

FUNDAMENTALS OF NUCLEAR PHARMACY. Second Edition.

G. B. Saha. New York, Springer, 1984, 287 pp, \$29.50

This is the first coverage of nuclear pharmacy suitable for use as a textbook on the subject. It is clearly written, concise yet comprehensive, profusely illustrated, and (most importantly) accurate.

The book's contents are carefully subdivided by subject matter. The author first presents chapters on the atom and radioactive decay, which are followed by production of radionuclides; radionuclide generators, radiopharmaceuticals and instruments; radiolabeling of compounds, and characteristics of specific radiopharmaceuticals. Then ensue chapters on quality control of radiopharmaceuticals; the operation of a nuclear pharmacy, and radiation dosimetry, protection, and regulations. Lastly, *in vitro* and *in vivo* nonimaging tests are covered along with uses of radiopharmaceuticals for diagnostic imaging and for therapy. Where mentioned, conventional units of radioactivity and radiation absorbed dose are always followed by their unwieldy SI (International System of Units) equivalents.

Questions and arithmetic problems appear at the end of each chapter, followed by literature references for suggested reading.

Several appendices follow the text: abbreviations used in the text, glossary of technical terms, equivalents of units and constants, decay tables for Tc-99m and I-131, and answers to questions posed at the end of chapters. Finally, a detailed index is provided.

Typographical errors are few and far between. Generally, they should not lead the reader astray. The only weakness of the book is that statements in the text are not referenced to a specific literature citation. (Perhaps the third edition will remedy that.)

This book should be in the library of every nuclear pharmacist, both in training and in subsequent practice.

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CHROMATOGRAPHY OF TECHNETIUM-99m RADIOPHARMACEUTICALS.

P. J. Robbins. New York, The Society of Nuclear Medicine, 1984, 48 pp, \$12.00, members; \$16.00, nonmembers

This author has brought together for the first time in one volume most of the pertinent literature on miniaturized chromatography of Tc-99m radiopharmaceuticals. Presented in a "cook-book" format are chromatographic procedures which are very helpful to the small nuclear medicine department

which is especially in need of chromatographic quality control. Useful black-and-white illustrations complement the text. This booklet is well written and easy to understand. There are a few minor "typos." The only errors of fact are (a) a slightly incorrect chemical name for HEDP (p 5), and (b) failure to indicate that certain Tc-99m radiopharmaceuticals listed are not monographed in the USP (pp 22-28). A substantial list of references document the text. This booklet should be a standard reference for those performing quality control on Tc-99m radiopharmaceuticals.

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RADIONUCLIDE GENERATORS FOR BIOMEDICAL APPLICATIONS.

R. Finn, V. Molinski, H. Hupf, H. Kramer. Oak Ridge Technical Information Ctr., 1983, 165 pp, \$12.25

The monograph deals with principles and constructions of various radionuclide generators that are considered useful for nuclear medical imaging. In the basic part, the authors describe mathematics and various physical and ideal characteristics of a radionuclide generator. Following this, different radionuclide generators are grouped and discussed in some detail, based on the half-lives of the daughter radionuclides. Grouping has been made with half-lives less than 1 hr, 1 hr to 24 hr, and longer than 24 hr. Each radionuclide generator has been discussed in terms of radiation characteristics, production and chemical separation of the parent and daughter radionuclides and expected biomedical application of the daughter radionuclides.

The presentation of material is very simple and ample references have been quoted. However, there is some misinformation in the monograph. The acceptable limit for Mo-99 has been quoted as 1.0 μCi Mo-99/mCi Tc-99m, whereas the present USP and NRC limit is 0.15 μCi Mo-99/mCi Tc-99m. Despite the authors' quote on page 7 that the half-life of the parent radionuclide should be longer than that of the daughter radionuclide for a conventional radionuclide, the Xe-123 (2.1 hr)—I-123 (13 hr) system has been incorrectly presented as a radionuclide generator. The most disturbing aspect of the monograph is that in the reference section, pages 139, 142, 143, 146, 147, 150, 151, 156 containing a large number of references are missing.

While the monograph may serve some useful purpose to the radiopharmaceutical chemists, the clinical practitioners may not find it as useful.

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