

NUCLEAR MAGNETIC RESONANCE IMAGING IN MEDICINE AND BIOLOGY.

P.G. Morris. Oxford, Clarendon Press, 1986, 388 pp, \$59.00

This concise text is divided into six chapters; (1) an introductory overview (2) an introduction to nuclear magnetic resonance (NMR) principles, (3) a discussion of point and line imaging methods, (4) a discussion of two and three dimensional NMR imaging methods, (5) a description of NMR imaging instrumentation, and (6) illustrations of applications of NMR to biologic systems.

The stated objective of providing the reader a sound physical understanding of the theory and practice of NMR imaging is largely met due to the logical organization, direct presentation and concise treatment of material in a style which is relatively complete and up-to-date. The book is primarily directed to readers with a physical science background including medical physicists, NMR spectroscopists interested in NMR imaging, and to the growing number of medical imaging clinicians who are well prepared to understand and utilize the content of this scholarly text. In that regard the author's apology to NMR spectroscopists for including Chapter 2 on basic NMR principles is inappropriate and unnecessary. Equally inappropriate is the assumption that the clinician will likely find value only in the discussion of clinician applications in Chapter 6; due to the fact that an accelerated number of highly competent imaging clinicians have, in fact, a physical science background at least equal to that of the author. Ironically, the clinical applications chapter has limited utility because it is anecdotal in style, has no data on accuracy, sensitivity, or specificity; is devoid of correlative imaging analyses, contains no algorithmic approaches to specific clinical situations, contains no discussion of clinical evaluation of external magnetic resonance imaging (MRI) contrast and contains no data on recent developments including fast, dynamic NMRI scanning, flow imaging and measurement, or microscopic NMRI. In order to be consistent perhaps the author should apologize to the clinician for a limited clinical applications chapter just as he apologizes to the spectroscopist for a basic NMR principles chapter. Some distractions in style are noted. These involve inconsistent figure quality and style; one photograph (Fig. 2.27) has appeared in commercial articles for years; the redundancy of author lists in the text *and* in the reference list, and a wide range of image quality in Chapter 6. The quality of the publication with regard to pages, print and figures is average. Many images are out-of-date, a problem shared by virtually every author attempting to catch a "snapshot" of the state-of-the-art at any given time.

In summary, this text is an excellent reference for the basic scientist *and* clinicians with a significant basic science background in the basic principles of NMR physics and NMRI technology. The double backhand to clinicians i.e., (1) apology to spectroscopists due in Chapter 2, and (2) implication that clinicians can probably only understand Chapter 6 is an evidence of scientific arrogance (equally as inappropriate and destructive as the "great physician syndrome") which likely appeared unintentionally. Nevertheless, the attitude commu-

nicated illustrates that we have a way to go yet in establishing a common respect in our field where communication and cooperation is more important than ever before in the history of medical imaging science and application.

I am pleased to recommend this text as an excellent addition to the library of every serious student and practitioner of NMR principles both in imaging and multi-nuclear spectroscopy.

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DIAGNOSTIC IMAGING OF CHILD ABUSE.

P.K. Kleinman, Baltimore, Williams & Wilkins, 1987, 280 pp, \$59.50

The rapid growth of our awareness of child abuse and neglect has lead to a corresponding increase in medical and psychologic information about the problem and our prospects for diagnosing and treating it. Numerous resources including several regular journals have become available in an attempt to provide professional communication. Several excellent albeit brief discussions of the radiological findings in child abuse are included in general textbooks on the subject and in most radiology and pediatric radiology textbooks. This is the first textbook dealing exclusively with the use of radiology and other imaging modalities in child abuse.

The purpose of the book is to provide a textbook devoted to the radiologic alterations in child abuse taking into account recent advances in nuclear imaging, ultrasound, computerized tomography and magnetic resonance imaging. This textbook is more than that, however. It goes beyond to include information on additional related areas to assist those dealing with child abuse in fulfilling legal responsibilities and dealing with psychosocial issues.

The introductory chapter sets the stage for what the rest of the book contains. It weaves child abuse into the context of family violence and defines the role of the radiologist as consultant.

The last chapter for "the reader unfamiliar with medical imaging" clearly, simply and succinctly describes medical image production, imaging modalities and procedures, and the benefits and risks of diagnostic imaging in children.

The body of material presented is quite timely. Nowhere has there been such a complete and lucid discussion of the topic. The evenness of presentation is striking. The chapter on dating fractures is unique. The illustrations are uniformly of fine quality. The references, 747 in all, are evidence of the authors' exhaustive search of the world literature.

This is a well made attractive book. The quality of the paper and print is high, and the editors succeeded in producing a book that is a joy to read.

This is a long overdue book for all physicians who treat children. It should be on the bookshelf of everyone who does

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