FRONTIERS OF NUCLEAR MEDICINE (ACKTUELLE NUKLEARMEDIZIN). Horst W, ed., Springer-Verlag, Berlin, Heidelberg, New York, 1971, 306 pp, 180 figures, $30.50.

This is one of those rare books in the field of nuclear medicine because it contains a comprehensive collection of research reports presented by medical doctors, physicists, chemists, and computer specialists from 11 countries. As indicated by the editor, this group of young second-generation nuclear scientists have dedicated their papers to the memory of George Von Hevesy, the great pioneer of nuclear medicine and the 1943 Nobel Prize winner.

The material presented in this book is extensive. Some results of basic research have been emphasized, such as examination of cell kinetics and studies of the effect of ionizing radiation on the in vivo metabolism of monocarbon fragment precursors. Other papers presented described new methods for data analysis and dosimetry but the largest number discussed new techniques for both kinetic and scintigraphic studies. The most interesting paper, which also won the George Von Hevesy Prize for Nuclear Medicine, described the visualization of radioactivity in dogs following administration of various ^{11}C carboxylates. Results presented in this paper showed that a large variety of organic compounds labeled with ^{11}C are useful for morphological and functional studies of liver and kidneys, for visualization of brain lesions, as well as for visualization of the kinetics of fatty acid deposition in the human body. As stated by the prize winner (H. S. Winchell), low radiation dose, high-resolution tomographic positron scintiphotography, and potential for isologous labeling of such organic compounds makes ^{11}C an extremely important radioisotope in nuclear medicine.

Although papers have been written in both German and English, the book achieves the editor's purpose of presenting to clinicians as well as to investigators some "results so far-ranging as to push the frontiers of nuclear medicine still further forward."

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PROTECTION AGAINST RADIATION FROM BRACHYTHERAPY SERVICES. NCRP Report #40. National Council on Radiation Protection Measurement Publications, Washington, D.C. 1972, 65 pp, $2.00.

The principles of radiation protection are the same for all types of radiation sources: *distance* (stay as far away from the source as possible), *shielding* (place as much absorbing material between the source and yourself as is necessary and practically feasible), and *time* (complete working with or close to the source in the shortest time possible). These principles are applied to the fullest for all contingencies with regard to brachytherapy sources in this recent NCRP report.

Brachytherapy is a method of radiation therapy in which an encapsulated source is used to deliver gamma or beta radiation at a distance up to a few centimeters either by surface, intracavitary, or interstitial application. Initially all brachytherapy was carried out with radium or radon sources. In recent years there has been increasing use of artificially produced radionuclides. Among the long-lived gamma-ray emitters ^{60}Co and ^{137}Cs have been used mainly and the radionuclides of shorter half-life include ^{125}I, ^{182}Ta, ^{192}Ir, and ^{198}Au. These sources are used in the form of needles and wires while ^{90}Sr is used in plagues for beta radiation therapy.

The recommendations given in this NCRP report include those for equipment, facilities, safe methods of clinical application, decontamination, and working conditions. They are intended for physicians, radiation and health physicists, radiation protection supervisors, hospital administrators, nurses, source custodians, and radiological technologists and techni-

cians. The guidelines are designed to cover all protection aspects comprehensively, so that for most practical purposes all relevant information will be found in the report.

The techniques employed in brachytherapy should be those which achieve the desired radiation dose to the tumor while minimizing the integral dose to the patient. In addition, the procedures used for delivering the patient exposure should minimize the exposure to the radiological personnel concerned and the general public.

The report discusses the identification, calibration, and storage of brachytherapy sources. The equipment for handling and transportation of the sources must be designed carefully to comply with the basic protection principles outlined above.

Leak testing shall be performed periodically for all sealed sources. The problem of leakage has been particularly cumbersome for radium sources, and this is one of the reasons why radium has been replaced in general by artificial radionuclides.

Consideration should be given to adequate training of personnel working with brachytherapy sources, to the preparation and loading of applicators, to the housing and nursing of the patient during treatment, and to the removal of the sources from the patient and the ultimate disposal of old sources. Finally, the report considers the necessary precautions for the prevention of radioactive contamination, loss of sources, and local injuries.

All pertinent information for the radionuclides most frequently used in brachytherapy is given in tabular form. This includes the radiation emitted, dose-limiting recommendations, half-value layers, required lead or concrete protection, and expose-distance relations.

The originators of the report are to be congratulated for a very thorough job in putting all pertinent protection information together in a well-organized and easy to follow form. The more difficult question of how to deliver a tumoricidal dose by brachytherapy must obviously be the topic of another report from a different group of investigators.

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TECHNOLOGIST SECTION
THE SOCIETY OF NUCLEAR MEDICINE
20th ANNUAL MEETING

June 12–15, 1973 **Americana Hotel** **Miami Beach, Florida**

Call for Papers: Nuclear Medicine Technologists' Program

The Technologist Section has set aside time for a nuclear medicine technologists' program at the 20th Annual Meeting in Miami, June 12–15, 1973.

The Scientific Program Committee welcomes the submission of abstracts for 12-minute papers from technologists for this meeting. Abstracts must be submitted on an abstract form similar to the form for general scientific papers available from the Society of Nuclear Medicine. The length must not exceed 400 words and the format of the abstracts must follow the requirements set down for all abstracts for the scientific program (see "Call for Abstracts for Scientific Program" in this issue). Send the abstract form and four carbon copies to:

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