

**An Atlas of Induced Sputum: An Aid for Research and Diagnosis.** Ratko Djukanovic MD DM and Peter J Sterk MD PhD. New York: Parthenon Publishing Group. 2004. Hard cover, illustrated, 135 pages, \$119.95.

Sputum induction has been used for decades to aid in the diagnosis of pulmonary infections. This has proven particularly useful for identifying tuberculosis or *Pneumocystis carinii*. Over the past 15 years the evaluation of induced sputum for cells, soluble mediators, and biophysical and transport properties has become a useful research tool for enhancing our understanding of chronic airway diseases such as asthma, cystic fibrosis, and chronic bronchitis.

Djukanovic and Sterk have collected some of those data in a handsomely illustrated atlas intended for pulmonary researchers. The book is generally well organized, but there are large gaps in the material presented, as well as a substantial amount of redundant material. The emphasis is on the evaluation of cells and soluble mediators in sputum, and the book completely ignores the important field of research related to the measurement of the biophysical properties of airway secretions and sputum clearability, which limits the usefulness of this text. The authors also failed to discuss the relationship between the assessment of mediators in sputum and in other airway samples such as breath condensate.

Chapter 1 discusses techniques for sputum induction using saline inhalation. The authors summarize published guidelines, but they do not discuss alternative techniques for sputum induction such as the inhalation of other hyperosmolar agents, for example, dry powder mannitol, inhalation of ion channel modifiers such as UTP or P2Y2 activators, or the role of chest physical therapy or high-frequency chest wall oscillation. The authors state that ultrasonic nebulization is more effective for sputum induction, but they do not provide data to support that contention. They also briefly mention that salivary contamination should be avoided, but they do not discuss some of the more common techniques for reducing salivary contamination, such as the use of dental dams. Alternative methods for sputum collection, for

example, via bronchoscopy or endotracheal tube, are not mentioned. The authors discuss the use of  $\beta$  agonists as beneficial in preventing airway hyperresponsiveness, but they do not explain that  $\beta$  agonists alter the composition and properties of the secretions.

Chapter 2 gives the first of many references to the role of eosinophils in the airway. This topic is also discussed in Chapters 4, 6, and 9, with substantial content overlap. The authors adequately discuss the role of the cellular composition of secretions, but there are several errors. It is stated that lipid-laden macrophages are markers of gastroesophageal reflux, but that is only true if there is aspiration. In children it is more likely that aspiration is due to swallowing difficulties (palatopharyngeal dyskinesia) than to gastroesophageal reflux. The authors also state that a lipid index of  $> 7$  is considered diagnostic of reflux or aspiration. That number should be 70, as indicated in Chapter 10. Also, the authors do not discuss how the eosinophil content of induced sputum can be modified if the patient is taking corticosteroids.

Chapters 4–7, which deal with specific diseases and patient populations, are well written. Further to the lack of regard for evaluation of the properties of secretions is the common mistake made in Chapter 7, where it is stated that cystic fibrosis secretions are viscous and that there is an increased amount of mucin in the cystic fibrosis airway. Both of those assertions are incorrect.

Chapter 10 is one of the most useful and well written chapters in the book. It discusses interstitial lung disease and occupational lung disease, and the micrographs are beautiful illustrations, as one would expect in an atlas.

Sputum induction is now used long-term for cystic fibrosis therapy in some parts of the world, and, to be comprehensive, a text such as this should summarize that use.

Sputum induction is an important topic, and this atlas makes an attempt at presenting the subject; unfortunately, there are many gaps and the authors failed to include critically important topics, which severely limits the value of the book. Most of the illustrations are graphs of data, and they provide limited information. The majority of the

graphs could be eliminated and discussed either in the text or in tables, leaving room for more useful micrographs, as in Chapter 10.

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**One Minute Asthma: What You Need to Know**, 6th edition. Thomas F Plaut MD. Amherst, Massachusetts: Pedipress. 2004. Soft-cover booklet, illustrated, 64 pages, 100 copies at 99 cents each.

Thomas F Plaut's **One Minute Asthma: What You Need To Know**, 6th edition, presents simple information on asthma management for those uninitiated in the complexities of the disease. The book is similar to other lay health texts in that it presents materials in a concise, readable form while limiting jargon and detail unnecessary for the lay reader. It begins with a brief description of the pathophysiology of asthma and links that to the effects of environmental triggers on airway inflammation. The second section concerns peak flow monitoring. The third section emphasizes the importance of symptom recognition and disease management with asthma management plans. Plaut briefly works through the familiar and the unfamiliar asthma medications in the fourth section, and he dovetails that neatly with the fifth section, which is on inhalation devices. He concludes with a very brief list of resources for further study.

Though **One Minute Asthma** is certainly not a book you can read in a minute (it took me around 30 minutes to read), it is intended as a quick study for the new asthma patient. Physicians and respiratory therapists will find it useful only as a tool for beginning a patient's asthma education. In Plaut's words, "Patients can read a few pages in your waiting room." His style is nonthreatening and intended to motivate the patient to, "work out a clear, zone-based action plan [with your doctor] for treating your asthma

at home." He repeats messages throughout the booklet, to emphasize the benefits of control and exercise, and includes 4 folksy "Asthma Stories" intended as fables to moralize key aspects of asthma management. I am reminded of reading such proverbs in volumes of *Reader's Digest* while waiting for a dental check-up, and I doubt this approach will connect with a younger audience more sensitized to reality television and Web-based media.

I recall meeting Dr Plaut at a recent asthma conference and being impressed by his passion and enthusiasm about the subject. He was adamant that I not just take his **One Minute Asthma** for free until I listened to his talk on asthma management. In an absurd way, I was reminded of the techniques of vendors of "miracle cures." While I listened, I realized that his approach to education is at times so singular that he risks missing out on the contributions of others. This is evident in the very difficult set of asthma management tools he presents in **One Minute Asthma**. These tools, which outline Plaut's own unique system for symptom scoring and asthma management planning, are difficult to read and follow. The National Asthma Education and Prevention Program expert panel *Asthma Guideline Update* report (2002) was inconclusive on the relative benefits of a symptom scoring plan versus a peak flow monitoring plan, and it recommended a written plan, negotiated between patient and provider as one means to improve asthma self-management.

What is unfortunate is that Plaut's asthma management plan differs from all others I have seen in that the yellow zone is broken into 2 sub-zones: high yellow and low yellow. Plaut's rationale for that is that there are times when the risk is mild (high yellow) for a patient in the yellow zone and times when the risk is moderate (low yellow), indicating a need for a different course of pre-planned action. This appears overly cumbersome and not necessarily transferable with other, simpler asthma management plans. The complexity of Plaut's high-yellow/low-yellow system is inconsistent with the style and nature of the rest of the book.

I was similarly disappointed by the resources section. The only resource mentioned that is not a Plaut product was the National Asthma Education and Prevention Program. I find this revealing about what little Plaut may know—or have an interest in knowing—about the many valuable, time-

saving, well developed, and free products there are available to patients at other governmental, corporate, and nonprofit-agency Web sites.

Asthma prevention is a constantly evolving practice, and I salute Dr Plaut for continuing to update and improve this guide into a 6th edition. One of the booklet's shortcomings is that some recent developments in asthma treatment do not appear in this edition, such as anti-immunoglobulin E therapies for certain patient groups, and newer combination therapies. Additionally, I did not find any rationale mentioned for the absence of information on allergy testing and other alternative and complementary therapies that patients will probably encounter.

**One Minute Asthma** remains a valuable, well-informed read. Plaut's explanations are clear and concise, and the illustrations (by Carla Brennan) are well-crafted and accurate. It is fortunate that the book is pocket-sized, because practitioners can carry it with them in preparation for that "teachable moment" that becomes the one minute spent with asthma.

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**Asthma: Social and Psychological Factors and Psychosomatic Syndromes.** E Sherwood Brown, editor. (Advances in Psychosomatic Medicine series, volume 24, TN Wise, series editor). Basel, Switzerland: S Karger. 2003. Hard cover, illustrated, 171 pages, \$137.50.

With increasing interest in the mind/body interface, this recent book on psychobiological aspects of asthma is timely and thought-provoking. The book's 10 chapters cover topics such as: the epidemiology of asthma; the epidemiology of comorbid anxiety and depression with asthma; psychological syndromes that mimic asthma; a historical overview of psychosomatic approaches to and models of asthma; symptom perception; adherence and behavioral change models; and an integration of family factors, individual responses to emotions and stress, and asthma outcome. Taken as a whole, the book is a refreshing critique of the reductionist and simplistic approach to asthma as a purely physiological illness that requires only med-

ications. Instead it presents the rich interplay of cognitions, behaviors, emotions, and social and environmental climate that regulate this perplexing syndrome. Readers may well find the conceptual models presented in certain chapters helpful from a clinical and teaching perspective and to organize future research questions.

The first chapter gives a good overview of the epidemiology of modern asthma. Morgan and Khan show how prevalence and mortality increased over the past 2 decades, perhaps peaking in the late 1990s, despite excellent models of pathophysiology and new and better medications. The recent improvement in those rates may be due to better understanding of some of the quality-of-life issues, including the psychosocial context in which asthma presents.

Following that introduction, Gregerson presents an organizing system, the "synchronous systems model," whereby the patient's illness is examined from the perspective of a "2×2" interaction: both the internal and external world; both psychological and biological approaches. To understand an individual's asthma, one needs to look at the person's psychological makeup, physiologic vulnerability, social environment, and physical environment. The internal physiologic system is being well researched via genetics, neurophysiologic and immune mechanisms, and medications, but the prevalence and morbidity of asthma continued to increase, leading to research on the external physical environment, such as the hygiene hypothesis. This book emphasizes the other 2 critical areas: internal psychology and external social interactions.

For example, Goodwin presents an overview of evidence for the higher prevalence of anxiety in patients with asthma and discusses some of the possible mechanisms. Zielinski and Brown discuss the inconsistencies among studies on rates of depression in patients with asthma. Though in children depression was associated with higher asthma severity, the same was not true in some of the studies of adults. They entertain the hypothesis that depression may be associated with nonadherence to medications, which would cause poorer asthma outcome, rather than having a direct effect. However, they also present several hypotheses about a shared biologic vulnerability to both depression and asthma (eg, cholinergic or neuroendocrine dysregulation). They point out that the few published studies of antidepressants for asthma patients showed improve-

ment in both psychological and physical symptoms, pointing to a need for more research.

Other individual psychological issues discussed include health behaviors, in particular, symptom perception, as discussed by Rietveld, and adherence to treatment regimens, discussed by Tousman and Zeitz. Rietveld discusses the evolution of symptom perception from a learning and cognitive basis, utilizing the arousal theory of emotion. He notes that experiences of physical sensations such as physiologic arousal can be interpreted as symptoms, depending on the situational context. He examines support of why both conscious and unconscious processes are at work in that evolution, which helps to explain disconnection between a patient's symptom perception and objective measures of airway compromise. Tousman and Zeitz continue a similar discussion, focusing more on a model of readiness to change behaviors that are known to affect asthma outcome (eg, agreeing to take prophylactic anti-inflammatory medications as opposed to using only symptomatic relief). They discuss how knowledge is necessary but not sufficient for change, and how a patient's personality characteristics need to be taken into account in developing a behavior-change intervention. Schmalzing et al continue that discussion by adding new information on new methods of assessing adherence, as well as bringing in some aspects from the last quadrant of Gregerson's model—that of external social influences. They discuss cultural and economic factors that affect adherence.

In a more comprehensive model, Miller and Wood present an approach to understanding how stress and family dynamics may play a role in the exacerbation of childhood asthma. Their model integrates a physiologic vulnerability (ie, an autonomic nervous system dysregulation with a cholinergic bias) within a social structure (family system) that can exacerbate or ameliorate asthma symptoms via emotional regulation of the system. It is a model of the mechanisms by which emotions influence airway reactivity in asthma, and integrates many of the quadrants of Gregerson's model. The model helps explain why working with a child's family may be the best way to improve asthma outcomes for certain children.

Finally, Hukovic and Brown remind us that the medications currently used to treat asthma, in particular the corticosteroids, may

have important effects on mood and memory in some patients, although the overall effects on population samples are not large. They discuss treatment options for adverse effects on mood and memory.

Overall, I recommend this book to all practitioners who treat patients with asthma, as well as to clinicians and researchers interested in models of mind/body interactions. Asthma is an illness that can teach us all something, and hopefully by understanding this broader context of the illness we can provide better care to those who suffer from it.

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**Respiratory Disorders and Behavioral Medicine.** Adrian A Kaptein and Thomas L Creer, editors. London: Martin Dunitz/Taylor & Francis. 2002. Hard cover, illustrated, 406 pages, \$60.

This book was written to encourage behavioral scientists to undertake research on behavioral and medical aspects of respiratory disease, although it also has value for clinicians who work or conduct research with behavioral scientists. The authors note that papers on respiratory disorders are published primarily in medical journals, rarely appearing in journals of psychology or behavior. To increase interest in that subject they have written an interesting, comprehensive, and very useful book.

In Chapter 1, Kaptein provides a comprehensive overview of the contributions of behavior research in asthma and chronic obstructive pulmonary disease (COPD), covering the role of learning theory in developing techniques to help patients and reviewing the associations between psychosocial factors, disease, and disease management.

Chapter 2, by Gergen and Mitchell, is an excellent review of the epidemiology of asthma, which is essential material for behavior scientists, who are likely to be unfamiliar with the major asthma risk factors. Similarly, Chapter 11, by Creer and Winder, provides an excellent summary of the medical treatment of asthma, tuberculosis, and

COPD. Unfortunately, the chapter contains an important error: although the prevalence of asthma is higher in black children than in whites, the average ratio is approximately 1.25 to 1, not 2.5 to 1.

The aim of Chapter 3, by Klinnert and Bender, is to define circumstances when psychological assessment and treatment is needed for children who have asthma. The authors note that children who have asthma have the same psychological profile as other children, but those with psychological problems tend to have greater asthma severity and management problems. They present a psychological assessment tool that they developed, and this chapter should be very helpful for clinical psychologists treating asthmatic children who are having behavioral or family problems.

Chapter 4, by Kaplan and Ries, explores the behavioral assessment and treatment of COPD, which affects adults. The chapter reviews one of the major successes of the field: behavioral intervention studies that demonstrated that pulmonary rehabilitation programs could be successful if they combined education, exercise training, and cognitive restructuring. They also review evidence that quality of life, social support, and self-efficacy are associated with survival. An excellent closing section defines unsolved problems and new areas for research.

In Chapter 5, Rietveld and Everaerd review research on symptom perception in asthma. The chapter focuses on the ability of people with airway obstruction to assess their own degree of breathlessness. They review 3 types of research: signal-detection experiments, parallel measures of breathlessness and lung function, and comparison of lung function measured by objective tests and by self-report. One important conclusion of that research is that it is difficult for patients to accurately assess their degree of airway obstruction. This is a problem that has received much attention and has been a fascinating challenge for behavioral scientists and medical researchers. The authors, however, do not review any of the research on perceiving and reacting to other symptoms of asthma that are easier to observe, such as wheeze and persistent cough. Nor do they review studies of other patient-initiated methods of measuring airway obstruction, such as peak flow monitoring. There is a substantial body of research on those subjects, which provides important information for clinicians and researchers trying to help

patients detect and control airway obstruction.

In Chapter 6, Mesters, Creer, and Gerards address self-management of respiratory disorders, contrasting the health counseling and self-management perspectives. An important strength of the chapter is that it describes all of the key concepts and steps of the process of patients learning to manage their illness under the guidance of clinicians and health educators and counselors, including the need for some degree of patient autonomy in care, the barriers that must be overcome, and the key learning processes involved. The chapter is, however, confusing in several ways. The health counseling and self-management models are presented as contrasting alternatives, even though the authors acknowledge that there is substantial overlap in both theory and actual programs developed for patients. The effort to distinguish the 2 approaches results in statements about self-management programs that I (as a developer of self-management programs that incorporate health counseling strategies) found it hard to recognize or agree with.

For example, the authors argue that once self-management training is complete, "the patient alone takes over the management of his disorder." I know of no self-management program that operates that way; rather, there is usually a strong emphasis on teaching patients to develop close, ongoing partnerships with clinicians, so they can work together to best manage the disease. In a similar vein, the authors say that an "overlooked aspect of self-management is that goal selection is the only activity in which there is true collaboration between patients and health counselors." That simply doesn't reflect reality; for example, Creer's asthma self-management program, *Living with Asthma*, provides opportunities for children and their families to collaborate with health educators to find the best mix of self-management strategies for their home environment. Another limitation of the chapter is that it does not cite original references for the great majority of studies of the effectiveness of asthma self-management programs.

Chapter 7, by Bender and Milgrom, reviews the neuropsychological and psychiatric adverse effects of medicines used to treat asthma and allergic rhinitis. They report their studies of adverse effects of theophylline,  $\beta$  agonists, inhaled and oral corticosteroids, and several other classes of drugs. This ex-

cellent chapter shows the potential for controlled studies to successfully resolve patient and clinician concerns about anecdotally reported adverse effects.

In Chapter 8, Levstek-Caplin provides a clear, comprehensive review of compliance research in respiratory disorders. She reviews controversies in the definition of compliance, methods of measuring compliance, the major areas of compliance (eg, medications, activity restrictions, medical appointments), and factors that affect compliance. She also reviews studies of physician compliance, an issue that is only now receiving the attention it deserves.

Chapter 9, by Hyland, provides an excellent analysis of research on respiratory disease's effects on quality of life. Hyland's model of quality of life is based on the distinction between the problems patients experience and their evaluation of those problems. He identifies 5 types of burden patients must deal with, and he provides a fascinating analysis of interactions and tradeoffs patients must make between those burdens and quality of life. He reviews the major quality-of-life scales used with asthma patients and provides an interesting analysis of the strengths and weaknesses of the various methods of measuring quality of life.

In Chapter 10, Gustafson and Bonner provide a biopsychosocial perspective on cystic fibrosis. This excellent chapter provides a good grounding in the physiology and natural history of the disorder and reviews the abundant research on child and parent adjustment to the great burdens cystic fibrosis places on the family. They note the surprising lack of interventions to improve self-management and adjustment, and they provide a good review of the one effective program to improve self-management and adjustment.

Chapter 12, by Reynolds, reviews research on smoking cessation for patients with COPD. As in cystic fibrosis, there is plenty of research on the effects of smoking prevention and smoking cessation on the development of COPD, but only 5 studies have tested interventions to help smokers with COPD to quit. COPD patients are highly resistant to smoking-cessation efforts, and Reynolds provides good suggestions for further research.

The final 2 chapters address the directions that behavioral research on respiratory disorders should take. In Chapter 13, Hindi-Alexander, Fritz, and Creer propose a model of therapeutic behavior analysis that in-

volves setting goals, determining specific skills required to achieve goals, assessing needed and available resources, matching skills to resources, and tailoring an action plan. The authors show how this model has been successfully applied to asthma, COPD, and cystic fibrosis, and they offer an excellent critique of how efforts to control tuberculosis and smoking worldwide have not made use of behavioral approaches. They argue that directly observed therapy fails to engage the patient in preventing transmission of tuberculosis, which, they point out, is essential for tuberculosis control in developing countries.

Chapter 14, by Creer, covers a lot of ground. The chapter begins with a fascinating history of how an early success with behavioral treatments that reduced excessive hospitalizations with 2 children convinced physicians that behavioral scientists really had something to offer. He continues with an analysis of the paternalistic, informed, and shared models of care, and provides an excellent discussion of the challenges of implementing the shared and mixed models. The chapter then shifts to an interesting discussion of the complexity of human behavior, and argues that studies with predetermined hypotheses and measurements often miss the complexity of behaviors that can best be described using the idea of open, complex systems. He illustrates this with numerous sequences of behaviors that are usually predictable but are sometimes reversed because of the complexities of the patient's situation. Unfortunately, one of his examples involves a misunderstanding of the pathophysiology of asthma. Creer writes, "the combined regimen of controller drugs seems to blunt signs of an asthma exacerbation." Controllers don't blunt or conceal asthma exacerbations: they truly prevent them. Creer argues for methods of appreciating the full complexity of the patient's world as the best basis for good behavioral research, and I can't think of better advice for someone entering the field.

Overall, this book achieves its aim of providing a useful introduction to behavioral research in respiratory disorders for an audience of behavioral scientists. Many of the chapters provide informed suggestions for future research. A consistent theme throughout is that, with the exception of asthma and COPD, behavioral scientists have done plenty of research on psychosocial factors that affect respiratory health, but

far too little work on developing and testing interventions to help people prevent or manage disease.

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**Acute Respiratory Distress Syndrome.**

Michael A Matthay, editor. (Lung Biology in Health and Disease series, volume 179, Claude Lenfant, executive editor.) New York: Marcel Dekker. 2003. Hard cover, illustrated, 657 pages, \$195.

This book is an invaluable resource for pulmonologists and critical care clinicians seeking a technical and comprehensive review of the acute respiratory distress syndrome (ARDS). The book's editor, Michael Matthay, is a leading authority on the topic and has successfully assembled an eclectic compilation of work from both well-established academicians and up-and-coming contributors to the field. Overall, I found this to be a well-balanced review of both basic scientific and clinical research on the syndrome, providing relevant information for academic physicians and private clinicians alike. Although I do not think this text is highly geared toward the practicing nurse or respiratory therapist, the chapters on diagnosis, therapy, and ventilator management could make this a valuable reference text for any practicing clinician.

In all, there are 23 well-chosen and logically arranged chapters, the first of which defines ARDS and its relevant risk factors, followed by chapters that describe the epidemiologic, radiographic, and pathologic features of the syndrome. The next series of chapters summarize the numerous biological signaling cascades involved in the pathogenesis of ARDS and ventilator-induced lung injury. These are followed by a set of chapters that examine recent genetic studies that suggest inheritable risks for the syndrome. The text then moves on to a series of clinically relevant chapters on treatment of sepsis-related ARDS and potential interventions, such as modulation of vascular tone, glucocorticoid therapy, surfactant therapy, and prone positioning. This is followed by a comprehensive summary of approaches to mechanical ventilation of patients with

ARDS and a brief but important summary of the recently described viral illness, severe acute respiratory syndrome (SARS). Finally, there is a brief concluding chapter (by the editor) on promising new directions in the field. Although there is some redundancy and overlap in content, the chapters are well organized and do not seem to suffer from the fractured arrangement often characteristic of multiple-author texts.

Although I found most of the chapters informative and comprehensively referenced, some were more memorable for their educational appeal. For instance, the chapter that defines ARDS and acute lung injury (ALI) is a well-organized summary that illustrates the complexities of defining and classifying such a heterogeneous disorder without confusing the reader. This chapter concludes with a clear and concise summary of the syndrome's risk factors for morbidity and mortality.

The 2 chapters on the pathogenesis of ALI were wisely organized as separate summaries of laboratory-based animal experiments and clinical studies. Both chapters are comprehensive yet easily readable synopses of research on the roles of neutrophils, cytokines, and oxidant and procoagulant pathways in the development of ARDS. The chapter that summarizes the pathogenesis of ventilator-induced lung injury was a wise inclusion by the editor; it illustrates the important continuum between ALI and the effects of the mechanical ventilation, which is both an essential life-saving measure in the management of ALI and, paradoxically, a contributor to ALI/ARDS morbidity and mortality. This is yet another comprehensive summary of past and present research into the potential mechanisms of injury from mechanical ventilation, covering both its direct effects on the lung and its indirect effect on mortality through its contribution to multi-organ dysfunction.

I was pleasantly surprised by how much I learned from the chapter on the heat shock response pathways in ALI. The authors nicely outline the objectives of the chapter and fulfill them, making a complex topic more easily understood by the novice microbiologist. Although the chapter on fibroproliferation in ALI is an essential inclusion and is exhaustively referenced (197 references), I found it a bit difficult to follow. I found subsequent chapters, however, on alveolar fluid clearance, modulation of pulmonary vascular tone, glucocorticoid and surfactant therapy, and prone-positioning to

all be well referenced and easily readable. The chapter on management of mechanical ventilation is an especially well referenced and organized summary of conventional (low tidal volume, noninvasive) and less conventional (high-frequency, inverse ratio, pressure-release) modes of mechanical ventilation, as well as influential research findings in the field.

In all, I found this book fairly easy to read cover-to-cover, but for most readers this will more likely provide a valuable reference source for chapters outlining the seminal studies in their respective fields. The book expanded both my general knowledge of ARDS and my reference library for future academic efforts. I strongly encourage anyone pursuing an academic career in pulmonary or critical care medicine to purchase this text, but I would equally encourage full-time clinicians to consider this text if they plan to manage patients with ALI and ARDS.

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**Non-Neoplastic Advanced Lung Disease.**

Janet R Maurer, editor. (Lung Biology in Health and Disease series, volume 176, Claude Lenfant, executive editor.) New York: Marcel Dekker. 2003. Hard cover, illustrated, 817 pages, \$195.

Reviewing the complex topic of advanced non-neoplastic lung disease, its pathophysiology, clinical manifestations, and management approaches is a difficult assignment, but **Non-Neoplastic Advanced Lung Disease** (the 176th volume in the Lung Biology in Health and Disease series), edited by Janet Maurer, has accomplished the task; it is a thorough and systematic review.

The first 3 chapters review the pathology of obstructive airway diseases, interstitial disorders, and pulmonary vascular diseases. The macroscopic and microscopic features of these diseases are described, and their respective clinical correlations are reviewed. These chapters include representative photographs of parenchymal and airway specimens as well as photomicrographs that illustrate the histologic features of the conditions.

The next section uses the same organizational format to describe the physiological abnormalities in obstructive, interstitial, and vascular diseases. This section describes the pathophysiology of exercise limitation in these disorders and includes some useful tables that list the patterns of physiological abnormalities on pulmonary function and cardiopulmonary exercise testing.

The next chapters, which review the medical and surgical management of lung diseases, are thorough and include current information about new bronchodilator medications, medical management of cystic fibrosis, and gene replacement therapy for cystic fibrosis.

The chapter on pulmonary interstitial disease reviews drug-induced lung disease as well as the cytotoxic and antifibrotic agents used to treat interstitial pulmonary fibrosis. There is also a discussion about the "minimalist" approach to management, since the majority of patients with interstitial pulmonary fibrosis do not respond to medical therapy. This is followed by the international guidelines for lung transplantation, in view of the poor prognosis of patients with this disease.

The section on medical management of pulmonary vascular disease includes a concise, well-written review of vascular biology, which describes the balance of vasoconstricting and vasodilating mediators (endothelin and nitric oxide, respectively) and the rationale for promising pharmacologic treatment options of pulmonary arterial hypertension.

The surgical management of patients with chronic thromboembolic disease is reviewed, and an illustrative series of images (nuclear medicine studies and angiograms, conventional and computed tomography) are presented, as well as photographs taken during angiography. A useful section on pa-

tient outcome following pulmonary thromboendarterectomy is presented, and outcomes data are presented from studies in the 1990s up to 2001.

The topic of lung-volume-reduction surgery (LVRS) has evolved (again) over the past few years, at times with confusing recommendations and results. The chapter on LVRS is, therefore, a welcome addition, because the authors thoroughly review the subject, including its history, pathophysiology, controversies, and patient-selection criteria. The short-term (< 1 year) and long-term results are discussed in separate sections, in meta-analysis fashion. The final part of the chapter also includes LVRS in other clinical scenarios, such as combining LVRS and pulmonary nodule resection, and LVRS plus coronary artery bypass graft.

The section on surgical management of pulmonary disease appropriately concludes with a chapter on lung transplantation, and the general as well as the disease-specific recommendations.

Although many books of this type would have concluded the text at this point, this volume goes a few steps further. This book includes chapters that address the comorbidities of advanced lung disease, and their management, including cardiovascular comorbidities, gastroesophageal problems (with a separate chapter on cachexia associated with COPD), osteoporosis, and endocrine disorders.

Finally, there is a section on the psychosocial problems associated with advanced lung disease, which describes the measurement criteria and health status questionnaires used to measure health-related quality of life among patients with advanced lung disease. There is also a useful chapter addressing air travel by patients who require supplemental oxygen. And, finally, there is a

discussion on end-of-life care for patients with advanced lung disease.

This book is well organized and the information is presented in a logical progression. The chapters are well written and complete. There is some content overlap among the chapters, but I think that repetition is useful and welcome. The choice of subject matter and the manner in which it is presented will make this book appealing to various specialists. Overall, it would make an excellent tool for reviewing for pulmonary boards. The chapters on basic histology, pathophysiology, and clinical manifestations of pulmonary disorders are excellent for board review; however, the chapters on surgical and medical options, oxygen therapy for air travel, and end-of life issues will appeal to various medical and nursing specialists, as well as to respiratory therapists.

A minor criticism of this volume pertains to its pictures and photomicrographs. Though they are classic and representative, they are in black-and-white. Although it is not in the usual style for Marcel-Dekker publications, color photomicrographs would enhance the book, as some of the features are not as easily visible in black-and-white. Nevertheless, **Non-Neoplastic Advanced Lung Disease** is an outstanding volume, which, because of its thorough review of multiple subjects, can serve as an effective teaching tool and can be useful to multidisciplinary practitioners who manage patients with lung disease.

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