

## BOOK REVIEWS

**PATHOLOGY OF RADIATION INJURY.** L. Felipe Fajardo. New York, Masson Publishing USA, Inc., 1982, 285 pp, \$66.50

*Pathology of Radiation Injury* is an important new textbook that updates this area of pathology for the professional human radiobiologist and pathologist. It is quite complete and will serve as the definitive source of radiopathologic histology and diagnosis for this generation of radiation specialists as well as for general pathologists.

It is probably more complete and extensive than that required by the average clinical nuclear medical resident for the specialty examinations, but nevertheless will be a valuable resource. Chapter 19, "Radiation-induced versus Radiation-Associated Neoplasms" and Chapter 20, "Effects of Total-Body Irradiation," are essential reading for everyone interested in human radiobiology and radiation protection.

The prose leaves nothing to be desired, for Dr. Fajardo is a gifted writer as well as an astute, well-trained pathologist who knows radiation pathology well. There are exceptionally good black and white reproductions of photomicrographs specifically chosen and reproduced with great care. The book is a pristine example of a fine textbook, and both the author and his editorial assistants deserve high praise for their accomplishment. Professor Andersor expressed it well when he wrote in the Preface that "this is a well-written book . . . of intense relevance to . . . individuals with interest in radiation injury".

C. C. LUSHBAUGH  
Oak Ridge Assoc. Univ.  
Oak Ridge, Tennessee

**A HANDBOOK OF NUCLEAR PHARMACY.** W. M. Hibbard. Springfield, ILL, Charles C. Thomas, 1982, 66 pp, illustrated, paperback, \$18.75

This handbook was written primarily for the nuclear medicine technologist who has the responsibility for all aspects of radiopharmaceutical preparation and utilization. It is described as particularly useful for the nuclear medicine department that operates without the services of either a nuclear pharmacist or central radiopharmacy.

The content is presented in chapters on procurement and storage, establishing the radiopharmacy, radiopharmaceutical compounding, radiopharmaceutical quality control, guidelines for dispensing radiopharmaceuticals, general considerations on the use of radioactive materials, and radiopharmacy inspections. Helpful step-by-step procedures are provided for performing many routine duties in the nuclear pharmacy. Three appendices, a short bibliography, and a brief index are included. The handbook is printed with a spiral binding permitting printed material to lie flat, facilitating ready access and operational use.

Unfortunately, many deficiencies exist in the first five chapters. There are a number of important words misspelled and numerous significant errors of fact in the text that can lead the reader astray. For example, (a) "stannous phosphates act as oxidizing agents in erythrocyte labeling by Tc-99m" (page 20), (b) "F-18 fluorine is indicated for bone imaging" (page 21), (c) "a chelate is present as an ingredient in a Tc-99m reaction vial" (page 15). The author freely uses abbreviations for radiopharmaceuticals and organi-

zations with no preceding identification, units of radioactivity are often expressed in a nontraditional form, and specifications for many radiopharmaceuticals are presented with no source citation. There are numerous grammatical errors that make comprehension of the text difficult. Jargon and slang are used to an extent that decreases the professional tone of the text. For example, radiopharmaceutical solutions should have "no turbidity or trash visible upon inspection" (page 32) and "it is recommended that jugular sticks be done by the physician" (page 41). The last two chapters are informative and well-written.

The manuscript for this handbook must not have been proofread by anyone familiar with nuclear pharmacy. Because of the numerous negative aspects of this publication, I am reluctant to recommend it.

JOHN J. COUPAL  
Veterans Administration Medical Center  
Lexington, Kentucky

**X-RAY MEASUREMENTS AND PROTECTION, 1913—1964.** L.S. Taylor. Washington, D.C., NBS Special Publication 625, U.S. Government Printing Office, 1981, 386 pp, \$9.00

This is an intriguing publication for those who are curious about the early development of radiation protection, and, particularly the involvement of the regulatory agencies in developing radiation standards. Lauriston Taylor was there and intimately involved in setting up these programs and thus gives a valuable insight into the early workings, and groupings, of those concerned about describing and limiting the potentially harmful effects of radiation.

Dr. Taylor has access to a large number of letters and reports about such difficult questions as the definition of quantities and units, the development of standard dosimeters, and the design and intercomparison of the various international x-ray standard sources. There are many illustrations of the early equipment, unfortunately without as much description as some of us who were not there would like to have had. He has also included a number of documents that show brilliance and misdirection with equal weighting. It is one of the beauties of this book that we are allowed to see many of the branchings of early thoughts that did not bear fruit. One such fascinating "blind alley" was the early attempt (in the 1920s) by NBS to go metric. Eventually, they had to throw out tons of nuts, bolts, and wrenches after the English and metric tools got so mixed up that they could not be used. This area is not the only one in which we are still struggling, as evidenced by the ever-continuing discussions of radiation quality and dose equivalent index for particulate radiations, or the establishment of risk factors. The reader will chuckle in recognition at records of early purchasing difficulties, political pressures, internal "arm bending", and overly elaborate attempts to standardize x-ray treatment charts. Perhaps, a more valuable reason for reading this work is to remember the serious mistakes that were made in the early use of x-rays, as in the use of high-intensity Coolidge tubes during World War I, or the handling of radium standards before their effects were understood. These are the reasons that radiation protection standards became a necessity. Without those early, intensive efforts by cooperating government and professional or-