BOOK REVIEWS

CLINICAL AND EXPERIMENTAL APPLICATIONS OF KRYPTON 81m. J. P. Lavender. London, British Journal of Radiology, Special Report No. 15, 1978, 193 pp, price unavailable

This book is a collation of papers presented at a one-day symposium organized by the British Institute of Radiology held in June, 1977. The meeting concerned the use of the short-lived gas krypton-81m, a 13-sec daughter of rubidium-81 ($t_{1/2}$ 4.58 hr). The participants at the symposium and authors of this book were representative of Kr-81m users up to that time. The strong feature of this monograph is derived from the breadth of topics covered. It presents something of everything one would ever need to know about the use of Kr-81m. For this reason, the book, although four years old, has not lost its value as a primer on the subject of krypton-81m, from production to clinical application.

The book is divided into four parts: (1) production of Kr-81m; (2) pulmonary physiology with reference to the short life of the radionuclide; (3) clinical lung studies; and (4) krypton-81m arterial infusion. Each part contains contributions from several authors representing diversified views. Although this approach serves the need of exchanging views and experiences, it lacks the essential depth desired by some readers. The section on pulmonary physiology is perhaps an exception, because it deals rather well with the physiological implication of the pulmonary application of krypton-81m an important consideration because of the short half-life of the radionuclide relative to most of the measurements of pulmonary function. Clinicians will find useful the comparative ventilation studies of krypton-81m and xenon-133 on the one hand, and krypton-81m and aerosol on the other.

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NUCLEAR MEDICINE ANNUAL. L. M. Freeman, Ed., H. S. Weissman, Assoc. Ed. New York, Raven Press, 1981, 358 pp, illustrated, $39.00

The *Nuclear Medicine Annual—1981* represents the second year of "timely reviews of contemporary subjects presented by well-recognized authorities." The publication attempts to present in one volume an integrated picture of a variety of subjects with an up-to-date bibliography. Its purpose, as stated in its inaugural volume, was to bridge the gap between current journal articles and textbooks. This purpose is again accomplished.

In the initial volume of the *Nuclear Medicine Annual*, thallium-201 imaging, emission tomography, detection of gastrointestinal bleeding, imaging in benign bone and joint disease, detection of venous thrombosis, and correlative imaging were all comprehensively reviewed and extensively referenced. In the current volume, similar timely subjects are included. Exceptional among these are the clinical role of technetium-99m IDA cholecystography, radionuclide imaging of scrotal contents, and emergency application of nuclear medicine. To a lesser extent, in vitro studies in endocrinology; thyroid imaging, a current status report; and gamma-camera tomography, current clinical status and basic principles of operation offer a review of appropriate subjects. Unfortunately, the chapters "The Spleen as a Hematological Organ" and "Radionuclides in Pediatric Cardiology" provide little more information than that available in any current textbook.

Conspicuous by their absence are reviews of ventricular function imaging, the use of indium-111m-labeled cells to study inflammatory and vascular processes, and phase and amplitude analysis.

The selection of subjects for review, the comprehensive referencing by recognized authorities, and the inclusion of basic science subjects make this book interesting not only to practicing nuclear physicians, but also to residents in training and candidates preparing for specialty examinations. If the high quality of execution continues, an annual subscription to this book will be mandatory for all personal libraries.

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RADIATION PROTECTION: ION CHAMBERS FOR NEUTRON DOSIMETRY. J. J. Broerse, Ed. Harwood Academic Publishers, 1980, 351 pp, $57.00

Ion Chambers for Neutron Dosimetry is a well organized and surprisingly readable monograph based on a series of 37 papers dealing with very detailed practical aspects of ion chamber dosimetry in biology and medicine. The papers were delivered at a workshop held in Rijswijk, The Netherlands, in September of 1979, and are presented here as written by the individual authors. The organizers and presenters at the workshop have chosen current topics of importance to ion chamber users and have submitted carefully written and concise manuscripts detailing their own areas of expertise. A great deal of credit, however, must go to the editor and the five additional authors or "secretaries" who have written three to five page summaries of each of the seven sections of the book, including extensive and illuminating discussions among the veritable "Who's Who" of participants. The specific purpose of the workshop was to resolve some of the systematic errors in neutron dosimetry with ion chambers and to agree upon some common procedures for their manufacture and use.

The introduction is a short overview of the current status of ion chamber dosimetry, pointing out the necessity for accurate and reproducible dosimetry in biological and medical applications of fast neutrons and summarizing the results and recommendations of previous intercomparisons that have attempted to assess and standardize the best current efforts of groups of neutron users. The first section of the book deals with minimum construction performance characteristics for ion chambers (photon or neutron) and a detailed discussion of several previous intercomparisons including some interesting comments on adding random and systematic errors when combining neutron and photon dose components. This, and the following two sections, which give construction details of many of the newer ion chamber designs, provides a great deal of insight into the intricacies of ion chamber technology. The physical characteristics of ten currently available ion chamber designs are conveniently summarized in a four-page table for ease of com-