

tion in the text. The editors used art sparingly and wisely, where needed; for example, flow volume tracings and other graphics to illustrate pulmonary functions. The illustrations will greatly enhance the reader's understanding, and there are excellent illustrations in many chapters, such as the chapters "Mediastinoscopy" and "General Approaches to Interstitial Lung Disease." The radiographs and computed tomography images, though not abundant, adequately demonstrate specific and important clinical findings. Image quality is important to illustrate points effectively, and I found the images to be of high quality and easy to view. The references are complete and current for each chapter. The table of contents is clearly organized and the index is comprehensive.

The organization of the subject matter departs from the traditional division of management and pathophysiology. Disease processes are presented categorically and include comprehensive corresponding chapters on treatment. This approach works nicely, as the reader can move quickly from readings on respiratory failure to ventilatory strategies and weaning. An example is the section "Airway Disease," in which the chapters flow from asthma and chronic obstructive pulmonary disease to oxygen therapy and smoking cessation.

The book's ease of use and convenient size create a text that is valuable in the clinical as well as didactic setting. The versatility of the text and the wide variety of subject matter make this a good reference for frequent use in various patient care settings. An entire chapter devoted to procedures in pulmonary medicine adds a lot of utility to the reference as a whole. The authors provide instructions for and clarify many points about specific procedures such as bronchoscopy, and they address questions such as "What are the indications for bronchoalveolar lavage?" and "What are palliative bronchoscopic therapies?" Posing these questions with succinct and current answers offers respiratory therapists a better understanding of the procedures we see every day and aids residents when asked for a consult.

A critical care reference must contain sound advice, and this text uses current standards of evidence-based practice. With all the current excitement surrounding acute respiratory distress syndrome in critical care, naturally this was the first section I read, considering the contemporary nature of the

material. I found that the book is supportive of the current National Institutes of Health recommendations for treating acute respiratory distress syndrome. I was also encouraged to see a discussion on multiple-organ dysfunction syndrome, as well as information on risk factors, morbidity, and mortality. Another nice facet of this book is its discussions of current controversies in acute respiratory distress syndrome management. In the section on mechanical ventilation there is an informative discussion on the basics of mechanical ventilation, as well as an interesting discussion on the mechanisms of permissive hypercapnia. In the section titled "Alternative Invasive Ventilatory Strategies," I found some unusual ideas that I have not heard much about in recent years, including thoracic gas insufflation, inverse ratio ventilation, proportional-assist ventilation, and partial liquid ventilation. Though these ventilation methods are fraught with pitfalls, they are also thought-provoking alternatives for those times when we need to pull a proverbial "rabbit out of our hat."

**Pulmonary/Respiratory Therapy Secrets** covers a comprehensive list of topics in pulmonary medicine. In addition to the topics in critical care and mechanical ventilation, an entire section is devoted to infectious processes, and the list of infectious processes is impressive. This section remains true to the rest of the text in that each chapter is current and contains valuable, up to date, and interesting information for the clinician. The chapters revolve around the current standards of practice but they also open up some interesting debates. One nice example is the controversy over tracheal aspirate versus bronchoalveolar lavage, discussed in the section on nosocomial pneumonia. Though the gamut of pulmonary infections receives a lot of attention in the section on infectious disease, it's nice to see an informative chapter on pneumonia prevention. There is also extensive reference to lung cancer, vascular disease, interstitial disease, and other topics too numerous to list here. For each disease category the book provides pertinent information on diagnosis, radiographic and clinical presentation, and treatment.

The question-and-answer format teaches practitioners to ask the right questions about patient care—one of the primary goals of the text. This is a nice alternative to the standard textbook format. The arrangement of questions allows the introduction of new concepts and text without the cumbersome

style of a traditional textbook. The reader can pause and formulate his or her own answers before proceeding to the text's answers. In practice it is easy to disseminate the required information, which adds to this text's utility as a reference. The design of the text stimulates the evaluation of a problem and the formulation of creative, effective solutions for patient care. Teaching critical thinking in this way creates better clinicians, which benefits our patients.

Overall, **Pulmonary/Respiratory Therapy Secrets** is informative, enlightening, and interesting. I integrated the book's information into my daily routines and found it to be a convenient reference. Of particular note is the union of older interesting ideas with exciting new ones. The text is not an instructional work, but rather a resource for clinicians seeking answers to questions about management, pathophysiology, and the theories behind what we do. I found the format refreshing and supportive of our roles as investigators in the clinical setting.

**Fred M Goglia RRT**

Respiratory Care Program  
Seattle Central Community College  
Seattle, Washington

**Understanding Lung Sounds**, third edition. Steven Lehrer MD. Philadelphia: WB Saunders. 2002. Soft cover, illustrated, 145 pages plus audio CD (operates with Windows or Macintosh operating systems), \$49.

Listening is a magnetic and strange thing, a creative force. The friends [and caregivers] who listen to us are the ones we move toward. When we are listened to, it creates us, makes us unfold and expand.

—Karl Menninger MD

**Understanding Lung Sounds** is designed to provide background on chest auscultation and interpretation skills to medical and allied health students and practitioners. The book is divided into 5 chapters, the first three of which comprise half of the 124 pages of the text; these 3 chapters review (1) fundamentals of pulmonary anatomy and physiology, (2) the physics of sound, hearing, and the stethoscope, and (3) history and physical examination. The final 2 chapters provide detailed discussion on normal and adventitious breath sounds. The accompanying audio compact disc contains 22 tracks of lung sounds described in the text, as well as 6 tracks to test the listener's skills. At the end of each chapter a series of questions

review the content, and several of the questions are of the critical-thinking type. The chapters are referenced and there is a bibliography, a section with the answers to chapter questions, a glossary, and an index.

Chapter 1 begins with a very brief overview of pulmonary anatomy and physiology and concludes with a section on pulmonary disorders, including paragraphs on atelectasis, emphysema, consolidation, pneumothorax, and pleural fluid problems. Although the content in this section is extremely basic, readers without this fundamental information would probably not be able to connect the pathologies to specific lung sounds.

Chapter 2 provides an introduction to the basic physics of sound, describing the characteristics of frequency, intensity, duration, and timber (or quality). The text reviews the capabilities of normal human hearing; the various ranges of musical instruments are used in this discussion, as well as sound levels of breath sounds. Of interest is that most breath sounds fall into the range (below 500 Hz) in which the human ear is least sensitive. The author provides a brief but fascinating history of lung sounds in ancient medical practice, including the contribution of René Théophile Laënnec. The chapter concludes with a “nuts and bolts” discussion of the types and components of stethoscopes, including which sounds are best heard with the bell versus the diaphragm.

Chapter 3 reviews the basics of history and physical assessment, including inspection, palpation, and percussion. Again, although this information is rudimentary, without this background the book’s discussion on connecting lung-sounds to disease entities would be incomplete.

The book’s major topics are covered in Chapters 4 and 5. Chapter 4 provides instruction in chest auscultation and discusses normal breath sounds. A table early in Chapter 4 relates alterations in normal breath sounds with the major pulmonary disorders, describing expected alterations in inspection, palpation, and percussion. The chapter concludes with sections that provide interesting reading on details such as breath sounds variations based on location/region of the chest wall, heartbeat, and in children. (Readers with further interest might enjoy Robert Loudon and Raymond Murphy’s classic “state of the art” article on lung sounds.<sup>1</sup>) The chapter then reviews more recent technical advances of chest auscul-

tation by Victor McKusick and David Cugell, discussing phonopneumograms from the standpoint of teaching auscultation skills. That research led to techniques such as time-expanded waveform analysis, later promoted by Raymond Murphy, in which adventitious sounds are stored by a computer and replayed slowly. The chapter briefly discusses subtraction and automated phonopneumography, which has been employed by Dennis O’Donnell and Steve Kraman. These techniques involve multiple recordings of lung sounds made from various locations on the chest wall and have revealed the areas of loudest sound transmission and the relative nonuniformity of sound intensity across the chest. Information on the latest computer-based technologies can be found in other articles on these topics.<sup>2,3</sup> The chapter in **Understanding Lung Sounds** concludes with a short discussion of dual chest-mounted stethoscopes and stethoscopes inserted into the breathing circuit during anesthesia to detect tracheal versus esophageal intubation.

Chapter 5 covers adventitious sounds and abnormal voice sounds. The text first deals with the troubling issue of terminology. In the days of Laënnec this topic became a problem, and continues to be. Laënnec originally used the word *râle* (Latin for “rattle”) generically for all sounds. To add detail for the various lung-sound characteristics, he applied adjectives, describing a “sound-like” approach. For example, Laënnec creatively described types of rhonchus (Greek for “snore”) as sounding like cooing pigeons, croaking frogs, or snoring (“*râle sec sonore ou ronflement*”), because of the foreboding connotation of *râle* for the *death rattle*. Confusion about these terms continues today and has been the source of much research and editorializing.<sup>4-7</sup> In the mid-1970s the American College of Chest Physicians and in 1980 the American Thoracic Society tried to clarify the muddy waters by categorizing 3 sounds: crackle, wheeze, and rhonchus.<sup>8,9</sup>

The British, however, later simplified the terminology to crackle (course and fine) and wheeze (high-pitched and low-pitched); wheeze includes rhonchus. In **Understanding Lung Sounds** Steven Lehrer uses the British terminology approach.

The author carefully describes the sound characteristics and presumed acoustic causes of crackles (both fine and coarse) and then describes the disorders normally associated with these adventitious sounds. He provides a table that summarizes findings, and fig-

ures that further describe the types and relative incidence of crackles in diagnosis. Wheezes receive similar treatment. However, the author makes no distinction between (and there is little discussion about) high-pitched wheeze (sibilant rhonchus) and low-pitched wheeze (sonorous rhonchus). The section on wheezing does not seem to have as much review of potentially associated pathologies as does the section on crackles. This chapter includes a paragraph on stridor and hoarseness, with a review of possible causes of each. The section on adventitious sounds concludes with brief discussions on pleural friction rub, mediastinal crunch, bronchial leak squeak, and the inspiratory squawk. There is a brief review of abnormally transmitted voice sounds. The chapter ends with a short discussion on auscultation methods to quantitate loudness of breath sounds in the context of abnormally low and/or declining forced expiratory volume in the first second (FEV<sub>1</sub>) associated with emphysema and chronic obstructive pulmonary disease. What I did miss in this book was a summary table of all types of adventitious sounds, summarizing mechanism, sound origin, acoustic pattern, and clinical relevance. Such tables have been developed in other publications.<sup>2,9</sup>

The audio CD is a combination of narration and breath sounds. Beginning students of chest auscultation will find the narrative quite helpful to keep the sounds in context. The narrator makes connections between sounds, their physical causes, and the associated pathologies. The script of the narration is printed in the accompanying booklet in the CD’s case. That booklet includes some material not covered in the book, such as amphoric (cavernous) breath sounds. It also helps with the use of the confusing term *rhonchus*. The final 6 sounds on the CD are for listener skill-testing, and there is immediate feedback.

The recordings are of high quality and are repeated enough to provide instruction without inflicting boredom. Using the CD requires that your computer have a sound card and separate speakers. Computers running Windows operating systems require Windows 95 or higher, the central processing unit must operate at at least 166 megahertz, and the system must have  $\geq 8$  megabytes of random access memory.

Overall, **Understanding Lung Sounds** is a wonderful aid for learning the basics of auscultation. The combination of a compact textbook and audio CD makes effective use

of both media. The level of the material appears to be targeted to physicians, nurses, and respiratory therapists who are in the beginning of their education about physical examination or who desire a refresher. The CD allows easy playback of any specific sound, in contrast to audio tapes, which are difficult to cue up to the right spot.

On the Internet there are some free lung sounds sites, but few sites provide background equivalent to Dr Lehrer's text. There are Web sites that for a subscription fee provide color graphic analyses along with the sounds, but they cannot compare to the modest (\$49) price of **Understanding Lung Sounds**, which I would recommend to any educational program or hospital, medical, or department library. My only concerns relate to the author's use of British descriptive terminology—specifically, the omission of the controversial term *rhonchus*, as that term does appear on some American board exams. However, the CD does include a lovely *rhonchus* sound and it is described as “sonorous *rhonchus*” as well as “low-pitched wheeze.”

A summary table of all adventitious sounds and their associated pathologies would be helpful for both the text and the pamphlet accompanying the CD.

Over the years it seems that the overall value of chest auscultation has taken a back seat to chest radiography and other imaging techniques, but auscultation is a time-honored bedside technique that can provide immediate, cognitive, and sometimes life-saving information at low cost. As we listen to their bodies it can bring us closer to our patients.

**Jeffrey J Ward MEd RRT**

Program in Respiratory Care  
University of Minnesota/Mayo Clinic  
Rochester, Minnesota

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**Patterson's Allergic Diseases**, 6th edition. Leslie C Grammer MD and Paul A Greenberger MD, editors. Philadelphia: Lippincott Williams & Wilkins. 2002. Hard cover, illustrated, 830 pages, \$125.

As a practicing allergist, I am always looking for an up-to-date summary of the latest developments in the diagnosis and management of allergic conditions. After thrashing the binding of the fifth edition of this series from heavy use during fellowship training, I was pleased to see this sixth edition released. The sixth edition is named for the late Roy Patterson, who was the Ernest S Bazley Professor of Medicine and the Chief of the Division of Allergy-Immunology at Northwestern University Medical School.

The book has an attractive black hard cover, with a solid binding and good-quality paper. The typeset is easy to read and the text in this edition is arranged in narrower, easier-to-read columns, which is a marked improvement from the fifth edition. Tables are well utilized and the black-and-white photographs of pollen and radiographs are clear. There are very few typographical errors.

The goal of the sixth edition is the same: to provide a current summary of the diagnosis and management of nearly every allergic condition encountered in a typical allergy practice. It addresses the common traditional topics of asthma, allergic rhinitis, sinus disease, food allergy, anaphylaxis, drug allergy, latex allergy, urticaria, angioedema, contact dermatitis, and atopic dermatitis. In addition it has chapters on less common conditions such as immunodeficiency, hypersensitivity pneumonitis, allergic bronchopulmonary aspergillosis, occupational lung disease, Stevens-Johnson syndrome, and eosinophilia. Chapters are

also devoted to more difficult clinical problems, such as wheezing in infants, sleep apnea, severe asthma, and asthma in pregnancy, as well as chapters on the use of allergy medications, such as antihistamines, corticosteroids, leukotriene antagonists, cromolyn, theophylline, and delivery devices for inhaled medications. One editorial deficit of the book is that the treatment of certain subjects is divided and separated; for example, the allergic rhinitis chapter and nonallergic rhinitis chapter are 9 chapters apart. The asthma chapter and the severe asthma chapter are 5 chapters apart. The asthma chapter and the asthma medication chapter are 11 chapters apart. Still, this is only a slight inconvenience, as the index is complete.

The clinical topics were well chosen, and I found it extremely difficult to think of a question that would arise in an allergy practice that is not addressed in this text. The chapters are loosely arranged into sections of epidemiology, pathophysiology, clinical manifestations, laboratory diagnosis, and treatment. There is some variability in the depth and order of these sections, which affects chapter length. For example, the urticaria and allergic rhinitis chapters have 1–2 pages devoted to pathophysiology, whereas the asthma chapter has 6 pages devoted to pathophysiology. The asthma chapter has an additional 6 pages on the classification of asthma. As a result of the variability in section depth, the asthma chapter and drug allergy chapter are each roughly 70 pages long, which will be helpful for a specialist or interested provider but might be challenging for a busy nonspecialist trying to obtain quick guidance during a busy clinic day. A more uniform chapter structure and a “key points” section (which was present in the fifth edition) might be helpful to limit repetition and shorten chapter length.

The asthma chapter begins with the epidemiology and pathophysiology of asthma. A clinical overview section presents information on history, physical examination, pulmonary function tests, radiologic findings, and complications. A 6-page classification section presents the differences between allergic asthma and other types of asthma. A detailed pharmacology section is followed by a clinical management section, which presents an approach to managing exacerbations, status asthmaticus, and respiratory failure. The recommendations are well supported and well referenced; there are over 300 cited references, though many