

Nuclear Medicine Procedure Manual

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Goddard, PhD. Englewood,
Colorado: Oxford Medical Inc.,
1990, ~ 375 pp., \$125, \$95 on
diskette.

This manual is a complete and comprehensive procedure guide, which would be useful in any nuclear medicine department. The manual is offered in two formats; notebook or diskette. Either format can be easily modified through additions or deletions. The authors include a disclaimer, which states that a qualified physician should review and approve the manual prior to its use.

The first section of the manual contains very basic instructions for patient care, patient and camera positioning, technique charts, injection techniques, image acquisition, recording on film, labeling, and release of the patient. This section is best suited to students or trainees in nuclear medicine departments. This section could also satisfy new employee orientation requirements.

Quality control procedures are outlined for cameras, computers, dose calibrators, and survey instruments. A listing of laboratory equipment and posting requirements provides easy reference for managers. Laboratory procedures for generator elution, generic kit formulation, and chromatography are provided.

A separate section describes individual radiopharmaceuticals, their clinical use and availability, commercial sources of radiopharmaceuticals, capsule variability, and other factors that may affect test results or imaging quality.

There is an extensive listing of diag-

nostic imaging and therapeutic procedures, ranging from basic techniques to seldom used procedures. The only in vitro procedures included are blood and plasma volumes, red cell survival, and schillings. Indications for testing, dosimetry of agent, radiation emission, current references, normal findings, and data processing equations where applicable, are described for each diagnostic procedure. Radiopharmaceutical doses are provided in becquerels as well as millicuries. The thyroid uptake and GFR protocols contain useful worksheets, complete with formulas for quantitative assessment. The GE Reflux procedure explains the standard protocol for adult and pediatric patients. Data processing equations are incorporated for a wide variety of renal studies.

The authors include state-of-the-art procedures including thallium re-injection, brain perfusion imaging with ^{99m}Tc -HMPAO and ^{123}I spectamine, and IND protocols for MIBG and IV dipyridamole. At the time this manual was published, IV dipyridamole had not been approved by the FDA. It would be helpful for the authors to delineate the procedure for acquisition of MIBG from the University of Michigan.

The appendices offer a listing of references only for seldom performed diagnostic and therapeutic procedures. Surprisingly, there is no reference to the new technetium myocardial perfusion agents, sestamibi and teboroxime.

Therapeutic procedures are described in the same format used for diagnostic procedures, with the addition of dose determinations and dosimetry. References detail complications to therapy. Each therapeutic procedure contains a consent form, individualized for that specific treatment, which describes possible complications and

incidence of occurrence. A nursing instruction worksheet is provided for inpatient ablative therapy for thyroid carcinoma.

A section entitled Departmental Guidelines satisfies all the required standards of the JCAHO with the exception of authorization to order nuclear medicine services and authentication of reports. The authors outline scheduling parameters, radiation safety, infection control, radiation emergency procedures, and authorization to inject. This section would be appropriate for managers and medical directors or as a reference for staff technologists and students.

Quality assurance is not addressed. Perhaps it is better served in a separate publication due to the complexity of the subject and the length of a complete QA program.

Although some sections of the manual are too basic for a certified technologist, the detailed reporting of diagnostic and therapeutic procedures, quality control, and radiation safety offsets the elementary section on how to perform a study.

The *Nuclear Medicine Procedure Manual* is a comprehensive and up-to-date publication, which would be valuable to any department manager or medical director faced with creating or modifying such a document in a new or well established laboratory. Educators would find this manual to be a worthwhile educational tool for technologist or medical students. The manual may also serve as a practical resource for consulting physicists who are called upon to review or write procedures for a nuclear medicine laboratory.

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