

ization of radiotracers in the heart. Rather than limiting the discussion to tracers that are used as probes for physiological processes, such as metabolic substrates and substrate analogs, however, the author has presented an exhaustive compilation of virtually every aspect of myocardial imaging including the use of diffusible and nondiffusible tracers, various metallic and nonmetallic ions, metal chelates and radiolabeled cells, and antibodies for both metabolic and tissue viability assessment. While this comprehensive review is well done, I wonder if this is the appropriate place for such topics as "Localization of Tracers in Inflamed and Dead Myocyte" and "Imaging of Regional Myocardial Blood Flow." Also, there are occasional confusing statements reflecting both an oversimplification of complex metabolic pathways ("Nearly 40% of this energy is stored in ATP molecules which can be metabolized by the ATPase enzyme for energy requirements." [p. 33]) and a less than rigorous understanding of chemical nomenclature ("... a gram-molecule of palmitic acid..." [p. 33]). The literature citations in this chapter are extensive and more up-to-date than in the previous chapter, but there are several references in the text to "recent" work that was published in 1975.

The remaining chapters, covering the liver, bone, kidney, and endocrine systems, are all-inclusive reviews, describing the utilization of both substrate specific and nonspecific labeled tracers for the evaluation of both structure and function. These chapters include discussions of state-of-the-art techniques now in use and, perhaps more importantly, point the way to future developments in the area of the diagnosis of disease states from an evaluation of cellular function based on well-defined physiological processes.

This book, on one hand, is a unique compilation of the current status of the use of radiotracers to understand complex physiological functions. On the other hand, it is disappointing to see the inclusion of material one might find in standard nuclear medicine textbooks, since this does not seem to be compatible with the stated goals of this series. In this regard more detailed discussions on the general mechanisms of localization of radiotracers including transport mechanisms and development of tracer kinetic models, which must precede quantitative treatment of data from scintigraphic and tomographic studies, would have been more appropriate.

On the whole, *Studies of Cellular Function Using Radiotracers* is an effort to summarize the current understanding of radiotracer localization mechanisms and as such is a reference book for physicians and other researchers wishing to obtain information about this field without resorting to the primary literature. Although this may be the first book on this subject, it certainly will not be the last.

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PROGRESS IN MEDICAL RADIATION PHYSICS, VOL. I. C.G. Orton, Ed. New York, Plenum Press, 1982, 388 pp, \$45.00

This is a welcome series appearing at a time when medical physicists in the field are faced with a myriad of new technologies that require continual and rapid updating of a physicist's knowledge. This book is comprised of six chapters, each written by an acknowledged expert in the area being considered. As a result, the subjects are developed thoughtfully and covered in some breadth. The book has not been carelessly structured, but rather seems to have been the product of considerable thought, organization, and integrity by the individual authors. It is, in short, fun to read.

This first volume covers the latest information on fast neutron dosimetry, inhomogeneity corrections, tissue equivalent phantom material, CT-assisted treatment planning, position imaging, and

optimal methods of radiographic storage. Most every physicist will have to know about at least one of these areas in some detail and will be pleased to find a lucid and thorough discussion in this volume.

Although these discussions are obviously designed to present the latest progress in the various areas, each section is developed in such a way that a physicist or physician newly interested in the subject can find sufficient and cogent background material within the text. This is the real beauty of the book, placing it above the usual format of conference proceedings, so that it will become a permanent part of one's library. In fact, some of the first full reviews of several important areas are presented, and, therefore, it is a welcome addition for teachers in medical physics or radiological sciences.

It is a pleasure to read a book written in good English prose. The six articles are from 20 to 90 pages in length, are not heavily mathematical, and do not demand a specialist background. They are amply referenced, well illustrated, and clearly organized. Of necessity, the various sections serve as introductions to these areas and, therefore, sacrifice some depth to achieve breadth. Still, the discussions of such subjects as microdosimetry (in the neutron dosimetry chapter) and charged particle range distributions (in the CT-treatment planning chapter) are concise and informative despite their brevity.

I am happy to recommend this book to physicists, technicians, and physicians in the medical radiation sciences.

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DICTIONARY OF RADIOLOGIC TERMINOLOGY. A. Jacob, H.L. Jackson. St. Louis, Warren H. Green, Inc., 1982, 170 pp, \$27.50

In reviewing a dictionary one is tempted to comment that it is too verbose. This is certainly not the case in *Dictionary of Radiologic Terminology*. It is a useful compendium of definitions that the radiologist and nonradiologist will find as a valuable adjunct to their library.

The authors in their foreword comment that the "... book is fraught with three major 'congenital infirmities': it lacks originality, completeness, and exhaustiveness." I agree with this candid appraisal. Originality, however, is clearly not warranted in a dictionary. Completeness and exhaustiveness are difficult to obtain in a first edition and would have certainly caused a significant, undesirable delay in publication. The current text can survive without these, and future editions will presumably be more complete.

Considerable space is devoted to syndromes and their descriptions. To the text's merit a reference is included after each definition. Synonyms are also listed with the usual and occasionally annoying advice "see..." (elsewhere in text). Unfortunately, this format may be necessary in a dictionary.

Many terms in common radiologic usage (contour defect, blind loop, afferent and efferent loop, niche) are not clearly understood by those dealing with them. Because they are important radiologic terms, we feel these and similar descriptive terms should be included in this type of book. They were not.

In conclusion this is a useful, though incomplete, work that should be readily available and not hidden in an alcove of one's library. Also make sure to read the humorous introduction by Benjamin Felson, M.D.

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