

effect of the position of the patient and variations of anatomy and physiology as well as artifacts. The chapters on the skeletal system, brain, and gallium scans are also quite comprehensive and reflect the extensive experience of nuclear medicine in these fields. What are not covered as well as they could have been are certain aspects of thyroid scanning, for example, radioiodine-131 in thyroid cancer and metastasis. The chapter on the heart could have included some first-pass studies; the fairly complete section on thallium-201 imaging, however, makes up for some of the chapter's deficiencies. Gastrointestinal bleed study is common in most nuclear medicine departments today, but the book includes only one such case. The section on the kidney provides common and also rare examples of the anatomic variations but it is not as encompassing in other variants and artifacts.

I also question the need for the chapter on technical artifacts, since several other images in other chapters also result from technical artifacts. I would prefer that each chapter devoted to a system or an organ be divided into sections on, for example, technical artifacts, radiopharmaceutical problems, patient positioning, anatomic variations, and physiological variations, to make the book easier to follow and also more comprehensive. Likewise, the figure legends could have been prepared in a more uniform style to make the book more usable as a quick reference. For example, a very short title of the illustration could be followed by such subheadings as "findings," "explanation" (of that artifact or variant), "how to avoid" (the occurrence of that artifact), and "references" or "acknowledgments." The authors may want to consider some of these refinements in preparing their second edition, which undoubtedly should also cover artifacts and variants encountered in the newer tests such as indium-111 leukocyte studies as well as discuss computer artifacts during the creation of subtraction, functional and parametric images.

I highly recommend this book for all those involved in nuclear medicine, in particular physicians in practice, residents in training, and technologists. It would make a good addition to one's quick-reference, daily-use library. The authors are to be commended not only for preparing this atlas, which fills a void in the field of nuclear medicine, but for doing it so excellently.

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PHYSICAL PRINCIPLES AND CLINICAL APPLICATIONS OF NUCLEAR MAGNETIC RESONANCE.

R.A. Lerski, Ed. London, Hospital Physicists' Association, 1985, 142 pp, £24.00

The uninitiated in the principles and theory of NMR imaging probably seek a short, concise, accurate but easy to read book on the basics with the idea of "getting up to speed" quickly. Dr. Lerski, through the Hospital Physicists' Association, has compiled seven chapters on the basic physics and instrumentation relating to nuclear magnetic resonance (NMR) and some of the clinical applications and a closing chapter listing NMR references covering 12 topics.

Holding this small (142 pages) book, one is led to think it can be understood in a short reading session. For the mathematically adept in electromagnetism, the book is simple; for others, the book is less informative. The audience was intended to be physicists primarily. Scientists/physicians who can wade through the math with some understanding will learn a great deal because the meat of the mathematical relationships relating to NMR are briefly and clearly described.

There are pearls of understanding (basic facts that are easy to remember) scattered throughout the text but one must read to find them. Once highlighted they make nice references.

The two clinical chapters are brief and illustrate the great interest in NMR imaging and spectroscopy. For the physicist/scientist these chapters lay a foundation for understanding the magnitude of the clinical interest. For the physician, these chapters are very brief and perhaps already outdated. Certainly the current medical NMR literature must be used to keep up with the latest trends in clinical uses of NMR.

In summary, the eleven contributors including the editor are to be congratulated for assembling a brief text on NMR primarily targeted to the physicist/scientist. As a reference book, the text is excellent for listing those mathematical relationships which describe the NMR phenomenon. The book is not however the best on the market for a clear "picture" of what NMR is all about. The illustrations are good but not unique in describing the NMR phenomenon. The book is reasonably priced and a good reference investment.

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