

**Essentials of Mechanical Ventilation**, 2nd edition. Dean R Hess PhD RRT and Robert M Kacmarek PhD RRT. New York: McGraw Hill. 2002. Hard cover, illustrated, 382 pages, \$49.95

**Essentials of Mechanical Ventilation** is a textbook written by 2 experts on mechanical ventilation, and it covers all aspects of mechanical ventilation for adult patients. The book has 4 parts. The first part describes the principles of mechanical ventilation and basic physiology, traditional and new ventilation modes, key aspects of setting the ventilator, and the roles of the components of the ventilator circuit. Moreover, it gives clinically useful information on how to set the ventilator and weaning techniques.

The (extensive) second part of the book discusses how to ventilate patients suffering from various diseases and conditions, and in various clinical situations. Each chapter begins with a succinct description of the pathophysiology of a particular condition and then describes how to set the mechanical ventilation according to several goals. This section discusses how to mechanically ventilate patients who have primarily respiratory conditions (eg, acute respiratory distress syndrome, asthma, or chronic pulmonary disease) and patients whose conditions are not primarily pulmonary (eg, chest trauma, cardiac edema, or head injury).

The book's third part discusses everything essential to monitoring respiratory variables, including gas exchange, oxygenation, ventilation, and both the basic and more complex aspects of pulmonary mechanics.

In the book's final part the authors discuss issues such as airway management, positioning, miscellaneous pharmacology, and ventilatory techniques.

The book's index is useful, its chapters are well organized, and the writing is clear and readable.

**Essentials of Mechanical Ventilation** is addressed to respiratory therapists and physicians, including intensivists, anesthesiologists, physicians-in-training, and any other practitioners who make mechanical ventilation decisions at the bedside. Nurses should also consider this book fundamental, because it contains important information on

monitoring, airway management, aerosol medications, and chest tube management.

Each chapter begins with a description of its objectives and ends with an excellent section of "Points to Remember," which provides a checklist-format summary of the important clinical knowledge and problem-solving skills. The figures and tables are appropriate and clearly explained. The illustrations of common wave tracings (eg, airflow, tidal volume, and airway and esophageal pressures) deserve special mention for their clarity and quality. References are not quoted in the text, but the most relevant references are listed at the end of each chapter.

In summary, **Essentials of Mechanical Ventilation** provides a nice overview of common problems with patients receiving mechanical ventilation. I congratulate the authors for their clear and concise descriptions that will help any practitioner involved in providing respiratory care and utilizing its associated technology. The book should be considered one of the primary reference manuals in pulmonary critical care.

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**Basic Clinical Lab Competencies for Respiratory Care: An Integrated Approach**, 4th edition. Gary C White MEd RRT RPFT. Clifton Park, New York: Delmar Learning. 2003. Soft cover, illustrated, 705 pages, \$54.95.

**Basic Clinical Lab Competencies for Respiratory Care** is a 705-page, soft-cover text intended for the respiratory therapy (RT) student. The type is clear and easy to read and typographical errors are rare. This text covers a wide array of procedures and is appropriate for beginning and advanced RT students. It includes clinical competencies for modalities as simple as hand-washing and as complicated as intraaortic balloon pump.

I have used previous editions of this text and appreciate the ease with which it lends itself to arranging laboratory activities while serving as a source for didactic presenta-

tions. Class after class, this has been a text that students consistently utilize and from which they actually complete their assigned reading.

Although this is primarily intended as a textbook for RT students I think it would also serve as a helpful resource for respiratory departments. The book's proficiency objectives and performance evaluations could be very helpful for assessing and documenting staff training and competency.

**Basic Clinical Competencies for Respiratory Care** is nicely organized. This edition is in 4 sections ("Patient Assessment," "Therapeutics," "Emergency Management," and "Ventilation") to reflect the content matrix of the National Board for Respiratory Care. Each section is divided into chapters and lists the topics and procedures in each chapter. This is followed by a list of the book's performance evaluations.

New chapters have been added to this edition—on bronchial hygiene, chest tubes, documentation, noninvasive positive-pressure ventilation, radiologic assessment, and waveform analysis.

Every chapter begins with an introduction, a presentation of key terms used in the chapter, theory objectives, and the appropriate American Association for Respiratory Care clinical practice guideline. At the end of each chapter are practice laboratory activities, self-evaluation post-tests, and performance evaluation sheets (commonly referred to by students as "check-off sheets"). Students may find these post-tests helpful in preparing for course examinations. The performance evaluation sheets present each procedure in a concise, step-by-step manner and includes areas for scoring student performance, by peers, lab instructors, and in the clinical site. These evaluations make it easy for students and instructors to monitor progress.

The book includes an appendix with the answers to the self-evaluation post-tests, a glossary, and a thorough index. Therapies in the bronchial hygiene section have been updated to include "The Vest" (high-frequency chest-wall oscillation device) and Flutter valve therapy. There was no mention of the insufflator-exsufflator device, a

modality that would have fit nicely in this category.

I was pleased to see the addition of the chapter on chest tubes. I have found that chest tubes is a subject in which new RTs and nurses are frequently underprepared. Assisting with chest tube placement, chest tube drainage systems, and monitoring and troubleshooting are covered and clearly presented.

The chapter on documentation and goals assessment is an overview of the patient medical record, the contents of a patient chart, and legal and financial ramifications of charting. The chapter describes various styles of charting used by RTs and presents clinical goals and outcomes for specific respiratory therapy modalities. The need for objective documentation is stressed. A very brief table of accepted medical abbreviations is included (there is a typographical error in the table). It has been my experience that new RT students struggle with charting, especially medical abbreviations. It would be helpful to have a more inclusive list of abbreviations.

The new chapter on noninvasive positive-pressure ventilation is especially timely, considering the increased frequency with which it is being performed. The chapter gives a good overview of the topic. The interface between the patient and the ventilator is described as being "critical" to the success of NPPV, and I couldn't agree more. However, only nasal masks and full-face masks are discussed. A more complete description of available masks, nasal apparatus, and headgear, plus additional tips on mask fitting would be helpful. I thought this chapter's information on the rapid shallow breathing index would have been more appropriately included in the section on weaning from mechanical ventilation, further on in the book.

The chapter on radiologic assessment has a good description of radiology techniques and positions. Most of the chest radiograph illustrations are clear and the pathologies easily identifiable, but epiglottitis, small pneumothorax, and acute respiratory distress syndrome are less clearly portrayed. The legend of Figure 4-26 describes an endotracheal tube "resting just above the carina," but in fact the tube appears just above the clavicles. Figure 4-29 is supposed to illustrate the appearance of a tracheostomy tube in a chest radiograph, but I could not identify any artificial airway in the picture.

My primary criticism of this text is of the photographs used for illustration. Many new photographs have been added to this edition. All are black-and-white. I found many of the pictures too dark, blurry, or grainy to clearly describe or illustrate the procedures or equipment components that they were meant to.

The chapter on mechanical ventilation is fairly basic. I was disappointed to find that this chapter has not been updated to include information on lung-protective ventilation or intrinsic positive end-expiratory pressure (auto-PEEP). Information for calculating tidal volumes based on ideal body weight and how to calculate ideal body weight would also be pertinent.

Overall, I appreciate the changes the author has made to this edition. I believe this text will be especially appreciated by RT directors of clinical education and anyone who supervises students in the clinical setting or assists with RT student lab activities. Students should appreciate the clarity with which procedures are described and that a single textbook can transition between lecture, laboratory, and clinic.

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**Interpretation of Pulmonary Function Tests: A Practical Guide**, 2nd edition. Robert E Hyatt MD, Paul D Scanlon MD, and Masao Nakamura MD. Philadelphia: Lippincott Williams & Wilkins. 2003. Soft cover, illustrated, 240 pages, \$39.95.

Pulmonary function testing (PFT) is increasingly being promoted to primary care providers both to evaluate patients with respiratory symptoms and to screen smokers for early evidence of airflow limitation, thus targeting special smoking cessation interventions. To use PFT results effectively, the clinician must have a sound understanding of the basic concepts of PFT interpretation. This understanding is especially important when testing and interpretation are performed in the clinician's office. However, even if the patient is referred to a PFT laboratory, that understanding helps to guide test selection and gauge the clinical relevance of the specialist's test interpretations. The main purpose of **Interpretation of Pulmonary Function Tests: A Practical Guide** is to give nonpulmonologists a practical working knowledge of PFT interpreta-

tion. As the authors state in the introduction, "The sole purpose of, and justification for, this text is to make [PFTs] user-friendly. Our goal is to target the basic clinical utility of the most common tests, which also happen to be the most important." I would say the authors have succeeded in that goal. This is a concise, well-illustrated introduction to PFT interpretation. The explanatory material in the early chapters is complemented by a series of brief case discussions that reinforce the basic concepts and, importantly, give novice readers an appreciation for the nuances that can help form an accurate interpretation when the raw data do not suggest a clear, simple answer.

For the most part the text presumes that the pulmonary function data are correct—that the testing was performed using properly calibrated equipment by a competent technician who was able to elicit the patient's maximal effort. Accordingly, this book is more relevant to physicians and other providers charged with PFT interpretation and less suited to pulmonary function technicians and other personnel responsible for maintaining the equipment and generating optimal test data.

The book begins with a useful list of abbreviations. Next is an introductory chapter that outlines the potential clinical utility of PFTs, briefly introduces the concept of normal values and variability, and presents the argument for more widespread use of office spirometry to detect early airflow limitation and prevent the development of disabling chronic obstructive pulmonary disease. This chapter also contains a cautionary statement that emphasizes the importance of considering all of the clinical data (in addition to pulmonary function results) before making a clinical diagnosis.

Subsequent chapters address spirometry, lung volumes, diffusing capacity, bronchodilator and bronchial challenge testing, arterial blood gases, airway resistance and lung compliance, distribution of ventilation, maximum respiratory pressures, preoperative testing, and simple exercise tests. These chapters are well executed and nicely illustrated. Several of the sections are beyond the scope of the book's main goal and intended audience. For instance, measurements of distribution of ventilation and resistance/compliance are not likely to be used by nonspecialist clinicians. However, the inclusion of that material helps to illustrate the underlying physiology, may be of con-

siderable interest to trainees, and does not detract from the main purpose of the book.

For the most part the authors promote fairly standard and well-accepted concepts of pulmonary physiology and PFT interpretation. They propose a novel term, the “gestalt approach,” for the initial visual inspection of the flow-volume curve, which most interpreters consider an essential part of the interpretation process. They provide a valuable description of this approach and the qualitative insights that can be gained. I was uneasy with their method for determining the severity of impairment, which is based on visual estimation of the “lost” area under the normal curve. Any assignment of pulmonary function impairment is admittedly arbitrary, but there are more precise ways to sort patients into these arbitrary categories.

Lung volume interpretation was another topic that the authors handled somewhat unconventionally. Their lung volume interpretation schema is driven primarily by the total lung capacity (TLC) and residual volume (RV) values—the functional residual capacity (FRC) is dismissed as being “primarily of interest to the physiologist.” This bias is reflected in the heading of the section (3c), which describes the various ways to measure FRC as “How the RV is measured.” I prefer the “boundary conditions” approach to interpreting lung volume patterns, using TLC and RV *plus* FRC. This is particularly helpful with obese patients and may reveal effects on chest-wall recoil that are not yet evident as reduced TLC. Also, extending the “gestalt approach” to lung volume interpretation is a bit of a “stretch,” primarily because there is no absolute scale on most flow-volume loops (everyone starts at TLC). Neither of these points substantially detracts from the authors’ careful explanation of lung volume measurements and the rational approach to interpretation that they describe and then demonstrate in later chapters.

In general the discussions of underlying physiology are appropriately detailed for the intended purpose of the book. I thought that mechanisms of airflow limitation deserved more illustration, because understanding those is so important and basic. Similarly, more discussion of what constitutes “normal,” what contributes to normal variability, and what can be confidently considered an “excessive” rate of airflow decline would have been appropriate, particularly since one of the major goals of the book is to encourage serial screening of asymptomatic smokers.

The last part of the book contains a brief chapter that discusses the expected PFT results in various common diseases. Another chapter provides a simple rationale for “when to test and what to order.” These are helpful practical discussions of topics that are often covered only in the form of a summary table in many other textbooks. Another chapter takes the reader stepwise through the overall process of PFT interpretation. Finally, the book concludes with a series of 44 vignettes, each of which include a brief clinical history, flow-volume loops, and other pulmonary function data (presented on a single page). Questions that illustrate important concepts are posed at the bottom of each page, and the informative answers are conveniently revealed on the back of each page. This gives the reader a chance to test his or her new interpretation skills on a wide array of realistic cases. This section is also used, quite effectively, to demonstrate how the subtleties of PFT data can help clarify the interpretation when the initial interpretation seems equivocal or unclear.

This second edition of **Interpretation of Pulmonary Function Tests: A Practical Guide** is an attractive, soft-bound book, roughly 15×23 cm, with 240 pages. The cover is glossy and durable; the page stock is thick enough for easy flipping and handling, though not thick enough to completely obscure text and figures showing through from the opposite side. The font is easy to read, with effective use of section headers, numbered lists, italics for emphasis, and indented paragraphs with smaller font to identify key points or “pearls.” I did not discover any typographical errors. The index is thorough. The text is not heavily cross-referenced, but it frequently refers readers to relevant materials in other sections.

The figures are exemplary for this type of book. Most are simple line drawings depicting testing apparatus or test results. The scale and weight of the lines are nearly perfect to my eye. As a PFT educator, I appreciate the authors’ efforts in producing these original, creative, and clear illustrations. They could easily be assembled into a highly effective set of illustrations for teaching purposes. I suspect that many will do just that, and I hope that the authors receive due credit. The photographs are glaring exceptions to the otherwise excellent figures. For instance, the figure showing normal inspiratory and expiratory chest radiographs (Fig. 3-1) is reproduced poorly enough that even the dif-

ference in lung volumes between TLC and RV is difficult to see. Figures 5-1 (metered-dose inhaler with homemade spacer) and 9-3 (maximum pressure measurement apparatus) are better. However, to improve understanding of how the measurements are made, the pressure measurement apparatus would be more effectively illustrated as a line drawing similar to others in the text, such as Figure 8-1 (the single-breath nitrogen washout measurement apparatus).

References are notable for their absence. Very few of the concepts presented in this book are supported by references. The source of one borrowed figure is cited in 2 figure legends. Otherwise, a few pertinent reports are cited at the ends of some of the chapters. Although these are cited as support of specific statements, most could be labeled “additional reading.” The lack of references detracts hardly at all from the main purpose of the book and may not be missed by the primary intended audience, but more experienced and sophisticated readers may wish for more links to the supporting evidence. This is particularly true of statements that are not easily researched in standard pulmonary physiology and pulmonary function textbooks. For instance, I just taught a group of medical students how to perform spirometry testing, and one healthy young woman repeatedly demonstrated a convex inflection on her expiratory flow-volume curve. I was relieved to read (Fig. 2-6h) that this “knee” is a “normal variant often seen in nonsmokers, especially young women.” But I was disappointed that there was no reference to the original data (if any) that support this assertion. I was also left curious as to the physiologic explanation for that phenomenon.

In summary, this is a well-crafted introduction to the interpretation of PFTs, and it should be very helpful to primary care providers and other nonpulmonologists who order or perform PFTs. It would be useful reading for both primary care and pulmonary trainees as well. The intentional lack of attention to the performance of the tests limits the utility for pulmonary function technicians and respiratory therapists, but the book does offer them good insight into the basics of interpretation and the clinical utility of the PFTs they perform. The book’s major strengths are the simple, straightforward explanations, the clearly drawn and annotated figures, and the extremely well-presented clinical vignettes. The book’s limitations, which are mostly due to intentional

decisions about the book's focus, include the paucity of references, the lack of discussion about performing PFTs, and the superficial treatment of the concept of "normal" values and the sources of normal variability. I expect to refer to my copy of **Interpretation of Pulmonary Function Tests: A Practical Guide** both to reinforce my own understanding of the concepts and to help me present this material more clearly when teaching.

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**Coronary Circulation and Myocardial Ischemia.** Michael R Pinsky MD, Antonio Artigas MD PhD, Jean-Francois Dhainaut MD PhD, editors. (Update in Intensive Care Medicine series, Jean-Louis Vincent MD PhD, series editor.) New York: Springer-Verlag. 2002. Soft cover, illustrated, 193 pages. \$49.95.

**Coronary Circulation and Myocardial Ischemia** is a succinct collection of reports that illustrate the basic physiology, applied physiology, functional assessment, and therapeutic and clinical applications involved in understanding the complexities of coronary circulation and the current rapidly evolving treatments for myocardial ischemia. Each of the 15 chapters were written by research contributors in the field and constitute terse summaries of basic science, physiology, and clinical applications pertaining to coronary circulation and myocardial ischemia. I will discuss the merits and limitations of the book's 4 sections.

Section I, entitled "Basic Physiology," discusses the local control of coronary blood flow and the basic cellular mechanisms involved in the development of atherosclerosis. The coronary vasculature is unique in that basal myocardial tissue oxygen extraction is very high (coronary *sinus* venous oxygen saturation is approximately 25%), so coronary blood flow must increase to meet that high myocardial metabolic demand. The authors support the hypothesis that adenosine is the locally released mediator that augments coronary blood flow, but they also present the limitations of the adenosine hypothesis, suggesting that other yet-to-be-identified mediators of coronary blood flow probably act in concert with adenosine

to enhance coronary blood flow during increased myocardial metabolic demand. The authors focused their discussion of atherosclerosis on the currently "in vogue" hypothesis that inflammation and vessel infection play a key role in the development of atherosclerotic plaque. They nicely summarized the recent sero-epidemiology, animal models, and plaque detection studies that support the role of herpes cytomegalovirus, *Chlamydia pneumoniae*, and *Helicobacter pylori* in the formation of atherosclerotic plaque. However, their enthusiasm for *Chlamydia pneumoniae* as a cause of atherosclerosis is based on small, positive, randomized macrolide-antibiotic trials with patients suffering coronary artery disease, and it should be tempered by the recent negative results from the larger ACADEMIC (Azithromycin in Coronary Artery Disease: Elimination of Myocardial Infection With Chlamydia<sup>1</sup>) and WIZARD (Weekly Intervention with Zithromax for Atherosclerosis and Related Disorders<sup>2</sup>) antibiotic trials, the results of which were published after the hardback version of **Coronary Circulation and Myocardial Ischemia** came out in 2000.

Section II, "Applied Physiology," discusses concepts such as ischemic preconditioning, coronary circulation in sepsis, and the importance of plaque thrombus generation and pharmacologic fibrinolysis of occluded vessels. Ischemic preconditioning, first described by Murray et al in 1986,<sup>3</sup> is the observation that myocardium exposed to antecedent brief sublethal ischemia and reperfusion has smaller subsequent infarct size than myocardium not exposed to ischemic preconditioning. The chapter author describes possible cellular mechanisms and clinical scenarios involved in ischemic preconditioning and alludes to the possible role of the adenosine-triphosphate-sensitive potassium channel ( $K_{ATP}$ ) in ischemic preconditioning. Not mentioned, however, were recent clinical results from the large IONA study in Europe,<sup>4</sup> in which nicorandil (a  $K_{ATP}$  agonist) improved myocardial ischemia and unstable angina in patients with symptomatic coronary artery disease; these results support direct pharmacologic activation of ischemic preconditioning as a novel treatment for atherosclerotic heart disease. The next chapter in this section nicely illustrates the effect of sepsis on coronary circulation. Although early sepsis is often associated with high cardiac output the authors discuss, from their own research, the obser-

vation of sepsis-mediated increased coronary blood flow and, hence, impaired vasodilator reserve. The 2 final chapters in this section nicely summarize the role of inflammation, tissue factor, and altered shear stress in thrombosis generation and the utility of fibrin-selective and non-fibrin-selective fibrinolytic agents in clot dissolution.

Section III, "Functional Assessment of the Coronary Circulation," discusses assessment of coronary circulation via echocardiography, myocardial viability imaging with positron emission tomography, magnetic nuclear resonance imaging, and intracoronary ultrasound (although this final section chapter is misplaced, in section IV). This section of the book is fairly solid and the information provides an important and succinct update for both novices and seasoned practitioners on the new and evolving cutting-edge technologies for evaluating coronary circulation.

Section IV, "Therapeutic and Clinical Applications," deals with nonthrombotic pharmacologic therapy, fibrinolytic therapy, percutaneous coronary intervention, and adjunctive therapy in the treatment of myocardial ischemia. The main fault with this section is that although the authors provide a nice overview of ischemic heart disease therapies available in the year 2000, the field has rapidly advanced and there are many new and expanded standard therapies available for the treatment of atherosclerotic heart disease, including (1) angiotensin-converting enzyme inhibitors to prevent ischemic events (the Heart Outcomes Prevention Evaluation [the HOPE study ]),<sup>5</sup> (2) 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CO-A) reductase inhibitors (statins) to reduce ischemic events in patients with atherosclerosis independent of low-density-lipoprotein cholesterol (the Heart Protection Study),<sup>6</sup> (3) clopidogrel in addition to aspirin to reduce ischemic cardiovascular events in patients with non-ST elevation myocardial infarction/unstable angina (the CURE [clopidogrel in unstable angina to prevent recurrent events] study)<sup>7</sup> or after percutaneous coronary intervention (the CREDO [clopidogrel for the reduction of events during observation] study),<sup>8</sup> and (4) rapamycin-coated intracoronary stents to reduce restenosis following percutaneous coronary intervention (the RAVEL [randomized study with the sirolimus-eluting bx velocity balloon-expandable stent] study and the SIRIUS study).<sup>9,10</sup>

In summary, **Coronary Circulation and Myocardial Ischemia** is an elegant, compact summary of the basic science and physiology, applied physiology, functional assessment, and treatment of coronary circulation and myocardial ischemia as known at the time of the initial (hard-cover) publication in 2000. Since then cardiovascular research has substantially advanced our understanding and treatment of ischemic heart disease, but those new findings were not included in the 2002 paperback edition of **Coronary Circulation and Myocardial Ischemia**. Certain of the new treatments are major advances, including the widespread use of angiotensin-converting enzyme inhibitors, statins, clopidogrel, novel anti-angina agents such as nicorandil (in Europe), and rapamycin-coated stents. These new advancements greatly benefit our patients but, unfortunately, make **Coronary Circulation and Myocardial Ischemia** dated. One additional note: the book suffers from many irritating errors in English usage, grammar, and spelling, which should have been corrected by the copy editor.

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**Inhalation Therapy for Pulmonary Hypertension: The Proceedings of a Symposium Held at the Annual Congress of The European Respiratory Society, Berlin, September 2001.** Timothy Higenbottam and Celia Emery, editors. New York: Parthenon. 2003. Soft cover, illustrated, 110 pages, \$99.95.

Twenty years ago, severe forms of pulmonary hypertension were considered a “fate,” rather than a “challenge,” by physicians, nurses, and respiratory therapists. Interest in this field of pulmonology has grown, mainly because of encouraging new therapy options, one of which is inhalation therapy, using either gases (eg, nitric oxide) or aerosolized drugs (eg, prostanoids). The enormous progress on this subject gave rea-

son for a special symposium, which was held in Berlin, Germany, in September 2001, during the Annual Congress of the European Respiratory Society. The presentations at the conference are now compiled in this soft-cover book.

Unlike usual textbooks, which try to give a complete review, this book discusses only the latest advances in inhalation therapy for pulmonary hypertension, for pharmacologists, toxicologists, physicians, respiratory physiologists, and graduate and medical students who are interested in these discipline. The editors, Timothy Higenbottam and Celia Emery, successfully maintained the logical structure of the symposium and included the transcribed post-presentation discussions between the presenters and the audiences, which is a charming way to make problems and criticisms visible that might be easily bypassed in reading the text.

Based on the table of contents, the reader might assume that this book refers exclusively to inhaled prostanoids. Actually, the book addresses many clinical questions in pharmacology, pathophysiology, and new therapeutic possibilities for severe pulmonary hypertension.

Higenbottam wrote Chapter 1, which presents the historical background and scientific rationale for the use of aerosolized prostanoids. The chapter describes the main advantages of the prostanoid substance group (vasodilation and inhibition of platelet aggregation), as well as the disadvantage of physiological prostacyclin for clinical use. The rapid hydrolyzation and inactivation of the molecule after contact with oxygenated blood fluids led to the development of similar, more stable substances. In addition, the author refers to the World Health Organization's classification of pulmonary hypertension, to demonstrate which patients are responding to inhalation therapy. This leads to the pathophysiology of pulmonary arterial hypertension, which is the topic of Chapter 2, written by Robert Naeije. The author, who is a world expert in this field, points out that the mechanisms of pulmonary hypertension development are incompletely understood. The text presents the genetic patterns of pulmonary hypertension patients as well as additional aspects of specific pathological changes (so-called “plexiform lesions”), which are speculated to be related to genetic mutations. Then the text describes inflammatory pathways of the pulmonary vasculature, with spe-

cial regard to the relationship of inflammation to coagulation, serotonin-dependent pathways, and cellular alterations of the vascular endothelium, the pulmonary artery smooth muscle, and the adventitium. Unfortunately, this chapter does not have any figures, which would help illustrate the complex pathophysiology. Nevertheless, the text's concise description makes it obvious that the crucial point is the disrupted equilibrium between endothelium-derived vasoconstrictors and vasodilators and that therapy and new approaches should be aimed at correcting those abnormalities.

In Chapter 3 Gerald Simonneau describes alternative routes of prostanoid administration. Simonneau also points out the short half-life of physiological prostacyclin, as well as the problems with and adverse effects of long-term treatment of pulmonary hypertension with continuous intravenous prostacyclin infusion. Several other modes of prostanoid administration have been investigated that are less invasive, potentially less costly, and associated with fewer severe complications. First, subcutaneous treprostinol therapy is presented. Treprostinol is a much more stable prostacyclin analogue, which obviates the central intravenous catheter and thus improves patient compliance. A randomized, controlled trial demonstrated a significant improvement in patient function variables. The data are included in clear tables and figures that are of very good quality and easy to understand. That section is followed by data from another administration mode: oral administration of beraprost. Again, a randomized, controlled trial demonstrated significantly better and clinically important improvement in the treatment group. In summary, this chapter nicely demonstrates the feasibility, efficiency, and safety of stable prostacyclin analogues.

Prostanoids, however, are not the only therapeutic option for patients with severe pulmonary hypertension. Chapter 4, written by Nazzareno Galie et al, describes non-prostacyclin modes for treating pulmonary hypertension. This section begins with another short review of the pathophysiology, to demonstrate how and why other substance groups are also effective. The disturbed equilibrium of vasoregulation includes additional metabolic abnormalities, such as thromboxane-, endothelin-, nitric oxide-, and phosphodiesterase-dependent pathways. The referring therapeutic options are

presented, supplemented by excellent graphs and figures, and completed by a final review of nonpharmacologic treatment options such as the graded balloon atrial septostomy or organ transplantation.

Unfortunately, the book has some minor typographical errors, most of which are not important but are nevertheless a bother when they appear both in the text and in the reference list; the first author of one of the most important reports on inhaled nitric oxide, Pepke-Zaba, is misspelled, which can make it difficult for the reader to find the correct reference.

Undoubtedly, the main issue in **Inhalation Therapy for Pulmonary Hypertension** is to demonstrate the benefit of the aerosolized prostacyclin analogue iloprost in patients with severe pulmonary hypertension, which is addressed in the 2 final sections. Chapter 5, written by Werner Seeger, describes the basic concept of inhaled prostanoids. The author presents the principles of inhalation therapy with regard to anatomical and physiological aspects within the lung, technical problems of correct distribution of inhaled drugs, and special problems of patients with acute respiratory distress syndrome and pulmonary hypertension. Several controlled and uncontrolled studies are mentioned and compared with other options (eg, inhaled nitric oxide). The benefits of aerosolized iloprost are convincingly demonstrated. In most cases the figures are clear and self-declaring. Some of them, however, are too complex (Figs. 7 and 8) and potentially misleading, since the author did not include legends, so it is difficult to distinguish the groups. This is a pity but only slightly diminishes the book's overall high quality.

In the final chapter (Chapter 6), Horst Olschewski presents the data from the important randomized, controlled trial on aerosolized iloprost with patients suffering primary and nonprimary pulmonary hypertension (the AIR study),<sup>1</sup> which revealed the outcome benefit of inhalation therapy among those patients, and the author clearly and concisely describes the convincing results. The figures and tables are excellent, and it is a noteworthy feature of this trial that a substantial proportion of patients from a poor functional class were included, who have hitherto been regarded as unlikely candidates for inhalation therapy. This chapter's discussion section addresses dose-response evaluation, technical limitations of nebuliz-

ers, and how to estimate the alveolar distribution of aerosolized drugs.

I think the book's editors achieved their aims. The book's overall appearance is very good; the chapters are well structured and in a logical sequence; the various aspects of the topics are put into titled paragraphs, each of which can be read as its own section, providing clear and logically sound findings and arguments. The writing is mostly clear and concise, and there are very few typographical errors. The overall quality of the figures and tables is excellent, frequently enriched by clear and ingenious schemes and cartoons. The references cited are useful and cover the material well, and the index is well-structured and contains many useful subheadings.

I think **Inhalation Therapy for Pulmonary Hypertension** could reach a broad readership of physicians and scientists, although the interest of nurses will probably be limited. It was obviously not intended to include nurses and respiratory therapists in its audience, which has to be registered as a drawback of this book, although the use of inhaled drugs outside the ICU and outside the hospital will become a relevant and economically important issue in the future.

My final criticism concerns the book's high price. In my view, approximately \$1 per page is a high threshold, maybe too high, and I hope the publisher will revisit that issue.

Nonetheless, for the clinician the book offers a good "view into the future," thus encouraging clinicians to continue clinical evaluation of inhalation therapy as a fascinating opportunity. **Inhalation Therapy for Pulmonary Hypertension** is an excellent tool that helps us to not lose reference to pathophysiology, pharmacology, and practical aspects of inhalation therapy in clinical use.

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**Coping with Chronic Obstructive Pulmonary Disease.** Elaine Fantle Shimberg. Foreword by Thomas L Petty MD. New York: St Martin's Griffin. 2003. Soft cover, 224 pages, \$13.95.

An introductory paragraph to this review is in order. This is a patient's (not a clinician's) review. In 1979 I was diagnosed with chronic obstructive pulmonary disease (COPD) and advanced emphysema. I am at risk for spontaneous pneumothorax, I have survived multiple spontaneous collapses of the right and left lung, and I can attest to the terror of those events. The descriptions and information in **Coping with Chronic Obstructive Pulmonary Disease** I found to be very accurate. The author describes with clarity and force the terror and the sense of being buried alive. In these days of the 18-minute office visit with your doctor, this book will be an invaluable manual that is easily read and understood by COPD patients and their families and loved ones. Of course, this book will be a quick read for doctors and other clinicians and the professional medical community as a whole.

*Coping* is exactly what the COPD patient has to do every day, and we have here an excellent book that deals directly with day-to-day activities in a well organized and easily understood format for us regular folk! This text deserves the recommendation of medical professionals to their patients, both at the earliest stages of the disease and at diagnosis. This will help the 18-minute doctor visit to be a much more rewarding experience for both the patient and the doctor.

The book's material, from a lay person's perspective, seems factual, accurate, and without exaggeration. In the introduction the author clearly cautions the reader to seek professional care and diagnosis. She then puts forth an "A-Z" picture of coping with this terrible and at times frightening disease. The book is well organized and the writing is clear and interesting, which encourages the reader to read on.

The book is divided into 2 parts. Part One, entitled "Understanding and Treating COPD," includes 4 chapters: "What is Chronic Obstructive Pulmonary Disease?"; "How COPD is Diagnosed"; "Treatments for COPD"; and "What Caregivers Need to Know." Part Two is called "Living with COPD" and it comprises 2 chapters: "The A-Zs of Living with COPD" and "Conclu-

sion." At the end there are sections that list COPD resources and suggested reading, and the book has an index.

The sections flow logically and help the reader understand the complex nature of COPD. I think the book will help set the reader at ease. The author has done a marvelous job in this respect. The patient, loved ones, family, and caregivers can get a thorough understanding of what they will have to deal with for the rest of their lives. Dr Tom Petty wrote the book's foreword, and he calls the book a "Masterpiece." I agree! This book will go a long way toward relieving the frustrations and fear of all involved.

The author begins with the pre-diagnosis period, then discusses diagnosis, the doctor-patient relationship and communication (in both directions), and treatments. Pursed-lips breathing is described in detail. Oxygen equipment and the proper handling and use of oxygen are also described, and the author describes real-life COPD events in detail, in particular the subject of travel. Here we are learning that (gee whiz!) we can still do things in life that we did before, and we are not destined to a life alone, stuck on a couch or in a bed.

The intense issues of possible surgical intervention are discussed in an easy-to-understand and compassionate way. Lung transplant and lung-volume-reduction surgery are covered. The discussion of risk/benefit analysis is well done. Success and failure rates are discussed, and one gets the sense of *hope* when reading these lines, as we continue on our journey through coping with COPD. The author has succeeded in bridging the education gap between the medical professional and the patient and family that exists because of time constraints and the complexity of the disease. That the book is user-friendly and so easily read deserves praise from doctors and patients alike.

The author devotes a complete chapter to the needs of the caregiver. How I can relate to the importance of the COPD patient's spouse and the extreme stress that spouses endure! The book does a wonderful job in educating the caregiver and assigning him or her the level of respect that he/she so surely deserves. The author covers living wills, medical record-keeping, activities of daily living, etc. The author emphasizes that the caregivers needs proper rest, exercise,

nutrition, and *time off from caregiving!* The book addresses how to avoid depression and, more importantly, how to recognize the symptoms of depression. A caregiver must strive to maintain his or her own personal health. A sick caregiver cannot help a COPD patient.

The author then takes on the personal subject of the patient's desire to live. The book talks about dressing, music therapy, exercise, and travel. The author discusses the importance of having a good oxygen provider—one that can facilitate your travel needs as well as your comfort at home. She also emphasizes the importance of discovering or rediscovering hobbies and personal interests; she gives cooking tips and nutrition care; and she writes of the importance of getting outdoors and walking, of moving around, and of building hobby crafts and using them. Rehabilitation is so important and the author discusses it in detail. The book takes you into the world of volunteering. And this is all discussed with the proper attention to concerns such as hygiene and avoiding crowds.

The book has a moderate number of typographical/grammatical errors. The cover is attractive and looks professional. There are a small number of illustrations and I think more illustrations would have benefited the book.

The author, Elaine Fantle Shimberg, is an award-winning medical writer. She has written books about depression, stroke, Tourette syndrome, irritable bowel syndrome, and chronic heartburn (gastroesophageal reflux). Ms Shimberg is chairman of the board of St Joseph's Baptist Hospitals, in Tampa Bay, Florida.

The author lists references wherever possible and/or pertinent to all key subject matter, as well as support groups, airline contacts, and many more information pieces useful to COPD patients. At the end of the book is an extensive list of resources, suggested readings, and a list of COPD-related words to know.

In conclusion I wish to express my thanks to Bonnie Steele RN PhD, of Seattle Veterans Hospital, for inviting me to participate in this project and to the staff of RESPIRATORY CARE journal.

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