

Chest Medicine: Essentials of Pulmonary and Critical Care Medicine, 5th edition. Ronald B George MD, Richard W Light MD, Michael A Matthay MD, and Richard A Matthay MD, editors. Philadelphia: Wolter Kluwers/Lippincott Williams & Wilkins. 2005. Hard cover, illustrated, 652 pages, \$99.

Chest Medicine: Essentials of Pulmonary and Critical Care Medicine is the 5th edition of a respected concise textbook of respiratory medicine. Intended for house officers, physicians in specialties other than pulmonology, and mid-level practitioners, including respiratory therapists, it has historically been convenient, moderately priced, and authoritative. As a pulmonary medicine fellow studying for board certification, I reviewed this 5th edition by real-time use during a busy clinical rotation, and by detailed reading to study for the boards. I explicitly compared the current edition with previous ones to evaluate the changes in this edition.

This is a polished work, produced by a slate of authors and editors who have contributed to multiple editions. George, Light, Matthay, and Matthay are all recognized authorities in their subjects, and are veteran medical educators. Continuity and experience in the production teams have resulted in cohesive structure and well-crafted prose.

The text deserves the appellation "comprehensive," but "essentials" is an even more accurate description—natural enough for a single set of covers binding an entire medical specialty. Throughout the text it is clear that detail has been limited to preserve wide coverage in a single volume. Sacrifices in color and number of illustrations are necessary in a comprehensive text, to keep the price reasonable.

Broadly, the book is divided into sections on scientific background, clinical approach to the patient (well titled "Gathering the Database"), disease- and syndrome-specific chapters, and a final section on critical care.

The first section, on anatomy and physiology, is a reasonably short introduction, which, like that of many other texts, relies heavily on West's classic presentation of pulmonary physiology,¹ particularly regard-

ing lung mechanics and gas exchange. Given length constraints, it perhaps works better as a review of these complex topics than as a concise introduction for the neophyte. To its advantage, this section on anatomy and physiology is more thoroughly augmented with diagrams and illustrations than much of the rest of the book. The section on acid-base balance emphasizes a primarily differential-diagnostic viewpoint on acid-base conditions; more readable and clinically applicable accounts of acid-base physiology can be found elsewhere.

The "Gathering the Database" section includes brief "bird's-eye-view" discussions of the key components of the respiratory history, physical, and adjunctive studies. The chapter on pulmonary function testing is particularly thorough and organized with an appropriate level of detail, considering the importance of these tests. It also includes a nice introduction to exercise physiology and testing.

The heart of the text is titled "Management of Respiratory Diseases," a label that sells short the content. Each disease-, organ-, or syndrome-specific chapter includes balanced summaries, not just of treatment options, but also of pathophysiology, diagnosis, and prognosis. Description of virtually all the important entities in respiratory medicine in a mere 350 or so pages is an impressive accomplishment.

The chapters on asthma and chronic obstructive pulmonary disease are thorough and cite the pertinent practice guidelines from the National Heart, Lung, and Blood Institute² and the Global Initiative for Chronic Obstructive Lung Disease (GOLD),³ with which all pulmonary practitioners should be familiar. I do wonder whether it was useful to include the 2½-page chart (a tenth of the chapter's length) of asthma medications, brand names, and dosing, when such information is both "perishable" and readily available in other, handier formats. Bronchiectasis and cystic fibrosis are discussed piecemeal in the chapters on chronic obstructive pulmonary disease and infectious disease, making the material too difficult to find and too brief to be useful in the clinic.

Many other subjects are neatly covered. The chapter on lung transplantation and

lung-volume-reduction surgery is particularly readable and pithy, and the inclusion of new data from the National Emphysema Treatment Trial⁴ on lung-volume-reduction surgery is one of the more important updates from the prior edition. The chapter on pulmonary vascular disease makes nice use of flow charts in discussing venous thromboembolic disease and is up to date but too brief with respect to the new treatment options for primary pulmonary hypertension. These treatments are so distinctive and complex, and their impact on patients' lives so great, that more detail is warranted in a text ostensibly useful for specialists.

Pulmonary complications in the immunocompromised host are discussed in a readable but limited fashion, with organized coverage of stem-cell transplant and patients with human immunodeficiency virus or acquired immune deficiency syndrome, but with a nearly complete absence of discussion of solid-organ transplants other than lung. Other respiratory infections are well detailed in the book's second longest chapter.

The chapter on interstitial lung diseases is thorough, particularly regarding the confusing subject of collagen-vascular-disease-related interstitial lung disease, and makes better use than anywhere else in the text of photomicrographs and high-resolution computed tomography (CT) images to illustrate diagnostic findings and illuminate clinical-radiologic-pathologic correlations. A short discussion of the complex nosology of this group of diseases would be apropos and useful to the typical confused student of interstitial lung diseases.

Unfortunately, throughout the book both the chest radiographs and CT images are much too small, rarely occupying more than a sixth of a page. And the choice of images is often problematic as well; a photograph of a bronchiolitis obliterans organizing pneumonia biopsy that purports to show plugs of granulation tissue is a grayscale mishmash wherein only the reader who already knows what he is looking for will find the pertinent pathology.

An otherwise particularly fine chapter on neoplastic disease suffers from similarly marred illustrations. The chapter is comprehensive, readable, and well organized, with

excellent use of fonts and bulleting to direct the reader's attention and improve efficiency in finding information. However, here the book's deficiencies with regard to images (poor sizing, poor labeling, poorly illustrative images) are most clearly evident. Tiny photomicrographs without adequate highlighting insufficiently illustrate the cancer histology.

The authors' selection of images is occasionally problematic as well. For example, the same photomicrograph is used to demonstrate the histology of both squamous-cell and small-cell carcinoma. Either one or the other use of the illustration is erroneous, or there are elements of both cell types present—all possibilities potentially quite confusing! More telling is not the odd choice of picture (editors are only human), but the fact that this flawed pair of photomicrographs has remained in the text since the third edition of 10 years ago, after being changed from a properly selected, labeled, and sized pair in the second edition.

The chapters on environmental and occupational diseases, sleep-disordered breathing, and miscellaneous nonparenchymal disorders of pleura, mediastinum, and chest wall round out the clinical sections. The final chapter, on pulmonary and critical care issues in the elderly, is a mercifully short hodgepodge of clinical outcomes research and ethics issues specific to the elderly. Not less than a quarter of the chapter is dedicated to unreadable summary lists of studies on the subjects. In my opinion, few would identify this as core content for which other topics should be sacrificed in a brief text.

End-of-life care and ethics in the intensive care unit (ICU) are indeed key topics, and are well covered with other critical-care issues in the final section. Other chapters in this last section focus on mechanical ventilation, both hypoxemic and hypercapnic acute respiratory failure, sepsis, and general supportive care. The selection of topics is reasonable for a text that primarily focuses on a respiratory view of intensive care. The important results of the National Institutes of Health Acute Respiratory Distress Syndrome (ARDS) Network trial⁵ of low-tidal-volume mechanical ventilation are included as an update. Prevention of nonpulmonary complications in the ICU is explicitly covered in a separate chapter, which is a very appropriate acknowledgment of the pivotal importance of the principle of *primum non nocere* in the ICU. The chapter would have

been stronger if broadened to include the common, preventable, and well-studied pulmonary complication of ventilator-associated pneumonia, prevention of which is neither indexed nor discussed elsewhere in the text.

Overall, there are about 400 illustrations, including about 110 plain radiographs and CT images. Pulmonary medicine, more than almost any other medical subspecialty, relies on imaging in day-to-day practice. This in itself warrants careful attention to the quality of radiographs and CT scans chosen for a comprehensive text. But many of the images in this book are so poorly reproduced that they leave even the educated eye straining to find the described abnormality. This is not conducive to teaching classic radiographic findings to nonspecialists.

The generous reference lists in almost every chapter are a particular strength. The editors have clearly elected to be thorough rather than selective—a legitimate decision. However, the less-experienced reader when using these lists as a guide to further reading would benefit from some indication of which works contain core content or seminal thinking, and which are of secondary import. For example, applying asterisks or boldface type to the titles of classic papers would not overburden the page.

It appears that the most important decision made by the editors and publisher was to target a specific price point. I have attempted to describe how other choices in the text appear to result from that initial determination, with the understanding that the resultant tradeoffs are inevitable. However, when considering the cost to didactic usefulness of poor-quality chest radiographs and unenhanced photomicrographs, I wonder if this is a "false economy." And the perpetuation of minor errors through multiple editions leaves me wondering about editorial fatigue after 5 editions.

I have reservations regarding the issue of a new edition with such minimal alterations. Given the rapid accumulation of scientific data and the growing efficiency and economy of online information services in dealing with that flood of data, I think it is reasonable to ask what a hardback textbook offers that electronic alternatives do not. It may be only the satisfaction of a weighty text in hand. Less-than-current information is a heavy price to pay for that satisfaction. Considering the new electronic competition, traditional book editors may wish to take

advantage of any opportunities to globally upgrade their products.

There are many alternatives to this text. Hanley and Welsh's *Current Diagnosis and Treatment in Pulmonary Medicine* is more succinct and much less expensive (\$64.95), and may be more accessible and adequately detailed for nonphysicians. Albert, Spiro, and Jett's *Clinical Respiratory Medicine* contains additional detail and far superior images and illustrations, but is longer and more expensive (\$155). Most medical students and residents will have free access to online resources (such as PubMed full-text articles or UpToDate.com) that are more thorough, better illustrated, and better organized, and hence may well eliminate altogether the utility of purchasing a textbook. For the pulmonary specialist, even one in training, either a more comprehensive text or a dedicated board review resource may better fit the bill.

In summary, this is a fine textbook, one that remains neither too long nor too short. The material is reliable, and the discussions, although brief, are crystal clear. The illustrations range from excellent (if small) to distracting and confusing. The 5th edition includes important practice-changing data that have come to light since the 2000 edition, but is not globally revised. For the reader who has carefully considered what they need from a textbook of respiratory medicine, this may be an excellent choice.

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REFERENCES

1. Ali J, Sumner W, Levitzky M. Pulmonary pathophysiology, 2nd ed. New York: Lange Medical Books/McGraw-Hill;2005.
2. Pauwels R, Buist A, Calverly P, Jenkins CR, Hurd SS; GOLD Scientific Committee. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease. NHLBI/WHO Global Initiative for Chronic Obstructive Lung Disease (GOLD) Workshop summary. *Am J Respir Crit Care Med* 2001;163(5):1256–1276; *Respir Care* 2001;46(8):798–825.
3. Gomez FP, Rodriguez-Roisin R. Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines for chronic ob-

- structive pulmonary disease. *Curr Opin Pulm Med* 2002;8(2):81–86.
4. Fishman A, Martinez F, Naunheim K, Piantadosi S, Wise R, Ries A, et al; National Emphysema Treatment Trial Research Group. A randomized trial comparing lung-volume-reduction surgery with medical therapy for severe emphysema. *N Engl J Med* 2003;22;348(21):2059–2073.
 5. The Acute Respiratory Distress Syndrome Network. Ventilation with lower tidal volumes as compared with traditional tidal volumes for acute lung injury and the acute respiratory distress syndrome. *N Engl J Med* 2000;342(18):1301–1308.

Synopsis of Diseases of the Chest, 3rd edition. Richard S Fraser MD, Neil Colman MD, Nestor L Müller MD PhD, PD Paré MD. Philadelphia: Elsevier Saunders. 2005. Hard cover, illustrated, 957 pages, \$149.

A few words at the outset about the family of books written by the same group of authors will be helpful as a “road map” for potential readers. As the authors point out in the preface, this book grew out of a larger text by the same group (*Fraser and Pare’s Diagnosis of Diseases of the Chest*), and is different from the other text in the same family (*Radiologic Diagnosis of Diseases of the Chest*), which is aimed at radiology residents. The aim of **Synopsis of Diseases of the Chest** is to provide a more approachable text by distilling the information in the larger text, which, at approximately 3,000 pages, is more likely to be used as a reference text. At a little over 900 pages, **Synopsis of Diseases of the Chest** certainly fulfills its intent of being a text that can be read by a trainee without being overwhelmed by minutiae. Of note, the text does not include therapeutics. The authors have targeted this text at residents and clinicians interested in respiratory medicine. Respiratory therapists will find it useful as a concise summary of pulmonary medicine, although the lack of information on pharmacology and therapeutics does detract from its overall value.

There are 23 chapters in the book. The first 4 chapters discuss the basic underpinnings of pulmonary medicine. The next 18 chapters are organized by disease groups. The last chapter discusses a specific radiographic differential diagnosis problem—respiratory diseases associated with a normal chest radiograph. A comprehensive index is included. I will review a few chapters that

exemplify the strengths and weaknesses of this text or address frequently read topics.

The first chapter, “The Normal Chest,” is a concise summary of the anatomy, physiology, and radiographic anatomy of the chest. This is an outstanding chapter and is an excellent introduction to the quality of information seen throughout the textbook. The chapter starts by discussing the geometry and dimensions of the airways. A brief overview of the cells of the respiratory system comes next. These discussions are concise and informative. The concept of the secondary lobule is discussed with a series of figures that illustrate the gross appearance and the histologic features of normal septae and the radiologic appearance of the septae in disease. The figures are excellent; they are well-selected for the detail they intend to show, and the reproduction is clear. The profusion of images necessitates flipping back and forth between the figures and their related text, but this is an unavoidable consequence of an otherwise excellent feature of the text.

The discussion on radiographic anatomy is an excellent synopsis of the subject. The anatomy on plain radiographs is discussed briefly, but includes all clinically relevant information. The radiologic anatomy of the hila is well described, and there is a brief but useful discussion of the lateral radiograph. Pulmonary physiology is not as extensively dealt with as the other elements in this chapter. There are a few minor typographical errors in the chapter and an unfortunate convention of using “P_{CO₂}” to represent the pulmonary capillary oxygen tension. A more serious departure from convention is in the section on pleural fluid dynamics. The visceral pleural capillaries are identified as the main route for egress of pleural fluid, which conflicts with the current consensus that emphasizes the dominant role of the parietal pleural lymphatics.

Chapter 2 deals with methods of radiologic investigation. The chapter offers a brief recap of technical aspects of computed tomography, magnetic resonance imaging, and plain-film radiography. Although useful as an introduction, the chapter introduces many concepts without an adequate explanation for nonradiologists (eg, exposure latitude and exposures are discussed without an explanation of the relevance to image interpretation).

Chapter 3, “Radiologic Signs of Chest Diseases,” is another excellent chapter that is required reading for trainees, even if they

are not contemplating finishing the rest of the book. The radiologic signs are arranged in a pattern approach. The differentials for each pattern discuss the most common causes. The figures are excellent, except for a few chest radiographs in which the intended details are not clear. The differences between the various conditions mentioned in the differential are explicitly discussed.

Chapter 4 covers all nonradiologic methods of diagnosing chest diseases, including a section on physical examination, which covers all the essentials but is not as extensively referenced as the rest of the chapter. The section on bronchoscopy has a few statements that are not completely accurate. For example, the need for antibiotic prophylaxis is mentioned in passing, but the statement does not accurately reflect the current consensus. Current guidelines state that routine prophylaxis is not warranted for bronchoscopy, but prophylaxis may be indicated in high-risk situations. The authors advocate measurement of coagulation variables, especially in patients who are to undergo transbronchial biopsy, but such testing has not been found helpful in identifying patients who bleed after transbronchial biopsies. The authors proscribe bronchoscopy in the 6 weeks following an acute myocardial infarction. The data supporting such caution are scant, and the few data that exist suggest that it is safe except in active ischemia. Pulmonary function tests are discussed, although not in as much detail as one would expect in a specialty textbook.

Chapter 7 deals with neoplastic diseases of the lung. There is a wealth of information in this chapter. The risk factors and pathogenesis of lung cancer are discussed in great detail. The pathologic characteristics of lung cancer are discussed very well, and the discussion is aided by excellent figures and color plates. The authors used both an imaging-based and a symptom-based approach to the diagnosis of lung cancers. The imaging-based discussion includes headings such as “solitary pulmonary nodule” and “solitary mass,” and the symptoms-based approach includes headings such as “bronchopulmonary manifestations” and “extrathoracic manifestations.” Almost all clinically relevant information has been included. Staging is discussed well.

Chapter 9 deals with chronic interstitial lung diseases. In general, this chapter is excellent, with detailed discussion of the clinical and radiologic features. The section on sarcoidosis is rather brief on the epidemiol-

ogy of sarcoidosis. Current theories on the pathogenesis of sarcoidosis are summarized well, although an explicit discussion of the CD4/CD8 ratio and T-helper subsets would have made this more complete. The clinical presentation of sarcoidosis is comprehensively discussed. The radiographic manifestations are discussed in considerable detail, with most of the text hewing to a pattern-based approach. The section on interstitial pulmonary fibrosis has a comprehensive, current discussion on the various theories of its pathogenesis. The subsection on prognosis and natural history is nearly complete, save for information on the more recent developments, such as the CRP score.

The pathological appearance of interstitial pulmonary fibrosis is very well discussed and illustrated; the only addition that might improve this section would be explicit discussion of the pathology features that differentiate usual interstitial pneumonia from the other patterns seen in interstitial pulmonary fibrosis. Nonspecific interstitial pneumonitis, acute interstitial pneumonia, and desquamative interstitial pneumonitis/respiratory-bronchiolitis-associated interstitial lung disease are very well discussed and illustrated.

Overall, this is an excellent text. The chapters provide concise, comprehensive coverage of each topic. There is more detail than in many other pulmonary textbooks of similar size. However, therapeutics are not discussed, which makes this book difficult to characterize; it is both comprehensive and deficient. It is nearly complete in the areas the authors chose to address. The absence of information on treatment, however, means that an additional resource must be used by clinicians who manage pulmonary disease. From a clinician's perspective, this would mean the expense of an additional book and a less integrated discussion on each topic. This textbook would probably be of the greatest value to the physician-in-training or respiratory therapist who is looking for a second book to expand his or her knowledge of the radiology and pathology of the diseases they encounter in daily practice.

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Manual of Clinical Problems in Pulmonary Medicine, 6th edition. Richard A Bordow MD, Andrew L Ries MD MPH, and Timothy A Morris MD, editors. Philadelphia: Lippincott, Williams & Wilkins. 2005. Spiral-bound, soft cover, 647 pages, \$42.95.

The 6th edition of **Manual of Clinical Problems in Pulmonary Medicine** is a thorough overview of pulmonary disease. It is comprehensive in scope and includes common as well as rare conditions. Its best use is as a quick, easy-to-read reference guide. It is not as dense or detailed as a textbook, so it would be a useful pocket manual and should appeal to a broad readership. General practitioners, medical students, nurses, and respiratory therapists would find this a useful reference.

This spiral-bound book is well organized and packed with information. It is divided into 11 sections and 108 chapters on specific pulmonary ailments. Most chapters are 3–7 pages. The book is densely written, conveying a large amount of information in a small space. Commonly encountered problems duly receive greater attention than rare phenomenon. The book is almost entirely devoted to adult disease. The editors divided a broad specialty into easily understandable subsets. The subject index makes referencing a specific entity easy and convenient.

The pulmonary specialist may find this book lacking in detail but should get good use from the extensive references provided, and most of the references are accompanied by useful one-sentence descriptions. The book is compact in size, with a small font. One limitation is the lack of illustrations and the limited use of tables. Some of the information, such as the criteria for a positive purified-protein-derivative tuberculosis test, could be more readily accessed in tabular format.

The subjects the editors selected are a logical division of a broad specialty. They include pulmonary and diagnostic techniques, special problems, pulmonary infection, airways disease, acute respiratory failure, cardiovascular and thromboembolic disease, congenital and pediatric disease, chest wall and neuromuscular disorders, environmental and occupational diseases, idiopathic/immunologic/granulomatous diseases, and neoplastic diseases. The book would be strengthened by some reorganization. For example, the first 2 sections cover peripheral aspects of pulmonary disease, whereas lung cancer is left to the very end.

However, since the text is a pocket reference, this is a small limitation. Although 57 different authors contributed, the text is concise, clear, and reads coherently.

Section I, on pulmonary diagnostic techniques, includes chapters on radiographic testing and procedures such as bronchoscopy, surgical lung biopsy, and mediastinoscopy. The useful chapter on preoperative pulmonary evaluation covers the importance of smoking-cessation prior to major surgery. Section II discusses special problems, and is the "miscellaneous" portion of the book. Here the reader will find chapters on pleural disease, aspiration pneumonia, pregnancy, hyperbaric oxygen, tobacco-control, and bioterrorism, among others.

Each section provides an initial general overview and important detail on various conditions. Section III illustrates this, and I will review it in detail. It covers pulmonary infection and is the longest section in the book, with 24 different chapters. The first chapter is an overview of pneumonia; it explains mechanisms by which organisms enter the lung, and the organisms for which different patients are at risk. The distinction between community-acquired and hospital-acquired pneumonia is explained, and general guidelines to antibiotic selection are provided. The microbiologic and radiographic aspects of diagnosis are detailed. Finally, the importance of host immune status is discussed.

Section III then moves into individual chapters devoted to specific infections. The topics include bacterial, mycobacterial, viral, fungal, and parasitic causes of lung infection. Useful chapters on hospital-acquired pneumonia and human-immunodeficiency-virus-associated pulmonary infections are included. The chapter on hospital-acquired pneumonia provides a balanced discussion of this complicated issue, including the challenge of diagnosing ventilator-associated pneumonia. The coverage of tuberculosis is extensive, with chapters on latent disease, active disease, and treatment, all by the same author, so there is very little repetition among them. There is occasional redundancy elsewhere in this section; several authors devoted substantial space to pneumococcal pneumonia.

By the conclusion of Section III the reader has a thorough grasp of the spectrum of pulmonary infection. Treatment is generally covered in less detail than other aspects of specific disease entities. Epidemiology, clin-

ical presentation, laboratory/radiographic findings, and diagnosis are presented more thoroughly. The chapters would be strengthened by including some visual aids, such as a typical chest radiograph of community-acquired pneumonia.

The other sections adhere to the same template: an initial overview followed by detailed individual chapters. All the sections suffer similarly from the dearth of pictures, graphs, and tables.

Section IV discusses airways disease, with a justifiably heavy emphasis on asthma and chronic obstructive pulmonary disease. Chapters are devoted to clinical presentation, diagnosis, management, and pharmacotherapy of asthma. The emphasis on patient education in the management chapter is especially worthwhile. There are also 3 chapters on chronic obstructive pulmonary disease, including a discussion of the differences between emphysema and chronic bronchitis, as well as pathophysiology and management. Other chapters discuss pulmonary rehabilitation and the sometimes overlooked bronchiectasis.

Section V is the only portion of the book devoted to critical care; it briefly reviews acute respiratory failure. Acute hypercapnic respiratory failure is discussed primarily from a pathophysiologic perspective, rather than as a specific disease entity. This complex topic is skillfully handled; the section includes a review of the physiology of alveolar ventilation and the alveolar-arterial oxygen difference. Also covered are the importance of relative hypercapnia and the issue of supplemental oxygen contributing to hypercapnic respiratory failure. The next chapter discusses the acute respiratory distress syndrome. The pathophysiology is discussed in detail, and appropriate space is devoted to management. The rationale for positive end-expiratory pressure and low tidal volume is emphasized. Brief chapters on airway management and mechanical ventilation are included, with a discussion of liberation from mechanical ventilation. Finally, oxygen therapy/toxicity and the use of respiratory-therapy protocols are reviewed.

Section VI reviews cardiovascular and thromboembolic disease. The first 3 chapters address venous thromboembolic disease, including epidemiology, diagnosis, natural history, prophylaxis, and treatment. Chronic thromboembolic disease and associated pulmonary hypertension receive a full chapter, as do unusual causes

of embolisms, such as air, fat, and septic emboli. The chapter on pulmonary hypertension (both primary and secondary) includes a discussion of the newest available therapies, such as bosentan, sildenafil, and iloprost. This section concludes with a chapter on heart and lung transplantation, which includes an especially useful table that gives the referral guidelines for selected pulmonary diseases.

Sections VII and VIII are brief and cover congenital, chest wall, and neuromuscular problems. Sick cell disease and cystic fibrosis are the only heritable diseases addressed. Chest wall, diaphragmatic, and neuromuscular disease are briefly discussed. Sleep apnea is reviewed in section VIII. This disorder should receive more thorough coverage, since it is probably underdiagnosed.

Sections IX and X cover environmental/occupational lung disease and immunologic/granulomatous disease, respectively. The importance of exposure history is nicely emphasized with regards to occupational lung disease. A useful table provides specific questions to address with patients when occupational lung disease is under consideration. Another useful chapter in this section discusses the medico-legal aspects of disability evaluation. The chapter on occupational asthma would benefit from discussion of specific causes, such as latex. The section on immunologic/granulomatous diseases is extensive and includes a review of sarcoid, idiopathic interstitial pneumonia, and lupus, among others. The amount of detail is somewhat excessive, particularly given the rarity of several of the conditions, such as pulmonary alveolar proteinosis.

The text concludes with a section on neoplastic disease. This section includes the expected chapters on epidemiology, staging, treatment, and prognosis. It also includes a good discussion of more controversial topics, such as lung-cancer screening. Also provided is a chapter on the vexing solitary pulmonary nodule. Finally, there is a section on less common malignancies of the chest, such as carcinoids, mediastinal malignancies, and pleural tumors.

In summary, this book provides a comprehensive reference guide for the practicing clinician. It is up to date and easy to read. It gives ample detail on virtually every topic in pulmonary medicine, yet does not overwhelm the reader. It would be a wel-

come addition to most personal medical libraries.

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Q&A Color Review of Respiratory Medicine, 2nd edition. Stephen G Sapiro MD FRCP, Richard K Albert MD, David Fielding FRACP, Angshu Bhowmik MBBS MRCP. *Q&A Color Review* series. New York: Thieme. 2004. Soft cover, illustrated, 192 pages, \$39.95.

Q&A Color Review of Respiratory Medicine is a collection of 211 questions and answers that cover a broad range of topics in pulmonary medicine. The book is designed to cover many of the different clinical problems faced by pulmonologists, with emphasis on common conditions such as chronic obstructive pulmonary disease and lung cancer. The contributing authors cover a wide range of expertise, practice settings, and experience.

The book is written in a question-and-answer format, and each question is independent of the next. Accompanying the questions are color illustrations that provide important clinical information. The illustrations include radiographs, pictures of physical findings, results of diagnostic tests, and images of gross and microscopic pathology. These illustrations are, as the title suggests, the highlight of the book. The care that the authors took in selecting radiographs and images is evident. The graphs and diagrams are simple and easy to understand. The answers to each of the questions are provided on the back side of each page.

The questions are diverse, both in topic and in style. Some questions require simple recognition of a physical-examination finding and a one-word answer. Others are open-ended and require thought and organization prior to answering. This diversity is both interesting and realistic, given that in clinical medicine one is often faced with a similar potpourri of problems when managing a patient. The answers are concisely stated and easy to follow.

The book attempts to cover a broad range of pulmonary topics. Questions range from the management of critical-care issues, such as acute respiratory distress syndrome, to

dental devices used in obstructive sleep apnea. The content is also consistent with the authors' stated goal of emphasizing common clinical problems, given that there are a noticeable number of questions on chronic obstructive pulmonary disease, infectious pneumonias, and pulmonary malignancies. One of the major challenges in organizing a book like this is to strike an appropriate balance between the common problems that all pulmonologists must master and the "fascinomas" and clinical rarities that make medicine so unpredictable and stimulating. **Q&A Color Review of Respiratory Medicine** does a nice job of achieving that balance. The backbone of "bread and butter" cases is complemented by questions and illustrations of rare cases that recapture the reader's interest just when the questions seem to get commonplace.

Despite having a broad range of questions and concise, well-written answers, this book has limitations. The biggest is that it is not comprehensive enough. The topics that are addressed are described to an appropriate level of detail, but this level is far less than one would need to understand a particular disease or problem well, so this book can only be used as a supplement to other more comprehensive texts. To be fair, I think the authors never intended this book to be a comprehensive review. From a practical perspective, however, most health-care professionals are very busy and overwhelmed with the growing list of textbooks, journal articles, and online resources that they do not have time to read. Where, then, does **Q&A Color Review of Respiratory Medicine** fit into all of this? Is it yet another textbook one should add to the pile of things to read if one had the time? I think one of the advantages of this book is that it can be fit into the small openings of a busy professional's schedule. The book is compact and light. Each question is independent of the next. The answers do not take long to read. The illustrations are fun and interesting. Thus, I found it a nice book to have on the bus, while waiting for a colleague, or during a lunch break. Would I use this book to engage in a detailed review of pulmonary medicine? Probably not. Do I find it useful as a fun, educational text I can use during the small breaks that thankfully present themselves during the day? Absolutely.

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Infection Control in the Intensive Care Unit, 2nd edition. HKF van Saene, L Silvestri, MA de la Cal, editors. *Topics in Anaesthesia and Critical Care*, Antonino Gullo, series editor. Milan, Italy: Springer-Verlag. 2005. Soft cover, illustrated, 639 pages, \$199.

Infection control and prevention of antibiotic resistance are important issues in the intensive care unit (ICU). Among the various health-care settings, ICU organisms are on top of the resistance pyramid. Considering the exodus of patients from the ICU to other health-care settings, including nursing homes, chronic-care facilities, and the community, the ramifications of spread of antibiotic resistance are tremendous. The spread of antibiotic resistance is like a tidal wave that has its center in the ICU, and the waves are spreading toward the locales to which patients are transferred. The effect of antibiotic resistance is at several tiers, such as the individual, ICU, hospital, other health-care settings, and the community. Everyone who steps into the ICU should be aware of day-to-day measures needed to prevent spread of infection, especially with resistant organisms.

This book is a comprehensive update on infection control and antibiotic resistance in the ICU setting, to help answer some of the outstanding questions and to propose guidelines. Briefly, it defines the extent of the problem of infection control and antibiotic resistance. It establishes clear definitions of the various terms used (eg, carriage and colonization) and describes the antimicrobial agents available. It goes on to discuss infection control, specific infections in ICU subpopulations, and unique considerations in ICU patients.

Section 1 defines the basics of infection control. The first chapter is a good introduction, clarifying commonly used words. It clearly delineates the difference between terms such as carriage, colonization, and overgrowth, some of which can be confused with each other and are used interchangeably. The next chapter focuses on carriage, reviews normal defense mechanisms, and

distinguishes between normal and abnormal flora. The third chapter further expands on these concepts and clarifies the distinction between colonization and infection, specifically in the internal organs, such as the bladder and the respiratory tract, with examples and detailed mechanisms. Normal defense mechanisms and control measures are also reviewed. The fourth chapter discusses (and provides detailed tables on) normal and abnormal hospital flora and the impact of antibiotic resistance.

The chapter on classification of ICU infections provides a different way of looking at this issue. The chapter focuses on the sources of the micro-organisms. This approach deviates from the conventional way of defining infections—community-acquired versus ICU-acquired. The authors of this chapter preferred to classify them as either primary endogenous infections (from flora imported into the ICU by the patient on admission [early infection]), secondary endogenous infections (from flora acquired in the ICU [later infection]), or exogenous infections (abnormal flora, such as *Acinetobacter*, that cause direct infection without prior colonization). This is the proposed explanation for the limitation of existing measures, such as hand-washing and isolation, as they do not control primary endogenous and secondary endogenous infection (85% of the infections in the ICU). This approach to classifying infections necessitates addressing the carrier state by using a program consisting of surveillance cultures and selective digestive decontamination (SDD). This approach is different from conventional wisdom, is not widely practiced in the United States, and is not part of the common guidelines, such as the American Thoracic Society/Infectious Disease Society of America (ATS/IDSA) guidelines for nosocomial pneumonia. The final chapter in this section, on gut microbiology and surveillance samples, defines techniques and qualitative and quantitative details to distinguish the carrier state, overgrowth, and their clinical importance. The authors make an argument for surveillance cultures in addition to infection-related cultures, and they suggest control measures based on a surveillance culture strategy.

Section 2 is a detailed review of existing antibiotics and antifungal agents, including subclasses. This section comprehensively covers available oral and parenteral antibiotics, with details of their antimicrobial spectrum. This is well categorized and subclassified.

sified, with differences between subgroups highlighted. The chapter concludes with an interesting and clinically relevant discussion of concentration-dependent versus time-dependent antibiotic bactericidal activity. The antifungals are reviewed, along with differences between various agents and newer drugs in development. This section concludes with a chapter on enteric antibiotics, with a new addendum in this edition on enteral nonabsorbable antibiotics, which is the basis of SDD. A rationale is made for SDD in keeping antibiotic resistance in check and prolonging the effect of the currently available antimicrobials. Here, hand-washing is proposed as an ancillary measure to SDD; in contrast, hand-washing is one of the primary strategies in most infection-control programs.

Section 3 targets various aspects of infection control in the ICU; it presents an evidence-based, comprehensive approach with respect to invasive devices such as peripheral catheters, central venous catheters, ventilator-related equipment, and urinary catheters. The authors make the point that the widely used antiseptic-coated central venous catheters reduce catheter contamination but do not reduce catheter-related infections. A device-management program is recommended as an infection-control measure. The chapter on ICU antibiotic policies focuses on balancing efficacy, safety, and costs to achieve good outcomes. It outlines a process that is difficult to plan, implement, and monitor, especially with the widely prevalent "open ICU" structure.

Advancements in molecular techniques are described in the next chapter, which analyzes 57 infection outbreaks. These outbreaks were usually polyclonal. The molecular techniques used were more effective in pinning down external infection sources, since internal sources could not be easily identified without surveillance cultures. This is a rapidly advancing field, with many exciting developments. This section concludes with an in-depth discussion of SDD as an important limiter of infection, resistance, and mortality in the ICU.

Section 4 gives clinical descriptions of ICU infections, including ventilator-associated pneumonia (VAP), bloodstream infections, pleuroperitoneal infections, wound infections, and urinary-tract infections. Other topics include pediatric and neonatal ICU infections; immunocompromised patients, such as transplantation patients and patients with acquired immune

deficiency syndrome; and clinical virology in the ICU. Broadly speaking, these are updated and exhaustive reviews of these topics, with treatment guidelines for these infections. Two chapters stand out: the one on "immediate adequate antibiotics" as a major factor impacting on morbidity and mortality, and the one on "therapy of infection." Both these chapters present data to justify a comprehensive approach of surveillance cultures, early systemic antibiotics (to eradicate abnormal organisms present in patients on ICU admission), SDD, device-management, and other infection-control measures to minimize infection, optimize outcomes, and minimize the risk of increasing antibiotic resistance.

Section 5 is a potpourri; it describes sepsis definitions, metabolic and nutritional aspects of sepsis, and clinical aspects of stress-ulcer prophylaxis. The chapter on antibiotic resistance builds on the data presented extensively earlier. It points out the limitations of existing strategies referred to by the authors as the "traditional approach"—namely antibiotic restriction, hand-washing, and isolation. The authors address the overall issue of antibiotic resistance with a multipronged strategy of surveillance cultures, early systemic antibiotics, SDD, and hygiene practices. They present 5-year data from a pediatric ICU that used this strategy and eradicated the abnormal resistant gut organisms, with good outcomes. The pharmacist's role in SDD is defined in detail. The book concludes with an evidence-based section on ICU therapies.

In summary, this book is a very good review of infection control and ICU infections in general, covering adult and pediatric populations and focusing on specific subsets such as VAP, acquired immune deficiency syndrome, and transplantation. To the authors' credit, evidence-based practices are extensively presented and reviewed. The index is well-organized, the sections are well defined, and specific information is presented. The text is well written, and for a topic that has many technical terms and descriptions, it makes for relatively easy reading. There is some redundancy; several chapters introduce and reflect on the different types of infections: primary endogenous, secondary endogenous, and exogenous. The same is true for descriptions of terms such as the carrier state and overgrowth. This book is an all-inclusive review, so it is

fairly voluminous, and it goes beyond the title's description. This is partly because the authors describe ICU infections in detail and touch on a substantial number of related ICU topics. System-specific diseases such as VAP and abdominal infections are described at great length; though this may be relevant from an overall infection-control perspective, it makes for intense reading.

In addition, from the perspective of therapeutic infection control, the data presented here lean heavily toward SDD as the recommended antibiotic-resistance-prevention and infection-control method. This is an eye-opener, since SDD is not a common practice in ICUs in the United States. The data presented for commonly followed approaches, such as antibiotic restriction and hand-washing, highlight their limitation to control short-term and long-term antibiotic resistance. However, at this point it appears that SDD can increase the incidence of methicillin-resistant *Staphylococcus aureus* (MRSA), as MRSA coverage is usually not included in SDD protocols, and SDD is not useful in ICUs that have a high level of endemic MRSA. In the 2005 ATS/IDSA nosocomial pneumonia guidelines, SDD is not recommended for routine use, especially in patients who may be colonized with multiple-drug-resistant pathogens such as MRSA. The final decision on the implementation of SDD remains ICU-specific.

This book is directed mainly toward personnel involved in infection control and ICU care, such as physicians, nurses, and pharmacists. It contains abundant useful information for ICU workers interested in building policies and protocols to control the epidemic of antibiotic resistance, maintain the efficacy of available antibiotics, and promote good outcomes. Respiratory therapists may find interesting the chapters on VAP, device control, tubing, and humidifiers. The entire concept of SDD is well explained and may be of interest to all involved in ICU care, including nurses, therapists, infection control personnel, and physicians.

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Mechanical Ventilation. AS Slutsky and L Brochard, editors. *Update in Intensive Care and Emergency Medicine*, volume 40, JL Vincent, series editor. Berlin: Springer-Verlag. 2004. Hard cover, illustrated, 419 pages, \$179.

This text is the latest installment of the popular *Update in Intensive Care Medicine* series edited by Vincent. The book presents a state-of-the-art critical review of the literature related to acute respiratory failure and its treatment with mechanical ventilation. Rather than focus on the diagnosis and pathophysiology of the various types of respiratory failure, this collection instead delves deeply into the various modalities of mechanical ventilation, its applications, monitoring, benefits, and risks.

The book is organized into 6 sections, each with 3–7 chapters. The contributing authors are unquestionably experts in the field of critical care medicine, and they represent a multitude of backgrounds, both in training and nationality. In addition, the authors are nicely matched to their subjects of interest, with many authors describing their own contributions to our understanding of various specific aspects of ventilation, while equally addressing their critics' conflicting theories.

Unfortunately, the editors did not include a stated aim, so it is difficult to gauge exactly to whom this book is directed. I found the text most suited to fellows and faculty in critical care seeking a careful literature review of mechanical ventilation.

In the opening section, "Epidemiology," the chapters set out to frame the problem of acute respiratory failure and its need for mechanical ventilation, touching on the epidemiology of mechanical ventilation itself, long-term outcomes following ventilation, and the process of assessing and changing the community's practice of mechanical ventilation. The first chapter, "The Importance of Acute Respiratory Failure in the ICU," gives voice to the inherent struggle of this book; while it aims to broadly discuss mechanical ventilation, the lack of clinical studies for most types of respiratory failure—excepting acute lung injury and acute respiratory distress syndrome (ARDS)—essentially makes this a book about mechanical ventilation specific to acute lung injury and ARDS.

Acknowledging that respiratory failure requiring ventilation is one of the main causes for admission to intensive care units

(ICUs) worldwide, the authors emphasize that, even in ARDS, patients are more likely to succumb to multi-organ dysfunction syndrome than hypoxemia. This sets the stage for later chapters, which describe the systemic response to ventilation. Frutos-Vivar and colleagues offer a nice encapsulation of modern ventilation practice patterns across the world. The final chapter of the section, "Understanding and Changing the Practice of Mechanical Ventilation in the Community," is a novel examination of the barriers to implementing change in our practice of mechanical ventilation, applying learning theory to critical care, and emphasizing the need to disseminate teaching to multiple levels of an ICU team, including respiratory therapists, nurses, house staff, and attending physicians.

Section 2, "Patient-Ventilator Interactions, Weaning, and Monitoring," is arguably the most physiologically and clinically oriented of the book. Chapters by Younes and by Parthasarathy and Tobin explore the complex interactions between the patient's neural control of breathing and the ventilator's superimposed pattern. The chapter by Parthasarathy and Tobin is more successful at defining asynchrony between patient and ventilator inspiratory and expiratory times, and it identifies helpful cues that indicate when a patient is wasting effort. However, both chapters assume a considerable baseline familiarity of complex respiratory physiology and of modes of ventilation, engaging in a high-level discussion before the book has introduced many of the topics. A chapter on ventilation for patients with obstructive airways disease follows, which is, unfortunately, the only chapter dedicated to this common and complicated topic. Mancebo's approach to obstructive disease is both thorough and concise, and he includes an excellent explanation of intrinsic versus extrinsic positive end-expiratory pressure (PEEP). Nonetheless, he deals tersely with some of the difficult controversies in obstructive lung disease, such as the observation that hypercapnia may worsen as hypoxemia is corrected. The text implies that hypercapnia invariably occurs when a patient with a chronic obstructive pulmonary disease exacerbation is given oxygen, and neglects to advise that adequate oxygenation should be achieved regardless of the P_{CO_2} . The remainder of the section is devoted to clinical topics such as the physician's role in analyzing ventilator waveforms and titrating pressure support; liberation from me-

chanical ventilation; and new monitoring techniques, including esophageal pressure as a surrogate for pleural pressure or end-expiratory lung volume as a marker for overdistention. These chapters were uniformly excellent and clinically relevant. Finally, Sinderby and colleagues cover "neurally-adjusted ventilatory assist," one of the newer ventilation modes, which uses diaphragmatic electric activity to trigger ventilation. Sinderby provides a fantastic discussion of the theory, pros, and cons of neurally-adjusted ventilatory assist, but misses an opportunity to include practical instructions to clinicians, such as how to set the gain.

Section 3 explores noninvasive ventilation, with 3 in-depth chapters devoted to its indications, causes of success or failure, and use in immunocompromised hosts. Each of these chapters extensively reviews the literature on noninvasive ventilation, emphasizing the importance of selecting patients most likely to benefit from the therapy, especially those with chronic obstructive pulmonary disease, cardiogenic pulmonary edema, or immunocompromised status. The authors elegantly discuss the controversy of using noninvasive ventilation in patients with active myocardial ischemia. The only discussion I found missing in this section was on the recent literature regarding noninvasive ventilation following extubation failure, in which a higher risk of mortality was seen in the noninvasive-ventilation group than in the group that received standard therapy with oxygen alone.¹ I suspect that **Mechanical Ventilation** went to press before the latter paper was published.

The final 3 sections of the book deal exclusively with ARDS and ventilator-induced lung injury (VILI), exploring the pathophysiology and new and experimental treatments.

Section 4, "ARDS/VILI: Mechanisms," aims to expand our understanding of injury in ARDS/VILI to the molecular level, touching on plasma-membrane unfolding, aberrant deformation-induced lipid trafficking, and capillary stress fracture. The discussion is largely theoretical and based on animal studies, but the text is accompanied by helpful figures. The most interesting chapter of the section is by Imai and Slutsky, "Systemic Effects of Mechanical Ventilation." Though it is slightly redundant regarding the mechanisms of VILI, this chapter nicely bridges the gap from bench to bedside, stating a believable case for how ventilator-induced stretch might translate into multi-organ dysfunction.

Section 5, "ARDS/VILI: Assessment," introduces one of the recent controversies in acute lung injury. Gattinoni and colleagues present the idea that ARDS is caused by 2 very different mechanisms: extrapulmonary insults (such as sepsis or trauma) and pulmonary injury (such as pneumonia or aspiration). They elaborate that the chest-wall mechanics differ substantially between the 2 entities, and they propose that therapy (level of PEEP, recruitment maneuvers, and use of prone positioning) might be superior if tailored to the type of ARDS.

Kavanagh wrote "Targets in Mechanical Ventilation for ARDS," a provocative chapter that considers 3 common goals of ventilation (oxygenation, ventilation, and PEEP) and closely examines the literature of titrating therapy to specific end points in each. I greatly enjoyed his discussion of targets, especially his concluding remarks, which emphasize the need to determine the greatest threat to the patient and prioritize the goals of ventilation accordingly.

The remaining chapters debate the utility of the static pressure-volume curve as a tool to minimize VILI. Ranieri and colleagues briefly describe the various ways the pressure-volume curve is measured, but I thought these procedures deserved more detailed explanation for the practicing clinician. I was also surprised that the authors failed to emphasize the need for paralysis as one of the major drawbacks of routine pressure-volume measurements.

Finally, in the last section, "ARDS/VILI: Therapy," the discussion moves beyond the findings of the landmark ARDS Network trial² into exciting work on novel ventilation strategies, recruitment maneuvers, and salvage therapies. Amato and colleagues revisit the pathophysiologic debate of collapse versus flooding in a well-written and nicely illustrated review of recruitment literature. Putensen and collaborators advocate permitting spontaneous breathing with assistance,

even in ARDS, as a way to improve ventilation/perfusion matching and decrease ICU days. Kacmarek covers some of the newest potential adjunctive therapy, including tracheal gas insufflation, partial liquid ventilation, nitric oxide, and the idea of biologic variability, which asserts that even the ventilator circuit relies on occasional surges or decelerations for optimal functioning. Interestingly, the controversy over corticosteroids in ARDS (whether to give them early, late, as a bolus, or in small physiologic doses) is not discussed, which is disappointing, given pervasive practice variation across the country.

The book concludes with a "Summary of Clinical Trials of Mechanical Ventilation in ARDS" by Brower and Rubenfeld. This well-conceived chapter meticulously examines the science leading to the influential ARDS Network trial² and addresses the sometimes conflicting results of trials based on smaller tidal volume. Though it is a fantastic review for any student of critical care, this chapter would have been more appropriately placed earlier in the book.

In all, I found **Mechanical Ventilation** a state-of-the-art review of both historical and contemporary literature regarding ARDS, VILI, and mechanical ventilation. Physically, the book is user-friendly, has a resilient hard cover, and is compact but with a legible font. The cover appears dated, but the contents are up-to-date, except in rare instances. One problem is that the book suffered from hasty editing; there are a substantial number of trivial typographical errors (eg, the chapter heading "Lung Morphology in ARDS: Ho [sic] it Impacts Therapy") and awkwardly written passages. The same chapter includes figure legends that indicate that the figures show aeration zones in black, light gray, and dark gray, but the figures actually show the areas in black, red, and light gray. Image quality and relevance varied by chapter, with most chap-

ters achieving the right balance between text and figures.

My main reservation about **Mechanical Ventilation** is that it assumes a very high level of baseline familiarity with the topic. Unlike other textbooks of ventilation, this text does not include basic explanations of the way a ventilator is assembled, how the ventilator senses flow and pressure, or how to troubleshoot various technical issues such as auto-cycling, cuff leaks, and water-logged filters. Though advanced topics such as neurally-adjusted ventilatory assist, noninvasive ventilation, and proportional assist each are given considerable space, there is no general discussion of basic ventilator modes. The targeted audience appears to be critical-care fellows, senior respiratory therapists, and faculty, for the book is organized around the literature of ventilators and modern controversies, rather than with a patient-centered clinician's approach. As such, I find this book an excellent reference for critical-care researchers and ICU directors, but would not advocate it for readers hoping for clinical pearls.

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REFERENCES

1. Esteban A, Frutos-Vivar F, Ferguson ND, Arabi Y, Apezteguia C, Gonzalez M, et al. Noninvasive positive-pressure ventilation for respiratory failure after extubation. *N Engl J Med* 2004;350(24):2452-2460.
2. The Acute Respiratory Distress Syndrome Network. Ventilation with lower tidal volumes as compared with traditional tidal volumes for acute lung injury and the acute respiratory distress syndrome. *N Engl J Med* 2000;342(18):1301-1308.