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Differential Diagnosis in Magnetic Resonance Imaging

AJNR Am J Neuroradiol 2003, 24 (7) 1480
<http://www.ajnr.org/content/24/7/1480>

This information is current as
of August 16, 2025.

Differential Diagnosis in Magnetic Resonance Imaging

Francis A. Burgener, Steven P. Meyers, Raymond K. Tan, and Wolfgang Zaumbauer. New York: Thieme; 2002. 654 pages, 1964 illustrations.

The fast evolution of MR imaging technology and its rapidly increasing number of applications demand a great effort from the trained radiologist as well as the resident radiologist to keep up with the growing knowledge. This reality process mandates the interpreter of MR images not only to become familiar with new MR imaging techniques but also to increase his or her clinical knowledge base as diagnostic capabilities expand. As technical capabilities have improved, many imaging findings have now been included in the diagnostic criteria of several entities that were previously exclusively in the clinical domain. It is in this scenario that the vast compilation completed by Dr. Francis A. Burgener, Dr. Steven P. Meyers, Dr. Raymond K. Tan, and Dr. Wolfgang Zaumbauer takes place. This book has been written by using the same approach as that used in writing the previous successful *Differential Diagnosis in Conventional Radiology* and *Differential Diagnosis in CT* also coauthored by Dr. Francis A. Burgener.

This book has been structured on the basis of radiologic-MR imaging findings rather than extensive disease entity discussion. It covers, in a single volume, essential MR imaging information regarding every organ system. It contains 630 pages, 320 of which are dedicated to neuroradiology. It has been divided into anatomic sections as follows: brain, head and neck, spine, musculoskeletal, chest, abdomen, and pelvis. The chapters of particular interest to the neuroradiologist have been organized as follows: the brain section, subdivided into the brain itself, cerebrovascular MR angiography, ventricles and cisterns, and meninges and skull; and the head and neck section, subdivided into skull base and temporal bone, orbit and eye, paranasal sinuses and nasal cavity, upper neck and lower neck, and hypopharynx and larynx. An additional chapter is dedicated to the spine.

This book eases the reader into a multitude of rare conditions and more frequent diseases by combining comprehensive summarized tables with characteristic pictures of cases that illustrate the classic findings for a specific entity. After the anatomic divisions mentioned above, the tables group together the distinctive MR imaging findings and pertinent clinical information for each one of the various pathologic entities.

The book is versatile; it can be read in a study session to get oriented regarding a group of diseases

that may affect a specific organ system or can be used in a review session regarding suspicion of a specific pathologic abnormality. The reader can then refer to the corresponding table, look for the descriptive findings, and confirm those findings by using the corresponding image. This can be accomplished conversely: by knowing the anatomic location and suspecting a generic cause (eg, congenital, tumoral, infectious. . .), the reader can scan through the picture atlas to find the matching images and then review the text highlights.

In addition, the book includes a quick overview of MR physics, a brief introduction with pertinent MR anatomy review at the beginning of each chapter, and important basic pathophysiological data regarding the main disease process involving the specific region or organ (eg, spine, degenerative spine).

Image quality and labeling are the two main strengths of this book. Labeling is precise and specific, and the images have been carefully arranged to match the text and table presented on the adjacent page. The quality of the images is excellent; however, because the book contains an extensive review of the essentials in neurologic and body MR imaging, its capability to display multiple images of a single entity is limited.

The book is very practical. It is easy to consult when a quick aid or illustration is needed. The text contains a comprehensive outline, arranged in a succinct and accurate manner. It can be considered too general when each topic is analyzed individually, but it is not intended to be an extensive treatise. Instead, it is a complete selection of the essential information regarding most of the pathologic entities that can be imaged. Rather than delivering cutting edge information in the latest imaging developments, it offers, in a quick reference format, an MR pathologic atlas.

One aspect in which the book falls a little short is in its references. The references are listed at the end of the book, are not cited in the text, are limited in number, and mainly refer to classical textbooks.

I recommend this book to residents and fellows in training and those preparing for the Boards and to radiologists involved in the interpretation of MR images. It is difficult to imagine a radiologist to whom this book would not be of value.