

## **Nuclear Medicine Procedure Manual, 2nd ed.**

Wm. C. Klingensmith III, MD, Dennis Eshima, PhD, and John Goddard, PhD. Englewood, Colorado: Wick Publishing; 1992, 480 pp., \$155 print format, \$135 disk format, \$245 print and disk.

The *Nuclear Medicine Procedure Manual* includes all commonly performed procedures in nuclear medicine as well as less routine studies. The manual is available in a three-ring binder format or on a diskette for use on either a Macintosh or IBM-compatible computer.

The first section of the manual contains general instructions relating to patient preparation and care, patient and camera positioning, construction of technique charts, injection techniques, image acquisition, and film labeling. Instrument and radiopharmacy quality control procedures are outlined and worksheets for survey meter calibration and dose calibrator quality control procedures are shown. The subsection on the Nuclear Regulatory Commission (NRC) reflects its final rules on quality management programs and misadministrations.

State-of-the-art protocols for diagnostic procedures are organized in sections. Indications for procedure performance, examination time, patient preparation, equipment use, radiopharmaceutical dose and technique of administration, patient positioning, acquisition protocols, data processing where applicable, radiation emissions, and dosimetry are described. Each procedure ends with an excellent listing of recent references, reviewing technical as well as interpretative details. All of the nonimaging protocols in this section include useful worksheets for data entry and calculation of required parameters.

The biggest change in this section is in the cardiovascular area. New protocols are provided for myocardial perfusion with technetium-99m- (<sup>99m</sup>Tc) sestamibi and <sup>99m</sup>Tc-teboroxime. Use of adenosine has been included with information presented on pharmacologic induced stress. Other more recent drug

interventions, such as the use of acetazolamide in brain perfusion studies and enalaprilat for evaluation of renovascular hypertension, have been added.

In the radiopharmacy section, information on clinical uses, radiation emissions, commercial sources, and quality control is presented for each radiopharmaceutical. Included on many of the radiopharmaceutical information pages is a listing of factors affecting imaging quality; this should assist any reader who needs to troubleshoot suboptimal images. Updated entries include information on a new kit for in vitro labeling of red blood cells and information on the Dicapac test, which has been rereleased for use in the Schilling test.

Patient preparation, materials needed, radiopharmaceutical dose, and technique of administration are described for therapeutic procedures in nuclear medicine. Following each procedure is an appropriate consent form, detailing possible complications and side effects with associated incidence of occurrence.

The *Nuclear Medicine Procedure Manual* is a valuable resource for the practitioner involved in writing or updating a laboratory procedure manual. The book is intended as a guide and the authors caution that procedures should not be used for patient care until they have been thoroughly reviewed and approved by a physician.

**Sheila Rosenfeld, MA, CNMT**  
St. Louis University  
St. Louis, Missouri

## **The Probability That a Particular Malignancy May Have Been Caused by a Specific Irradiation: NCRP Statement No. 7, Issued September 30, 1992**

Bethesda, MD: NCRP; 1992, pp.4, free (\$5 shipping fee for bulk orders).

This statement by the National Council on Radiation Protection and Measurements (NCRP) is a four-page pamphlet that defines an epidemiology-based method of developing an estimate of the

probability that an individual's malignancy was caused by radiation exposure. The formula and rationale for the derivation of the estimate are provided. The limitations of the probability-of-causation methodology are described.

**James J. Conway, MD**  
Children's Memorial Hospital  
Chicago, Illinois

## **NCRP Commentary No. 7: Misadministration of Radioactive Material in Medicine—Scientific Background**

Bethesda, MD: NCRP; 1991, 49 pp., \$15.

The National Council on Radiation Protection and Measurements (NCRP) provides the nuclear medicine community with an excellent commentary on the significance of misadministrations of radioactive materials in medicine. This report reviews the current information with respect to the use of radionuclides in nuclear medicine, the number and variety of the procedures used, the administered activity, and the radiation doses resulting from this. The frequency and nature of misadministrations in nuclear medicine are summarized, using data from 1984 through 1989. The commentary considers possible deterministic and stochastic effects resulting from the medical use of radioactive materials, including byproduct material.

This document contains interesting data on the total number of specific procedures performed and portrays recent trends in the use of radionuclides for diagnostic purposes in the U.S. The information in the commentary is especially useful for nuclear medicine physicians, radiologists, radiotherapists, and radiophysicists. There are also discussions on radiation effects that should prove useful to nuclear medicine technologists and students.

**James J. Conway, MD**  
Children's Memorial Hospital  
Chicago, Illinois