

**Nuclear Medicine.** Robert Henkin, Mark Boles, Gary Dillehay, James Halama, Stephen Karesh, Robert Wagner, Michael Zimmer, eds. Mosby Yearbook, St. Louis, MO, 1724 pages, 1996, \$289.00.

This two-volume text utilized the talents of 153 contributors to author the 106 chapters that comprise this 1724-page tome. The text is amply illustrated, with 2941 photos and graphs. The book is organized in a traditional fashion, starting with an introduction to nuclear medicine, progressing to its scientific foundations and then to the clinical applications. The two volumes are divided into eight parts, comprised of the following sections:

1. Introduction—this section is comprised of three chapters covering history, decision making and informatics, and radiation safety.
2. The scientific basis of nuclear medicine. This section devotes 36 chapters to physics, radiation detectors, collimation, computers, quantitation, tracer kinetics, dosimetry, radionuclide production, radiochemistry, adverse reactions, radiobiology and radioassays.
3. Immunologic aspects of nuclear medicine devotes nine chapters to radioimmune studies.
4. Clinical organ system studies are described in 44 chapters.
5. Special oncologic studies devote four chapters to the use of gallium, thallium and MIBI, lymphoscintigraphy and PET.
6. Therapy with unsealed sources devotes four chapters to treatment.
7. Diagnosis of inflammatory disease is presented in five chapters on the detection of infection and inflammation.
8. Two chapters on pediatrics.

The text is encyclopedic. It is not meant to be read from cover to cover, but rather to serve as a reference source to answer specific, detailed questions about a particular area. Several chapters provide detailed information of particular interest to investigators on topics that are rarely found in general texts of nuclear medicine, such as the chemistry of technetium and the metallation of proteins, radiolabeling of formed elements in blood, techniques of iodination, determination of microbiological purity and adverse reactions to radiopharmaceutical agents. Several arcane subjects have their own chapter such as whole-body counting, details of collimator design, pathway for FDA approval of new radiopharmaceuticals and SPECT display techniques. Several chapters cover radioimmune imaging and therapy, which is a bonus to the book.

The largest section of the book, Chapters 49–91, is devoted to clinical organ system studies. Chapters generally begin with a general introduction to the topic, followed by a detailed, well-illustrated discussion. The references are up-to-date (generally through 1993) and often include citations of classic works in the area. The chapters run the gamut from relatively straightforward explanations often emphasizing the “how to” aspects of a technique, with less emphasis on the “what for,” to the postgraduate level discourse on a particular topic.

In general, the figures and drawings are well-done and make a point. As with any multi-authored text, there is variation in the quality of each contribution, although most of the chapters provide meaningful insight into their subject area. There are, however, some striking omissions. One of these is the absence of a discussion on diuretic renography. Another is the relative paucity of information on studies in pediatrics. Although two chapters are presented on pediatrics, one on radiopharmaceuticals and the other

on skeletal imaging, the major area of pediatric urologic disease is barely mentioned in the chapters on kidney studies.

Overall, this is a comprehensive work. The radiopharmaceuticals sections are the best. Several of the clinical chapters are among the best I have seen, such as the treatise on skeletal scintigraphy in non-neoplastic osseous diseases, the two chapters devoted to pulmonary studies and the detailed discussion on the measurement of glomerular filtration. The editors have done a wonderful job putting together a vast amount of material. The minor omissions can be readily overcome when the second edition is published.

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**Radiation Protection in the Health Sciences.** M.E. Noz and G.Q. Maguire, Jr, eds. World Scientific Publishing Company Pte Ltd, Singapore, 304 pages, 1995, \$66.00.

This textbook is a straightforward exposition of the basic physics, technology, practice and regulatory aspects of radiation protection. It contains 12 chapters and numerous tables, illustrations and photographs presenting:

1. Radioactivity and interaction of ionizing radiation with matter (briefly discussed).
2. Gas-filled, solid-state, semiconductor and scintillation radiation detectors (including survey and calibration instruments and personnel dosimeters such as film badges and thermoluminescent dosimeters).
3. Radiation, radiation protection quantities and units.
4. Internal radionuclide radiation dosimetry.
5. Practical and regulatory aspects of radiation protection (i.e., time, distance and shielding) for radionuclides as well as external radiation sources.

The figures and figure legends are generally adequate. Although the mathematically oriented chapters (on shielding and internal radionuclide dosimetry) include several solved numerical examples, more examples would have been helpful. Each chapter concludes with a series of review and problems questions (with the answers to the latter presented in an appendix).

In addition, there are five other appendices: a tabulation of important quantities and units, an exposition of the relationship between the roentgen and the rad (which should have been incorporated into the chapter on radiation quantities and units), a logarithm table (which seems somewhat anachronistic in this era of scientific calculators and PCs), a thorough annotated glossary and a useful bibliography which includes the relevant authoritative publications of national and international organizations. The table of contents and the index are thorough and accurate.

The book is generally clearly written, but occasionally the presentation of material is too abbreviated, particularly in the chapters on radioactivity and interaction of ionizing radiation with matter and on radiation biology. The lack of material on radiation biology is particularly noteworthy. A separate chapter on this topic, including a discussion of stochastic and nonstochastic effects, is certainly warranted.

Although virtually all of the material in this book is presented in several readily available sources, it is a useful, relatively brief