

SELF-ASSESSMENT OF CURRENT KNOWLEDGE IN NUCLEAR MEDICINE, John B. Selby and G. Donald Frey. Medical Examination Publishing Co, Flushing, NY, 1977. 213 pp, \$12.00.

This test review book provides a representative selection of over 1,000 questions dealing with the basics of physics, instrumentation, radiopharmaceuticals, radiation safety, radioimmunoassay, and clinical organ imaging. The material is fairly recent (through June 1976), and each question cites at least one reference. In some rapidly changing areas (e.g., cardiac imaging, radioimmunoassay) questions are outdated, but in general the text is up-to-date on material that would be covered by the current American Boards of Nuclear Medicine or Radiology Part 1 examinations.

One of the major weaknesses of the book is the format of the questions. The authors include a mixture of A-type, B-type, X-type, true-false, and K-type questions, but unfortunately they do so at random. Rather than having a section composed of one type of question, they constantly switch format. Each question with a different format is preceded by instructions, but the constant changes are confusing. It is not uncommon to answer a question in the wrong format, or have to look back and determine what format is being used for a particular question. There are also numerous "double-option" questions (which should be avoided in test construction). For example, the question "⁶⁷Ga is safe and yields over 80% accuracy . . ." requires the reader to make two independent decisions. If one of the two is wrong, the answer is wrong. In addition, many questions require quantitative judgment decisions, rather than simply knowledge of the facts. Examples include frequent use of the imprecise word "very" (e.g., a test is very useful, a disease is very rare). A question asks whether a test is "an excellent diagnostic test" in a certain disease without further specifics; another question asks when a diagnostic study gives "optimum information." A true-false option states that diagnosing a certain condition is "more difficult with radioactive tracers." More difficult than *what*?

As would be expected in a publication of this type, the quality of image reproduction is mediocre. This hampers the examinee in the organ-imaging section, since it is difficult to be precise in judging many of the images presented. The physics section of the book is thorough, but may be more difficult than necessary for the readers this publication will attract.

Overall, this review text earns a "fair" rating. The fact that it covers recent material and is thoroughly referenced are strong points, but poor construction of the test questions and suboptimal image reproduction detract from an otherwise most informative review source.

PHILIP O. ALDERSON, M.D.
Johns Hopkins University
Baltimore, Maryland

ABDOMINAL ULTRASOUND. H. H. Holm, J. K. Kristensen, J. F. Petersen, S. N. Rasmussen, and S. Hancke. University Park Press, 1976. 181 pp, \$47.50.

This book is a very well-written and well-produced volume from a highly experienced group of abdominal ultrasonographers in Copenhagen. The first chapter reviews the development of some of the early instrumentation and credits

those pioneers who laid down the foundations for ultrasound as a diagnostic modality. The chapter on the basic physics of diagnostic ultrasound is authoritative and easily understood. The section on the general principles for ultrasonic scanning of the abdomen summarizes a wealth of clinical experience, although the equipment reviewed will be unfamiliar to the majority of clinicians in the United States.

The section on anatomy shows beautiful longitudinal and cross sections. Unfortunately, international convention has now changed the orientation of the longitudinal scans from that used in the book, so that the cranial end should now be towards the left. Ultrasonic scanning of the liver, biliary system, pancreas, spleen, and kidneys is thoroughly discussed. The vast majority of the ultrasound scans shown in these sections are bistable, however, thus limiting their value when compared with modern grey-scale images. Since the book's inception in 1975, there have been very rapid changes in instrumentation.

The authors are, of course, world authorities on ultrasonically-guided percutaneous puncture, and the section describing the very impressive results obtained from over 1,200 punctures is superbly written. Similarly, these authors are experts in the estimation of organ volume. Their chapter on errors and pitfalls shows an accumulated wisdom from their wide experience in ultrasound techniques.

In summary, this book is a very well-written text by highly experienced ultrasonologists. Continuing developments in ultrasound instrumentation—particularly in grey-scale technology—have occurred since many of these bistable scans were performed.

K. J. W. TAYLOR, M.D., Ph.D.
Yale-New Haven Hospital
New Haven, Connecticut

COMPUTED TOMOGRAPHY OF THE BRAIN WITH CLINICAL, ANGIOGRAPHIC, AND RADIONUCLIDE CORRELATION. Ruth G. Ramsey. Philadelphia, W. B. Saunders, 1977. 239 pp, \$9.95.

This book—Volume 9 in the W. B. Saunders Co. series, entitled "Exercises in Diagnostic Radiology"—departs from the exercise format used in other volumes of the series. With the exception of very brief textual expositions at the beginning of each section, all of the material is presented in the format of brief case descriptions with extensive illustrations, including not only computed tomography but conventional radiographic and arteriographic studies and in many cases radionuclide studies. The author states this was done because of the intended introductory nature of the book.

The book does, in fact, present a broad spectrum of disease as seen by computed tomography, as well as by more conventional techniques. Various sections in the book cover topics such as primary brain tumors, metastatic disease, vascular diseases, post-traumatic abnormalities, acquired and congenital abnormalities, and there is a short chapter on orbital scanning as well. Glimmering from the pages the reader will find under these various sections a very broad and representative array of cases. Here and there the author is unable to restrain herself from including a bit of exotica,

such as a meningioma with extracranial metastases and a couple of cases of Hodgkin's disease of the orbit.

The book opens with a very brief, incomplete, and perhaps slightly misleading discussion of the technical aspects of computed tomography. This section is followed by a relatively short presentation of normal anatomy and normal and post-surgical variants. The remaining 200-odd pages are devoted to the presentation of various abnormalities.

The technical quality of the book itself is adequate, and the quality of the illustrations is comparable to that seen in the better radiographic journals, but not quite up to the best that can be achieved. The CT scans presented are all from an EMI head scanner with a 160×160 matrix. Most of the arteriographic illustrations are of good to excellent quality. The radionuclide images shown are of adequate quality generally, although in several cases the views illustrated are not those that would best demonstrate the lesion.

I believe this book lives up to its author's stated goals—to provide a "basic handbook to serve as an introduction to the technique and provide an elementary knowledge of computed tomography." Whether the book will meet the needs of the individual reader depends upon what those needs are. It is adequate in the presentation of a broad range of illustrative examples with correlations to more conventional imaging techniques, and can be read in less than 2 hr, or studied in depth more leisurely.

JOHN W. KEYES, M.D.
University of Michigan
Ann Arbor, Michigan

AN INTRODUCTION TO THE PHYSICS OF NUCLEAR MEDICINE.

Paul N. Goodwin and Dandamudi V. Rao. Springfield, IL, Charles C. Thomas, Publisher, 1977. 150 pp, \$18.50.

This short volume is a good elementary presentation of the physical principles involved in nuclear medicine. In a very basic and brief manner, the authors introduce the reader in 12 chapters to the following: elementary mathematics, the structure of matter and the nature of radioactivity, nuclear decay processes, the interaction of radiation with matter, scintillation detectors, scanners, gamma cameras, other imaging devices (including positron cameras, semiconductor and gas-filled detectors, multiwire proportional chambers, and transmission and fluorescent imaging), radionuclides in medicine, statistics of radiation measurements, radiation safety, and radiation dosimetry. Each chapter concludes with four to 14 multiple-choice type problems and questions, the answers to which are found in Appendix IV. The figures and tables are very nicely done and adequate for the discussion. Appendix I (alphabetical list of the elements), Appendix II (conversion factors), and Appendix III (physical data for some useful radionuclides) supplement the text and should be useful to the beginning student. The index is all-inclusive.

Perhaps even an elementary text such as this could either have included or expanded the following areas: electromagnetic spectrum, biologic effects of radiation, personnel monitoring, radiation protection to include regulations, benefits vs. risks, and radiation units. Undoubtedly each chapter should have referenced additional reading.

The book is recommended for those interested in an introduction to nuclear medicine. It could well serve as a basic text for nuclear medicine technologists, to be supplemented by either additional reading or lecture material.

JOHN A. DAPOLITO, MS, CHP
Albany Medical Center Hospital
Albany, New York

BOOKS RECEIVED

The receipt of the following books is acknowledged:

Clinical Radiobiology, W. Duncan and A.H.W. Nias. 226 pp, illustrated. Churchill Livingstone, Edinburgh-London-New York, June 1977. \$22.50.

Medicina Nuclear, Antonio Fernando Goncalves da Rocha. 473 pp, illustrated. Guanabara Koogan, Rio de Janeiro, 1976

Ichiban: Radiation Dosimetry for the Survivors of the Bombings of Hiroshima and Nagasaki, John A. Auxier. 120 pp, illustrated. Oak Ridge, Tennessee, Technical Information Center, Energy Research and Development Administration, March 1977. \$4.75.