

BOOK REVIEWS

ULTRASOUND IN UROLOGY. Martin I. Resnick and Roger C. Sanders. Baltimore, Williams and Wilkins Co., 1979, 390 pp, \$37.95

This unique text on urological ultrasound begins with the basics. Following a brief historical review of ultrasound, basic physical principles and biological effects are discussed along with instrumentation. The chapter on cross-sectional anatomy and anatomical concepts, which includes many excellent illustrations of gross cadaver cross-sections, is followed by a discussion of normal renal and adrenal ultrasonic anatomy illustrated by numerous scans.

Next, there is coverage of abnormal renal ultrasound. After a discussion of renal cystic disease, renal tumors and pseudotumors are described. The use of ultrasound in evaluating the kidney or kidneys not visualized by excretory urography is discussed as are perirenal fluid collections and renal trauma. All of these topics are complemented by many representative ultrasound scans.

The last part of the book includes a number of miscellaneous topics. Not only are there discussions of the retroperitoneum, urinary bladder, seminal vesicles and prostate, but also of scrotal, pediatric, and renal transplant sonography. The text concludes with chapters on renal puncture techniques, intraoperative ultrasound, use of ultrasound in radiotherapy, and ultrasonic destruction of bladder stones.

Drs. Resnick's and Sanders' publication represents an excellent updated text on urological ultrasound that is extremely helpful to the ultrasonographer, the resident in radiology or urology, as well as to the radiologist and urologist in practice.

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IEE MEDICAL ELECTRONICS, MEDICAL IMAGING TECHNIQUES. Monographs 28-33, B. W. Watson, Ed. U.K. and New York, Peter Peregrinus, Ltd., 1979, 233 pp, \$38.50

This volume is a collection of six monographs on medical imaging modalities assembled by the Institution of Electrical Engineers (IEE, London, U.K.). The six subjects vary considerably in depth as well as length (14-69 pages). The references are largely taken from the European, and especially the British, literature.

The first monograph, *Electrostatic X-Ray Imaging*, concerns xeroradiography, ionography, and their medical applications. The physical basis of these processes is clearly explained and more than 200 references provided. The paper concludes with an interesting comparison of xeroradiography and conventional radiography. Doppler vessel imaging and blood flow measurement techniques are briefly considered in the second paper. The third chapter is a short introduction to *Imaging by Nuclear Magnetic Resonance* that includes 54 current references and constitutes a balanced presentation of the elementary physical principles and early experimental results. The longest monograph, *Basic Radionuclide Imaging*, by A. T. Elliott and K. E. Britton, attempts to treat all of nuclear medicine technology. The basic physics and instrumentation (12 pages), image display—processing and interpretation (13 pages), radiopharmaceuticals (9 pages), and applications (24 pages) constitute the major topic areas. This monograph will not be very helpful to persons working in nuclear medicine but

is suitable as an introduction to the area for an interested individual from another discipline. *Ultrasonic Imaging of the Abdomen*, the fifth chapter, contains a very brief section on the physics and instrumentation of sonography, and concludes with a discussion of the clinical applications. The final monograph, *Ultrasonic Imaging of the Carotid Arteries*, is a concise introduction to the subject. The latest small parts scanners and clinical results are not included, but this detracts little from the section.

The book is valuable to nuclear medicine personnel who wish to know more about the related fields of xeroradiography, NMR imaging, or ultrasound.

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ECHOCARDIOGRAPHY: INTERPRETATION AND DIAGNOSIS. Jack J. Kleid and Steven B. Arvan. New York, Appleton-Century-Crofts, 1978, 460 pp, \$36.50

Drs. Kleid and Arvan have authored a textbook primarily dealing with single-dimensional echocardiography with a chapter contributed by Drs. Schiller and Silverman on two-dimensional echocardiography. The textbook is well organized such that the flow of chapters follows one upon the other. The second chapter, dealing with physical properties of ultrasound, is well written with adequate illustrations. The definition of the terms is quite helpful to the beginning echocardiographer; and the only point for criticism is the lack of a more thorough discussion of the difference in transducer frequency: specifically, the effects of higher resolution and decreased penetration. The following chapter is devoted to the organization of an echocardiographic laboratory—an important subject—but, unfortunately, the equipment that the authors discussed is quite old for a textbook published in 1978. The chapter on normal echocardiographic anatomy is helpful, but specifically lacks an adequate discussion of the subcostal cardiac anatomy. This region is often an important acoustic window for the single-dimensional echocardiographer. The next chapters deal with ventricular function and valvular heart disease. A well-written, pertinent chapter is the one on pericardial disease. Similarly well written, with very nice illustrations of actual prosthetic valves, is the 13th chapter covering prosthetic valvular structure and function. The chapter that follows, dealing with the single-dimensional echocardiographic manifestation of arrhythmias, although interesting, is really not clinically relevant. It is surprising to this reviewer that the authors have dedicated a chapter to the M-mode echocardiographic detection of aortic dissection since this is quite a controversial area. Although they have pointed out the limitations of the M-mode echocardiographic technique in the detection of aortic dissection, it would seem more appropriate to combine this chapter with the discussion of aortic valvular disease. The chapter dealing with two-dimensional echocardiography is very timely, and Drs. Schiller and Silverman have been innovators in the use of this technique; however, the two-dimensional echocardiographic illustrations are quite poor and make it difficult for the novice to understand adequately the points illustrated.

The authors are to be complimented generally for their de-

scriptive sections of the textbook; however, a major fault is the relatively poor echocardiographic illustrations used, specifically in the chapters dealing with mitral valve prolapse, endocarditis, and prosthetic valves. Echocardiography is a graphic art and should be taught through excellent quality images. Although the reviewer has no doubt about the technical expertise, skill, and knowledge level of the authors, it does them a disservice to provide poor quality illustrations in their textbook. Adequate illustrations and description of other graphic diagnostic techniques characteristically performed in the echocardiographic laboratory and a discussion of phonocardiography and carotid and apex pulse tracings should have been offered also. A specific use of the phonocardiogram and other graphic pulse tracings would have been of great use in the chapter dealing with prosthetic valvular disease and aortic valvular disease.

It also would have been helpful to the readers if the authors could have summarized some of their didactic discussion in tabular format so that the novice echocardiographer would have been able to rapidly discern measurement parameters and echocardiographic findings typical of disease states.

Therefore, although the authors are to be complimented for good structural organization of their textbook and generally good didactic discussion, the limitations are the relatively poor illustrations, a lack of adequate discussion of other graphic techniques commonly performed in a single-dimensional echocardiographic laboratory of an academic center, and lack of tabular information concerning echocardiographic measurements and findings in certain disease states.

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RADIOLOGICAL EXAMINATION OF DRINKING-WATER. REPORT ON A WHO WORKING GROUP. Copenhagen, 1978, 20 pp, 4 SwFr

This short document is the report of a WHO Working Group on Radiological Examination of Drinking Water. The Working Group's conclusions are in accord with the recommendations of the International Commission on Radiological Protection (ICRP) on the radioactive content of drinking-water. The Working Group has defined "nonaction" levels for gross alpha and beta activity as those below which water can be considered potable without a more complex radiological examination. These new recommendations left the gross alpha activity at 0.1 Bq/l (~3 pCi/l) based on exposure to radium-226, but the gross beta activity was reduced to 0.8 Bq/l (~20 pCi/l) based on the assumption that all of the beta activity was contributed by strontium-90. The new gross beta concentration was based on the assumption that together the gross alpha and beta activities from radium-226 and strontium-90 will not cause a dose that exceeds the fractional annual dose equivalent limit of 0.05 mSv (5 mrem) or one tenth of the ICRP average population limit of 0.5 mSv/y. The limits assume an adult drinking-water consumption of 2 l/d. For tritium, a soft-beta emitter, the "nonaction" level is 40 Bq/l. Although the actual report has limited readership, its publication demonstrates that concern exists about the radiologic quality of our drinking-water.

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NUCLEAR CARDIOLOGY 1981

March 21-25, 1981

Innisbrook

Tarpon Springs, Florida

Waterbury Hospital Health Center in conjunction with Yale University School of Medicine will present a general review course in Nuclear Cardiology, March 21-25, 1981 at Innisbrook, Tarpon Springs, Florida. The course will include general techniques and clinical applications utilizing a format of lectures and workshop presentations. Registration is open to physicians in all fields of medicine interested in noninvasive cardiovascular diagnosis.

The Program Directors are Gerald R. Berg and Robert Toffler. Course Directors are Paul Hoffer, Barry L. Zaret, and Alexander Gottschalk. The faculty will also consist of H. William Strauss, Franz J. Th. Wackers, Harvey J. Berger, Lawrence S. Cohen, and Glenn Hamilton.

The fee is \$300 (\$150 for residents) and 19 hours of category I credit may be obtained.

For further information, contact: Gerald R. Berg, M.D., Department of Radiology, Waterbury Hospital Health Center, 64 Robbins St., Waterbury, CT 06720. Tel: (203) 573-7124.

BOOKS RECEIVED

Single Photon Emission Computed Tomography and Other Selected Computer Topics. (Proceedings of the 10th Annual Symposium Society of Nuclear Medicine Computer Council. January, 1980. Miami Florida), Program Committee: Ronald R. Price, Ph.D., David L. Gilday, M.D., and Barbara Y. Croft, Ph.D. Book Coordinator: James A. Sorenson, Ph.D. New York, Society of Nuclear Medicine, 1980, List price \$27.50 plus \$2.50 postage and handling, to SNM members \$18 plus \$2.50 postage and handling, 244 pp, Illustrated.

Arthrography (Comprehensive Manuals in Radiology). Murray K. Dalinka, New York, Heidelberg, Berlin, Springer-Verlag, 1980, 209 pp, illustrated, \$29.50.

Cardiovascular Nuclear Medicine. A. Righetti, and A. Donath, (Progress in Nuclear Medicine, A. Donath, A.N. Serafine), Vol. 6. Basel, Munchen, Paris, London, New York, Sydney; S. Karger, 1980, 225 pp, Illustrated, Approx. US \$88.75.

Real-Time Ultrasound in Obstetrics. M.J. Bennett and S. Campbell, Eds. Oxford, London, Edinburgh, Boston, Melbourne, Blackwell Scientific Publications, 1980, 147 pp, Illustrated, \$42.50.