

NUCLEAR MEDICINE SERIES

Code No.	Class Title	Occ. Area	Work Area	Prob. Period	Effective Date	Last Action
0000	Nuclear Medicine Technologist	02	446	6 mo.	00/00/00	Rev.
0000	Nuclear Medicine Specialist	02	446	6 mo.	00/00/00	Rev.
0000	Nuclear Medicine Supervisor	03	446	6 mo.	00/00/00	Rev.

Promotional Line: 000

Series Narrative

Formally: Nuclear Medicine Technologist I, II, III

Employees in this series are involved in the use of radioactive materials and gamma- or beta-detecting equipment for the diagnosis, therapy, and investigation of patients' medical problems. They perform nuclear medicine tests: in-vivo (in the body) procedures, in which trace amounts of radiopharmaceuticals (drugs or chemicals designed to concentrate in a certain organ) are given directly to a patient to evaluate the function of an organ or to form an image of it. The work is performed under the direction of 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

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Employees in positions allocated to this level perform standard diagnostic in-vivo studies, using radioactive materials and gamma- or beta-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 nuclear medicine and PET/CT procedures on patients.
2. explains the nature of the procedures to patients using excellent customer service skills and then records the patient's data ensuring patient privacy.
3. administers radiopharmaceuticals or radiation intravenously to detect or treat diseases, using radioisotope equipment, 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 function studies, using computer.
11. prepares stock 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**0000**

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 and PET/CT procedures on patients.
2. performs advanced procedures such as 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. supervises and trains staff in established procedures; this may include:
 - assigns directs, schedules, checks, and evaluates the work of staff; selects employees in conjunction with supervising staff.
 - trains staff in established procedures or new procedures being implemented in the laboratory; advises them on individual examinations as needed.

- orientates, supervises, and evaluates the performance of students or residents in procedures in the laboratory.
 - explains techniques to medical or paramedical staff receiving in-service training.
 - 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 Supervisor**0000**

Employees in positions allocated to this level of the series supervise medical radiology 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 diagnostic medical radiological services.

A Nuclear Medicine Supervisor typically:

1. plans the scope, emphasis, and objectives of medical radiology technical 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 medical radiologic practices and techniques; develops operational manuals such as developing emergency procedures; and provides manpower in disaster situations; develops and enforces policies and procedures related to the electronic medical records relating to new employee training, employee errors, employee termination, etc.
 - 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, 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 IEMA, 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 radiology chemicals; 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; removes and salvages x-rays according to state regulations for record retention and EPA guidelines for discarding waste.
- 4. performs administrative duties including developing and updating Radiology 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 digital radiography, 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****0000**CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER:

1. High school graduate or equivalent.
2. Current/Valid licensure in medical radiography by the State of Illinois Division of Nuclear Safety (IEMA).
3. Certified or registered, 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 orally, contrast media.
15. Ability to problem solve.

Level II: Nuclear Medicine Specialist**0000**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Current/Valid licensure in medical radiography by the State of Illinois Division of Nuclear Safety (IEMA).
3. Certified or registered, 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 experience.*

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 orally, contrast media.
15. Ability to problem solve.

Level III: Nuclear Medicine Supervisor**0000**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Current/Valid licensure in medical radiography by the State of Illinois Division of Nuclear Safety (IEMA).
3. Certified or registered, by the Nuclear Medicine Technology Certification Board (NMTCB) or the American Registry of Radiologic Technologists (ARRT) in Nuclear Medicine technology.
4. One (1) year (12 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 experience.*

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 orally, 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.

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