CARDIOVASCULAR NUCLEAR MEDICINE.

K.P. Lyons, Ed. CT, Appleton and Lange, 1988, 334 pp, $75.00

This multiauthored (mainly from Southern California) book is "intended for the practitioner of cardiovascular nuclear medicine". It is a comprehensive, if succinct, guide to the practical application of nuclear medicine to cardiac diagnosis. The various chapters, typically written by those easily recognizable as experts, cover in detail the usual topics including gated cardiac scintigraphy and myocardial perfusion imaging. Clearly important or controversial topics are broken down into greater detail including discussions of both right and left chamber evaluation, and both planar and single photon emission computed tomography thallium imaging. Included are discussions of radiopharmaceuticals, instrumentation, peripheral perfusion imaging, and positron emission tomography imaging.

I found the book both interesting and useful. The individual chapters, which seem fairly evenly written, are reviews of "state of the art" imaging with extensive references to the literature. Each is not long but provides adequate information so that a relatively quick reading will "bring one up to speed". The discussions of "Short-Lived Generator Produced Radiopharmaceuticals" and "Pediatric Cardiovascular Nuclear Medicine" are nice additions. Some chapters provided clinical imaging protocols for specific examinations that are useful either to a beginner or to one who would like a comparison to existing methods.

The book is not without fault, however, as the reproduction of some illustrations especially in the chapters on left ventricle scintigraphy, planar thallium, and pyrophosphate imaging are not well done and seem indistinct.

This book would seem especially useful to those initially learning about the field such as radiology or nuclear medicine residents and as a resource in both departmental and hospital libraries especially as a quick reference. Although interesting, it probably is not really intended for those active in cardiovascular nuclear medicine and who are "up on the literature".

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MAGNETIC RESONANCE IMAGING: BASIC PRINCIPLES.

S. W. Young, New York, Raven Press, 2nd Edition, 1988, 282 pp, $39.00

This book is an all-encompassing review of the basic physics and clinical applications of magnetic resonance imaging (MRI). In addition, its ten chapters include discussions of MRI hardware, hazards, site planning, gray scale in MRI: "What does it mean", as well as, the economics of MRI. A glossary, complete bibliography, appendix of pulse sequences, and an atlas of MRI anatomy are also included in this basic, but complete, work. The author states that the book is intended for a "broad spectrum of health care professionals"; however, it appears to be geared primarily for the novice MRI physician, who has some familiarity with MRI. The discussion, in Chapter 3, of the physical basis of MRI is well written, with many excellent analogies, but most physicists and some physicians will find it somewhat lacking in detail regarding certain key aspects of MRI physics, particularly in the discussion of the relationship of angular momentum and charge to the nuclear magnetic moment and in the discussion of free induction decay.

An entire chapter is devoted to the mechanisms that contribute to gray scale in MRI, from both a imaging (pulse sequence) and fundamental biochemical perspective, and it provides a welcome addition to a complete discussion of nuclear magnetic resonance (NMR) imaging. The wide range of clinical applications of MRI are discussed in very brief order in Chapter 6. Chapter 6 entitled "Clinical Applications of MRI" is perhaps misnamed, as it presents a wide range of topics such as motion and flow, and artifacts in MRI. Clinical applications of MRI and image interpretation are provided through review of the more than 100 clinical examples presented in this book. The clinical applications of MRI are explained primarily through the use of extensive figure captions for each case study. Finally, newer aspects of MRI are discussed in the "New Horizons" chapter, including NMR spectroscopy, chemical shift imaging, and "fuzzy-cluster analysis." This work presents a good basic discussion of virtually every aspect of MRI and will serve as a good introduction to MR imaging, particularly for the radiology/nuclear medicine resident and the medical physics student.

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PRINCIPLES OF RADIOPHARMACOLOGY.

H. Deckart, P. H. Cox. Kluwer Academic Boston Publishers Group/Martinus Nijhoff Publishers, 1988 262 pp, $67.00

"Principles of Radiopharmacology" is a collection of invited review articles based on a series of lectures presented at the First and Second Training Courses in Radiopharmacy and Radiopharmacology that were organized by both European societies of nuclear medicine. Published in 1987, the preface states "Recent developments in radiopharmacy and radiopharmacology have been very complex; they cannot be overlooked . . ."; unfortunately, this text fails in almost all of its chapters to describe adequately and clearly the developments and "provide access to recent research" to the reader.

The book consists of 22 chapters covering the fundamentals of radioactivity, isotope production, generators, technetium and indium radiopharmaceuticals, protein labeling, stable isotopes, radiopharmacy, and radiopharmacology. Only three of the chapters (Chapter 8: "Technetium-99m Radiopharmaceuticals: Their Chemical Potential and Limitations," and Chapter 13: "Principles, Problems and Trend in Radiopharmacology," both authored by Bernd Johannsen, and Chapter 16:

"Good Radiopharmacy Practice,"by Knud Kristensen) are particularly well organized and presented, and worth reading. With the exception of these chapters, the educational level of the book is poor with its material presented in an almost outline form. Several chapters do not provide an adequate nor accurate review of the intended topic.

The reader is warned in the preface that the "style of presentation is not uniform" with the hope that scientific overlap between chapters and topics would be "stimulating and thought-provoking." Instead the format is distracting—e.g., no indentation of paragraphs, confusing tables and figures, and awkward phrasing and sentence structure (perhaps due to translation problems as English is not the native language of the majority of the contributors).

Targeted for "specialists working in nuclear medicine centres", the book falls well short of its intended goal. Knowledgeable scientists in the field would find the book inadequate and uninformative while a novice to the area would find it confusing.

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RADIOLOGIC-PATHOLOGIC CORRELATION OF MUSCULOSKELETAL LESIONS
T. M. Hudson, Baltimore, Williams & Wilkins, 1987, 670 pp, $134.50

This atlas and text admirably achieves its stated purpose of presenting the most current data on the application of radiologic imaging modalities as a complement to clinical findings, in the evaluation of benign and malignant musculoskeletal lesions. Dr. Hudson is a very knowledgeable guide and his book a valuable addition to the radiologic literature.

An overview chapter opens the volume and amply primes the reader for the 35 chapters dedicated to the different types of lesions. It provides instruction on the analysis of images in this area, emphasizing architectural tissue characteristics and the evaluation of soft tissues proximal to the lesions. Lesion matrices, borders, soft-tissue components, locations, and general signs of aggressiveness are described radiologically in light of diagnosis. The importance of clinical features in diagnosis, especially patient age, is stressed. With the attempt to coordinate the findings of the various modalities comes a caveat: to avoid the interpretation of different studies by different observers in isolation. A collaborative review, notably in the adjunctive use of the modalities, is urged.

In the following chapters on individual benign and malignant lesions, there is particular emphasis on the strengths and weaknesses of each imaging procedure. In many of the tumors, the discussion of the use of nuclear medicine and computed tomography is limited, although probably adequate for most readers. Any future edition would benefit from a greater use of magnetic resonance imaging, in particular to elucidate, by the proved pathology offered here, its accuracy and tissue characterization properties. The greatest merit of the text is the correlation of clinical, radiologic, and pathologic data. Sufficient clinical information is provided for each tumor, and the balance of the data allows understanding of the individual tumors without undermining the cohesiveness of the test.

The book is liberally illustrated, by good-quality radiologic images seen in the majority of the photographs. The images carry instructive legends, with the arrows and other markers well placed to draw the reader's attention to salient features. The number of pathologic slides could have been reduced; despite the objective of radiologic-pathologic correlation. Since the target audience will not require so many macroscopic and microscopic images. Color would have made the pathologic images more useful, by emphasizing the disease characteristics.

Clearly organized and written with style, the book reads well. The good paper and good binding enhance a quality text that I enjoyed, and believe should be in all medical libraries. Kudos should be given to Dr. Hudson for his command of both the radiologic and pathologic findings in musculoskeletal lesions, and his ability to assemble this material into tome form. The book would prove helpful in the evaluation of difficult musculoskeletal cases. It would benefit radiologists not yet versed in the applications of the various diagnostic studies in the workup of musculoskeletal tumors, and would assist clinicians in the selection of the appropriate imaging modalities. Orthopedic surgeons in particular would find the book of value. Medical students and the nonradiologic house staff may benefit from this practical text, but many of the lesions are uncommon or rare, and so would not be seen in the routine practice of medicine.

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Books Received

Radiology Report. Vol. 1, No. 1. *R. L. Eisenberg, A. C. Friedman, St. Louis, MO, The C. V. Mosby Company, 1988; 124 pp, $25.00/issue, $49.50/annual*

Radiopharmacy and Radiopharmacology Yearbook 3. *P. H. Cox, Ed., New York, Gordon and Breach Science Publishers, 1988, 347 pp, $145.00*

Imaging of the Newborn, Infant, and Young Child. 3rd Edition. *L. E. Swischuk, Baltimore, Williams & Wilkins, 1989, 1,053 pp, $136.00*

An Atlas of Planar and SPECT Bone Scans. *I. Fogelman, B. D. Collier, London, Martin Dunitz Publishers, 1989, 320 pp, 79.95£*

Anatomy and MRI of the Joints, A Multiplanar Atlas. *W. D. Middleton, T. L. Lawson, Eds.,New York, Raven Press, 1988, 312 pp, $125.00*

New Procedures in Nuclear Medicine. *R. P. Spencer, Ed., Boca Raton, CRC Press, Inc, 1989, 221 pp, $99.50*