

diograph or computed tomography. An excellent figure shows a chest radiograph of a patient with advanced bullous disease, beside a remarkable computed tomogram of a similar patient with severe emphysema. The second diagnosis method is lung-function assessment via spirometry and measurement of gas transfer, diffusing capacity, and arterial blood gases. Although published in 2008, the book refers back to the 2005 and earlier Global Initiative for Chronic Obstructive Lung Disease (GOLD, <http://www.goldcopd.com>) guidelines for staging, including "Stage 0: At Risk," which was dropped in the 2006 and 2007 versions of the GOLD guidelines.

Chapter 7 looks at COPD management. It begins with the socioeconomic and psychological costs, followed by COPD treatment. A table nicely summarizes COPD treatment, and the text elaborates on measures that can improve the quality and duration of life. There is a nice section on prevention, but it lacks the clarity and profundity of the GOLD guidelines, which loudly proclaim the centrality of COPD prevention.

Chapter 8 provides a 3-page perspective on what it means to have COPD in a world that still largely overlooks its impact. To make the point it includes 2 newspaper excerpts: one on the battle against cancer; the other on the formation of a support group for COPD patients. Although cancer and COPD kill roughly the same number of citizens in the United Kingdom each year, the tone of the pieces is dramatically different. The book concludes with an upbeat look at cutting-edge research on COPD treatment.

This book provides a very easy read, with some interesting side trails and elaborations. It meets its objective of providing an insightful overview of COPD and its impact on individuals and society. A non-health-professional or a first-year university student would find this book a useful introduction to COPD. For the clinician with more than cursory knowledge of pulmonary anatomy, physiology and pathophysiology, this book would at best provide light reading.

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Infection Prevention and Control: Theory and Practice for Healthcare Professionals. Debbie Weston. West Sussex, United Kingdom: John Wiley & Sons. 2008. Soft cover, illustrated, 348 pages, \$60.

This book is quite timely, given the increased media and public scrutiny on health-care-associated infections. The foreword sets the stage as it informs the reader that in developed nations 5–10% of in-patients get health-care-associated infections, which have enormous costs to health-care systems. Many of these infections are preventable with basic infection-control principles.

The book is organized into 2 parts. The first part has 8 chapters and gives a historical perspective on infection control by looking at past epidemics, and then discusses the modern problem of health-care-associated infections in more detail. It is important to note that the book focuses primarily on the United Kingdom's health-care system, and readers who are not familiar with that system may have difficulty following some of the text. However, the basic principles are the same for all readers, so the book does not lose its relevance.

Chapter 2 provides a basic overview of microbiology and is a good review for those with limited exposure to this topic. Notably missing is a description of fungal organisms, particularly *Candida* species, which are important causes of health-care-associated infections. Chapters 3 and 4 provide an adequate review of the collection and processing of specimens used to diagnose infections, but a few statements are not quite correct. For instance, regarding blood-culture collection, the author states that circulating bacteria in the blood are at their highest level when the patient is febrile, but we now know that is not the case: bacteria level is highest just prior to fever onset. Also, the author states that *Staphylococcus aureus* can be a contaminant in blood cultures, which is generally considered untrue. With regard to specimen processing there is no mention of automated systems for identifying or susceptibility-testing bacteria, which are now used in many microbiology laboratories. Also, *Clostridium difficile* infection is now typically diagnosed via toxin assay or cytopathic effect in cell culture, rather than via culture, as stated in the book. Chapter 5 gives a basic review of immunology, again

mostly for people without a prior background in this subject.

Chapter 6 outlines the basic infection-control measures, including hand hygiene, personal protective equipment, appropriate handling of sharps, and cleaning of equipment and the environment.

Chapter 7 gives an excellent review of the types of health-care-associated infections and appropriately emphasizes the importance of distinguishing between colonization and infection, particularly with regard to catheter-associated urinary tract infections. However, with regard to central-venous-catheter-related bloodstream infections, a review of the mechanisms of catheter contamination would be helpful.

Chapter 8 deftly tackles the increasing problem of antimicrobial resistance and provides an excellent summary table of the classes of antibiotics. One misstatement is that combination antimicrobial therapy can help combat resistance; that is generally considered untrue for routine bacterial infections, and is more important for specific organisms, such as the mycobacteria. Also there is no mention of antimicrobial stewardship, which is increasingly used to prevent development of resistance.

The second part of the book consists of 12 chapters, each dedicated to health-care-associated infections caused by a specific organism, including methicillin-resistant *Staphylococcus aureus*, *Mycobacterium tuberculosis*, *Clostridium difficile*, group A *Streptococcus*, meningococcus, norovirus, bacterial enteric pathogens, blood-borne viruses, severe acute respiratory syndrome (SARS) virus, influenza, prions, and *Legionella*. Each chapter gives an overview of the epidemiology and diagnosis of the disease caused by the organism, as well the specific infection-control measures required when the disease is suspected or diagnosed. For the most part these chapters are excellent, and in the cases of SARS, influenza, and prion diseases, give very interesting historical perspectives as well.

Despite the outstanding information provided in the second part of the book, there are a few noteworthy problems. First, the chapter on tuberculosis states that only individuals with multidrug-resistant tuberculosis should be placed in negative-pressure isolation rooms, and that only certain health-care personnel need to wear masks when caring for patients with drug-sensitive tuberculosis. However, it is generally accepted that all patients with known or suspected

tuberculosis should be placed in negative-pressure rooms whenever possible, and that respiratory face protection should be worn by all individuals entering the patient's room. The chapter on group A streptococcus, while highly informative, goes into more detail than necessary on diagnosis and management of necrotizing fasciitis. And the chapter on blood-borne viruses implies that most cases of hepatitis B infection are symptomatic, but less than half of healthy adults who are newly infected become symptomatic, and children and immunosuppressed adults rarely have symptoms. The chapter does not mention that hepatitis B is treatable and that all infants in the United States are now routinely immunized against this virus.

Overall the book is well organized and highly readable for individuals at all levels of medical training. All of the chapters contain useful summarizing tables. The glossary and index are helpful, and the citation list is very complete; infection-control specialists will find them particularly useful. However, occasionally (eg, in the case of central-venous-catheter-related bloodstream infections) the relevant guidelines are referenced, rather than the primary supporting literature. There are scattered typographical errors, as well as the occasional repeated sentence, but in general the text is very clear.

Despite those limitations, the book provides an excellent overview of infection control. The intended readership is all health-care professionals, but those involved in inpatient care will find the book most useful. Given the increased attention on health-care-associated infections, a working knowledge of infection control is not just for specialists anymore, but is required for all who provide in-patient care. This book is a valuable resource for those who would like to broaden their knowledge of infection-control practice and understand the evidence on which recommendations are based. Importantly, the author advises readers to refer to local practice guidelines rather than relying on those in the book, but the book lays the foundation for understanding the basis of such guidelines. In addition, readers will be engaged by the specific and interesting "real world" examples of infection control.

In summary, **Infection Prevention and Control** provides a concise, easy-to-read, and informative review of infection control

for all health-care professionals interested in this increasingly important topic.

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Medical Statistics: A Textbook for the Health Sciences, 4th edition. David Machin, Michael J Campbell, and Stephen J Walters, editors. Hoboken, New Jersey: John Wiley & Sons. 2007. Soft cover, illustrated, 331 pages, \$37.50.

Any consumer of the medical literature in general, and reports of clinical investigations in particular, knows that journal articles' descriptions of the statistical analyses performed often assume a degree of knowledge that makes the descriptions impenetrable to the statistically naïve reader. This in turn requires from the reader a degree of trust in both authors and editors when interpreting results, which makes many uncomfortable, and this discomfort can result in cynical or (perhaps worse) uncritical reading of the literature. Thus, there is substantial value in an accessible statistics textbook for non-statistician health professionals. This is just such a book, and will help clinicians become more informed consumers of the medical literature. In the preface the authors (all statisticians with extensive medical research experience in the United Kingdom) clearly state their goal for this edition, which is "not to turn the students into medical statisticians, but rather to help them interpret the literature and appreciate how to design studies and analyse data arising from their own projects." Their explicit avoidance of jargon, statistical notation, and dense technical details, while limiting its usefulness to readers with substantial background in statistics, does improve its readability and accessibility for their intended audience. Their 2 main goals form the basis for dividing the book into 2 main sections: the first 7 chapters are written for all consumers of medical literature, and the latter 8 are for those involved in the design and execution of medical studies.

The chapters are divided into between 4 and 14 sections, each with its own bold heading. This format improves the utility of the text for quick reference and topic review, especially since the table of con-

tents lists each of these sections. Each chapter ends with a section entitled "Points When Reading the Literature," which describes the appropriate statistical features and common statistical flaws in studies of the type described in that chapter. Each chapter contains exercises (answers are at the end of the text), which enhance the text's value as a self-study tool. Figures are used liberally and are generally of good visual quality and well labeled. A particular strength of this book is its frequent use of real-world examples from the literature.

The range of content is broad, as would be expected of a general text such as this, whose goal is an overview of a complex and varied field. The book begins and ends with chapters on the proper role of statistics in the medical literature, as well as abuses and pitfalls commonly seen there. The first and last chapters are quite well written and would be particularly valuable for students and trainees in any of the health professions. Topics covered in the excellent last chapter include problems associated with adjustment for baseline values in randomized studies, the phenomenon of regression to the mean, the fallacy of assuming independence of repeated measures, problems of multiple comparisons, and the dangers of atheoretical "fishing expeditions." This chapter alone would empower a reader to be a much more sophisticated user of the medical literature.

Perhaps the most important chapter is Chapter 7, where they discuss *P* values and statistical inference. The authors point out the critical difference between clinical importance and statistical significance, and describe the appropriate interpretation of *P* values. Judging from the frequency with which *P* values are discussed as if they were binary indicators of the "truth" of a study's findings, rather than "a measure of the strength of the belief in the null hypothesis," the lessons in this chapter are sorely needed. The chapter makes the critical point that *P* values should never be reported without means and confidence intervals, and should never merely be reported as "significant," "nonsignificant," or " $P < 0.05$." Chapter 4 is also particularly valuable; the authors present Bayes's theorem and its application in the interpretation of diagnostic tests.

The last 8 chapters are aimed at clinical researchers. These chapters serve as a useful introduction to analytical tech-