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Diagnostic Pulmonary Pathology, 2nd edition. Philip T Cagle, Timothy C Allen, and Mary Beth Beasley, editors. *Lung Biology in Health and Disease* series. Claude Lenfant, series editor. Volume 226. New York: Informa Healthcare. 2008. Hard cover, 791 pages, illustrated, $249.95.

This volume is part of the well known series *Lung Biology in Health and Disease*, edited by Lenfant. In this book, in its second edition, most chapters were written by authors who are not the editors; therefore, the style and format of each chapter varies. Some chapters are more readable than others, but most chapters are up to date; they include the most recent classifications and cover the most important aspects of each topic. In contrast to most pathology textbooks, this volume is organized on how the patient should be approached, and covers the most common and some uncommon neoplastic and non-neoplastic pulmonary diseases. Although the senior editors of the book are pathologists, the contributing authors include surgeons, clinicians, and radiologists, and this is reflected in the multidisciplinary approach provided to the reader.

The first chapter discusses transbronchial biopsies and is written by a clinician who gives a concise but excellent discussion on risks and benefits of the procedure, issues related to the immunocompromised patient, the likelihood of successful sampling and positive diagnosis, and briefly mentions novel techniques, including endobronchial ultrasound and electromagnetic navigation diagnostic bronchoscopy. The second chapter is written by pathologists (including the senior editor) and is a good review of pathology findings in endobronchial and transbronchial biopsies. A table discussing histologic artifacts will be very useful to the practicing pathologist.

There is only one chapter on pediatric lung disease. It gives a good overview of the pathology of pediatric diseases, including rare and recently described entities, but it does not go into details of genetics and metabolic diseases.

Topics related to interstitial fibrosis have been divided into 2 chapters: "Predominantly Mature Interstitial Fibrosis" and "Predominantly Immature Interstitial Fibrosis." This is an unorthodox way to discuss and classify these groups of diseases, but it works and is probably going to be useful to the student of these subjects.

The clinical chapters are clear, interesting, and useful, and many include tables and algorithms. The chapter on clinical and radiologic diagnosis of interstitial infiltrates is outstanding and provides a comprehensive review of interstitial lung diseases.

Although there are several excellent pulmonary pathology books, this volume provides an interesting organization that will be useful to the practicing pathologist, such as a chapter on diagnostic approach to the patient with necrosis on lung biopsy. In the chapters on neoplastic diseases the authors did an outstanding job of explaining the specialized radiological features of these tumors and correlating them so well with gross surgically excised specimens. The section on pleural pathology discusses issues that are controversial and difficult to the practicing surgical pathologist, and provide good guidelines for the diagnosis of these lesions, which sometimes is extremely difficult.

The material is well organized and the editors did a great job in terms of selection of topics and authors. Throughout the text, the photographs are good, but, unfortunately, as is the rule in this series, all the illustrations are black-and-white, including the photomicrographs, which are small. Radiologists and pathologists who are interested in detailed, high-resolution, color illustrations should refer to atlases and textbooks on the subject (in fact, some of them edited by the same editors of this volume).

This book provides a thorough review of pulmonary diseases that covers clinical aspects, radiology, and pathology. The references are up to 2008. The table of contents is well organized, and a comprehensive alphabetical index is also provided.

I am old enough to remember the days when *Spencer's Pathology of the Lung* was the only pulmonary pathology book. In 2009 the reader interested in these topics can choose from a large number of books, comprehensive texts, and atlases on these topics; nevertheless, this volume provides information and details that are unique.

Some of my junior colleagues and trainees prefer to learn from a CD, DVD, and online information that accompanies many textbooks nowadays; this book is not accompanied by a CD or online material, but it provides an excellent source of information.

The editors state in the preface that they present the "histopathological or clinical findings as they actually occur in clinical practice." I think they achieved their goal and provide the specialist with practical information on natural history and diagnosis of lung diseases.

In summary, this volume is a valuable reference textbook for clinicians and pathologists, although perhaps of limited value for therapists and technicians, since the predominant objective of the book is to provide clues for histopathologic diagnosis of lung diseases.

Roberto J Barrios MD
Department of Pathology
The Methodist Hospital
Houston, Texas

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Interpretation of Pulmonary Function Tests: A Practical Guide, 3rd edition. Robert E Hyatt MD, Paul D Scanlon MD, and Masao Nakamura MD. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins. 2008. Soft cover, illustrated, 272 pages, $69.95.

Textbooks such as West's *Respiratory Physiology*, from which many clinicians in training learn, describe the mechanisms by which air is inhaled and exhaled and gas is transferred in the lungs and peripheral tissues. This approach emphasizes the complexities of the respiratory system rather than the simplicity of the task it accomplishes. Pulmonary function tests (PFTs) are mentioned, but only as demonstrations of the underlying respiratory physiology. Other board-review-type texts present pulmonary physiology and pathophysiology information in mostly table form, without an explanation of why (for example, *why do* obstructive lung diseases have an abnormally low FEV_1/FVC ratio?). Hyatt, Scanlon, and Nakamura's text, **Interpretation of Pulmonary Function Tests: A Practical Guide**, attempts to place itself between the pure physiologic platform of West's text and the less mechanistic board-review-type books.

The authors propose that the under-utilization of pulmonary function testing in mod-

ern clinical practice is attributable to the unfamiliarity and inability to interpret PFTs with which the average clinician struggles. They make the central aim of their text to make PFTs more user-friendly. This aim is well accomplished in this 3rd edition, as the authors review each of the commonly available PFTs and then offer a plethora of practical examples of their interpretation in various disease states. Along the way there is plenty of discussion of the respiratory physiology underlying these tests, but the focus is on PFT interpretation first and physiologic underpinnings second.

The design and layout clearly meet the purpose of simplifying PFT interpretation. The graphics are large, frequent, simple, and well annotated in the legends. The text employs efficient wording, never overexplaining something that a table or figure could communicate more clearly. The text is peppered with clinical "pearls" that allow the reader to think about the PFT information in the context of a patient. These pearls appear most often in earlier chapters, and their absence is missed in chapters describing more complicated PFTs.

Chapters 2–9 present individual tests that might be done in a PFT lab, beginning with the commonly performed (spirometry, lung volumes, diffusion measurements), progressing to the uncommon (measurement of resistance and compliance, and distribution of ventilation). There is deservedly more attention paid to spirometry, lung volumes, and measurement of diffusion capacity. In the spirometry chapter (Chapter 2), care is taken to display graphs showing both volume/time next to the identical flow/volume plot for the same conditions, which is a great aid to the reader in understanding the relationship between these 2 ways of showing the same maneuver. Also included in this chapter is a succinct, but accurate and well illustrated, description of airway-obstructing lesions and the resulting flow-volume loop changes seen with those lesions. Chapter 4, discussing diffusion capacity, makes the useful distinction between conditions that decrease surface area for gas exchange and conditions that increase wall thickness.

The coverage of arterial blood gas analysis, specifically the Davenport diagram and the Henderson-Hasselbalch equation, is superficial and incomplete for a clinician in training. Though the authors admit that this discussion is beyond the scope of the book, they do not provide the underlying context for why arterial blood gas analysis may be a useful adjunct to PFTs. Three examples at the end of the chapter begin to introduce such a context, but more would be helpful.

Chapters on measurement of resistance and compliance, distribution of ventilation, and measurement of respiratory pressures are brief descriptions of these less commonly performed tests. Though these chapters offer a concise explanation, they would be benefited by overlapping information incorporating the earlier, more common PFTs. It would be helpful to be able to compare resistance measurements with spirometry in a patient with asthma, or maximal inspiratory pressure measurements with upright and supine vital capacity in a patient with diaphragmatic paralysis. This is done to a lesser extent in the examples later in the book, but more overlap earlier on would be beneficial to demonstrate the pathophysiologic derangements measured by these less commonly performed tests.

The middle chapters of the book are a potpourri of "what test to order when" for both general patients and preoperatively, a description of basic exercise tests, an introduction to correlating PFT patterns with disease states, and, finally, an ambitious algorithm of PFT analysis. Although there is no consensus in the literature, the "what to order when" sections would be benefited greatly by more references, especially focusing on professional-organization policy statements. The pattern recognition in the various diseases chapter (Chapter 12) contains a bewildering table (12-1) with arrows describing the expected results in 20 tests for 9 different common pathologic conditions. The chapter's text, which I found more helpful, describes how the fundamental pathologic process of each individual condition translates into pulmonary function testing. These succinct descriptive paragraphs are among the most "high-yield" in the entire book. The algorithm for PFT interpretation (Chapter 14) could probably be skipped by most readers who have any previous experience evaluating patients with lung disease.

The strength of the book is the numerous excellent examples presented in Chapter 15. These are presented in case format, with questions and answers, but are also indexed by disease state at the end of the chapter. Cardiologists have always recognized that the best way to learn electrocardiogram interpretation is to look at a lot of electrocardiograms. The authors of this text have used that strategy to great success teaching PFT interpretation. Each case presents discrete features that illustrate how a given pathologic condition affects PFTs, and how that might present in a patient. The authors could have gone into greater detail in their explanations of any abnormal PFT findings, or even included references corroborating their largely accurate interpretations, but the tradeoff for brevity and simplicity is a fair one. Once again, it would be helpful if arterial blood gases, single-breath nitrogen testing, respiratory pressure measurement, or exercise testing were included more in this section, as respiratory-system resistance/compliance has been in this latest edition.

I have few global criticisms. The text is clearly written with a bias toward adult testing and adult disease. This is evident particularly in the sections covering changes in lung function over time, and in the superficial description of forced oscillation technique for estimating pulmonary resistance. It also should be noted that the 3rd edition has very little in the way of changes from the 2nd, published 6 years ago. Included in this edition are the measurement of exhaled nitric oxide, forced oscillation, and some inclusion of American Thoracic Society/European Respiratory Society consensus statements concerning the standardization of pulmonary function testing. Though there is some minor editing of the language, the general outline, the text, and the figures are almost an exact replication of the earlier edition. Owners of the 2nd edition should feel no need to update to the 3rd.

The target audience of this book is certainly physicians and allied health professionals in training who will be doing primary care or pulmonary specialty disease. The book will also be useful for PFT laboratory technicians, as an introduction to the disease states tested for with our armamentarium of tests available. It is not intended to be a stand-alone text on pulmonary physiology or lung disease, but the astute use of numerous illustrative examples makes this a useful adjunct that will bring PFT analysis out of physiologic abstracts by defining the relevance to patient care.

Patrick Ryan Sosnay MD
Division of Pulmonary and Critical Care
Johns Hopkins University
Baltimore, Maryland

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Robert E. Hyatt MD, Paul D. Scanlon MD, Masao Nakamura MD. Interpretation of Pulmonary Function Tests, 4th edition provides practical, clinically relevant coverage of all types of pulmonary function testing as it applies to a host of disease conditions. It is aimed at any reader with a basic knowledge of pulmonary physiology and provides a solid basis for administering and interpreting these tests.Â Masao Nakamura, MD. Division of Pulmonary Medicine Keihai-Rosai Hospital Fujiharamachi, Shioyagun, Tochigi, Japan.Â Furthermore, it is difficult to determine the practical clinical value of pulmonary function tests from currently available texts of pulmonary physiology and pulmonary function testing. Practical and clinically relevant, Hyatt's Interpretation of Pulmonary Function Testsprovides user-friendly coverage of all types of pulmonary function testing as it applies to a wide range of disease conditions. In this revised 5th Edition, Dr. Paul D. Scanlon expands upon the tradition of excellence begun by renowned pulmonary physiologist and father of the flow-volume curve, Dr. Robert E. Hyatt. A new two-color design, new and reorganized cases, and revised and expanded content keep you up to date with all that's new in the field. â€¢Â Paul D. Scanlon MD. Consultant, Division of Pulmonary and Critical Care Medicine, Mayo Clinic, Rochester, Minnesota; Professor of Medicine, Mayo Clinic College of Medicine, Rochester, Minnesota. Review. Office-based pulmonary function testing, also known as spirometry, is a powerful tool for primary care physicians to diagnose and manage respiratory problems. An obstructive defect is indicated by a low forced expiratory volume in one second/forced vital capacity (FEV1/FVC) ratio, which is defined as less than 70% or below the fifth percentile based on data from the Third National Health and Nutrition Examination Survey (NHANES III) in adults, and less than 85% in patients five to 18 years of age.Â If a restrictive pattern is present, full pulmonary function tests with diffusing capacity of the lung for carbon monoxide testing should be ordered to confirm restrictive lung disease and form a differential diagnosis.