

## NUCLEAR MEDICINE SERIES

<b>Code No.</b>	<b>Class Title</b>	<b>Occ. Area</b>	<b>Work Area</b>	<b>Prob. Period</b>	<b>Effective Date</b>	<b>Last Action</b>
4101	Nuclear Medicine Technologist	02	447	6 mo.	11/01/14	Rev.
4625	Nuclear Medicine Specialist	02	447	6 mo.	11/01/14	Rev.
4102	Nuclear Medicine Manager	03	447	6 mo.	11/01/14	Rev.

### *Promotional Line: 120*

#### Series Narrative

Employees in this series are involved in the use of radioactive materials and radiation-detecting equipment for the diagnosis, therapy, and investigation of patients' medical problems. They perform nuclear medicine tests: in-vivo/in-vitro procedures, in which trace amounts of radiopharmaceuticals (drugs or chemicals designed to concentrate in a certain organ) are given directly to a patient to 4102 an authorized physician and requires a technical knowledge of the handling of radionuclides and of radiation detection, as well as knowledge of underlying mathematical, physical, and radiobiological principles.

#### DESCRIPTION OF LEVELS OF WORK

##### **Level I: Nuclear Medicine Technologist**

**4101**

Employees in positions allocated to this level perform standard diagnostic in-vivo/in-vitro studies, using radioactive materials and radiation detection equipment. They may also perform basic computer operations. They work under the direct supervision of an upper-level staff.

#### DESCRIPTION OF LEVELS OF WORK:

A Nuclear Medicine Technologist typically –

1. performs basic/standard nuclear medicine PET/CT or CT procedures on patients.
2. explains the nature of the procedures to patients and records the patient's data ensuring patient privacy.
3. administers radiopharmaceuticals or contrast media to detect or treat diseases, using various equipment while under direction of a physician.
4. detects and maps radiopharmaceuticals in patients' bodies, using a camera to produce photographic or computer images.
5. produces a computer-generated or film image for interpretation by a physician.
6. calculates, measures, and records radiation dosage or radiopharmaceuticals received, used, and disposed, using computer and following physician's prescription.
7. performs quality control checks on laboratory equipment or cameras.

8. maintains and calibrates radioisotope and laboratory equipment.
9. disposes of radioactive materials and stores radiopharmaceuticals, following radiation safety procedures.
10. processes nuclear medicine studies using computer software programs.
11. prepares radiopharmaceuticals, adhering to safety standards that minimize radiation exposure to workers and patients.
12. records and processes results of procedures.
13. performs other related duties as assigned.

**Level II: Nuclear Medicine Specialist****4625**

Employees in positions allocated to this level perform complex nuclear medicine procedures using radioactive materials and gamma- or beta-detecting equipment. They perform more advanced computer operations including data processing on specialized nuclear medicine computers. They also supervise lower level staff including students and Nuclear Medicine technologists. They work under the general supervision of an upper level staff.

A Nuclear Medicine Specialist typically:

1. performs advanced nuclear medicine PET/CT or CT procedures on patients.
2. responsible for advanced quality assurance, calibration, or alignment.
3. assists medical personnel in conducting research into new techniques and technology.
4. monitors the operation and calibration of laboratory equipment; makes moderate repairs.
5. assists in supervising and training staff in established procedures; this may include:
  - assigns directs, schedules, checks, and evaluates the work of staff; participates in the recruitment process in conjunction with supervising staff.
  - trains staff in established procedures or new procedures being implemented in the department; advises them on individual examinations as needed.
  - orient, supervises, and evaluates the performance of students or technologists.
  - explains safety instructions to medical or paramedical staff.
  - assists in discipline and/or termination of employees.
6. performs duties at lower-level of this series, as required.
7. performs other related duties as assigned.

**Level III: Nuclear Medicine Manager****4102**

Employees in positions allocated to this level of the series supervise nuclear medicine/PET-CT programs and departmental activities in a health care facility. They direct, coordinate, and evaluate the work of lower level nuclear medicine technologists. They may also initiate and conduct research studies involving nuclear medicine/PET-CT services.

A Nuclear Medicine Manager typically –

1. plans the scope, emphasis, and objectives of nuclear medicine/PET-CT programs.
  - a. confers with administrators and medical staff to ascertain their needs and recommends methods to meet those needs.
  - b. coordinates the department's technical operations with those of other departments to ensure prompt, efficient, and complete patient care.
  - c. establishes procedures to incorporate hospital regulations and professional standards; directs the technical activities of departmental staff and students to ensure compliance with established procedures; ensures that technical personnel are aware of current policies and procedures regarding patient exposure and protective regulations.
  - d. researches and studies trends and developments in nuclear medicine/PET-CT practices and techniques; develops operational manuals such as developing emergency procedures; and assists in disaster situations; develops and enforces policies and procedures related to the electronic medical records.
  - e. initiates specific research projects, determining the nature of research to be performed, and assigns specific projects to staff members.
2. participates in personnel actions such as hiring, transfers, disciplines, promotions, and training.
  - a. assumes responsibility for performance evaluation of all nuclear medicine technologists.
  - b. resolves problems and outlines policies, procedure, and methods for resolving departmental problems.
  - c. designs in-service training programs and keeps abreast of new procedures and equipment; assists with the coordination of continuing education to meet the requirements set forth by governmental or other regulatory bodies such as, JCAHO, ARRT, and NMTCB.
  - d. schedules, organizes, coordinates and supervises nuclear medicine staff.
3. serves as technical consultant and advisor to the department head in regards to budget and equipment.
  - a. assists in the preparation of budget estimates of personnel, supplies and equipment, contractual services, and upgrading of facilities; prepares bid specifications for technical items; reviews bids; prepares statistical reports of activities and expenditures.

- b. initiates and participates in testing of new types of equipment, film, and/or radiopharmaceuticals; evaluates test results and makes recommendations for the purchase of new equipment; interviews sales and technical representatives from x-ray and pharmaceutical companies.
  - c. regulates supplies and equipment, making adjustments with ordering and budgets, and testing new products; assists with removal and salvages x-rays equipment according to state regulations for record retention and EPA guidelines for discarding waste.
4. performs administrative duties including developing and updating nuclear medicine department policy, procedures and protocols including quality control; ensures that these policies and procedures are being followed.
  5. produces management reports as needed.
  6. provides support to staff and students with problems that occur throughout the daily operations of the Health service.
  7. develops workflows to encompass current procedures and establish electronic medical records based on these workflows and current reporting standards.
  8. monitors and troubleshoots nuclear medicine/PET-CT equipment, assists with the picture archiving and communication systems (PACS) and web viewing services ensuring that all components are functioning and all external sites are able to connect to these services.
  9. sets-up new user accounts, permissions, resets passwords, and inactivates accounts.
  10. monitors radiation exposure; develops and implements emergency and radiation safety procedures for the nuclear medicine department.
  11. performs duties at lower-level of this series, as required.
  12. performs other related duties as assigned.

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:

**Level I: Nuclear Medicine Technologist**

**4101**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER:

1. High school graduate or equivalent.
2. Current/Valid licensure in nuclear medicine by the State of Illinois Division of Nuclear Safety (IEMA).
3. Current/Valid Certification or registration, by the Nuclear Medicine Technology Certification Board (NMTCB) or the American Registry of Radiologic Technologists (ARRT) in Nuclear Medicine technology.

## KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of the operations and mechanics of all nuclear medicine equipment.
2. Knowledge of health care facilities' computer systems.
3. Knowledge of principles and processes for providing excellent patient care.
4. Knowledge of EMR system.
5. Knowledge of administrative and clerical procedures and systems such as word processing and managing files and records.
6. Knowledge of anatomy and physiology.
7. Knowledge of all patient and radiation safety procedures.
8. Manual dexterity including the ability to use full range of body motion for handling or lifting patients.
9. Ability to operate and control operations of equipment or systems.
10. Ability to get along with people in order to reassure patients.
11. Ability to follow oral and written instructions.
12. Ability to examine and evaluate technical aspects of nuclear medicine images.
13. Ability to interpret request and instructions from the medical officer.
14. Ability to prepare, and administer, contrast media.
15. Ability to problem solve.

**Level II: Nuclear Medicine Specialist****4625**

## CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Current/Valid licensure in nuclear medicine by the State of Illinois Division of Nuclear Safety (IEMA).
3. Current/Valid Certification or registration, by the Nuclear Medicine Technology Certification Board (NMTCB) or the American Registry of Radiologic Technologists (ARRT) in Nuclear Medicine technology.
4. Two (2) years (24 months) of progressively more responsible work experience in nuclear medicine comparable to the next lower level of this series.

*\*Note: A Bachelor's Degree in health care, general science or closely related field may be substituted for one (1) year (12 months) of general work experience in nuclear medicine.*

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of the operations and mechanics of all nuclear medicine equipment.
2. Knowledge of health care facilities' computer systems.
3. Knowledge of principles and processes for providing excellent patient care.
4. Knowledge of EMR system.
5. Knowledge of administrative and clerical procedures and systems such as word processing and managing files and records.
6. Knowledge of anatomy and physiology.
7. Knowledge of all patient and radiation safety procedures.
8. Manual dexterity including the ability to use full range of body motion for handling or lifting patients.
9. Ability to operate and control equipment or systems.
10. Ability to get along with people in order to reassure patients.
11. Ability to follow oral and written instructions.
12. Ability to examine and evaluate technical aspects of nuclear medicine images.
13. Ability to interpret request and instructions from the medical officer.
14. Ability to prepare, and administer contrast media.
15. Ability to problem solve.

**Level III: Nuclear Medicine Manager**

**4102**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Current/Valid licensure in nuclear medicine by the State of Illinois Division of Nuclear Safety (IEMA).
3. Current/Valid Certification or registration, by the Nuclear Medicine Technology Certification Board (NMTCB) or the American Registry of Radiologic Technologists (ARRT) in Nuclear Medicine technology.

4. Two (2) years (24 months) of progressively more responsible work experience in nuclear medicine series.
5. Two (2) years (24 months) of progressively more responsible work experience in nuclear medicine comparable to the next lower level of this series.

*\*Note: A Bachelor's Degree in health care, general science or closely related field may be substituted for one (1) year (12 months) of general work experience in nuclear medicine, see #4.*

#### KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of the operations and mechanics of all nuclear medicine equipment.
2. Knowledge of health care facilities' computer systems.
3. Knowledge of principles and processes for providing excellent patient care.
4. Knowledge of EMR system.
5. Knowledge of administrative and clerical procedures and systems such as word processing and managing files and records.
6. Knowledge of anatomy and physiology.
7. Knowledge of all patient and radiation safety procedures.
8. Ability to examine and evaluate technical aspects of complex nuclear medicine images.
9. Ability to prepare, and administer, contrast media.
10. Ability to perform administrative duties.
11. Ability to organize, direct, and evaluate the activities of students and departmental staff members.
12. Ability to conduct research studies in collaboration with researchers.
13. Ability to prepare technical reports.