An SNM Technologist Section (SNMTS) Presidential Task Force established in the summer of 2010 developed the following revised SNMTS Scope of Practice for nuclear medicine technologists. Members of the task force were Richard Noto, MD, Danny Basso, AS, CNMT, NCT, FSNMTS; Jeanne Dial, MED, CNMT; David Gilmore, MS, CNMT, NCT, RT(N,R), FSNMTS; Marcia Hess-Smith, BS, CNMT; Sara Johnson, MBA, CNMT, NCT; Brenda King, CNMT, FSNMTS; Cindi Luckett-Gilbert, MHA, CNMT, PET, RT (N), FSNMTS; Lyn Mehlberg, BS, CNMT, FSNMTS; Frances Neagley, BA, CNMT, RT (R,N), FSNMTS; Kathy Thomas, MHA, CNMT, PET, RT (R)(N)(CT), FSNMTS. The task force was chaired by Lynne T. Roy, MS, MBA, CNMT, RT (N), FSNMTS.

This document is not intended to modify or alter existing tort law; rather it should serve as a concise outline of nuclear medicine technology skills and responsibilities.

NUCLEAR MEDICINE TECHNOLOGY

Nuclear medicine which includes molecular imaging, is the medical specialty that utilizes sealed and unsealed radioactive materials in the diagnosis and therapy of various diseases. This practice also includes the utilization of pharmaceuticals (used as adjunctive medications) and other imaging modalities with or without contrast to enhance the evaluation of physiologic processes at a molecular level. The nuclear medicine technologist is an allied health professional who, under the direction of an authorized user, is committed to applying the art and skill of their profession to optimize diagnostic evaluation and therapy through the safe and effective use of radiopharmaceuticals and adjunctive medications.

The practice of nuclear medicine technology requires multidisciplinary skills that are needed to use rapidly evolving instrumentation, radiopharmaceuticals, adjunctive medications and techniques. The responsibilities of the nuclear medicine technologist include, but are not limited to, patient care, quality control, diagnostic procedures, radiopharmaceutical and adjunctive medication, preparation and administration, in vitro diagnostic testing, radionuclide therapy, and radiation safety. The nuclear medicine technologist can also participate in research.

In order to perform these tasks, the nuclear medicine technologist must successfully complete didactic and clinical education. Education includes, but is not limited to, methods of patient care, immunology, cross sectional anatomy, pharmacology, nuclear medicine and radiation physics, radiation biology, radiation safety and protection, nuclear medicine instrumentation, quality control and quality assurance, computer applications for nuclear medicine, general
diagnostic nuclear medicine procedures, radionuclide therapy, positron emission tomography (PET), computed tomography (CT), radionuclide chemistry, radiopharmacy, medical ethics and law, healthcare administration, health sciences and research methods, and medical informatics.

Graduates of accredited programs are eligible to sit for certification examinations offered by the Nuclear Medicine Technology Certification Board and the American Registry of Radiologic Technologists.

The spectrum of the nuclear medicine technologist’s responsibilities varies widely across the country and may exceed basic skills outlined in the technologist’s initial education and certification. Practice components presented in this document provide a basis for establishing the areas of knowledge and performance for the nuclear medicine technologist. It is assumed that for all activities included in this scope of practice, the nuclear medicine technologist has received the proper education and is in compliance with all federal, state and institutional guidelines including proper documentation of initial and continued competency in those practices and activities. Continuing education is a necessary component in maintaining the skills required to perform all duties and tasks of the nuclear medicine technologist in this ever-evolving field.

THE SCOPE OF PRACTICE

The scope of practice in nuclear medicine technology includes, but is not limited to, the following areas and responsibilities:

- **Patient Care:** Requires the exercise of judgment to assess and respond to the patient’s needs before, during and after diagnostic imaging and therapeutic procedures and in patient medication reconciliation. This includes record keeping in accordance with the Health Insurance Portability and Accountability Act (HIPAA).
- **Quality Control:** Requires the evaluation and maintenance of a quality control program for all instrumentation to ensure optimal performance and stability.
- **Diagnostic Procedures:** Requires the utilization of appropriate techniques, radiopharmaceuticals and adjunctive medications as part of a standard protocol to ensure quality diagnostic images and/or laboratory results.
- **Radiopharmaceuticals:** Involves the safe handling and storage of radioactive materials during the procurement, identification, calibration, preparation, quality control, dose calculation, dispensing documentation, administration and disposal.
- **Adjunctive Medications:** Involves the identification, preparation, calculation, documentation, administration and monitoring of adjunctive medication(s) used during an in-vitro, diagnostic imaging, or therapeutic procedure. Adjunctive medications are defined as those medications used to evoke a specific physiological or biochemical response. Also included
are the preparation and administration of oral and IV contrast used in the performance of imaging studies.

- **In Vitro Diagnostic Testing:** Involves the acquisition of biological specimens with or without oral, intramuscular, intravenous, inhaled or other administration of radiopharmaceuticals and adjunctive medications for the assessment of physiologic function.

- **Operation of Instrumentation:** Involves the operation of:
  - Imaging instrumentation:
    - Gamma camera systems with or without sealed sources of radioactive materials or x-ray tubes for attenuation correction, transmission imaging or diagnostic CT (when appropriately educated, trained and/or credentialed).
    - PET imaging systems with or without sealed sources of radioactive materials or x-ray tubes for attenuation correction, transmission imaging or diagnostic CT (when appropriately trained and/or credentialed)
    - Bone density imaging systems with x-ray tubes
  - Non-imaging instrumentation:
    - Dose calibrators
    - Survey instrumentation for exposure and contamination
    - Probe and well instrumentation
    - Ancillary patient care equipment as authorized by institutional policies.

- **Radionuclide Therapy:** Involves patient management, preparation and administration of therapeutic radiopharmaceuticals, under the personal supervision of the Authorized User

- **Radiation Safety:** Involves practicing techniques that will minimize radiation exposure to the patient, health care personnel and general public, through consistent use of protective devices, shields, and monitors consistent with ALARA (as low as reasonably achievable) and establishing protocols for managing spills and unplanned releases of radiation.

**REFERENCES**

   http://www.bls.gov/oco/ocos104.htm
   http://interactive.snm.org/index.cfm?PageID=4715