

**Practical Handbook of Nebulizer Therapy.** Jacob Boe, B Ronan O'Driscoll, John H Dennis. New York: Martin Dunitz/Taylor & Francis. 2004. Hard cover, illustrated, 323 pages, \$63.95.

Nebulizers are the "Rodney Dangerfield" of aerosol delivery devices: they *get no respect!* The introductory paragraph of almost every recently published paper on new aerosol delivery devices seems to include an obligatory derogatory remark about the inefficiency of these quaint, old-fashioned devices. Yet despite a flood of newly patented high-efficiency devices, nebulizers continue to be popular with practitioners and patients. The survival of nebulizers is no doubt due to their relatively low cost, versatility with a variety of medications, and simplicity and ease of use. The advent of valved holding chambers (for metered-dose inhalers) and powder inhalers has obviated nebulizers in the maintenance therapy of many patients with asthma and chronic obstructive pulmonary disease (COPD), but nebulizers continue to be useful during asthma and COPD exacerbations and with very young and elderly patients. Nebulizers are also essential for the management of cystic fibrosis, and, because of their simplicity, nebulizers are useful in the development of new and experimental therapies.

**Practical Handbook of Nebulizer Therapy** offers a wealth of information about nebulizers and nebulizer therapy, and the authors provide a comprehensive bibliography and literature review. It covers the subject in a forthright and logically sequential manner, with a level of detail not found in typical pulmonology and respiratory therapy texts.

This book is the brainchild of 2 pulmonary physicians and an aerosol scientist (all Europeans) who, as chief editors, assembled a diverse and talented group of contributors. Including the editors, there are a total of 20 contributors, from specialties as varied as pulmonology, aerosol science, nursing, respiratory therapy, physiotherapy, and environmental sciences. All but 2 of the contributors are European, so much of the writing has a subtle European undertone. The book emanated from a European Respiratory Society task force, chaired by the editors, which was charged to produce

guidelines for nebulizer use in Europe. The aerosol science and clinical data presented by these contributors are generally universal, but reviewing the North American experience in the delivery of respiratory care services would have enhanced the sections that focus on the implementation and costs of therapy. Had the editors included one additional chapter on the North American perspective, the audience for this book could have been much larger. Despite the book's scientific and clinical excellence, ignoring the concerns and experience of an entire profession (licensed respiratory therapists) is likely to be off-putting for many people who would otherwise benefit from this book.

The book's organization and content are quite appropriate for its subject. It is organized into 3 sections (on technical, clinical, and practical considerations) and 15 chapters. The technical section contains 3 chapters. Chapter 1, "Theory and Science of Nebulizer Use," leads off with a brief history of nebulized aerosol delivery and then includes the standard review of the mechanisms of particle deposition, which can be found in most respiratory therapy texts. The chapter explains the physical principles of nebulizer operation and invites the reader to discover that nebulization is a good deal more complex than one might initially think. The principles relating to particle generation, aerosol release, dead-space volume, and particularly the effect of evaporation on droplet size are all given appropriate coverage. The chapter ends with a brief overview of the various types of nebulizers and their differences. We would like to have seen more detail on assessment of lung deposition with various nebulizers, as well as more detailed discussion on the influence of abnormal airway anatomy on lung deposition.

Chapter 2 has the title "Quality Control and Standards in Nebulizer Performance and Use." It begins with the observation that the delivery of nebulized drugs is uncontrolled and poorly understood by the clinical community that is chiefly responsible for prescribing it. Although this pertains specifically to Europe, we can attest that the situation is similar in the United States, and we suspect that it is also similar in most other countries. Some of the reasons for this

state of affairs are briefly mentioned. The chapter discusses the need for standards and describes some of the difficulty in achieving standards, namely the enormous differences in methods of assessing nebulizer performance. Though the "device related" issues are well covered, some additional material on formulation (preservatives and excipients sterility) could have been added for completeness.

Chapter 3, "New Developments in Nebulizer Technology," provides a peek into the future of aerosolized-drug delivery. A hypothetical list of features composing the "ideal drug aerosol delivery system" is presented, along with a qualifying statement that it is probably impossible for a single device to embody all of the ideal features. The chapter goes on to review a fairly comprehensive collection of "next generation" aerosol-delivery devices that employ various microelectronics and nanotechnologies.

There are 8 chapters in the clinical section of the book. Basically these chapters describe various approaches and experience in treating specific disease states with nebulized drugs. Where appropriate, they describe the differences between various aerosolization methods, such as metered-dose inhaler, powder inhaler, and nebulizer, and especially the different outcomes that may result from a particular choice of device. Though no single chapter explores the types of drugs that can be given via the aerosol route, the interested reader can discover that information scattered in these chapters.

Chapter 4 reviews the treatment of acute asthma and exacerbations of COPD via nebulization of  $\beta_2$  agonists, anticholinergics, and corticosteroids. Briefly mentioned are a few of the other nonmainstream drugs that have occasionally been used, such as epinephrine, magnesium, and furosemide.

Chapter 5 looks at nebulizer use for chronic asthma and COPD and discusses nebulization as a means of maintenance therapy and as a method to treat patients at home to prevent or reduce hospitalizations.

Chapter 6 deals with "Special Applications of Aerosol Therapy" and rightfully points out that aerosols can be useful for applications other than asthma and COPD. For example, the topical delivery of aerosolized antibiotics for the treatment and pre-

vention of pulmonary infections is gaining success now that there is a better understanding of the delivery systems and the effect of the patient's pathophysiology on aerosol delivery. Similarly, specialized aerosols (prostacyclins and phosphodiesterase inhibitors) for treating pulmonary hypertension are beginning to show promise, though most of the research is still in the experimental stages and definitive clinical applications have not yet been described. Topical delivery of cyclosporine for the prevention of acute pulmonary rejection in lung allograft recipients is also showing promise. Also being researched is nebulizer delivery of opioids for palliative care of patients dying from terminal lung cancer and end-stage COPD, though that is controversial because of the difficulty in adequately assessing outcome.

Chapter 7 covers the use of aerosolized antibiotics for cystic fibrosis (CF) and bronchiectasis. Use of nebulized antibiotics for those conditions was first described in the mid-1940s and has had variable success over the years. Currently, nebulized antibiotics are regarded as effective therapy for *Pseudomonas* infection in patients with CF. There is now good potential to improve the quality of life and survival, owing in part to our better understanding of aerosol delivery of antibiotics.

Chapter 8 describes various other drugs that can be aerosolized for patients with CF or bronchiectasis. These include various mucolytics and wetting agents, bronchodilators, steroids, amiloride, and heparin. Because CF patients are frequently prescribed a multitude of inhalation drugs, the chapter warns about the mixing of medications in the same nebulizer. Tempting though that may be, in order to cut down on treatment time, mixing drugs may result in deleterious drug-drug interactions, untoward effects on the patient, or may impair the functioning of the aerosol delivery system so that its performance is not predictable or consistent. The chapter does a very good job of reviewing the clinical use and outcomes of 2 agents that CF patients use as mucolytics: inexpensive hypertonic saline solution, and the much more expensive solution of recombinant human deoxyribonuclease (aka, rhDNase or dornase alfa). The chapter describes and provides references about the implications of using various aerosol delivery systems with rhDNase.

Chapter 9, "Diagnostic Uses of Nebulizers," is chiefly concerned with nebulization

as a means of administering an aerosol challenge test to quantify airway responsiveness. The chapter describes various test approaches and their interpretation and usefulness. A nebulizer is necessary to generate the aerosol for an airway challenge test. The physical characteristics of the aerosol (nebulizer output and particle size) and, thus, the device that creates the aerosol, are important determinants of the success of the procedure. Similarly, radioactive aerosols are widely used for lung-deposition imaging and for measurement of mucociliary clearance. The chapter mentions these in a mere 3 paragraphs; we would have preferred to see more on this topic, because radio-aerosol studies have provided valuable methods for investigating the interactions between inhaled particles and the human respiratory tract.

Pediatric patients present special challenges for nebulization therapy, although nebulization can be quite effective with children. Chapter 10 describes the anatomical and physiological differences that give rise to those challenges.

Chapter 11 covers the use of nebulizers in primary care, and the authors acknowledge that nebulizers should not be the first choice for maintenance therapy of asthma or COPD. Nevertheless, greater emphasis should have been given to the increased use of long-acting bronchodilators such as salmeterol, formoterol, and tiotropium (as well as the use of long-acting bronchodilator/steroid combination products) that do not use nebulizer technology. The change from short-acting bronchodilators to long-acting bronchodilators will probably decrease nebulizer use, and the clinical and pharmacoeconomic implications of that trend merit greater emphasis, in our view.

In conclusion, **Practical Handbook of Nebulizer Therapy** provides a valuable and detailed review of the clinical applications of nebulization, and despite its Eurocentric tendencies, it should be a valuable reference on nebulization for respiratory therapy departments and libraries.

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**Acute Exacerbations in Chronic Obstructive Pulmonary Disease.** Nikos M Siafakas, Nicholas R Anthonisen, and Dimitris Georgopoulos, editors. (*Lung Biology in Health and Disease* series, Volume 183, Claude Lenfant, executive editor.) New York: Marcel Dekker. 2004. Hard cover, illustrated, 603 pages, \$195.

Volume 183 of the *Lung Biology in Health and Disease* series is devoted to exacerbations of chronic obstructive pulmonary disease (COPD). This is a timely contribution and nicely complements the previous volume in this series, which was devoted to pharmacotherapy for COPD exacerbation. The editors assembled over 50 contributors, from all over the world. The book has 32 chapters and 9 parts. The reason for grouping the chapters into parts was not clear to me and did not seem to help the flow of the volume.

The first part begins with some general aspects of COPD exacerbation, including definitions, epidemiology, and the effects of exacerbations on the natural history of COPD, and it ends with a chapter on the economic burden of COPD exacerbation. The chapters in this part are quite short and probably could have been combined. The chapter on economics highlights the lack of data available on the human and economic cost of exacerbations of COPD.

Part 2 has 2 chapters that focus on the pathology and immunology of COPD exacerbation, and it gives a nice overview of the role of oxidative stress and cytokines in smoking and COPD exacerbation. Some of the pathology figures are hard to interpret because they are in black-and-white, with low resolution. This section includes a chapter that covers biomarkers of COPD, a subject of growing interest that may help us better manage COPD exacerbation.

Parts 3 and 4 are made up of chapters that cover the clinical and diagnostic aspects of COPD exacerbation. There is a discussion of how COPD exacerbation may be a systemic illness, and a comprehensive review of the infectious causes of COPD exacerbation. There is not much new in the chapter on signs and symptoms, but it is a nice review and a good update. The chapter on gas exchange is detailed and basic, but not oriented toward the clinician. There is an excellent chapter on imaging, with some very crisp radiographs and some nice computed tomograms, and this chapter was one of my favorites. Following it is a chapter on

the assessment of severity of COPD exacerbation. This chapter has useful tables with guidelines, and a discussion of relevant translational research. The section on the complexities of the cardiopulmonary interactions in COPD exacerbation focuses on predictive models and is an interesting read, but, again, hard to apply in practice. Skeletal muscle weakness is a major issue in COPD, especially at the end stages, and this is covered in an excellent chapter that includes discussion of bed rest, deconditioning, oxidative stress, and systemic inflammatory response syndrome.

Water and electrolyte imbalance, metabolic derangements, and nutrition are covered in individual chapters. It was nice to get into the details of these topics and to learn more about the complexities of the nonpulmonary aspects of COPD exacerbation. In addition to background, these chapters provide useful guidelines for management. The chapter on sleep is adequate but might have benefited from a discussion of translational research on this subject.

The treatment of COPD exacerbation has inched forward with very slow progress over the past 20 years. The chapters on antibiotics, corticosteroids, and oxygen include little new data. There is a nice discussion of how to identify responders to corticosteroids. The topic of carbon dioxide retention and oxygen treatment is also covered, but, again, there is not much new here.

There are 3 chapters devoted to mechanical ventilation. These chapters are good and well worth a read. They provide useful practical guidelines and are easy to read. Home management of COPD exacerbation and rehabilitation are covered, but there is not much new here either. I was, at first, puzzled by the title of Chapter 31, "Acute Exacerbations of COPD as Outcome of Therapeutic Interventions." The chapter is more of a treatment summary, and, again, there is not much new here. The final chapter is an interesting discussion of research and future advances, and gives one hope for the future of COPD-exacerbation treatment.

So, in summary, the volume is comprehensive and covers the pertinent issues of COPD exacerbation. I enjoyed reading it and learned a lot. However, I had some problems with it also. The chapters are not all consistent. For example, not all have summaries, which is a pity. There are some topics that I was surprised were not included. A chapter on the role of smoking in COPD

exacerbation would have been worthwhile. An outline of nicotine-addiction treatment strategies would have been helpful and relevant. This is a common problem in treating COPD exacerbation. Pollution can also contribute to oxidative stress and is relevant to COPD exacerbation and probably could have been included. The genetics of COPD and COPD exacerbation is a growing subject and might have warranted a chapter at the end.

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**Fast Facts—Chronic Obstructive Pulmonary Disease**, 2nd edition. William MacNee and Stephen I Rennard. Oxford, United Kingdom: Health Press. 2004. Soft cover, illustrated, 129 pages, \$24.

This book, **Chronic Obstructive Pulmonary Disease**, is part of a series called *Fast Facts: Indispensable Guides to Clinical Practice*, which is published by a British publisher, Health Press. The authors, both highly regarded scholars and thought-leaders in research on chronic obstructive pulmonary disease (COPD), state that the book's goal is to "present an up-to-date summary of our understanding of COPD and of how patients should be evaluated and managed." Though a target audience is not explicitly stated, the language of the text and the inclusion of chapters on pathophysiology (with discussion of, for instance, cytokines) suggest an intended physician audience, of general practitioners, family physicians, internists, and physicians in training. At the same time, in my view, the concise, well-presented material recommends itself to practicing respiratory therapists, advanced students, and to nurses in practice and training.

The book consists of 126 pages, organized into 9 brief chapters: "Pathology," "Etiology and Natural History," "Clinical Features," "Lung Function Tests," "Imaging," "Smoking Cessation," "Therapy in Stable Disease," "Acute Exacerbations of COPD," and "Future Trends." The final page offers useful Internet addresses, including those of important American and British Web sites. Indeed, the joint authorship, which includes professors in Scotland and

the United States, gives the book a more global scope and flavor, with discussions of the magnitude and health-care burden of COPD in both the United States and the United Kingdom. For example, the chapter on COPD exacerbations begins with a discussion of the scope of exacerbations and their burden on the British health system. In the context of this international focus, the book may be of interest to respiratory clinicians on both sides of the Atlantic Ocean.

In keeping with the "Fast Facts" appellation, the style is succinct and the included material is current, clinically relevant, focused, and designed for easy availability. For example, each chapter has a distinct color scheme that is indexed on the book's cover, and coordinated colored margin tabs make it easy to locate material. The text combines readability with scholarship. The figures are cited from key studies and summaries, such as the 2003 update from the Global Initiative for Chronic Obstructive Lung Disease (GOLD). In keeping with the 2004 publication date, the citations are current (eg, they include the 2003 update of the GOLD guidelines and COPD staging system), though, as is inevitable with publication deadlines for books, some late-2003 guidelines (eg, the American Thoracic Society/European Respiratory Society standards document on managing alpha-1 antitrypsin deficiency<sup>1</sup>) are not cited.

As another helpful feature of the text, the first 8 chapters conclude with tables of key references and of key points summarizing the material in the chapter. Readers who want an accelerated review of the essentials of COPD will find these 8 tables a succinct primer.

The tables and figures are crisp and clearly rendered, with excellent readability. Of particular value is the authors' dedicating an entire chapter to smoking cessation—a critical intervention in clinical management of COPD—and their inclusion of a table that very nicely summarizes the various nicotine delivery systems (eg, patch, gum, inhaler, and nasal spray). One small exception is Figure 4.5, which depicts flow-volume loops from patients with various degrees of airflow obstruction. To my eye, the classically "coved" appearance of the expiratory loop, representing the concave appearance of the curve that stems from the decreased flow rate at lower lung volume, was difficult to appreciate in Figure 4.5.c.

Features that especially commend the book to respiratory therapists are its concise

style, inclusiveness of clinically important material by recognized thought-leaders, clarity of presentation of text, tables, and figures, and citation of important Web sites for readers who want more detail.

Though in no way eclipsing the substantial value of the book, a persnickety reviewer would quibble with several statements in the book. For example, the stated criteria (on page 49) for reproducibility of forced expiratory volume in the first second (FEV<sub>1</sub>) measurements is 200 mL, according to recently published American Thoracic Society criteria, rather than the stated "100 mL or 5% criterion." Also, as a clinician with a particular interest in alpha-1 antitrypsin deficiency, I would submit that the statement on page 62, "In patients younger than 45 years who develop COPD and/or have a strong family history of the disease, levels of alpha-1 antitrypsin should be measured." is too narrow. Though suspicion of alpha-1 antitrypsin deficiency is certainly warranted in such young patients and in those with family histories of COPD, recent international standards call for greater suspicion and more widespread testing. Specifically, the aforementioned American Thoracic Society/European Respiratory Society standards document<sup>1</sup> recommends testing all symptomatic adults who have fixed airflow obstruction, and broader, focused testing for many others.

Overall, Drs MacNee and Rennard are to be commended for **Chronic Obstructive Pulmonary Disease**, which is a very valuable contribution and which addresses a subject of enormous interest and relevance to clinicians. Respiratory therapist clinicians, students, and educators will find this a current, concise, and readable addition to their libraries.

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**REFERENCES**

1. American Thoracic Society/European Respiratory Society Statement: Standards for the diagnosis and management of individuals with alpha-1 antitrypsin deficiency. *Am J Respir Crit Care Med* 2003;168(7): 818-900.

**Fast Facts—Obstructive Sleep Apnea.** Barbara Phillips MD and Matthew T Naughton MD. Oxford, United Kingdom: Health Press. 2004. Soft cover, illustrated, 74 pages, \$24.

**Fast Facts—Obstructive Sleep Apnea** is one of a series of brief reference manuals, each of which covers a single common medical disorder. The series purports to be expertly written, up-to-date, and easy to read.

The intended readership is not plainly stated. Its concise bent finds its best fit in the hands of a busy clinician who encounters obstructive sleep apnea and wants a small and pithy reference. **Fast Facts—Obstructive Sleep Apnea** would also serve as a quick review or update on obstructive sleep apnea for interested primary caregivers who want a brief overview. It may be useful in the coat pocket of a respiratory therapist, nurse, or physician's assistant who cares exclusively for patients with sleep apnea. This is not, however, a "how to" pocket manual. There is no guidance for the hands-on aspects of sleep medicine, such as scoring or conducting sleep studies or fitting continuous positive airway pressure equipment. Nor is this book a substantial academic text. You will not find research summaries or discussions of data analysis.

As advertised, the book is concise, at 74 pages. The authors also cite contemporary sources, thus living up to the book's billing as "up-to-date." The text is generally an easy read and the illustrations and graphs are cleanly rendered. Key points and key references are neatly summarized at the end of each chapter, but unfortunately the references are not indexed in the text. It's only my personal bias, but I am bewildered when a purported reference source doesn't make at least a token attempt to support the text with footnoted references. Each chapter is followed instead by a respectable list of non-footnoted literature citations. That style may be a hallmark of this book series, but with the text-processing software available today and with no substantial space savings gained by the nonfootnote method, its use grates on sensibility.

The material is well organized and the chapters are thoughtfully chosen. The writing style is easy to understand and logically presented. Charts and graphs, which are liberally sprinkled in appropriate places throughout the text, summarize and clarifying the concepts. A list of useful Web sites for further enlightenment is included at the end of the book.

Shakespeare's Hamlet observed that "Brevity is the soul of wit." But scrupulous brevity may have limits in the writing of a short reference text, because it predisposes to overstatement. In the discussion of sleep-apnea prevention, I doubt the authors meant to convey that breast feeding (as opposed to bottle feeding) of infants prevents the development of sleep apnea, but that was what was conveyed. Adults who were breast fed as infants and yet developed sleep apnea would probably take issue. I suspect that the authors meant to convey that certain evidence points to bottle feeding as a risk factor for the development of sleep apnea.

This soft-cover text would fit as neatly into your lab-coat pocket, as it would on your bookshelf. I learned several new things in my read. Minor imperfections aside, the authors should be congratulated on a well done first edition that should find widespread use.

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**ACP Medicine**, 2004-2005 edition. (A publication of the American College of Physicians). David C Dale MD and Daniel D Federman MD. New York: ACP Medicine/WebMD. 2004. Hard cover, illustrated, 2,859 pages (2 volumes, with CD ROM for 3 months' online access, <http://www.acpmedicine.com>), \$229.

As general internal medicine clinician-teacher faculty at the University of Washington, we are fortunate to have access to many online resources to answer clinical questions and prepare for teaching activities. For help with the evaluation of specific symptoms, differential diagnosis, and practical advice regarding diagnostic testing and management, we generally refer to UpToDate online and full-text articles on PubMed. When a more detailed understanding of pathophysiology is required we turn to traditional internal medicine textbooks such as *Harrison's Principles of Internal Medicine*<sup>1</sup> or *Cecil Essentials of Medicine*.<sup>2</sup> We have also had online access to *ACP Medicine* through our University of Washington "Care Provider Toolkit," but neither of us had previously clicked on that link. Our goals in reviewing *ACP Medicine* were to compare it with general references we currently use and determine how well it might serve practitioners looking to purchase a general medical textbook.

The target audience of *ACP Medicine*, a joint publication of the American College of Physicians and WebMD/Scientific American Medicine, is general internal medicine providers. Drs Dale and Federman aspire to make *ACP Medicine* "the most up-to-date textbook of medicine available." Authors were selected who understand both "the constraints of managed care and the quality of care that is possible with scientific advances." The text is evidenced-based and the stated goal is to "summarize the most important information from general and specialty journals, as interpreted by experienced clinicians." In essence, *ACP Medicine* is conceived to present both basic pathophysiology and also evidence-based management recommendations. *ACP Medicine* can be purchased as a 2-volume textbook (\$229, or \$298 with CD ROM). Purchase provides 3 months of access to the Web-based text (at <http://www.acpmedicine.com>). Ongoing online access costs \$99 per year. Updates to *ACP Medicine* appear monthly with the online version; subscribers are notified via e-mail of the content of these updates. The book's title says 2004–05, so we assume a new text is published yearly.

The book's general style is very appealing. The font is larger than most textbooks, making it easy to read, and we did not notice any typographical errors. The contents span the broad range of general internal medicine. *ACP Medicine* begins with a "Clinical Essentials" section that sets an excellent tone and includes chapters on preventive health care, ethics, palliative care, psychosocial issues, and alternative medicine. Subsequent sections are organized by medical subspecialty and are written with a clear emphasis on relevance to daily patient care. The authors we recognized are expert clinicians, educators, and investigators, representing institutions across the United States. We appreciated the inclusion of the disclosure statements (at the ends of the chapters) regarding authors' links to industry. The tables and graphics are superb; the style will be familiar to readers of *Scientific American* magazine. Imaging studies are of good quality in the textbook, but some did not project as well online.

The CD ROM and online versions offer some unique features, and we liked the online version best of all. The Web site was easy to navigate and moved much more quickly than the CD ROM on both our home

and work computers. Contents are listed by section, which you can click on to show an outline of the subheadings. One can scroll through the entire section or click on the contents tab to jump ahead to specific topics. Unlike the printed textbook, the month and year of most recent revision appears at the top of each chapter in the online version. (Most of the chapters have been revised within the past 3 years; the oldest chapters we found were written in 1997.) Within the online text, the figures and tables are made available by clicking on the highlighted figure, which can be enlarged to fit your entire screen. Each section can be printed as a PDF (portable display format) file. Internet access enables quick links to abstracts and full-text references in PubMed, web sites, and published guidelines. In a few chapters, authors included brief summary outlines and "best references" that can be downloaded to a handheld computer. Key-word searches provide links to chapters, prioritized by key-word presence in the chapter title or text and the frequency of occurrence. We found the key-word search tool more helpful than the printed textbook's index. For example, an online keyword search for "dizziness" found the word appeared on 56 pages; the "Evaluation of the Dizzy Patient" chapter was listed first and the context of every appearance was noted in the search results. In the print index, that chapter was listed along with "See also *vertigo, vestibular dysfunction*."

Access to the online version requires either Internet Explorer 5.5 (or later) or Netscape 7.0.2 (or later). The CD ROM can be run on both Windows and Macintosh systems (requires Macintosh Power PC or Pentium-based system running Windows 95 (or later). It is recommended that you have at least 32 MB of RAM, and Java must be enabled in the browser. Updated discs are sent periodically to registered purchasers. Online access is required if you want to use the CD ROM links to the Internet resources. Both the online version and the CD ROM offer yearly continuing medical education credit. If you complete a monthly set of 10 case-based questions, you can receive 10 hours of Category 1 credit (ie, as much as 120 credit hours per year) for an additional fee of \$85.

The promise of *ACP Medicine* as an evidence-based and up-to-date text is fully realized in chapters covering general medi-

cine topics. "Hypertension," revised in January 2004, covers the topic in definitive fashion. This chapter could teach medical students and residents all they need to know about epidemiology, pathophysiology, and diagnosis, and also help experienced providers manage over 99% of their hypertensive patients. The discussion of treatment addresses results from recently completed major clinical trials such as the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) study,<sup>3</sup> and from the references it is possible to pull up full-text treatment guidelines such as the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure.<sup>4</sup> In similar fashion, chapters on diabetes, depression, and dyslipidemia include detailed discussions of pathogenesis, as well as practical, evidence-based expert advice regarding daily management. These chapters were helpful to us while seeing patients or teaching residents, to reinforce points or provide links to key references.

The coverage of some other general medicine topics was not as helpful. Every conceivable joint pain is covered in "Back Pain and Common Musculoskeletal Problems." The author gives a magnificent rendering of the subject, but this is simply too vast a topic to be covered in a fashion that would contain practical management advice for specific conditions. A provider evaluating a patient with shoulder pain, for example, would be reminded of the differential diagnosis and essential clinical points, but would not find instruction in how to perform the diagnostic physical examination maneuvers mentioned or how to inject the subacromial bursa. In addition, some topics change so rapidly that even chapters written recently fall quickly out of date. The chapter on "Adult Preventive Care" (May 2002) lists old United States Preventive Services Task Force screening recommendations for cervical, breast, colorectal, and prostate cancer, as well as outdated recommendations from the Centers for Disease Control Advisory Committee on Immunization Practices regarding influenza immunization.

Readers of *RESPIRATORY CARE* will be interested in the respiratory medicine section of this text. The section begins with a chapter on functional assessment and diagnostic techniques, and provides a brief review of lung physiology, interpretation of pulmo-

nary function testing, and descriptions of the indications and utility of various imaging techniques. It is a good overview, but we did not consider the depth of information sufficient for teaching advanced interpretation and would need to consult a lung physiology text for a better understanding. The chapters on asthma and chronic obstructive pulmonary disease are thorough and well written, with good discussions on diagnosis, pathophysiology, and treatment. The remaining chapters in this section offer assistance in diagnosing specific conditions by being able to categorize a disease appropriately. The chapter entitled "Focal and Multifocal Lung Disease" goes through a differential diagnosis based on specific chest-radiograph patterns. There are also chapters on: interstitial lung disease; sleep disordered breathing; chest wall disorders; disorders of the pleura, hila, and mediastinum; pulmonary edema; and pulmonary hypertension. Those chapters briefly review the pathophysiology of the disease category. They focus mainly on differential diagnosis and workup and provide less information on treatment and outcomes. The respiratory section has minimal information on critical care medicine. There is a single chapter on respiratory failure, which gives a very brief review of modes of mechanical ventilation and terminology. That chapter includes discussions on the management of mechanical ventilation in the specific settings of chronic obstructive pulmonary disease, asthma, and

acute respiratory distress syndrome. Although the information is up to date, it is merely a superficial overview to familiarize the reader with terminology and issues that may arise in those clinical settings. This would not be a good reference for specific questions regarding day-to-day ventilatory management but will provide a good background for any generalist who needs to communicate with a specialist assisting in the care of a ventilated patient.

In summary, we applaud the editors' efforts to create an up-to-date, multimedia text. We are excited to have a new and powerful tool to assist us with our daily teaching and patient-care activities. The information is indeed evidence-based and highly relevant to clinical care. The text is clearly targeted toward a general internal medicine audience. We found the online version to be the most user-friendly, and we particularly appreciated knowing when the section had been updated, having quick links to supplemental information, and being informed of potential author conflicts of interest. For primary care providers looking to invest in a single general medicine text, *ACP Medicine* would be an excellent choice. For students and specialists seeking more in-depth information regarding pathophysiology, treatment and outcomes of less common diseases, further consultation from a disease-specific text or specialty journals will be necessary.

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#### REFERENCES

1. Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, et al. *Harrison's principles of internal medicine*. New York: McGraw-Hill; 1998.
2. Andreoli TE, Carpenter CCJ, Griggs RC, Loscalzo J, editors Cecil essentials of medicine. Philadelphia: WB Saunders; 2003.
3. The ALLHAT Officers and Coordinators for the ALLHAT Collaborative Research Group. Major outcomes in high-risk hypertensive patients randomized to angiotensin-converting enzyme inhibitor or calcium channel blocker vs diuretic: the antihypertensive and lipid-lowering treatment to prevent heart attack trial (ALLHAT). *JAMA* 2002;288:2981–2997.
4. Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL Jr, et al; National Heart, Lung, and Blood Institute Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; National High Blood Pressure Education Program Coordinating Committee. The seventh report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure: the JNC 7 report. *JAMA*. 2003;289(19):2560–2572. Epub 2003 May 14. Erratum in: *JAMA*. 2003;290(2):197.