

disease, bronchiectasis, small airways diseases, and chronic obstructive pulmonary disease. In this edition the authors moved the topic of cystic fibrosis from the chapter on congenital disorders to this chapter and expanded the text on the topic. The revised section on bronchiolitis reflects a better understanding of small airways disease, and the authors have added a subheading for neuroendocrine hyperplasia, an uncommon and recently recognized cause of constrictive bronchiolitis.

Chapter 13, "Neoplasms of the Lungs, Airways, and Pleura," has new information on population screening for lung cancer, the new World Health Organization classification of pre-invasive and malignant lung tumors, and expanded coverage of FDG PET in lung cancer staging. Survival data have been updated to include a large series from Japan, and a relatively recently described neoplasm, atypical adenomatous hyperplasia, has been added to the text. The topic of "missed" lung cancer is also presented. The lymphoma section has been restructured to include the new World Health Organization classification of Hodgkin lymphoma and lymphoid neoplasms excluding Hodgkin lymphoma, and staging of mesothelioma has been added.

Chapter 14 covers mediastinal diseases, including those of the thoracic aorta. There is a new section on differential diagnosis of mediastinal masses that has helpful tables for each mediastinal "compartment." The section on aortic disease has also been lengthened, and there are many new examples that highlight the role of magnetic resonance imaging in aortic disease.

Chapter 15 is a minor update on pleural disease, with newer, additional, and higher-quality images. Chapter 16 discusses congenital anomalies of the lungs and airways. Cystic fibrosis was appropriately moved from this chapter to Chapter 12.

Chapter 17 focuses on chest trauma. The authors clearly demonstrate the central role of CT in evaluating chest trauma, with numerous new illustrations and expanded text, particularly on the topic of traumatic aortic injury.

The shortcomings of the 4th edition of **Imaging of Diseases of the Chest** are few. There are very few typographical errors, and the information provided is up to date. Controversial issues are presented as such, and the authors, while expressing their own opinions, avoid a dogmatic tone or approach. A few of the older figures, despite having been

reprocessed, are still less than ideal, and some figures are too pixilated or have too much contrast. The authors excluded the previous edition's chapter on thoracic interventions, which allowed them to fill those pages with more figures and longer discussions of other topics, which, in my opinion, will be more useful to the majority of radiologists. The topic of thoracic intervention may better belong on its own or in an interventional radiology text.

In summary, the authors of the 4th edition of **Imaging of Diseases of the Chest** have kept true to the aim of previous editions: to produce a single-volume comprehensive text on thoracic imaging. This book is by no means an introductory text on thoracic imaging and is best suited for individuals who have a good understanding of thoracic imaging and anatomy. Though targeted primarily at radiologists, many pulmonologists and thoracic surgeons may find it useful.

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High-Resolution Computed Tomography of the Lungs: A Pattern Approach. D Karthikeyan DMRD DNB. London: Hodder Arnold/Oxford University Press. 2005. Hard cover, illustrated, 223 pages, with CD ROM, \$110.

High-Resolution Computed Tomography of the Lungs: A Pattern Approach attempts to provide an overview of lung disease, with an emphasis on high-resolution computed tomography (CT). Unfortunately, shortcomings in the book's organization, limited discussion of a pattern approach, dearth of high-resolution images, and the low quality of images included disappointed us. The paper, printing, and binding quality are fair.

The book has 3 sections and an appendix. The first section reviews anatomy and fundamentals of high-resolution CT. The diagrams of lung anatomy are clear. The illustrations of segmental and bronchial anatomy are especially good. However, the figures of airways and secondary lobule anatomy are small and grainy. The discussion on fundamental high-resolution CT is

limited to basic protocol, indications, and technique.

The book's second (and shortest) section describes lung disease patterns and concomitant differential diagnoses and gives short descriptions of specific pathologies. This section is hampered by lack of CT images, though included schematics present the material adequately. As pattern of lung disease is the focus of the text, the second section proves to be the most disappointing aspect of the book, and, at best, it may be helpful as a primer for reading a more in-depth text.

The third section presents cases of commonly encountered disease. Though not exhaustive, the cases are of adequate scope and complexity for resident radiologists and clinical physicians. However, the images are of low quality, and many are not high-resolution, which is unacceptable, given the availability of modern printing techniques and digital technology. In addition, the organization could be improved. Rather than an alphabetical approach, specific subcategories would have been more helpful. The appendix is completely text, mainly consisting of differential diagnoses and pearls.

High-Resolution Computed Tomography of the Lungs: A Pattern Approach is worth reading after other similar texts have been perused. Its format is easy to read, but it lacks good organization. Its appeal is that it can be digested without a major time commitment. It should be recognized, however, that this is not an exhaustive text. Overall, this book has many shortcomings, compared to other comparable works.

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IASLC Textbook of Prevention and Detection of Early Lung Cancer. Fred R Hirsch MD PhD, Paul A Bunn Jr MD, Harubumi Kato MD PhD, and James L Mulshine MD, editors. Boca Raton: Informa/Taylor & Francis. 2006. Hard cover, illustrated, 396 pages, \$149.95.

Lung cancer is the leading cause of cancer deaths, with over one million annual deaths worldwide. Despite decades of research and advances in treatment, lung cancer remains highly lethal; over 90% of lung

cancer patients succumb to the disease. Public health efforts at reducing the smoking rate have been modestly successful in reducing lung cancer deaths in the United States, and the majority of cases now occur in previous or never-smokers. The IASLC [International Association for the Study of Lung Cancer] **Textbook of Prevention and Detection of Early Lung Cancer** addresses important and timely subjects concerning how soon, and by which methods, early interventions can be made in persons with or at risk for lung cancer, to catch the disease in an earlier, more curable stage. The book's editors are thought leaders in the lung cancer field and they selected contributors who are experts in their sub-fields. The book lives up to its designation as a "textbook" in that it is very thorough in its discussion and is well-referenced, with an average of a hundred references in each of its 20 chapters. As such, it makes a very useful reference, but most readers are unlikely to read it in its entirety. The book is intended for physicians and researchers interested in lung cancer, and it is written in a detailed and technical fashion. It may appeal to respiratory therapists with special interest in lung cancer, but the comprehensiveness that is its strength may deter the casual reader.

The book starts with an epidemiologic overview of lung cancer, discussing temporal and geographic trends and environmental risk factors. Subsequent chapters review lung cancer biology, genetic risk factors, and the strong epidemiologic and basic science evidence that links tobacco smoke to lung cancer. Tobacco control measures and clinical approaches to smoking cessation are reviewed. Some chapters discuss the pathology of lung neoplasia and pre-neoplasia. Early detection is a major focus of this text. A chapter on proteomic approaches to early detection reviews the methods of proteomic analyses in general and discusses the literature on detection of lung cancer in lung tissue, serum, plasma, pleural fluid, sputum, bronchoalveolar lavage fluid, and exhaled breath condensate, using proteomic profiling. Sputum cytology has for decades been proposed as a means of early detection. Also discussed are the data regarding conventional cytology and newer techniques, such as automated cytometry and specific molecular markers such as rat sarcoma (RAS) oncogene activation or abnormal methylation.

Novel bronchoscopic techniques, including autofluorescence bronchoscopy and en-

dobronchial ultrasound, are explained in detail, and data on their use in early cancer detection are presented. Techniques for dealing with the early lung cancer lesions (eg, photodynamic therapy, brachytherapy, and electrocautery) detected via the latter sensitive techniques are discussed, and the limited data on their effectiveness are presented.

Previous efforts at early detection of lung cancer with chest radiographs failed to demonstrate a survival benefit between screened and control groups in randomized clinical trials. Current efforts at early detection utilize spiral CT scanning to detect early lung cancer lesions. The text provides a useful summary of the expanding literature in CT-based lung cancer screening; the rationale for this method and data from prospective cohort series are reviewed, and the ability of the technique to identify early lesions is demonstrated. The ongoing randomized clinical trials that might establish CT-based screening for lung cancer are described, though results are not expected for many years.

Because CT can identify very small lesions, the high frequency of indeterminate pulmonary findings is the clear challenge in CT-based screening. One chapter covers how image processing and computer-aided diagnosis can enhance detection while minimizing false-positive results. Several chapters are devoted to how to work up these lesions, and how radiographic appearances correlate with pathologic findings. Many of the lesions detected are too small for needle biopsy, so many patients with screening-detected lesions will require surgery. Evidence from studies of non-screening-detected lung cancer established lobectomy as the operation of choice for patients with adequate pulmonary reserve. Screening-detected lung cancers are typically much smaller than incident lung cancers and may have a less aggressive biology, allowing for alternative, less-aggressive treatment approaches. Surgical techniques and issues surrounding sub-lobe resections are reviewed. Numerous nonsurgical treatments have emerged, including conventional and stereotactic radiation therapy, brachytherapy, and other local modalities. Explanations of these techniques and the limited data supporting their effectiveness are reviewed.

The technologies used for lung cancer screening and workup are expensive, and it is clear that at some point this will have to be addressed from a societal standpoint. A chapter is devoted to the economic evalua-

tion of lung cancer screening that, like many of the chapters in this text, builds basic concepts in the discipline, such as cost/benefit evaluation and criteria for evaluating the quality of economic evaluations, and then reviews the relevant data for lung cancer screening. A subsequent chapter discusses how to select the population to be screened to enrich for persons at high risk and thus improve the cost/benefit ratio. This same high-risk population can also be targeted for pharmacologic chemoprevention to reduce lung cancer risk. The rationale for this approach, including the concepts of multi-step carcinogenesis and field cancerization, is discussed. A historical overview of the field includes several large randomized clinical trials of promising agents such as beta-carotene, which proved to promote rather than prevent lung cancer.

Overall the coverage of topics is complete, and I did not identify any important topic that was omitted. The chapters are well written, and there are few typographical errors. The book has many useful illustrations and tables that enhance the text. The references are extensive, and the book has a reasonable index. One problem with having multiple contributing editors is that there is a certain degree of overlap between sections, especially in the chapters' introductory parts. The benefit of this approach is that the chapters can be read individually.

Given the slow progress in the treatment of advanced lung cancer, early detection and prevention appears to be the most important front in reducing mortality. This book synthesizes material from many different disciplines and provides a comprehensive overview of the emerging data in this field, which are poised to make an important impact on lung cancer deaths.

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Air, the Environment, and Public Health.

Anthony S Kessel MBBS MPhil MSc. Cambridge, United Kingdom: Cambridge University Press. 2006. Hard cover, illustrated, 243 pages, \$90.

Readers of *RESPIRATORY CARE*, unless they have broad perspectives and interests,