

the greater increase in FVC than FEV<sub>1</sub> after bronchodilator. These points may be better suited to persons already involved in spirometry than to persons starting to learn about it.

Chapter 8, "Interrelationship of Spirometry Parameters: a Graphical Approach," (10 pages, with 10 figures) uses graphs to analyze the effects of changes in FEV<sub>1</sub>, FVC, and FEV<sub>1</sub>/FVC, on FEF<sub>25-75%</sub>. This is too much information and of limited practical use for a person without a background in spirometry testing and in using the FEF<sub>25-75%</sub>.

Chapter 9, "Step By Step Analysis of Numeric Results," has 7 pages and one figure. The figure presents an algorithm for analysis of spirometry numerical results, to determine if the test is abnormal and to define the abnormality. The algorithm and the analysis appear correct, but it is difficult to go through the steps, because the steps in the figure are not numbered. Also the wording in the figure for step 6 ("FEV<sub>1</sub> < LLN?") is not matched by the text on page 77, where the question is "Is FEV<sub>1</sub> at or above the predicted value?" It would be easier to follow if the question in the text matched the wording in the figure and if the algorithm in the figure included the step numbers.

Chapter 10 has good interpretation exercises in its 12.5 pages.

Overall, I think Almirall-Collazo made a good effort in preparing this book. It will be useful for those with no previous spirometry experience and who want to get training and be involved in spirometry testing. It could also be of interest to respiratory therapists, technicians, nurses, physicians, and other health workers using spirometry.

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**Knowledge Translation in Health Care: Moving From Evidence to Practice.** Sharon Straus MD FRCPC MSc, Jacqueline Tetroe MA, Ian D Graham PhD, edi-

tors. West Sussex: Wiley-Blackwell. 2009. Soft cover, 336 pages, \$62.95.

A dispiriting truism of modern medicine is that clinicians routinely do not provide treatments proven to reduce complications and save lives. Even in the era of evidence-based medicine there exists a substantial gap between evidence and practice, leading to preventable morbidity and mortality. Respiratory care is not immune to this problem: multiple published studies demonstrate deficits in the quality of care for patients with severe respiratory disease. Unfortunately, lagging behind our understanding of the evidence gap is our understanding of how to bridge that gap. In contrast to our wealth of knowledge about the pathophysiology of disease, relatively little is known about strategies to implement evidence-based treatments in daily practice. The science of knowledge translation seeks to correct that deficit. Knowledge translation, defined as the systematic application of research findings to routine practice, is still an emerging field in healthcare delivery. But as governments, payers, and patients demand more accountability in healthcare, it is increasingly important that all healthcare practitioners be familiar with its tenets.

Individuals interested in learning more about the science of knowledge translation would do well to pick up **Knowledge Translation in Health Care: Moving from Evidence to Practice**, an introductory primer on knowledge translation and its application to clinical medicine. Recently published in its first edition, the book was developed by the Canadian Institutes of Health Research and the Li Ka Shing Knowledge Institute at the University of Toronto, 2 organizations that have pioneered efforts to better implement evidence-based practice in medicine. The editors are international leaders in the field, and they have assembled an impressive group of authors with broad expertise, ranging from medical informatics to organizational theory to models of behavioral change. Importantly, the authors are diverse in background: many have research training in the social sciences, which is a necessity for this type of multidisciplinary work.

The book is organized into 6 sections. Section 1 provides an introduction to the field of knowledge translation. Section 2 reviews the methods to generate and synthesize new knowledge, such as systematic

reviews, meta-analyses, and clinical practice guidelines. Section 3 presents a conceptual model for knowledge translation, the "knowledge-to-action" cycle, and reviews the evidence behind several common strategies for implementing new practices. These include passive practices such as education and audit and feedback, as well as more active approaches such as the use of information technology and organizational change. Section 3 also gives some helpful real-world examples of successful quality-improvement activities at the local and regional level. Sections 4 and 5 delve deeper into the behavioral change theories that underlie knowledge translation from a sociological perspective. Finally, Section 6 reviews strategies to evaluate the clinical and economic effects of knowledge translation interventions. Together, the sections give a "soup to nuts" overview of the knowledge translation process, beginning with creation of new knowledge and ending with the process for evaluating the success of efforts to implement evidence-based practices.

The text is most successful when it is most specific and practical. For example, the discussion of patient decision aids in chapter 2.3 clearly explains the utility and value of the various methods to help patients understand complex medical information and act on that information. Similarly, the discussion of the barriers and facilitators to implementing best practice, in chapter 3.4, rightly stresses the importance of systematically identifying knowledge gaps and barriers to quality of care at the local level, rather than adopting a "one-size-fits-all" approach. The book goes a step further by reviewing when and how to customize clinical practice guidelines to local needs. This advice is extremely useful for practitioners wishing to take part in local quality-improvement initiatives. Among the best chapters is a clear explanation of clinical study designs for evaluating knowledge uptake: this is essential reading for those involved in the practice of knowledge translation. And although it is delegated to an appendix, the book provides a stellar introduction to the ethics of knowledge translation, including a practical review of the ethical principles that guide evidence-based practice.

The book missteps when it ceases to be practical and offers more general guidance. Indeed, most of the book could be described as a theoretical rather than a practical guide.

The chapters about behavioral change models, while interesting, seem more geared to researchers than clinicians. Yet most researchers, even junior ones, already have access to this information in more comprehensive forms. Those most in need of a knowledge translation primer—healthcare administrators, policy makers, and front-line clinicians—will get little out of these sections. Understandably, the emphasis on theory may be a product of the topic itself. The drive towards customization of knowledge translation precludes a detail-driven discussion, as these details are likely to differ across clinical sites. One chapter even explicitly makes the distinction between knowledge transition and quality improvement, the latter being more local and less easily generalized. Yet the consequence is a more inaccessible and less practical text.

There are also some noteworthy omissions. Although the book discusses the role of continuing medical education, there is no discussion of recent innovations such as performance-based continuing medical education that links didactic education to quality measurement and improvement. There is also no discussion about how to improve performance when the evidence is not clear. The book implies a consensus on quality that may or may not exist: in practice we are frequently faced with situations in which practitioners disagree on the correct approach (eg, lung-protective ventilation for acute lung injury). Additionally, the book missed an opportunity to discuss how the evidence itself can influence its eventual uptake. Although knowledge generation is part of the book's knowledge-to-action model, a detailed discussion about how clinical trials themselves can be improved to speed evidence uptake is lacking. For instance, missing is a detailed discussion of community-based participatory research, a potentially innovative approach to knowledge translation, in which the research subjects themselves help inform the clinical trials, as a way to overcome the structural barriers associated with evidence uptake. Finally, there is no discussion of external incentives for evidence-uptake, such as public reporting and pay-for-performance, which will play an increasingly important role in knowledge translation in the coming years.

Despite its flaws, the book is compelling as a beginner's guide to this important field. Respiratory care practitioners interested in an introduction to the theoretical underpinnings of knowledge translation will find it in this book. Clinicians looking for a practical guide to quality improvement and researchers looking for an in-depth discussion of recent innovations in knowledge translation may need to look elsewhere. Yet at least parts of this book will be useful to anyone practicing modern medicine, as we are all faced with the challenge of providing our patients with the best possible care.

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**Pleural Disease**, 2nd edition. Demosthenes Bouros, editor. *Lung Biology in Health and Disease* series, volume 229. Claude Lenfant, executive editor. New York: Informa. 2010. Hard cover, 832 pages, \$349.95.

Though pleural diseases contribute to good bulk of out-patient consultation and hospitalization, still this group of diseases is amongst neglected groups. Pleural diseases are managed by a variety of specialists, ranging from primary care physicians to thoracic surgeons and oncologists. In the past decade more attention has been paid to this group of diseases, and several novel diagnostic and therapeutic interventions have developed and gained popularity in managing them. At this stage, when pleural diseases are gaining more light and new interventions are gaining popularity, a comprehensive and reliable coverage of pleural disease, pathophysiology and management is of great value for pulmonologists, internists, thoracic surgeons, and oncologists in staying abreast with current knowledge.

The second edition of Bouros's book **Pleural Diseases** has comprehensively covered almost every aspect of pleural diseases. The book has chapters written by renowned specialists in the field. The authors are well reputable in the community of pulmonologists and thoracic surgeons, by their contributions in advancing knowledge in the pathophysiology and management of pleu-

ral diseases. The content is sound and divided in 45 chapters.

The initial chapters provide a concise overview of physiology and pathophysiology on pleura and pleural cavity, which are of high importance to pulmonologists in training or early in their career for quick review of key concepts. These basic chapters are followed by chapters on imaging of the pleura, with individual chapters on ultrasonography of the pleura, which is gaining recognition as a highly useful tool. The chapters on imaging cover pleural conditions extensively, with multiple images on classical and variant presentations. The images are of high quality. Further, the book has covered each diagnostic and therapeutic modality one by one, in a very concise and presentable manner.

The chapter on clinical evaluation of the patient with pleural effusion is my favorite in this book. The coverage on pleural effusions of different etiologies and associations makes the book unique and broadens the audience to pediatricians, radiologists, and pathologists. The chapters on newer modalities, such as medical thoracoscopy, video-assisted thoracoscopy, intrapleural fibrinolytics, pleuroperitoneal shunts, and extrapleural pneumonectomies, cover technical and procedural aspects as well as their role in pertinent conditions. This book also has some unique chapters, such as the one on translational research in pleural diseases.

Overall, this book is a very good guide and reference for pleural disease, especially for pleural effusion. The chapters are well written, with fairly minimal typographical errors. The content and facts are recent and well referenced. The editorial consistency between chapters is good. The index is helpful for a quick look at content of interest. One of the few disappointments I had with this book is that organization and flow of the content are not ideal. The chapters could have been better sequenced. Another area for potential improvement to make the book reader-friendly is formatting and spacing at paragraphs and sub-headings.

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