
Pediatric Chest Imaging: Chest Imaging in Infants and Children

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This hardcover book is part of the Medical Radiology: Diagnostic Imaging series, edited by Drs. A.L. Baert, M. Knauth, and K. Sartor. There are approximately 30 contributors to the book, many of which are of international stature. The book contains 445 figures in 925 separate illustrations, 54 of which are in color, and 19 tables. As the forward by Dr. Baert states, "This second, completely revised and updated edition provides a comprehensive overview of modern imaging of the pediatric chest." The book was dedicated to the editors' mentors, Dr. Frederick Silverman and Dr. Benjamin Felson. The editors, who are preparing for retirement, have given us a valuable teaching aid.

The book has 18 chapters covering most imaging modalities. The images are clear and well captioned. The early chapter on CT of the chest could have used more arrows and annotations, but the examples in the rest of the chapters were clearer. The book assumes a basic knowledge of imaging mechanics and physics. A cursory review is provided; this is appropriate, as this book is meant for radiology house staff and practicing radiologists. Each chapter begins with an outline of contents. Sections are separated into lung parenchymal, pleural, mediastinal, and diaphragmatic lesions. Techniques for each of these areas are reviewed. The first chapter, on ultrasound of the chest, demonstrates excellent examples of the utility of ultrasound and Doppler in diagnosing common, as well as uncommon, disorders. Correlative imaging is of the highest quality. Images of patients undergoing the various technical positions are presented.

A chapter on the contributions of nuclear medicine to chest imaging is also presented. Various techniques for lung imaging are shown, as well as for performing salivagrams for pulmonary aspiration. An introduction to PET and PET/CT is given, and some discussion of dosimetry from the CT portion is addressed here and in later chapters on CT. Other PET/CT cases are interposed throughout the appropriate sections of this book.

Chapters 3 and 4, on helical multidetector CT and high-resolution CT, are excellent. However, numerous images could have used some annotation or arrows. Virtual bronchoscopy and 3-dimensional volume-rendered images

are also shown and exquisitely demonstrate the abnormalities. Numerous protocols for imaging are displayed in table format.

Chapter 5, on pulmonary malformations, also demonstrates multimodality images and uses color overlays to present various abnormalities. The chapter on CT of acute pulmonary disease (infection, infarction, and trauma) shows the wide spectrum of disease presentation. Images are well annotated and described. A separate chapter on pulmonary tuberculosis is also included. An introduction to sleep-monitoring studies has been added and reviews disorders of the tonsils and adenoids, which can cause some obstructive sleep disorders.

Radiology has always been a mainstay for the diagnosis of foreign body aspiration. A chapter on foreign body aspiration shows clear examples of the utility of various modalities. An excellent chapter on evaluation of the thymus is included. The development of the thymus, as well as pathologic and physiologic changes, is shown. Lacking though, are PET/CT images of various thymic disorders that are commonly encountered in imaging evaluations of children with cancer. A few PET/CT images are included in the chapter on lymphoma imaging, which also reviews various nuclear medicine studies used to better define the anatomic abnormalities. Chapters on other chest tumors and chest abnormalities in systemic disease also show great examples of the integration of multiple modalities.

The chest wall is discussed in a separate chapter, and in addition to nontraumatic causes of injury, child abuse is discussed. New chapters on MRI and CT of the heart describe well the techniques used and show great examples of vascular abnormalities. Cases using MR angiography and volume rendering on CT are also shown and are very clear.

Chapters on fetal MRI of the chest and on neonatal chest imaging show, in exquisite detail, normal as well as pathologic findings.

Throughout the book, extensive consideration is given to dosimetry and the potential implications of repeated exposure to ionizing radiation. A section on pediatric sedation refers to a 1997 protocol that uses drugs available in European countries. There was no attempt to provide comparable names or protocols for those drugs available here in the United States.

Overall, the book is an excellent text for someone with basic knowledge of imaging techniques and pediatric chest disorders. The large number of interesting cases makes it an invaluable teaching tool and reference book for those embarking on a career in pediatric radiology, as well as those practicing pediatric radiology. The book has a

cosmopolitan flair, with contributing authors from all over the world.

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