tion compared to the chapters on other first-line therapies. This is unfortunate, as therapists and clinicians may be especially interested in some of the practical aspects of working with a new medication, but this information was likely unavailable at the time the book was written.

The special-topics section includes the integration of behavioral therapies with pharmacologic therapy, special populations such as psychiatric patients and those with substance-abuse disorders, pharmacogenetics, and neuroimaging. The section on behavioral-therapy may be especially useful to respiratory therapists and some other clinicians. This chapter highlights the importance of the smoking-cessation message from a health-care provider for increasing the effectiveness of smoking-cessation therapy and provides some concrete examples of simple behavioral interventions, which are clearly outlined in tables and bullet lists. The chapter about treating psychiatric patients and those with coexisting substance-abuse disorders is also likely to be of interest to those focused primarily on patient care. This chapter details considerations pertaining to several specific disorders and reviews the scientific literature about nicotine-replacement therapy and sustained-release bupropion for each condition. The chapters on pharmacogenetics and neuroimaging describe advances that will be most relevant to researchers.

The concluding section provides an outlook for future research suggestions and approaches to treating nicotine dependence. This section addresses specific subpopulations and the potential to integrate genetic and imaging advances into the development of future therapies.

Though **Medication Treatments for Nicotine Dependence** is expansive in its coverage of the pharmacologic background of nicotine addition treatment, it may not be practically useful for many therapists or other clinicians. However, it can serve as an excellent reference to address questions about the mechanism of action or the pharmacologic rationale for a given therapy. The book is well-organized, so it will be useful as a reference.

Meredith C McCormack MD MHS
Pulmonary and Critical Care Medicine
Johns Hopkins University
Baltimore, Maryland

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Pulmonary Embolism, 2nd edition. Paul D Stein MD. Malden, Massachusetts: Blackwell Futura. 2007. Hard cover, illustrated, 476 pages, $124.95.

Paul Stein is best known as the researcher behind the Prospective Investigation of Pulmonary Embolism Diagnosis (PIOPED) I, II, and III studies. Those who search PubMed for articles about pulmonary embolism will no doubt encounter the name of this prolific author. He has used his vast knowledge and perspective to organize his definitive text, "**Pulmonary Embolism**." In this long-awaited second edition he builds on the knowledge base regarding this common and yet often misdiagnosed condition.

Do we need another textbook in this era of bedside Internet searches and ready access to online resources such as *UpToDate*? In my opinion, yes. Providers often have inadequate time to wade through an exhaustive online search for detailed information about risks, diagnostic strategy, or treatment of this important disease. This text fills a gap in the knowledge-base of the physician, nurse, or therapist who cares for patients with pulmonary embolism. By using a clear and organized format with many graphs and diagrams, Stein provides detailed information beyond the scope of an online review, but in a readily searchable and easily accessible format.

The volume is divided into 4 parts. The first is devoted to the prevalence, risks, and prognosis of pulmonary embolism and deep venous thrombosis. The chapters are focused and quite manageable for the busy clinician. Each has a clear derivation from the published literature. There are interesting topics, ranging from old classic concepts to new descriptive epidemiology. The subjects include air travel and the risk of pulmonary embolism and deep venous thrombosis, estrogen-containing oral contraceptives and pulmonary embolism risk, and venous thromboembolism in patients with cancer. Stein uses clinical epidemiology to illuminate other pulmonary embolism risk factors that provide the reader with further perspective on this disease. There are unique discussions on venous thromboembolism in the 4 seasons (no variation in rate of diagnosis or mortality), and regional differences in the United States rates of diagnosis of pulmonary embolism and deep venous thrombosis and mortality from pulmonary embolism (the western region has the lowest incidence and mortality). He also looks at the incidence of thromboembolism in Native Americans, including Alaskans, and Pacific Islanders (all lower than whites).

A brief section that compares the diagnostic process in African-American and European-American patients reveals that although the death rate among African Americans with pulmonary embolism was higher, there was no evidence of withholding of key diagnostic testing, such as ultrasound or ventilation-perfusion scan, and no difference in duration of hospitalization from 1979 to 1999. Stein discusses the challenge of separating race from socioeconomic divisions and the importance of post-hospitalization access to primary care.

The next chapters delineate the risk and impact of pulmonary embolism and deep venous thrombosis in various disease states: heart disease, stroke, chronic obstructive pulmonary disease, asthma, sickle cell disease, pregnancy, obesity, and hypercoagulable states. Each of these chapters succinctly reviews the data and presents in user-friendly format the increased risk or unique interaction of the specific disease and thromboembolism.

Part 2 is dedicated to the diagnosis of deep venous thrombosis. Stein starts with the clinical assessment of deep venous thrombosis: the symptoms and signs and their importance. He documents the utility of various clinical prediction scoring systems, the use of D-dimer testing, either alone or in combination with other data, and then elucidates the predictive values of various imaging modalities used to test for deep venous thrombosis. This discussion ranges from the older accepted standard, venography, to now-more-commonly used modalities such as compression ultrasound. He also reveals preliminary data from the literature regarding the utility of magnetic resonance angiography and the more frequently used computed tomography (CT).

The chapter on the use of CT for diagnosis of deep venous thrombosis is remarkably detailed. In addition to providing evidence of efficacy of the technique, Stein documents the technical methods employed by the investigators (page 171): "Forty milliliters of iohexol diluted with 200 mL of saline was injected via a Y adapter. . . at 4 mL/s, using a power injector." As one of the investigators in PIOPED II, he is able to give a "behind-the-scenes" view of the tech-

niques used in the CT venography portion of the study, such as how the testing was tailored to reduce the radiation exposure of subjects.

These 2 sections pave the way for the discussion of what many diagnosticians find the most challenging problem: the diagnosis of acute pulmonary embolism. With the rapid proliferation of new technologies for the evaluation of pulmonary embolism, physicians, nurses, and therapists are challenged to sort the different laboratory and radiographic tests into a cohesive diagnostic plan. The next 193 pages are divided into 44 chapters that detail the multiple facets of this clinical situation.

Stein first addresses the individual aspects of diagnosis, starting with the history and physical. The next 7 chapters address some of the most challenging and lowest-yield diagnostic tests for pulmonary embolism: electrocardiogram, chest radiograph, arterial blood gas values, alveolar-arterial oxygen difference, fever, leukocytosis, and alveolar-dead-space measurement. He collates the world's literature on each test and leaves the reader with a clear understanding of the utility of these diagnostic tests, often showing how unhelpful these readily available tests are in definitively excluding or including the diagnosis of pulmonary embolism. The section continues with discussion of the role of D-dimer testing, clinical prediction rules, such as the Wells and Geneva scores, and other less-used laboratory tests (eg, plasminogen activator level).

Then Stein presents an analysis of the myriad radiographic techniques used to make the diagnosis of pulmonary embolism. After a brief chapter on the utility of bedside echocardiography in the diagnosis of normotensive and hypotensive patients with suspected pulmonary embolism, Stein embarks on a historical journey, detailing the technique of ventilation-perfusion ($\dot{V}/\dot{Q}$) imaging, the criteria for $\dot{V}/\dot{Q}$ interpretation prior to PIOPED I, and how that changed with the PIOPED study. Stein continues by detailing the criteria for low probability and the interpretation of $\dot{V}/\dot{Q}$ testing in patients with cardiopulmonary disease.

Stein proceeds logically into a brief chapter on the techniques for pulmonary angiography, and then spends many pages detailing the use of CT angiography, this time using PIOPED II as the transition point. He then describes the methods of the PIOPED II study, how they evaluated the combination of CT angiography with CT venography in the diagnosis of pulmonary embolism. This study used a complex composite reference standard to exclude pulmonary embolism.

The goals of PIOPED II were to investigate if CT angiography can reliably detect and exclude acute pulmonary embolism and if adding CT venography improves the reliability. To be diagnosed with pulmonary embolism a patient had to have one of: high-probability $\dot{V}/\dot{Q}$ scan (with no prior history of pulmonary embolism), positive pulmonary digital-subtraction angiogram, or positive venous ultrasound (with no prior deep-vein thrombosis at the site of the compression defect). Exclusion of pulmonary embolism required one of the following: negative digital-subtraction angiogram, normal $\dot{V}/\dot{Q}$ scan, or a low-probability $\dot{V}/\dot{Q}$ scan with a clinical Wells criteria < 2 and negative venous ultrasound.

The PIOPED II group determined that CT angiography had good positive predictive value in association with high-probability and intermediate-probability clinical Wells scores, but not in association with low-probability Wells score. The contrapositive also held true: CT angiography had excellent negative predictive value in association with low-probability and intermediate-probability Wells scores, but not in association with a high-probability Wells score. Stein included an extremely useful and practical pre-test and post-test probability chart that uses Bayes theorem and likelihood ratios derived from the study.

A brief chapter on the use of magnetic resonance angiography for the diagnosis of acute pulmonary embolism follows and leads naturally into a chapter on integrating diagnostic testing into a cogent diagnostic approach. In this final chapter of the diagnosis section the flow diagrams show clear approaches to evaluating a patient with suspected pulmonary embolus.

The third section, on treatment and prevention, begins by outlining the various anticoagulants available and their biochemistry. Stein discusses the prevention of venous thromboembolism in various disease states and then the treatment of venous thromboembolism, which is extracted directly from the Seventh American College of Chest Physicians Conference on Antithrombotic and Thrombolytic Therapy.

The next few chapters tackle the challenging and controversial topic of thrombolytic therapy in acute pulmonary embolism. The few studies that provide guidance are outlined and put forth as potential evidence. Stein does a nice job of explaining the challenges of using intermediate end points in the assessment of efficacy.

Despite this text's thorough and comprehensive approach to pulmonary embolism, there are a few sections that could have been more rigorous. It is apparent that Stein's interest lies in the diagnosis of the disease. The section on therapy is unfortunately brief, as was the discussion of thrombolytic therapy, and both topics are of critical importance to practicing clinicians. Other than this small flaw, the book is a great desktop reference, and a key starting point for any investigation into the risks factors and diagnosis of pulmonary embolism. Stein is clearly one of the world's experts, and this far-reaching volume is a pleasure to read.

David J Carlbom MD
Emergency Services
Division of Pulmonary and
Critical Care Medicine
Harborview Medical Center
University of Washington
Seattle, Washington

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Computed Tomography and Magnetic Resonance of the Thorax, 4th edition. David P Naidich MD, W Richard Webb MD, Nestor L Müller MD PhD, Ioannis Vlahos MB, and Glenn A Krinsky MD. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins. 2007. Hard cover, illustrated, 897 pages, $149.

This book encompasses the full spectrum of thoracic imaging. Perhaps a more fitting title would be "Everything You Ever Wanted to Know About Thoracic Computed Tomography and Magnetic Resonance Imaging: An Illustrated Version." The authors present a current and in-depth analyses of thoracic imaging. The material is written clearly and all aspects of imaging are addressed. There are detailed discussions of techniques and protocols, and an emphasis on the appropriateness of the techniques in various clinical settings. Detailed imaging features are provided for numerous disease processes, and the text is accompanied by more than an ample number of images. Both medical and surgical treatments are discussed, accompanied by appropriate images. The advantages and limitations of computed tomography (CT) versus magnetic resonance imaging (MRI) are discussed for var-