

Respiratory Medicine, 3rd edition, 2 volumes. G John Gibson MD, Duncan M Geddes MD, Ulrich Costabel MD, Peter J Sterk MD PhD, Bryan Corrin MD, editors. London: Elsevier Science. 2003. Hard cover, illustrated, 2,042 pages, \$325.

The editors of the third edition of **Respiratory Medicine** set out to provide a comprehensive and up-to-date reference that covers all aspects of pulmonary medicine. At first glance it is an imposing 2,042 pages bound in 2 large volumes and covered by a handsome, sturdy, dark blue, hard cover. Upon opening Volume 1 to the table of contents, one is met by an impressive 77 chapters, which is befitting of a very complete review of the many facets of respiratory medicine. The chapters are arranged into 12 parts, A through L, providing easy reference to the major subspecialties and topics within respiratory medicine.

Following the table of contents is a list of 181 authors, which again attests to the comprehensive nature of the text. Though the pool of authors is, for the most part, limited to academic authorities from Europe, and especially the United Kingdom, the majority of the authors are well known leaders in the fields covered in their particular chapters. The authors include pulmonologists, surgeons, pathologists, microbiologists, and other scientists who provide the breadth of background required to cover all the topics thoroughly.

After the table of contents and list of authors there is a complete glossary of abbreviations. Just inside the back cover of each volume is a complete index. Unfortunately, in my copy of Volume 2 the table of contents and list of authors was replaced by an up-side-down copy of the index. Otherwise, the 2 volumes invite the inquisitive reader in for a thorough and timely review of respiratory medicine.

Most chapters begin with a list of key points for discussion and end with a list of unresolved questions, thus providing an understanding of our knowledge gaps in particular fields. This system of listing key points and unresolved questions helps to unify the chapters' format, which makes for easier reading. Some chapters that cover primarily basic science (for example, Chapter

2.1, "Matrix Proteins") include a box with a list of points pertaining to "clinical relevance." Chapters are also well referenced throughout the text and include thorough reference lists, allowing the reader easy access to original studies and more in-depth discussions.

The content of the book's parts differ considerably, as one might expect in such a comprehensive textbook. Part A includes chapters on anatomy, physiology, and respiratory defenses. It is oriented more towards the basic sciences and detailed discussions of the molecular biology of pulmonary medicine. It also provides clinically oriented diagrams of chest anatomy, including correlations with computed tomograms and chest radiographs. Thus, even though these chapters cover very basic science, there is also a successful attempt to make the material clinically relevant.

Part B covers the basics of clinical assessment and evaluation of common symptoms, including cough, dyspnea, and chest pain. The description of physical examination and auscultation findings provides a complete reference of the respiratory physical examination for any beginning student, as well as clarification for more experienced clinicians.

Part C is long and thoroughly reviews the principles of diagnosis and treatment, including respiratory function testing, laboratory methods, and imaging. Cardiopulmonary exercise testing is not extensively covered but is well referenced in the exercise physiology section of Chapter 2. The newer imaging techniques, including newer computed tomography modes, scintigraphy, and new ultrasound methods, are reviewed well, complete with high-quality black-and-white images. The discussion of diagnostic and treatment modes, which are often omitted from other textbooks but are fittingly reviewed in Part C, includes thoracic surgery, lung transplantation, pulmonary rehabilitation, gene therapy, and assessment of pulmonary patients for anesthesia. Part D also thoroughly covers topics that have, in the past, been only superficially covered in many textbooks of general adult respiratory medicine: specifically, congenital malformations and bronchopulmonary dysplasia (infant chronic lung disease).

Parts E through J cover various specific pulmonary disease processes, divided into environmental disorders, infectious diseases, airway diseases, interstitial lung disorders, vascular diseases, and neoplasms. Unique chapters worthy of special mention because of their comprehensive discussions are those covering air pollution and smoking. Part G on airway disorders starts with a chapter on diseases of the nose and includes an excellent chapter on obstructive sleep apnea.

Common diseases, including chronic obstructive pulmonary disease and asthma, are covered in very long chapters with complete discussions on subjects ranging from epidemiology to pathophysiology to a very practical approach to bronchoprovocation testing and treatment. In other sections rare diseases, such as lymphangioliomyomatosis and lymphomatoid granulomatosis, are by no means short-changed in thoroughness of discussion. This textbook is a good reference for the practicing pulmonologist who would like to read up on diseases he or she may see only rarely.

Part K reviews extrapulmonary disorders, including chest trauma, pleural diseases, and mediastinal disorders. Chapter 75, which covers pleural diseases, is shorter than I expected (only 31 pages), considering that it covers pneumothorax, pleural fluid assessment, and all other pleural diseases. Part L, on respiratory effects of systemic disease, is a great resource in approaching patients with specific systemic illnesses and respiratory pathology.

The CD-ROM that comes with the book is tucked into a durable plastic envelope inside the front cover of Volume 1, and it contains all of the illustrations in the textbook. In addition it provides an easy-to-use SlideVision program that allows the user to sort, search, and organize the diagrams and photographs for use in lectures or presentations. The images are easily exported, with or without captions, into Microsoft PowerPoint and other applications. In general, the illustrations are of high quality. However, in both print and CD-ROM formats the vast majority of illustrations, including photomicrographs, are in black-and-white only.

Overall, this textbook is an excellent reference, no matter where in the world one

practices medicine. The text generally gives P_{aO_2} and P_{aCO_2} values in both kPa and mm Hg, although many of the figures show only kPa units.

Most of the authors cite guidelines of various international respiratory societies (eg, European Respiratory Society, American Thoracic Society, World Health Organization, British Thoracic Society) and discuss these recommendations in the text. A good example of a balanced discussion of a condition for which the recommendations from various societies differ is Chapter 38.3, "The Control of Tuberculosis." The differences in standard Mantoux tests in various countries is discussed and general recommendations for preventive therapy in the United Kingdom, Europe, and the United States are all reviewed equally well. However, some chapters, such as Chapter 38.2, "Clinical Features and Management of Tuberculosis," include references from the American Thoracic Society and the United States Centers for Disease Control and Prevention, but the discussion tends towards the British experience. Still others (eg, Chapter 39, "Opportunistic Mycobacterial Infections") focus almost exclusively on British epidemiologic data and British Thoracic Society guidelines.

Taken in total though, this third edition of **Respiratory Medicine** does measure up well against other textbooks of general pulmonary medicine, and its deficits are relatively minor. It is well written and organized in an easy-to-use format. It covers the latest basic science of respiratory medicine and provides very practical and comprehensive clinical information, thus making it an excellent reference for a diverse readership, from trainee to experienced specialist.

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Respiratory Medicine. (PDxMD series) Philadelphia: Elsevier Science. 2003. Soft cover, 707 pages, \$39.95.

Respiratory Medicine, a soft-bound volume, is a printed "selection" from an electronic database designed to allow comprehensive, easy-to-use, rapid access to a list of 450 medical conditions and 750 drugs and other therapies. It attempts the Herculean

task of providing primary care physicians a single source of differential diagnosis lists, therapeutic plans, patient education information, and reference centers. The product is a combination of electronic and print media, the former requiring a subscription for access. The text is one of a series by Elsevier, referred to as "PDxMD" and is intended for "use at the point and time of care." Weighing in at 850 g and measuring $2.5 \times 14 \times 22$ cm, it is a bit hefty for use as a portable pocket manual.

Physically attractive, this text is authored by primary care physicians, with specialist consultation. Ultimately written by "professional medical writers," the final editing was by a primary care editor, and it is intended as a tool to meet the needs of the primary care physician in practice. It is organized in a fairly rigid template/outline fashion; the table of contents refers to the sections as "MediFiles" rather than as "chapters." Subjects chosen as MediFiles are selected on the basis of illness category (eg, pharyngitis) rather than symptoms. This approach may generate problems when a patient presents with nonspecific symptoms such as breathlessness, chest pain, or cough. The categories generally occupy 20–30 pages, often resulting in excessive coverage of some subjects, such as pharyngitis and laryngitis. That said, the sections on chronic obstructive pulmonary disease and pulmonary thromboemboli are quite well done. Each MediFile includes 7 subsections, including differential diagnosis, treatment, outcomes, prevention, and resources. Although it lacks an index, there is a "MediFile Roadmap" designed to speed access to the desired specific subject.

This volume, an effort to straddle the space between a multi-volume office or library shelf compendium and the personal digital assistant at the bedside, attempts to join others as new ground is broken in the patient management arena. It incorporates an evidence-based approach and relies for the most part on recognized databases, such as the Cochrane Library, Clinical Evidence, and The National Guidelines Clearinghouse. Aside from the "clinical pearls" that sporadically appear, this volume and series largely abandon the classical "eminence-based" medicine that characterized most previous texts.

Intended to "give you access to just a fraction of available on-line content," the book must perforce be selective. Choice of subjects for inclusion represent a polyglot

ranging from the common (pharyngitis) to the arcane (Wegener's granulomatosis). Since the intended audience is active primary care physicians, inclusion of material generally considered the province of the specialist (eg, acute respiratory distress syndrome, cystic fibrosis, Wegener's granulomatosis) seems of questionable value. On the other hand, infectious pneumonia is covered by 3 MediFiles (atypical pneumonia, bacterial pneumonia, and viral pneumonia) that suffer considerable overlap. Inclusion of antibiotic recommendations duplicates information already provided in other chapters, such as the use of amoxicillin and its companions for acute bronchitis, bronchiectasis, and pneumonia.

I found the "clinical pearls" unnecessary, at times superficial, and an unfortunate abandonment of scientific rigor. In the section on asthma the emphasis on the role of clinical allergy is not reflective of current thinking among pulmonologists who manage adult asthmatics. On the other hand, the "pearls" in the section on chronic obstructive pulmonary disease offer some good evidence-based advice on prescribing supplemental oxygen and advice for screening for nocturnal hypoxemia. Some of the book's advice is confusing, such as on page 184, where it says that oxygen saturation dropping by $> 5\%$ or a P_{O_2} of 10 mm Hg indicates that nocturnal oxygen treatment is warranted. The section on obstructive sleep apnea perpetuates some longstanding myths. For instance, on page 394 endoscopy/laryngoscopy is listed, but it is seldom needed as an investigative test. And on page 398 the therapeutic options list includes uvulopalatopharyngoplasty, which has nearly been abandoned, and protryptilene as drug therapy, which is no longer available. Hormone therapy for post-menopausal women is at best questionable, and L-tryptophan is seldom used, and not at all for sleep apnea.

The book's references are largely up to date, but electronic databases are, of course, more up to date. The *New England Journal of Medicine* recently published an article¹ on a synthetic antithrombotic agent, fondaparinux, that will probably soon replace heparin in the management of pulmonary thromboembolism. Electronic therapeutic databases are readily available, downloadable, and provide frequently updated information. As supplements to a diagnostic database, they are proving both popular and useful.

Overall, the physical quality of the publication is good. The binding and typography are fine, and the color-coding of subsections for quick access and the outline format are useful. The book's deficits include absence of a good index, absence of illustrations, and the book's large size and weight.

This book might best be considered positively as either part of a large, all-encompassing endeavor involving print and electronic media or negatively as an incomplete respiratory compendium doomed to limited use.

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REFERENCE

1. Buller HR, Davidson BL, Decousus H, Gallus A, Gent M, Piovella F, et al. Subcutaneous fondaparinux versus intravenous unfractionated heparin in the initial treatment of pulmonary embolism. *N Engl J Med* 2003;349(18):1695-1702.

Interstitial Lung Disease, 4th edition. Marvin I Schwarz MD and Talmadge E King Jr MD. Hamilton, Ontario, Canada: BC Decker. 2003. Hard cover (with CD-ROM), illustrated, 941 pages, \$175.

Drs Schwarz and King have long been recognized as experts in the field of interstitial lung disease (ILD), and thus it only natural that they should collaborate on a textbook on the subject. **Interstitial Lung Disease** is their fourth such effort and updates the third edition, published in 1998. The text is geared primarily for clinicians, but physiologists, radiologists, and pathologists with specific interest in ILD will also find it a valuable reference. In it, clinicians will find excellent reviews on the approach to a patient with ILD, the pathophysiology of ILD, and the specific clinical entities that constitute the ILDs. Physicians who are interested in the basic science of ILD will be very pleased with the detailed chapters on the mechanisms of ILD. Though some other members of the medical field may not need such a weighty book dedicated to ILD, selected chapters will appeal to certain groups of professionals. Respiratory therapists may find the chapters on the physiology and pulmonary function testing of ILD patients helpful. The chapters on the more common ILDs, such as sarcoidosis and idiopathic pulmonary fibrosis, would be worth reading by all professionals involved with patient care.

The organization of the book follows a logical and easily understood format, and the chapters are appropriately titled for easy reference. Part 1, "Clinical Approaches," provides an overview of clinical, pathologic, physiologic, and radiologic manifestations of ILD. These chapters provide an excellent framework for evaluating a patient presenting with an undiagnosed ILD. One should not be too intimidated by the first chapter on the approach to the evaluation and diagnosis of ILD, which presents 9 lengthy classification tables in the first 4 pages. One of those tables, titled "Clinical Classification of ILD: Occupational and Environmental Exposure Related," contains 40 subheadings under the category of "Hypersensitivity Pneumonitis" alone. However, it is worth reading through these tables; the diligent reader will be rewarded by learning that coptic disease is caused by exposure to mummy wrappings and suberosis is caused by inhalation of mold spores from cork. Readers familiar with the topic will recognize that ILD is a "splitters" disease, and as such, these tables of classification schemas are expected in the first chapter of any book on ILD. Subsequent chapters present a systematic review of various aspects of ILD, such as anatomic distribution and histopathologic patterns of ILD, radiological imaging, pulmonary function tests, and bronchoalveolar lavage fluid findings. Chapter 4, which covers the radiological imaging of diffuse parenchymal lung diseases, contains many excellent chest radiographs and high-resolution chest tomograms that illustrate various findings. However, one of my few criticisms of the text is that the quality of the reproductions is inconsistent, and throughout the book many of the photographs appear "washed out." In addition, readers will wish for color micrographs to better illustrate pertinent histopathology findings. Regardless, as the authors state in their preface, the purpose of Part 1 is to "provide the basis for recognizing the key features that allow a specific diagnosis to be achieved," and that aim is certainly met.

The clinician will probably find Part 2, "Basic Mechanisms," more difficult to read and less relevant to clinical practice. These 6 chapters review such topics as the role of inflammation, alveolar epithelium, cytokines, extracellular matrix, and immunologic events in the pathogenesis of ILD. These chapters are very well written and emphasize advances in understanding of the cellular and molecular biology involved in

the pathogenesis of ILD. The illustrations and figures are very helpful and add to the readability of these chapters. Readers with an interest in the basic science will find these chapters engrossing. Clinicians will definitely want to read the final 2 chapters of this section, which both summarize Part 2 and circle back to clinical relevance. Chapter 12 begins with a very interesting history of the past 20 years of basic science research into ILD and then uses sarcoidosis to describe the current understanding of immunologic events in the development of ILD. The final chapter of this section, "The Future of Medical Therapy for Lung Fibrosis," describes how the improved understanding of fibrogenic mechanisms has suggested potential targets for new therapies. This chapter engenders a sense of optimism that Drs Schwarz and King will be able to report stunning breakthroughs in the treatment of pulmonary fibrosis in their next edition.

Part 3, "Clinical Entities," composes the majority of the book. This is likely to be the most useful section for clinicians. Each of the 18 chapters provides a detailed review of a specific disease entity, including clinical manifestations, radiographic patterns, histopathologic features, and treatment options. The figures, micrographs, and radiographs follow the text well and make the intended points, but again, the reader will wish for color micrographs. Fortunately, in this section the quality of the radiographs is more consistent, and it is very nice to see serial radiographs from the same patient used to illustrate radiographic progression of disease. The chapters on the common ILDs such as sarcoidosis and hypersensitivity pneumonitis are thorough and well written. The chapter titled "Miscellaneous Interstitial Lung Diseases" contains the expected hodge-podge collection of very rare diseases, such as Erdheim-Chester disease. Is the reader familiar with this disease? The chapter also presents a nice discussion of clinical entities more likely to be encountered in clinical practice, such as lymphangitic carcinomatosis and interstitial pneumonitis after bone marrow transplantation. Dr King has contributed an excellent treatise on the idiopathic interstitial pneumonias. Clinicians caring for patients with idiopathic pulmonary fibrosis will be especially interested to read Dr King's discussion of the preliminary data from the much anticipated multicenter randomized, double-blind, placebo-controlled trial of subcutane-

ous recombinant interferon gamma-1b in 330 patients with idiopathic pulmonary fibrosis. (That important paper is not yet published.) My only complaint with this section is that the editors did not include a separate chapter devoted entirely to idiopathic pulmonary fibrosis. Surely, if lymphangioleiomyomatosis and Langerhans' cell histiocytosis merit their own chapters, then idiopathic pulmonary fibrosis—the most common and deadly of the interstitial pneumonias—deserves a more thorough discussion. Regardless, this section does an excellent job of reviewing important clinical ILD entities and will be a useful reference source for all clinicians.

In conclusion, **Interstitial Lung Disease** is the authoritative textbook on the subject. It is well-written, well-indexed, and well-organized. The book easily accomplishes the goals stated by the editors in their preface: to provide an excellent framework for thinking through how to evaluate a patient presenting with an ILD, to update the current understanding of the pathogenesis of ILD, and to review the specific clinical entities that constitute the ILDs. This text deserves to be on the bookshelf of pulmonary physicians and all members of the medical profession with a particular interest in ILD.

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Occupational Disorders of the Lung: Recognition, Management, and Prevention.

David J Hendrick MSc MD, P Sherwood Burge MSc MD, William S Beckett MD MPH, and Andrew Churg MD, editors. London: WB Saunders. 2002. Hard cover, illustrated, 638 pages, \$159.

The editors of this focused textbook are a distinguished group of clinical and research scholars with extensive expertise and international renown in occupational lung disorders and lung pathology. Drs Hendrick and Burge are based in the United Kingdom and Drs Beckett and Churg in North America. They gathered contributions from 62 authors from Europe, North America, and Australia, most of whom are well experienced and recognized in their fields.

The book is aimed primarily at physicians who evaluate and treat occupational lung diseases. However, its clear handling of the fun-

damentals of clinical entities and associated occupational etiologies also makes it useful for clinicians such as nurses, case managers, industry consultants, and respiratory therapists. It would also provide an excellent clinical complement for the library of an occupational (industrial) hygienist. In addition to the clinical sections, the sections on legislation and information technology give basic information that would be useful to anyone interested in staying up to date in this field and anyone who has to deal with the thorny issues of worker's compensation, claims making, and removal from work.

The book has 40 chapters and is divided into the following sections: Introductory chapters ("Why This Book? How to Use It," "Surveillance: Clinical and Epidemiological Perspectives," and "How to Take an Occupational Exposure History Relevant to Lung Disease"); specific disorders of the airways parenchyma and pleura; disorders associated with particular industries (automotive, chemicals and plastics, farming, health care, mining, welding, forestry, wood, paper, and printing); specialized disciplines (radiologic imaging, lung function measurement, occupational hygiene, mineralogical analysis of lung tissue); legislation controls and compensation (in North America; the Pacific, Far East, and Australasia; and Western Europe); and information technology (sources of information, centers for special diagnostic tests and knowledge in the aforementioned geographic regions). These sections work well to organize the material and facilitate the reader's search for answers to specific questions.

The chapters on specific disorders begin with a brief list of contents and end with summary points. The chapters follow a uniform format, with sections on background, recognition, management of both the individual and the workforce, prevention in the workplace and from a national regulatory standpoint, and a discussion of a difficult case. Supplementary but necessary information that does not fit into the generic scheme is provided in boxes. For instance, the supplementary boxes in the asthma chapter include discussions on byssinosis, immunologic tests, and inhalation provocation tests. This format eases looking up information and also decreases the variability in writing style typical in a multi-author textbook. Each chapter is self-contained and can be read individually as needed. The supplements, authored by experts other than those who wrote the chapter, allow for a more complete and detailed discussion of important issues that would not otherwise fit in the flow of the chap-

ter. I found these chapters accurate and complete, with good coverage of the challenging issues that diagnosis and management present. The summary points at the ends of the chapters are brief and vary in their usefulness, because they include generic comments that do not speak directly to the disorder.

The industry section reviews the disorders associated with given industries. It focuses on the occupational setting rather than on the disorders, which are discussed fully in the previous section. The section on industry is much-needed, to help practitioners understand the patient's working environment. For example, in the chapter on the automotive industry the process of making a car is elucidated in 2 clear, easy-to-follow diagrams that name the exposures and show the associated disorders. This demystifies what workers are likely to be doing in their jobs, what their potential exposures are, and what disorders to look for.

An added feature in most of the disorder and industry chapters is the discussion of a difficult case. This feature consists of a case chosen for its illustration of a challenging issue in management, occupational attribution of etiology, or interaction of exposures. Opinions from all of the book's contributors were elicited, and a concluding comment on the case reflects that input. This is an excellent and innovative feature: it reflects the complexities of real-life clinical practice and allows the reader to review the opinions of the book's expert contributors on controversial subjects.

The legislation and information technology section aims to lessen the burden for practitioners working without the benefit of an experienced staff to determine exposures, interpret the sampling levels, and identify the relevant regulations. It lists resources that are available on-line or by phone. The section is helpful and, although it does not substitute for the input of an experienced industrial hygienist, it allows a practitioner to begin the process.

The discussion on legislation provides sound basic information, and the overview of disability determination is helpful. This section would have been well served by a discussion of a difficult case of disability determination or an example of an outline of a complete independent medical examination. It would add value to this section to briefly discuss legal activities that may follow involvement in a clinical case, criteria for removal from work, and prescription of respiratory protection.

This is not a bulky manual and it has easy-to-read type. The chapter headings and subheadings are clear and useful (especially with their contrasting color background), as

are the figures and tables. I did not find any typographical errors in my reading of the volume. The illustrations are in black-and-white. The reproductions of electron photomicrographs in the chapter on man-made vitreous fibers are gorgeous and clear, as are most of the reproductions of radiographs and chest computed tomograms. Slides of histologic sections, and even some of the radiologic illustrations, would benefit from clarifying markers, such as arrows, to point out the salient features mentioned in the captions. Color plates of histologic sections would also add to the utility, although they may not be worth the added cost, especially if the labeling is expanded, as mentioned above. The text uses "American English," which makes it accessible for the North American user without making it difficult for others to navigate. For a multi-author book the text is remarkable for its uniform readability and clarity of language.

I found the references to the literature complete and representation of the data accurate and complete. Most of the controversial issues were treated fairly and thoroughly, with adequate referencing of the literature. For instance, the discussion of asbestos and the occurrence of lung cancer in those with and without pulmonary fibrosis (ie, asbestosis) is representative of discussions in this book. It is well developed and clear, with extensive referencing of the current epidemiologic evidence and analyses. The opinions of the authors (Michelle Ng Gong and David C Christiani) are clearly stated and identified as such.

The index is close to complete and adequate. Adding a list of the supplementary boxes and a list of the difficult cases (summarized by one line) to the table of contents would be helpful.

This is an excellent work, but it would be strengthened by fuller discussions of sinus and upper airway disease and indoor-environment-related disorders; and a chapter of the construction trades is needed to demystify that industry. In editions to follow the editors should apply their formidable skills to elucidate topics that present challenges on a regular basis in practice settings: sleep disorders and work, evaluations of lung health in the aftermath of natural and man-made disasters, discussion of the consequences of removal from work, and a discussion that would address patients who are immigrants from parts of the world where exposures at work sites and underlying pulmonary pathology pose unique challenges.

The editors state that this textbook serves to "draw attention to the changing nature of the contribution of the occupational environment. . . to lung disease. . . and to the particular difficulties this poses for those who find themselves responsible for patient care or the management of relevant industries." Furthermore, the chapter authors were charged with giving practical advice on the "recognition when a given respiratory disorder is occupational in origin, whether partly or wholly; managing its consequences in both the affected individual and his/her place of work and preventing its occurrence in the future." This text does very well to meet those goals. I recommend its addition to the libraries of pulmonologists, allergists, and occupational medicine practitioners with active occupational lung disease practices. It will also serve as an excellent reference for general respiratory practitioners, and for trainees who run into cases of occupational lung disease less frequently. I agree with the editors that this is a needed text that contributes to the understanding and recognition of the medical and nonmedical issues surrounding occupational lung disorders, at a time when diagnosing work-related disease is crucial, as it can lead to effective treatment and prevention.

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Pulmonary Biology in Health and Disease. F Edward Bittar MD, editor. New York: Springer-Verlag. 2002. Hard cover, illustrated, 428 pages, \$249.

Though this book classifies itself as a textbook, it is more like a compendium of topics in pulmonary biology and medicine. It is as if the editor asked several experts in the field to write about favorite topics in their expertise and each replied with a chapter in a different style, with different emphasis and different organization. Thus, there is no global unifying principle to the book. There is overlap in some areas and topics are overlooked in others. However, each chapter by itself can be considered a state-of-the-art review on the topic by an authority in the field. Thus, it is more of a reference than a textbook. Any health care worker interested in a specific topic would be well served by reading the appropriate chapter

or chapters, which, for the most part, stand alone.

There are 22 chapters. The first chapter deals with the anatomy of the respiratory system but, unlike many classical textbooks, there is an excellent discussion of the ultrastructures. Other topics that we would generally think as part of anatomy are interspersed with function and pathology chapters. For example, the second chapter deals with the airway epithelium; the third chapter discusses the chemistry and the pathology of surfactant; the fourth chapter covers the regulation of airway caliber; and asthma is detailed in Chapter 20, which provides an extensive discussion of the cells involved with inflammation.

What we typically think of as mechanics is discussed in Chapter 9, called "Mechanics of Respiration," but also in the sections on regulation of airway caliber (Chapter 4), the respiratory muscles (Chapter 8), and airway wall liquid (Chapter 13). There is also overlap between airway caliber and the development of the flow-volume loop and how it changes with obstruction such as asthma.

Control of respiration has its own chapter (Chapter 6), which is divided into concepts. Receptors are discussed in Chapter 5, arterial chemoreceptors in Chapter 7, regulation of airway caliber in Chapter 4, and regulation of acid-base balance in Chapter 15.

Chapter 10 is a classical discussion of gas exchange, from Fowler's dead space to West and Wagner's ventilation-perfusion model. It overlaps, by necessity, with the chapters on pulmonary circulation (Chapter 11) and the correlation between the pulmonary circulation and gas exchange (Chapter 14), although that topic also appears in the discussion of the mechanics of respiration (Chapter 9). Regulation of acid-base balance has its own chapter (Chapter 15), which is clear and effective. Though that too by necessity must overlap with the gas-exchange information, the treatment of the various acid-base disorders is clear and concise and should be helpful with anyone needing a straightforward explanation of that material.

Topics about fluid in the lungs are often overlooked; in this book they are discussed as lung water and the role of the bronchial circulation (Chapter 12) and as airway wall liquid (Chapter 13).

Some special topics, such as exercise, high altitude, and lung immunology, are covered in separate chapters, as is usually the case. The emphasis in the exercise chapter is on the effect of diseases, which is good for someone familiar with basic exercise physiology. The chapter on high-altitude

physiology is broad; it covers more than the pulmonary aspects and contrasts acute and chronic mountain sickness and adaptations. The immunology chapter revisits some of the topics covered in the first few chapters on the anatomy and ultrastructure.

Three chapters are devoted to disease processes. The one on acute lung injury (Chapter 19) briefly (in just 14 pages) discusses pathology, clinical presentation, and therapy, although the bibliography is extensive. Asthma and emphysema are the only diseases that have their own chapters. The one on asthma discusses from genetics to therapy, based on the accumulated knowledge of the inflammatory process. For emphysema the discussion ranges from epidemiology to animal models, and ends with a model of how the lung may respond to disease. Other disease processes are not discussed specifically, although they are mentioned in other chapters; for example, the chapter on exercise discusses the response in restrictive lung disease, and the last chapter discusses some restrictive diseases such as asbestosis and silicosis.

The last chapter, "Inhaled Noninfectious Toxicants and Their Effects on the Lung," covers the physics and physiology of particle deposition and briefly discusses various occupational lung diseases.

The strength of the book lies in its novel organization; however, that organization could be confusing to a novice. It would be a great resource for a student researching a topic, because of the extensive bibliographies in most (but not all) of the chapters.

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Mechanical Ventilation and Weaning. Jordi Mancebo MD, Alvar Net MD, and Laurent Brochard MD, editors (Update in Intensive Care Medicine, Jean-Louis Vincent MD PhD, series editor). Berlin: Springer-Verlag. 2003. Soft cover, illustrated, 378 pages, \$49.95.

Many concepts in mechanical ventilation have evolved a great deal in the last 10 years. One of the most controversial subjects is weaning from and discontinuation of mechanical ventilation, about which our knowledge is nebulous at best, with several articles showing conflicting results. Wean-

ing is considered more an art than a science, with most clinicians determining for themselves what works best.

Most of the book's contributors are very well known in the field of mechanical ventilation. Since many of the studies on mechanical ventilation and weaning have come from across the Atlantic, it is only appropriate that 24 of the book's 38 contributors are from Europe.

The book's contents are divided into: general aspects of mechanical ventilation; pathophysiology of weaning (including conditions leading to weaning failure); and recommendations on how to wean patients. The section addressing general aspects of mechanical ventilation includes a description of assisted modes of mechanical ventilation, and both established ventilation modes (controlled modes) and novel approaches such as proportional assist ventilation, tracheal gas insufflation, and closed-loop systems.

The section on pathophysiology of weaning failure discusses the imbalance between capacity and load, enumerating various conditions that affect capacity and load. The reasons for weaning failure encompass critical illness polyneuropathy and myopathy, and there is a section on cardiac failure unmasked by the weaning process. Also discussed are the role of tracheostomy in facilitating weaning and reducing the work of breathing imposed by the endotracheal tube.

The data on weaning, relevant to the clinical setting, are presented in a very cogent manner. Balancing the risks of premature extubation with the risks of prolonged intubation, and the respiratory indices of weaning, with their interpretative criteria and limitations, are put in context. A separate chapter deals with the causes and interpretation of rapid, shallow breathing.

The book's discussion of the importance of recognizing patient-ventilator asynchrony in various clinical states and strategies to alleviate patient-ventilator asynchrony form the basis for the discussion of initiating weaning. As much as 40% of the time on mechanical ventilation is spent on weaning. The chapter discussing the aggressive and conservative approach on when to start weaning and how to proceed with weaning is, therefore, pertinent. There is considerable controversy about the best technique for ventilator weaning, and this is put in perspective by comparing pertinent prospective, randomized, controlled trials. Appropriate clinical algorithms to facilitate discontinuation of mechanical ventilation and ex-

tubation are discussed in depth. The contribution of nonphysician health care professionals in implementing weaning algorithms is stressed. A description of noninvasive positive-pressure ventilation and its rather controversial role in facilitating weaning and extubation is elaborated. This is followed by discussion of the expanded role of noninvasive ventilation on breathing pattern, gas exchange, work of breathing, and nosocomial pneumonia.

The book is designed to be an exhaustive review of the science of weaning. Whenever possible, it uses physiologic principles to elucidate mechanisms and clarify concepts. The chapters are very pertinent and are designed to be useful in clinical practice. The presentation of data is meticulous and uses evidence-based principles. Most of the chapters are less than 20 pages, which makes it easy to assimilate the topic. Most of the graphs and tables are self-explanatory and easy to comprehend.

The discussion is relevant to and complements the American College of Chest Physicians' evidence-based guidelines for weaning and discontinuing ventilatory support.¹ Controversial topics are objectively discussed, with the contributors' opinions frequently expressed.

The book is designed for pulmonologists, intensivists, and respiratory therapists who have a good fund of knowledge in pulmonary physiology. Some of the chapters rely on principles of physiology to discuss the topic and thus make for difficult reading. There are a few grammatical and editing errors, and unconventional wordings such as "exacerbated chronic respiratory failure," and "as much as 40% of the time under mechanical ventilation was related to weaning," and "making weaning as 'delicate' as possible." However, in general the chapters are written well.

I enjoyed reading the book and found it useful in my clinical practice.

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REFERENCE

1. MacIntyre NR, Cook DJ, Ely EW Jr, Epstein SK, Fink JB, Heffner JE, et al. Evidence-based guidelines for weaning and discontinuing ventilatory support. *Chest* 2001; 120(6 Suppl):375S-395S.