

varies widely. Although this is an emerging technology, available literature might well have added measurably to the support of the individual chapters authorship. It is not clear whether this seeming exclusion of existing reference material was purposeful in an attempt to provide the reader with the benefit of the authors' critical triage or an expedient publication timing. For example the cardiovascular chapter offered 87 references as well as additional suggested reading resources numbering 52 citations. In contrast, the chapter on respiratory gating provided only two references while the consideration of pitfalls and artifacts yielded seven citations.

The spectroscopy aspect of the text was presented in two chapters conveying an overview of experimental and operational aspects and a glimpse of potential applications in the future through contemporary modeling in experimental animal subjects as well as initial assessment of techniques in humans. Muscle metabolism in energy production, using phosphorus-31 NMR/MRI spectroscopy, portends the mind-boggling potential depth of the field, while application of fluorine-19, sodium-23 and carbon-13 stable isotope spectroscopy demonstrates the breadth of this modality's potential. This reviewer found the chapters on equipment, economic considerations, facility planning and site development a valuable addition to the overall utility of the text. Tabular and graphic summations yield instant "nuggets" for those involved in the planning, development, and implementation of this modality.

This book is designed for those readers desiring a readable overview directed toward facilities planning and modality marketing. As with any text, the writing and publication time results in a degree of lag with contemporary literature, however the unevenness of reference documentation among the several chapters detracted from the completeness of the material presented. In general the book achieves the editors' goal of providing a practical text written for the physicians viewing the evolving Nuclear Magnetic Resonance Technology and its clinical applications.

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PROGRESS IN RADIOPHARMACY.

*P.H. Cox, S.J. Mather, C.B. Sampson, C.R. Lazarus, Eds.
Dordrecht, Martin Nijhoff Publishers, 1986, 615 pp, \$155.00*

This volume is based on proceedings of the Second European Symposium on Radiopharmacy and Radiopharmaceuticals held in Cambridge, England in March 1985, and is intended, as stated in the foreword, to give an ongoing picture of the practice of radiopharmacy and the state of the art in Europe.

The book is made up of seven sections containing a total of 35 contributed papers of which at least half are review articles.

The first section, four papers dealing with the current status, limitations, and potential of generator systems for ultra-short-lived radionuclides, is generally well written and informative. Though well written, Section 2 with two review articles on positron emitting radiopharmaceuticals, and Section 7 with

three papers on radiopharmaceutical aerosols, add nothing new to the literature already available and could have been easily omitted.

In the section on radiochemistry, there are some very interesting papers on radiolabeling techniques and biodistribution studies, particularly an excellent paper on radioiodination by Mertens and a review article on radiohalogenation by Coenen. The section entitled "Recent Developments in Radiopharmacy Practice" is mainly intended for European readers, as the majority of papers deal with the development, training and education, information and reporting systems used in Europe. Of interest to the reader in the United States is an excellent paper by Theobald on computers in radiopharmacy that includes 25 pages describing computer programs for routine recording, dispensing, quality control, biodistribution studies and other topics. Another notable paper is the review by Pfeiffer on quality control techniques useful in radiopharmacy practice. With some modifications, purely editorial in nature, this article would have been a valuable contribution.

Section 5 on the biologic fate of radiopharmaceuticals, describes mainly the in vivo behavior of various imaging agents such as those used for renal, bone and myocardial studies; may have some usefulness for students of radiopharmacy.

Section 6, entitled "Radionuclides in Drug Formulation Studies" has a comprehensive, well-written review article with the same title by Davis. Four of the seven articles in this section discuss recent studies using monoclonal antibodies.

The major deficiency in this volume is the lack of adequate editing. The editors have unfortunately neglected to edit the papers for substance, style, uniformity, language, and typographical errors.

The editorial errors are abundantly evident and in fact quite irritating in some chapters. Papers range from two pages to 50 pages in length, references range from one in one chapter to as many as 122 in another. One 30-page paper has 32 tables. The text has been typed for camera-ready copies, but the tables and figures are severely nonuniform in appearance. In the same chapter, and in several instances—even on the same page—tables and figures have been printed using varying sizes of lettering and color intensities. Several tables in the text are almost illegible, due to the small print used.

With some careful editing for content, the quality of some of the papers would have been greatly enhanced. Also disappointing is the absence of papers on radiolabeled cells and brain flow agents which were topics of great interest in 1985 as they still are today.

The book may be of more interest to readers in Europe since it may serve as a teaching aid for students of radiopharmacy or as an addition to larger medical libraries. It would be remiss to recommend that readers in the United States purchase this book, because it is highly overpriced for what it offers. There are without question several well-written and interesting papers in this volume that will most probably find their way shortly to peer-reviewed journals elsewhere.

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