Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 6th Edition

Edited by Gerald L. Mandell, John E. Bennett, and Raphael Dolin

Philadelphia: Elsevier Churchill Livingstone, 2005.
3661 pp., illustrated. $329 (cloth).

For >25 years, *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases* has been the standard against which all other textbooks in the field have been compared. The sixth edition of this outstanding book has upheld its previous standards while improving its presentation of material, both written and graphic. The book is accompanied by a CD-ROM that includes all of the illustrations, organized by chapter, contained in the cloth edition of the book, as well as Internet access to the online edition. The book is organized into the following 4 sections: basic principles of diagnosis and management; major clinical syndromes; pathogens and special problems, such as nosocomial infections; and travel-related illness.

In evaluating a textbook, the most important points to consider are its currency, authoritativeness, thoroughness, presentation, and practical utility. Producing a comprehensive textbook about infectious diseases posed several unique challenges. In the years since the previous edition, the world has been confronted with novel infections, the newly recognized threat of bioterrorism, and a variety of other emerging threats. The editors and authors have met this challenge remarkably well. A brief illustration of the currency of information is the discussion of severe acute respiratory syndrome. In elegant fashion, the chapter authors review the brief history of this infection from a clinical and virological standpoint by addressing its clinical manifestations, diagnosis, therapy, epidemiology, and molecular biology in the context of other coronavirus infections, citing numerous references published as recently as late 2003.

The authoritative nature of the information presented is impressive. The book has undergone a complete revision since the previous edition, and the nearly 400 authors include most of the leaders in the field of infectious diseases in the United States.

As indicated by the organization of the book, material is presented from a variety of perspectives. This contributes to the thoroughness of the discussion of individual organisms and clinical scenarios. Although this organization would ordinarily lend itself to contradictions between chapters by various authors, I found no substantial examples of conflicting information.

The presentation of material has been improved by the introduction of color and the inclusion of >1200 illustrations. The quality of the writing is almost uniformly lucid and well focused.

The practical utility of this book cannot be overstated. I purposely prepared this review during a month that I served as the supervising attending physician on a busy infectious diseases consultation service. The information and insights needed in making clinical judgements and in teaching fellows, residents, and students during this month were virtually all well covered and convenient to locate in this book. When I reviewed the previous edition, I felt that more space could have been devoted to travel-related infections. The current edition has expanded the treatment of this topic and includes an excellent, well constructed and timely discussion.

Is this book perfect? No. The challenges of publication deadlines and the steady flow of new information has made textbook writing an extremely difficult task. Nuances of rare infections are not always fully covered. Advances in diagnostic and therapeutic strategies continue and frustrate even the most diligent authors in their efforts to keep their written material current. The predominance of US-based authors might have introduced subtle biases. Nonetheless, *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, 6th Edition,* is the finest medical textbook I have owned in any area of medicine during my 30-year career. It is indispensable for the practicing infectious diseases consultant and belongs in the library of every trainee in our field. Practitioners of many other disciplines, such as microbiology, immunology, oncology, pulmonology, critical care, and general internal medicine, among others, would also find great value in this book, and the current edition belongs in every medical school and university library. It is simply a masterpiece.

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Molecular Epidemiology of Infectious Diseases: Principles and Practices

By Lee A. Riley

Washington, DC: ASM Press, 2004.
350 pp. $99.95 (cloth)

Since the inception of molecular epidemiology, its practitioners have been a diverse group, because the field draws individuals from a variety of intersecting

professions, including epidemiologists, molecular biologists, infectious diseases clinicians, and public health practitioners. Few participants bring all of the required skill sets with them to the endeavor. This ambitious text seeks to address this issue by providing a single source of information that can be referenced by researchers and professionals with diverse backgrounds who share a common interest in the molecular epidemiology of infectious diseases.

The text is mainly intended for health care professionals working in the area of infectious diseases and faculty and students in medical schools and schools of public health interested in infectious diseases epidemiology. Although rudimentary knowledge of epidemiology or molecular biology would be of great use, epidemiologists not familiar with molecular biology, molecular microbiologists not familiar with epidemiology, and clinicians not familiar with either epidemiology or molecular biology will all find discussions of relevant concepts in appropriate sections of the text.

The text is well organized and builds on information presented in preceding chapters in an engaging but methodical manner. The first chapter provides a definition of molecular epidemiology and introduces some of the epidemiologic problems that can be addressed by molecular strain-typing techniques. It simultaneously sets the tone for the text by carefully examining epidemiologic principles and molecular tools and their dependent interrelationships. Discussion includes the selection of molecular tools for types of investigation and the need for validating molecular tools before use. The next 3 chapters present a very well organized and concise introduction to the methods of molecular strain typing and to the types of analyses used to determine similarity and relatedness among typed isolates. Once again, epidemiologic principles are introduced and incorporated into the discussion. Chapters 5 and 6 drive home an appreciation of the unique applications of molecular epidemiology by highlighting a number of examples in which the ability to characterize pathogens as individual strains or clones by means of molecular techniques led to the identification of the transmission dynamics of infectious diseases (a difficult or impossible task using conventional laboratory and epidemiologic approaches) and the creation of a variety of epidemiologic cluster analyses. Chapters 7, 8, and 9 present examples of strain-typing analysis performed in the context of a well-designed epidemiologic investigation to identify pathovar groups and newly emerging pathovar strains. Chapters 10 and 11 address the use of strain-typing techniques in infection control, and chapter 12 concludes with examples in which strain-typing techniques have been used to uncover new genes that explain the distinct epidemiologic behavior of a pathogen.

Although this is an excellent textbook overall, there are some minor shortcomings worth noting. First, every investigation in the book focuses on bacterial pathogens or isolates. Although the examples are adequate to support the discussion, inclusion of sections about viral, fungal, and parasitic organisms might provide a better appreciation of the breadth of the applications of molecular epidemiology and allow for the introduction of a discussion of the genetics of and typing approaches for eukaryotic organisms. Second, 3 chapters of text are devoted to investigations used to distinguish pathovars from nonpathovars. The section could be consolidated without sacrificing content. This would allow an expansion of the discussion of strain-typing techniques, which, although well organized and concise, may be somewhat spartan for someone without a strong background in this area. The text might benefit from a discussion of the development of new approaches to strain typing based on increasingly sensitive techniques, the use of profiling (e.g., harvesting results from multiple strain-typing tools), and a comparative summary of various techniques of strain typing that incorporates topics such as ease of preparation, cost, and required training.

A search of any library will quickly identify that, other than the present text, no existing textbook addresses molecular epidemiologic principles of infectious diseases. This text ably fills the void and is certain to be a valuable reference tool for everyone involved in the field. It successfully provides a common ground for training investigators with diverse backgrounds who are attracted to molecular epidemiology. The text also strongly demonstrates the unique research achievements provided by molecular epidemiology, which neither classical epidemiologic or molecular approaches alone can offer. The book is well organized, thoughtful in its approach, and well suited for use as a textbook. In short, it is an excellent book and a wonderful contribution to the field of molecular epidemiology.

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New Books Received

1. Lorian V. Antibiotics in Laboratory Medicine, 5th Edition. Philadelphia, PA: Lippincott, Williams & Wilkins, 2005. 832 pp. $199.00. ISBN: 0-7817-4983-2.

2. Power C, Johnson RT. Emerging Neurological Infections. Boca Raton, FL: Taylor & Francis, 2005. 526 pp. $199.95. ISBN: 0-8247-5423-9.