environmental, and laboratory aspects of foodborne illness.

One of the book’s strengths is that it attempts to include reference material on epidemiology and on the molecular and microbiologic aspects of the various pathogens. However, as the title suggests, the emphasis is on molecular and microbiologic aspects, and much of the information is extremely technical and primarily for the laboratory scientist. The book includes a range of food pathogens, from bacteria and viruses to mycotoxins. The primary omission is bovine spongiform encephalopathy. Chronic wasting disease is included briefly in a chapter on potential food pathogens, which makes the omission of bovine spongiform encephalopathy all the more striking.

In addition to separate chapters on individual pathogens or groups of pathogens, the book covers laboratory issues, including animal and cell culture models, molecular approaches for detection, and stress responses of foodborne pathogens. Other chapters are based on more sensational topics, such as bioterrorism and food, although this chapter discusses the subject in general terms. In a chapter on biosensor-based detection of foodborne pathogens, the authors conclude, not convincingly, that biosensors will soon be as widespread as glucose kits and home pregnancy tests.

Overall, the book is a good reference for health departments, especially the chapters on individual pathogens. However, the book could have used stronger editorial oversight. Books like this one, in which experts in highly specialized fields are each invited to write a chapter, will by their very nature lack an overriding point-of-view, but at the very least, the book should have had a strong introduction to put the content in context.

A large number of pathogens have emerged or been identified in the past 30 years, and a great deal of media attention is given to food-related illness. This book appears to be aimed at industrialized countries, despite the perception that the food supply in these countries is safe. Because much food is imported and exported throughout the world, including to and from industrialized nations, some basic discussion of the extent of foodborne illness in different parts of the world, and the resulting risk to the overall food supply, would have helped to frame the need for the book and the resources many health departments are putting toward foodborne illness.

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L.K. Pickering, editor; C.J. Baker, S.S. Long, and J.A. McMillan, associate editors

ISBN: 1-58110-207-0
Pages: 992; Price: US $124.95

The 27th edition of the 2006 Report of the American Academy of Pediatrics (AAP) Committee on Infectious Diseases, known to most clinicians as “The Red Book,” is considered the “Bible” of pediatric infectious diseases. In addition to providing an updated and exhaustive summary of the clinical manifestations, etiology, epidemiology, diagnostic tests, treatment, isolation, and control measures for >200 pediatric infectious diseases, this reference discusses a number of related topics, including management. With >350 liaisons and collaborators from the Centers for Disease Control
and Prevention, the Food and Drug Administration, the National Institutes of Health, the Canadian Paediatric Society, the World Health Organization, and others, the 12-member 2004–2006 Committee on Infectious Diseases issued the current edition, which reflects the state of the art at the time of publication and is updated every 3 years.

The Red Book began as an 8-page mimeographed report assembled in 1937 by the Committee on Immunization and Therapeutic Procedures for Acute Infectious Diseases (currently the Committee on Infectious Diseases) and titled “Immunization Procedures.” A revision issued in 1938 in pamphlet form was actively sought, and annual issues became more comprehensive, with the addition of 76 pages reflecting the increase in therapeutic antimicrobial drug options in the ensuing 10 years.

The current 992-page 27th edition has newly added sections, including key developments in combination vaccines, the 2006 AAP standards for child and adolescent immunization practices, parental refusal to vaccinate, updates on prevention of mosquitoborne infections, and updated information on emerging infectious diseases and pathogens, including Baylisascaris, metapneumovirus, West Nile virus, coronaviruses, pertussis, tuberculosis, and pneumococcal, meningococcal, and varicella infections. Expanded discussions of drug interactions as well as the revised American Heart Association recommendations for the prevention of bacterial endocarditis are presented. Many website resources have been added throughout the text to provide the reader with links to expanded information about the topic.

The text is organized into 5 sections with a comprehensive list of appendices. Section 1 reviews active and passive immunization and provides a practical discussion of numerous aspects of vaccine administration, including vaccine shortages, reporting of vaccine-preventable diseases, and parental misconceptions about vaccinations. Section 2 provides recommendations for care of children in special circumstances, including the topic areas of biological terrorism, children in out-of-home child care, infection control, and medical evaluation of internationally adopted children. This section serves as a comprehensive resource for both general and infectious diseases pediatricians. The 3rd section, an alphabetical summary of infectious diseases, comprises the bulk of the text. Sections 4 and 5 address the expanding category of antimicrobial agents, therapy, and prophylaxis, including guidelines and indications for their appropriate use.

The area of infectious diseases is rapidly emerging and changing, so the guidelines presented in the current edition may have undergone updating and revision following publication. Therefore, readers are urged to monitor updated recommendations issued by the Committee on Infectious Diseases on the Red Book Online website (http://www.aapredbook.org). This site also lists errata from the current edition and allows readers to register to be notified when new errata are posted, when new policy statements are issued, and when site updates and new features are added. Readers may also register for a customized citation/keyword alert.

The 27th edition of the Red Book is a vital resource for adult and pediatric infectious disease practitioners as well as general practitioners and is considered by many the quintessential resource and reference for clinical practice.

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