



Job Code: 9369
Grade: 21
HCWR: N

Job Title
Nuclear Cardiology/Cardiac CT Technologist

Department
Cardiology

Job Summary

The Nuclear Cardiology/Cardiac Computed Tomography (CT) Technologist performs Cardiac and General NM and Cardiac CT exams on inpatients and outpatients. This individual acquires, processes, and critiques hybrid and dedicated NM and CT images ensuring quality, prepares patient records for review and interpretation by the physician, monitors NM and CT scanners for optimal performance, and adheres to radiology safety standards. The primary focus of this position will be advanced cardiac radionuclide imaging with planar, SPECT, SPECT/CT, and PET/CT acquisitions as well as Cardiac CT Angiography studies pertaining to assessment of coronary, cardiac, and valvular anatomy. Secondary duties include general NM and CT body imaging studies when needed.

Typical Duties

- Works collaboratively with the entire NM / CT team of physicians, managers, nurses, technologists, clerks, etc.
- Performs hybrid and dedicated NM and CT examinations according to established operating clinical protocols and imaging techniques.
- Performs cardiac NM and CT imaging as part of the cardiology team under the direction of supervisor from the Division of Cardiology (primary duty)
- Performs body NM and CT imaging as part of the radiology team under the direction of a supervisor from the Department of Radiology (secondary duty)
- Provides NM/CT services promptly, efficiently, safely, and cost effectively while meeting divisional productivity standards.
- Performs daily and other periodic quality control testing on NM and CT systems, ensuring all equipment is adequately maintained and in working order.
- Orders and prepares radiopharmaceuticals and contrast medium, following specified instructions or laboratory protocols.
- Calculates appropriate radioisotope or contrast activity to be administered.
- Calibrates or calculates radioisotope activity, using a dose calibrator, calculators, and/or nomograms. Posts these results on appropriate forms or employee health record (EHR).
- Sets the appropriate scanning parameters on CT equipment such as milliamperage, exposure time, slice thickness, cradle increment, orientation, scan field of view, etc.
- Programs contrast injector according to protocol or physician orders.
- Participates in patient selection for optimal nuclear cardiology or cardiac CT imaging protocol. . Educates the patient about the test.
- Communicates with patients before the test regarding special instructions or scheduling issues.
- Transports patients within the department and between departments (Cardiology/Radiology/NM) and when necessary, transports the patient between either department and the patient's room.
- Obtains IV access for administration of radiopharmaceuticals or radiographic contrast in accordance with department policy and physician order.



Typical Duties

- Properly positions patient for examinations. If necessary, uses sandbags, binders, and special apparatus to maintain the required position.
- Analyzes patient's medical record and interviews the patient to obtain relevant history as necessary, including recent NM, CT, or other cardiac examinations.
- Routes the studies to physicians for interpretation on dedicated workstations.
- Enters patient data and completes appropriate documentation data in hospital EHR or other health information systems.
- Retrieves historical imaging studies, when feasible or requested, for comparison.
- Contacts physician, nurse and/or supervisor for guidance or direction related to change in patient's condition.
- Cleans NM and CT equipment, performs preventative maintenance, and reports equipment failures immediately to Clinical Engineering and supervisor.
- Maintains cleanliness of work area.
- Operates ionization chamber, Geiger-Mueller Counter, scintillation apparatus, power injector, etc.
- Completes appropriate documentation as required (logbooks, worksheets, screening forms, etc) and records technical data as required.
- Follows infection control standards.
- Adheres to radiation safety guidelines.
- Demonstrates compliance with institutional, regulatory, and legal requirement.
- Reports radiopharmaceutical spills to the Radiation Safety Officer (RSO) and handles spills according to protocol.
- Submits data to clinical registries as required.
- Collects and submits data and images for laboratory accreditation.
- Participates in laboratory quality improvement processes to help attain and maintain accreditation.
- Delivers NM and CT clinical instructions and education for students, residents, fellows, or technologists.
- Orients and trains new or junior technologists as required.
- Works cooperatively with all personnel, exhibits proper conduct, and maintains a high ethical standard.
- Maintains all necessary supplies by ordering and stocking.
- Assists in coordination of daily schedule.
- Works weekends and/or holidays on a rotational basis.
- Works overtime when the workload and/or patient scheduling require extended hours.
- Takes call on a rotational basis for emergency studies outside working hours, including nights, weekends, and holidays, and must report physically to the NM laboratory within sixty (60) minutes from emergency call activation.
- Demonstrates computer literacy in using basic applications, such as Windows, Word, Outlook, email, etc.
- Communicates effectively and promptly via email, EHR message center, secure messaging, or other communication methods.
- Must be able to take and responds to after hour calls as required.
- Must be able to travel to Cook County Health (CCH) work sites to fulfill regular and call duties.



Typical Duties

- Covers NM and CT duties at other CCH sites when necessary.
- Performs special examinations as instructed by medical staff, not within the routine procedures.
- Performs other related duties as assigned.

Minimum Qualifications

- Graduate of an accredited Nuclear Medicine Technologist Program
- Completed formalized CT course, as part of or in addition to formal education
- Registered by the American Registry of Radiologic Technologists in Nuclear Medicine [AART(N)], or Nuclear Medicine Technology Certification Board (NMTCB)
- Registered by the American Registry of Radiologic Technologists in Computer Tomography (CT) [ARRT(CT)]
- Accredited by Illinois Emergency Management Agency (IEMA)
- Minimum of one (1) year work experience in Nuclear Medicine OR a minimum of one (1) year experience in Computed Tomography (CT).
- One (1) year of experience in cardiac radionuclide imaging, including but not limited to SPECT and/or PET
- Valid Basic Life Support (BLS) certification
- Able to maintain continuing education credits as required by the certifying body or society.

Preferred Qualifications

- Three (3) year experience in Nuclear Medicine
- Three (3) year experience in Cardiac Computed Tomography (CT)
- One (1) year experience in PET/CT

Knowledge, Skills, Abilities and Other Characteristics

- Thorough knowledge of the operation of nuclear instruments and the physical composition of radionuclides, to minimize radiation hazard to patients, self, and other personnel.
- Must have working knowledge of radiological mathematics, basic radiation physics, radiation units, and radiation protection.
- Complete knowledge of anatomical positioning and physiology, with additional emphasis on cardiac anatomy, so that independent selection or modification of technical factors will produce optimum results.
- Proficient in radionuclide cardiac imaging with ability to perform a wide variety of planar, ERNA and tomographic studies.
- Experience in cardiac imaging radionuclide imaging procedures, such as dual or single isotope SPECT, stress-only SPECT, attenuation compensation/correction by either prone imaging or CT, PYP-scintigraphy, ERNA, and perfusion / metabolism PET.
- Knowledge and experience in performance of a wide variety of cardiac CT protocols, including but not limited to - prospective and retrospective gated cardiac and chest and peripheral run- offs.
- Knowledge of cardiac electrode placement for adequate ECG gating.
- Knowledge in troubleshooting gating in patients with arrhythmias.



Knowledge, Skills, Abilities and Other Characteristics

- Ability to correctly select cardiac imaging protocol in discussion with cardiologists/radiologists. - Experienced in independent performance of dedicated and hybrid cardiac NM and CT acquisitions.
- Knowledge of PC Computer Systems and PACS.
- Knowledge in commercially nuclear cardiology and cardiac CT processing and interpretation packages.
- Ability to evaluate images for artifacts, sources of error and abnormal cardiac or extracardiac findings, and to communicate these to the reading physician.
- Ability to recognize and adequately correct image artifacts, including repeat image acquisition where applicable.
- Knowledge of NM and CT dose reduction methods and ALARA principles, while maintaining good image quality.
- Excellent critical thinking skills as must be able to work independently and make appropriate decisions related to any immediate and recognizable change in patient condition.
- Recognize radiographic and infectious disease hazard, and adhere to safety precautions for self, patients, and other personnel.
- Ability to sustain extended standing, sitting, bending, and moving.
- Ability to lift a minimum of 25 lbs. and use of proper lifting mechanics to prevent injuries.
- Detail oriented with excellent verbal and written communication skills necessary to communicate with all levels of staff and a patient population composed of diverse backgrounds.
- Ability to follow written and verbal instruction, read and accurately interpret written procedures included in department manuals and professional literature.
- Ability to report to the NM laboratory within sixty (60) minute notice while on-call.
- Demonstrate professional growth and development by attending continuing education seminar and other educational related activities.
- Strives to improve laboratory quality and attain and maintain laboratory accreditation.

Physical and Environmental Demands

This position is functioning within a healthcare environment. The incumbent is responsible for adherence to all hospital and department specific safety requirements. This includes but is not limited to the following policies and procedures: complying with Personal Protective Equipment requirements, hand washing and sanitizing practices, complying with department specific engineering and work practice controls and any other work area safety precautions as specified by hospital wide policy and departmental procedures.

The above statements are intended to describe the general nature and level of work being performed by people assigned to this classification. They are not intended to be construed as an exhaustive list of all responsibilities, duties and skills required of the personnel so classified.

For purposes of the American with Disabilities Act, "Typical Duties" are essential job functions.