BOOK REVIEWS

RADIATION PROTECTION—CONCEPTS AND TRADE OFFS. Friedell, Hymer S. Lecture No. 3, The Lauriston S. Taylor Lecture Series in Radiation Protection and Measurements, Washington, D.C., National Council on Radiation Protection and Measurements, Sept., 1979, 33 pp, $7.00

This slim volume is the third in a series of lectures established in honor of Lauriston Taylor. Dr. Friedell's thesis is that radiation protection specialists must become involved in the analysis of the risks and benefits associated with the diagnostic uses of ionizing radiation. He urges that the scheme adopted for assessing the risks of low dose be easy to understand and interpret, because complication will only mystify the people to whom the dose concepts are being explained. Since a risk-benefit analysis must be undertaken, the risks and benefits must be set in the light of other risks and benefits, especially since neither the risks nor the benefits of low-dose radiation are specific to radiation. Once the risks are identified, an orderly process for comparing risks and benefits must be formed. This might involve a method of equating them in the same units, such as lives saved or lost, by comparing the hazards from a number of competing modalities, or by a *de minimis* concept that would specify an acceptable level of effects. He then argues for the development of a totally new framework to pull all of this together. He feels a need for several interacting groups to study the problem from all sides and come to terms with their differences. These groups should be privately based, at least in the beginning, to show the world how it might be done.

This little volume is a good exposition of the problems of low-dose radiation assessment and a mechanism for solution. It is neither deep nor detailed.

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MANAGEMENT OF PERSONS ACCIDENTALLY CONTAMINATED WITH RADIONUCLIDES. NCRP Report No. 65. Washington, D.C., National Council on Radiation Protection and Mesasurements, 1980, 205 pp, $8.00

NCRP Report No. 65, the product of several years of hard and diligent work by NCRP Scientific Committee 37, is here. It was worth waiting for this manual on "Management of Persons Accidentally Contaminated with Radionuclides."

The text encompasses the entire spectrum of radiation accidents involving radioactive contamination and is extremely well organized. The sections on initial management of the patient; detection of external and internal contamination; and therapeutic procedures and measures for the management of contaminated wounds, skin, and internal contamination are written clearly and can serve as a reliable, practical guide to the management of radiological emergencies. The resumé of experience with important radionuclides is an excellent review of the problems and risks from uranium, transuranic elements, some of the more common fission products, and other radionuclides. The recommended medical management of internal contamination is presented extremely well with good reasoning and clear instructions for the prescribing physician. Chelation therapy is discussed in detail. The nuclear and health physics aspects of radiation accident management are easily understandable, and the occasional "rule of thumb" advice appears to be helpful and practical.

A quick reference section summarizes concisely such topics as the on-site response and hospital decontamination procedures. In tabular form it also shows physical characteristics, measurement methods, physical and effective half-lives, maximum permissible body burdens, and critical organ information, as well as suggested treatment for most of the important radionuclides. Every aspect of dealing with radioactive contamination or incorporation has been given attention without burdening the reader with too many details. Nevertheless, this 200-page manual contains an enormous amount of fact and knowledge. The reader should particularly note the words of warning about the use of the data in the tables. The text appears to be free of misprints or factual errors; in fact, even the telephone numbers of the Department of Energy regional coordinating offices, as part of the interagency radiological assistance plan (IRAP), are correct and up-to-date. The facts, opinions, and recommendations presented in this manual are for the most part acceptable (the recommendation to treat uranium incorporation with DTPA is not supported by other experts in the field) and based on the practical experience and research of the committee members and on almost 300 well-selected and up-to-date references (a gold mine for the interested reader who needs to know more).

This manual should be in the office of every medical emergency department, radiology and nuclear medicine department, paramedical emergency service, and hospital administrator. However, anyone who might need information from the manual in an actual emergency situation should be familiar with the cross-reference system used in this text or, preferably, should have read the book before putting it on the shelf. It is an excellent source of information for setting up radiation emergency treatment areas in hospitals and, in fact, could also serve as the basis for a training program in the medical management of radiation injury and contamination.

Dr. Warren K. Sinclair, President of the NCRP, and the Scientific Committee #37 with George L. Voelz as chairman are to be congratulated on the production of this excellent manual.

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NUCLEAR MEDICINE ANNUAL. Leonard M. Freeman and Heidi S. Weissmann. New York, Raven Press, 1980, 428 pp, $39.50

Every book can be evaluated from the points of view of: (1) the idea or purpose behind the book, and (2) the quality of execution. The purpose of this book is, in general, to fill the gap between journal articles, which are up-to-date but cannot present a discipline in an organized or comprehensive fashion, and textbooks,

which are organized and comprehensive but often at least somewhat out-of-date when first available. The need for a book that fills this gap and the difficulty of filling it adequately are demonstrated by the number of similar attempts: *Yearbook of Nuclear Medicine*, *Seminars in Nuclear Medicine* (of which Dr. Freeman is also an editor), *Nuclear Radiology Syllabus*, and *Progress in Nuclear Medicine*.

Nuclear Medicine Annual will consist of "10 fairly lengthy and timely reviews." In ten articles a large portion of clinical nuclear medicine can be covered each year. Every article will be allotted sufficient space to allow comprehensive coverage of the selected subject, but the format will not provide an organized, systematic coverage of the field of nuclear medicine. Perhaps what is needed is a looseleaf textbook in which out-of-date tables, pages, or chapters could be repaced selectively on an annual basis.

The quality of execution of *Nuclear Medicine Annual* is high. The authors are all experts in the area they review and have contributed significantly to recent advances in these areas. Each chapter is well written, comprehensive, and extensively referenced. Of the ten areas selected for review, the six chapters—Thallium-201 Imaging, Emission Tomography, Detection of Gastrointestinal Bleeding, Imaging in Benign Bone and Joint Disease, Detection of Venous Thrombosis, and Correlative Imaging—are all clearly topical. The remaining four—Pulmonary Nuclear Medicine, Adrenal Imaging, Gallium-67 Imaging, and Quantitative Renal Scanning—are less topical than some areas that were not included, such as hepatobiliary imaging and ventricular function imaging.

If the quality of execution remains as high as it is in the initial volume, *Nuclear Medicine Annual* should be a useful addition to the nuclear medicine literature and should help fill the gap between the journal article and the textbook. This series is recommended for all physicians engaged in the practice of nuclear medicine.

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PRINCIPLES OF NONINVASIVE CARDIAC IMAGING-ECHOCARDIOGRAPHY AND NUCLEAR CARDIOLOGY. D. T. Mason, Anthony N. Demaria, Daniel S. Berman, New York, Le Jacq Publ Inc., 1980, 279 pp, $42.00

There have been several books over the past few years on echocardiography and others on nuclear cardiology, but this is one of the first attempts to deal with both topics in a single volume. The authors point out that the two techniques are not in competition with one another but are often complementary. It is therefore somewhat disappointing that the organization of the book is such that both techniques are presented separately without any attempt to integrate the information from the two techniques or to show when and how each technique should be used in assessing a given problem. For example, evaluation of ventricular function is discussed in the echocardiographic section without mention of the nuclear cardiographic techniques and visa versa. The discussion of aortic and mitral regurgitation in the echocardiographic section makes no mention of the recent use of blood-pool imaging to determine the degree of regurgitation nor is the use of the tracer techniques integrated into the sections on cardiomyopathy or IHSS. Similarly, the detection and evaluation of patients with coronary artery disease is presented separately in two portions of the book without any attempt to put the techniques into perspective or to integrate the information from the two techniques.

The information presented in the two sections is well written and concise. The physician unfamiliar with one or the other of the techniques or both will find this book a quick and easy way to obtain an up-to-date overview of the current techniques and applications of both echocardiography and nuclear cardiology. An interesting feature at the end of each segment of the book is a section on special topics in which new directions and applications of the techniques are briefly discussed. For example, following the echocardiographic section there are brief discussions of such topics as video-densitometry, three-dimensional imaging with dynamic spatial construction, as well as brief commentaries on detection of intracardiac thrombi and other important clinical applications. The nuclear cardiology section is followed by brief discussions of topics of current interest such as dipyradimole thallium-201 imaging for detection of coronary artery obstruction as well as computer approaches to quantification of thallium images. The references are up-to-date and critically chosen. This book should provide the interested physician the opportunity to gain an introduction into the techniques of echocardiography and nuclear cardiology and the means to seek further information on any of the techniques or applications concisely presented in the text.

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BOOKS RECEIVED

British Medical Bulletin. Diagnostic Imaging. Vol. 36. L. Kreel, Scientific Ed. London Medical Department The British Council. 1980, 101 pp. USA and Canada $15.00. United Kingdom £6.00. Other Countries £7.20

Radiologic Science. Workbook and Laboratory Manual. Stewart C. Bushong. St. Louis, Toronto, London, C.V. Mosby Co. 1980, 260 pp, $11.95

AAPM Report No. 6. Scintillation Camera Acceptance Testing and Performance Evaluation. Nuclear Medicine Committee. New York, American Institute of Physics. 24 pp, $1.50 for members, $3.00 for nonmembers

A Compilation of Journal Instructions to Authors. U.S. Department of Health, Education, and Welfare. NIH Publication (No. 79-1991). 1979, 440 pp

Medical Physics Monograph No. 4. Quality Assurance in Diagnostic Radiology. Robert G. Waggener, Charles R. Wilson, Eds. New York, American Institute of Physics. 1980, 180 pp, illustrated