

## BOOK REVIEWS

**PRACTICAL NUCLEAR CARDIOLOGY.** James Sprengelmeyer and Calvin L. Weisberger, New York, Harper and Row, 1979, 171 pp, illustrated, \$30.00.

This text has nine chapters divided among three sections. The first section, entitled "Nuclear Cardiology Technique," contains three chapters. The initial chapter is a basic review of the radio-pharmaceuticals and instrumentation, including computers, used in cardiovascular nuclear medicine. Chapter two provides a discussion of the techniques, applications (including calculation of ejection fraction and shunt quantitation) and differences between single-pass and multiple-gated imaging procedures in radionuclide angiocardiology (RNAC). The third chapter describes the techniques and applications of myocardial imaging with thallium-201 (including stress testing) and technetium-99m pyrophosphate.

The second section, "Interpretation of the Nuclide Cardiogram," contains Chapters Four and Five. Chapter Four describes RNAC interpretation and data analysis of the single-pass and multiple-gated techniques. Illustrations of normal radionuclide angiocardigrams are accompanied by excellent anatomic drawings that aid in interpreting normal and abnormal studies. Useful tables summarize normal and abnormal RNAC findings.

Chapter Five discusses myocardial interpretation and analysis with thallium-201, technetium-99m pyrophosphate, and multiple-gated imaging. There are anatomic drawings to correlate with the various radionuclide cardiac views. What can and cannot be seen on the various thallium views is presented. Regional myocardial perfusion defects in relation to coronary artery lesions and the physiologic variations in thallium myocardial uptake are discussed.

Acute myocardial infarct imaging, including the indications and interpretation of pyrophosphate imaging, are described. The use of multiple-gated imaging in evaluating acute myocardial infarction, other cardiac disorders, and the effects of surgical and drug therapy in patients with diminished myocardial and general cardiac function is discussed.

"Clinical Nuclear Cardiology," Section Three, contains the last four chapters that describe in detail the clinical applications of cardiovascular nuclear medicine. Chapter Six thoroughly discusses the evaluation of valvular heart disease, including combined valvular lesions, intracardiac shunts (pre- and postcorrective surgery and shunt quantitation) and other congenital heart diseases with cardiovascular nuclear medicine procedures. These discussions are enhanced with many figures and tables that summarize the scintigraphic findings of these cardiac diseases.

Chapter Seven is a thorough discussion of the evaluation of coronary heart disease with cardiovascular nuclear medicine. The indications and limitations for pyrophosphate imaging, thallium treadmill stress myocardial imaging, and multiple-gated imaging are well described. The chapter has a very important section discussing the misuses of nuclear cardiology and coronary heart disease. The last two chapters describe the applications of cardiovascular nuclear medicine in pericardiopathies, myocardiopathies, and diseases of the aorta and mediastinum, including superior vena caval obstruction. When appropriate, the authors

describe the correlative uses of echocardiography and radiographic coronary angiography with cardiovascular nuclear medicine.

The single, helpful bibliography is at the end of the text, and the book is replete with useful tables and figures that effectively summarize and illustrate the text content. The authors are to be congratulated for producing such a valuable text describing the technical aspects, clinical applications, and interpretation of cardiovascular nuclear medicine procedures. This book is recommended to nuclear medicine physicians who have ongoing or are developing cardiovascular nuclear medicine programs.

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**DIAGNOSTIC IMAGING IN RENAL DISEASE.** Arthur T. Rosenfield, Morton G. Glickman, and John Hodson.

*Diagnostic Imaging in Renal Disease* is a recent volume that attempts to synthesize the advantages and limitations of imaging techniques in studying the kidney and its diseases. In Section 1, considerable attention is given to the specific techniques available and to their modifications, and Section 2 deals specifically with renal disease. The book contains 14 separate chapters with multiple authorship. All of the authors are clearly experienced in their areas, and there is a considerable amount of useful information presented. The single greatest weakness of this textbook is the lack of integration of the various contributions. The reader, unfortunately, does not derive a clear perspective from this volume—how best to inter-relate the modalities of diagnostic imaging, including ultrasound, nuclear medicine, and radiographic techniques. Furthermore, because each author uses a somewhat different methodology, the neophyte may be somewhat confused when confronted with so many different approaches to imaging technology. The strongest features of the volume are the radiographic imaging descriptions and the moderate amount of supplementary ultrasound description. The nuclear medicine portion of the book tends to be somewhat sketchy and incomplete.

This volume should be of value to people who have worked in nuclear medicine and who have a good knowledge of the application of radionuclides in nephrology. In this situation, the information will help to broaden their perspective of the complementary radiographic and ultrasound techniques. The book is not recommended for those who approach it as an introduction to diagnostic renal imaging.

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**PRACTICAL ABDOMINAL ULTRASOUND.** Constantine Metrewell. London, William Heinemann Medical Books, 1978, 121 pp, \$26.00.

Because it is expressly written for the novice ultrasonographer/ultrasonologist, this volume forgoes the detail, sophistication,

and exhaustive coverage of the larger ultrasound texts in favor of a simple and easily comprehended framework upon which to build. With the aid of uncluttered line drawings and outline formats, the author produces a clear, stepwise approach to individual organ systems, technical problems, and some pathologic processes, although this last area is not one of major significance in the work. The physics included is strictly aimed toward its application. The more sophisticated physics of sound and equipment, which will be required later in the reader's career, is judiciously deferred, and the overview benefits from oversimplification at this point.

A small portion of the material is inevitably dated, as with most texts in such a field (transducer frequencies, available state-of-the-art equipment, etc.), but this shortcoming is minimal. The neophyte is cautioned against a too-literal interpretation of some of the technical advice, since it admittedly applies to the author's own unit (Nuclear Enterprises' "Diasonograph"), which is considerably more common in Great Britain than the United States. Such advice must be transposed into usable terms with the help of the provided manuals and/or commercial applications personnel for the reader's own unit.

The scans of normal anatomy (with accompanying simple and helpful line drawings) are of good quality, as are those in the appendix, which includes both normal and pathologic cases. Bibliography and obstetrical graphs are useful for orientation but will require updating as the reader establishes a working laboratory. The glossary of terms is quite good.

In short, the volume is well conceived and written and will benefit the beginner who recognizes that it is intended only as an outline and a guide. The waiting period that usually occurs between

ordering and receiving a new ultrasound unit may be a good time for an initial perusal of this volume.

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**OPERATIONAL RADIATION SAFETY PROGRAM.** NCRP Report #59. Washington, D.C. NCRP Publications, 1978, 62 pp, \$6.00.

NCRP Report No. 59 describes the elements of an operational radiation safety program. It provides a discussion of philosophies and basic principles applicable to all radiation safety programs. The "as low as reasonably achievable" concept is promoted throughout the document. The topical headings in this report include the organization of radiation safety programs, facility design, warning and personnel security systems, monitoring and control programs, personnel protective equipment, orientation and training, emergency planning, occupational medicine program for radiation workers, and governmental regulation. Although applicable to nuclear medicine operations, the document is not a manual, nor does it contain detailed specifications or procedures. It will be most useful at the management level as a guide for the preparation of working documents. The professional health physicist will benefit from the excellent bibliographies found at the end of each section.

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## BOOKS RECEIVED

*An Analysis of Radiographic Quality.* Daniel P. Donahue, 613 pp, University Park Press, 1980, \$12.95

*Biological Effects of Radiations.* 2nd Ed., Daniel S. Grosch, Larry E. Hopwood, 338 pp, New York, Academic Press, 1979, \$27.50

*Uroradiology.* Thomas Sherwood, Alan J. Davidson, Lee B. Talner, 351 pp, Blackwell Scientific Publications, 1980, \$96.00

*Atlas of Computed Body Tomography.* Lee C. Chiu, Rolf L. Schapiro, 189 pp, University Park Press, 1980, \$19.95

*Legal Medicine. With special reference to diagnostic imaging.* A. Everette James, Jr. 403 pp, Urban & Schwarzenberg, 1980, \$32.50

*Computer Techniques in Radiation Transport and Dosimetry.* Walter R. Nelson and Theodore M. Jenkins, eds, 521 pp, Plenum Publishing Co., 1980, \$55.00