

MEDICAL RADIOGRAPHER SERIES

<u>Code No.</u>	<u>Class Title</u>	<u>Occ. Area</u>	<u>Work Area</u>	<u>Prob. Period</u>	<u>Effective Date</u>	<u>Last Action</u>
4008	Medical Radiographer Technologist I	02	447	6 mo.	00/00/00	Rev.
4009	Medical Radiographer Technologist II	02	447	6 mo.	00/00/00	Rev.
4587	Medical Radiography Specialist	02	447	6 mo.	00/00/00	Rev.
4014	Medical Radiography Supervisor	03	447	6 mo.	00/00/00	Rev.

Promotional Line: 161

The specific area of medical radiography assigned is to be used to classify these positions. Examples of such types of service include General X-ray, CT Scan, Interventional Radiology/Cath Lab, and Operating Room X-ray.

Series Narrative

Employees in positions assigned to this series operate and maintain medical radiographic equipment and supplies in a hospital or clinic environment as part of the diagnostic and/or treatment plan for human patients. The equipment operated includes stationary and portable x-ray machine units (used to produce diagnostic radiographic images, referred to as x-rays); fluoroscopes (used to study organ and body functions); and auxiliary equipment. The Medical Radiographer may be responsible for taking, processing, and evaluating the technical images produced on radiographic and fluorographic images.

The Medical Radiographer obtains radiographic images and may administer non-radioactive materials into patient's blood stream for diagnostic purposes.

The Medical Radiographer operates radiographic equipment; monitors patient safety and comfort, and views images of area being scanned to ensure quality of pictures.

The Medical Radiographer reveals the interior of the human body using specialized imaging so physicians and other health-care professional can diagnose and treat medical conditions; utilize radiation to reveal more solid interior structures, such as bones.

Performs minimally invasive procedures using image guidance, some of these procedures are done for diagnostic purposes while others are done for treatment purposes. These images provide road maps that allow the radiologist to guide these instruments through the body to the areas of interest.

The Medical Radiographer may also be responsible for training, scheduling, directing, and evaluating students and other Medical Radiographers; maintaining accurate and complete records; maintaining radiographic equipment; and making minor repairs to equipment when necessary. In addition to the more common methods used in radiology (such as chest x-rays), the radiographer may specialize in performing advanced imaging in areas such as head and neck, intestines, limbs, or dental area.

Medical Radiographers provide patient protection in accordance with standards and assist in performing first aid as necessary. They also practice sterile techniques to prevent cross-contamination.

DESCRIPTION OF LEVELS OF WORK**Level I: Medical Radiographer Technologist I****4008**

Employees in positions at this level take and process radiographic images that are used in medical diagnoses. These images are interpreted by medical officers to locate injuries, foreign bodies, pathological conditions, or lesions within the body. The employees work under direct supervision of higher level personnel.

A Medical Radiographer Technologist I typically –

1. instructs patients regarding specific examinations to be taken and may assist patients in preparing for the examination; explains procedures and observes patients to reduce anxieties and obtain cooperation.
2. schedules patients for procedures and assists with some clerical functions; maintains accurate patient records for all procedures performed.
3. prepares and sets up x-ray/imaging room for patient; positions the patient and radiographic equipment to obtain the radiographic view requested by the medical practitioner (e.g., immobilizes or supports the patient with weights, sandbags, binders, and/or angle boards); determines patients' x-ray needs by reading requests or instructions from physicians.
4. adjusts ionizing radiation equipment to correct setting and desired exposure time for each radiograph, following the technical charts where indicated or standardized; adjusts lead protection and collimates the beam to protect unaffected parts of the body from exposure to x-rays.
5. administers, under direct supervision, barium salts or other chemical mixtures (contrast media); may start IVs or dispense oral contrast to patients for CT scans.
6. makes exposures necessary for the requested procedures, rejecting and repeating work that does not meet established standards.
7. takes images using a mobile x-ray unit in areas of the hospital and clinics.
8. uses radiation safety measures and protection devices to comply with government regulations and to ensure safety of patients and staff.
9. keeps confidential records and maintains patient protected medical information.
10. formats images, prints image/CD; processes logs and tracks over-read reports and image/CD requests from outside vendors; performs quality control for procedures and equipment; documents system failures and variances in the appropriate logbook and arranges for service.
11. maintains and cleans all equipment; maintains orderliness and cleanliness in assigned area; reports the malfunctioning of equipment to the supervisor; reports shortage of supplies and/or equipment; stocks supplies.

12. uses beam-restrictive devices and patient-shielding techniques to minimize radiation exposure to patient and staff.
13. assures that sterile and non-sterile supplies such as contrast materials, catheters, images, chemicals, or other required equipment, are present and in working order.
14. identifies anatomical orientation on all required images and ensuring proper image identification on all images.
15. performs other related duties as assigned.

Level II: Medical Radiographer Technologist II**4009**

Employees at this level take, process, and critique radiographic images in a health care facility. They work under general supervision of higher level personnel.

A Medical Radiographer Technologist II typically –

1. operates specialized equipment such as a fluoroscope, image intensifier, or automatic syringe used to inject contrast media.
2. participates in evaluating the work of students.
3. participates in various activities such as emergency drills and in-service educational programs; responds to disaster requests.
4. performs angiographic procedures and completes complex vascular and non-vascular interventional and therapeutic procedures.
5. assists in maintenance and compilation of statistical data.
6. conducts screening interviews of patients to identify contra-indications, such as ferrous objects, pregnancy, prosthetic heart valves, cardiac pacemakers, or tattoos; explains procedures and observes patients to ensure safety and comfort during scan.
7. assists with specialized diagnostic and interventional procedures by handling equipment, preparing procedure and instrument trays, prepping and explaining procedures to patients.
8. uses EKG equipment, intravenous pumps, blood pressure equipment, pulse oximeter and related routine equipment to maintain continuous patient care while patient is undergoing procedure.
9. performs duties at lower level of series.
10. performs other related duties as assigned.

Level III: Medical Radiography Specialist**4587**

Employees at this level may be responsible for a delegated area of authority such as a section within a medical radiology department and/or perform complex or specialized procedures involving the taking, processing, and examining of medical radiographic images. They may supervise and direct the activities of staff, students, and auxiliary personnel of various sections. They work under general direction of higher level personnel.

A Medical Radiography Specialist typically –

1. coordinates and maintains records; supervises patients scans for quality control purposes and assures completeness of examination; collates processed images in sequence of exposure and label appropriately; assures completion of patients' records, billing, and requisitions.
2. critiques radiographic images processed by lower-level medical radiographers or students for diagnostic value; spot-checks the medical radiographers' methods of performing radiological examinations and schedules, directs, and evaluates the work of lower-level radiographers.
3. is responsible for trainee curriculums.
4. is responsible for the technical aspects of radiologic safety, i.e., recommends monitoring and location warning signs; assists with the development of disaster programs; coordinates manpower efforts in emergency situations.
5. recommends equipment modification, new equipment, and essential construction within the department; assumes responsibility for existing equipment and contractual services as may be required; assumes responsibility for inventory level, storage, and utilization of stock.
6. advises administration regarding cost-containment measures and operational efficiency for the unit and recommending new equipment and/or technology to support unit operations.
7. represents the department at administrative conferences and, as delegated, may be instructed to act on the behalf of coordinator.
8. assists medical records staff with billing and the use of ICD and CPT codes.
9. performs duties at lower levels of series.
10. performs other related duties as assigned.

Level IV: Medical Radiography Supervisor**4014**

Employees at 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 medical radiographers. They may also initiate and conduct research studies involving diagnostic medical radiological services.

A Medical Radiography 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. assists with specific research 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 radiographers.
 - 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 and ARRT.
 - d. schedules, organizes, coordinates and supervises staff radiographers.
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 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 department policy, procedures and protocols; maintains and updates protocol manuals.
5. responsible for quality control of radiographic images for department; designs and conducts quality improvement studies for department; prepares and maintains documentation necessary to meet state annual inspection criteria for equipment and personnel as well as accreditation.
6. participates, implements and/or develops policies for the quality control program; implements and/or develops departmental policies and procedures.
7. customizes the clinical content of the electronic medical records, designing and entering all set-up information (e.g., tests, services, service providers, referral forms, letters, handouts, etc.).
8. creates reports using various software.
9. provides support to staff and students with problems that occur throughout the daily operations.
10. develops workflows to encompass current procedures and current reporting standards.
11. monitors and troubleshoots digital radiography, picture archiving and communication systems and web viewing services ensuring that all components are functioning and all external sites are able to connect to these services.
12. establishes, performs, and completes radiographic procedures according to the current professional standards and electronic medical records guidelines, advising provider when additional films or other studies would be beneficial for diagnosis.
13. prepares, reviews, and makes recommendations for bids and contractual services (budget).
14. monitors dosimetry reports.
15. performs duties at lower levels of this series.
16. Performs other related duties as assigned.

MINIMUM ACCEPTABLE QUALIFICATIONS REQUIRED FOR ENTRY INTO:

Level I: Medical Radiographer Technologist I

4008

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.

2. Certified in in medical radiography by the American Registry of Radiologic Technologists (ARRT) or Certified by Nuclear Medicine Board.
3. Licensure in medical radiography by the State of Illinois (IEMA).

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of conventional diagnostic medical x-ray equipment.
2. Knowledge of basic techniques standard for minimum radiographic exposure.
3. Knowledge of customer service skills in order to provide excellent patient care.
4. Knowledge of anatomy and physiology; knowledge of human psychology.
5. Knowledge of all patient and radiation safety procedures.
6. Demonstrate basic competencies in processing images and participates in trouble shooting operations.
7. Manual dexterity including ability to use full range of body motion for handling or lifting patients.
8. Skill in conducting patient education.
9. Skill in proper documentation of results.
10. Skill in utilizing computers and associated specialized application software for diagnostic examination and evaluation.
11. Skill in the effective, efficient and safe use of equipment.
12. Skill in preparing clear and concise reports, charts and other written material.
13. Excellent communication skills to effectively convey information both orally and in writing.
14. Ability to receive and comprehend instructions verbally and/or in writing.
15. Ability to perform CPR.
16. Ability to use logical reasoning for simple and complex problem solving.

Level II: Medical Radiographer Technologist II**4009****CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER**

1. High school graduate or equivalent.

2. Certified in medical radiography by the American Registry of Radiologic Technologists (ARRT) or Certified by Nuclear Medicine Board.
3. Licensure in medical radiography by the State of Illinois (IEMA).
4. Two (2) years (24 months) of progressively more responsible work experience in medical radiography comparable to the next lower level of this series.

**Note: A Bachelor's Degree in medical radiology or closely related health care field may be substituted for one (1) year (12 months) of experience.*

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of advanced diagnostic medical x-ray equipment.
2. Knowledge of basic techniques standard for minimum radiographic exposure.
3. Knowledge of customer service skills in order to provide excellent patient care.
4. Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
5. Knowledge of anatomy and physiology; knowledge of human psychology.
6. Knowledge of all patient and radiation safety procedures.
7. Demonstrate basic competencies in processing images and participates in trouble shooting operations.
8. Manual dexterity including ability to use full range of body motion for handling or lifting patients.
9. Skill in conducting patient education.
10. Skill in proper documentation of results.
11. Skill in utilizing computers and associated specialized application software for diagnostic examination and evaluation.
12. Skill in the effective, efficient and safe use of equipment.
13. Skill in preparing clear and concise reports, charts and other written material.
14. Excellent communication skills to effectively convey information both orally and in writing.
15. Ability to follow oral and written instructions.
16. Ability to perform CPR.

17. Ability to use logical reasoning for simple and complex problem solving.

Level III: Medical Radiography Specialist**4587**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Certified in medical radiography by the American Registry of Radiologic Technologists (ARRT) or Certified by Nuclear Medicine Board.
3. Licensure in medical radiography by the State of Illinois (IEMA).
4. One (1) year (12 months) of progressively more responsible work experience in medical radiography comparable to the next lower level of this series.

**Note: A Bachelor's Degree in medical radiology or closely related health care field may be substituted for one (1) year (12 months) of experience.*

KNOWLEDGE, SKILLS AND ABILITIES (KSAs)

1. Knowledge of complex coordinated medical radiographic equipment.
2. Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
3. Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.
4. Knowledge of ancillary/emergency equipment that supports the department.
5. Knowledge of departmental policies, procedures and goals.
6. Knowledge of radiology principles and practices including anatomy and physiology, radiation protection and physics, radiographic positioning, surgical and nursing procedures.
7. Skill in conducting patient education.
8. Skill in proper documentation of results.
9. Skill in utilizing computers and associated specialized application software for diagnostic examination and evaluation.
10. Skill in the effective, efficient and safe use of equipment.
11. Skill in preparing clear and concise reports, charts and other written material.
12. Demonstrate proficiency in all study protocols at health facility.

13. Effective verbal and written communication skills.
14. Ability to examine and evaluate technical aspects of medical radiographic images.
15. Ability to use computer systems to manage patient information.
16. Ability to operate all radiology equipment, such as, radiographic machines, radiographic/fluoroscopic machines, interventional radiology associated equipment, associated surgical equipment and image processors.
17. Ability to instruct technicians/technologists and students.
18. Ability to manage a section of the department.
19. Ability to produce specialized medical radiographic studies (such as angiograms).
20. Ability to mediate employee relation problems.

Level IV: Medical Radiography Supervisor**4014**

CREDENTIALS TO BE VERIFIED BY PLACEMENT OFFICER

1. High school graduate or equivalent.
2. Certified in medical radiography by the American Registry of Radiologic Technologists (ARRT) or Certified by Nuclear Medicine Board.
3. Licensure in medical radiography by the State of Illinois (IEMA).
4. One (1) year (12 months) of progressively more responsible work experience in medical radiography comparable to the next lower level of this series.

***Note:** *A Bachelor's Degree in medical radiology or closely related health care 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 general diagnostic radiographic equipment.
2. Knowledge of health care facilities' computer systems.
3. Knowledge of principles and processes for providing excellent patient care.
4. Knowledge of the EMR system.
5. Knowledge of all patient and radiation safety procedures.

6. Skill in the effective, efficient and safe use of equipment.
7. Skill in preparing clear and concise reports, charts and other written material.
8. Ability to perform all phases of general diagnostic radiology.
9. Ability to perform administrative duties.
10. Ability to evaluate and determine priorities of patients' care.
11. Ability to quickly respond to patients' needs in an emergency situation.
12. Ability to organize, direct, and evaluate the activities of students and departmental staff members.
13. Ability to conduct cost analysis for medical radiographic equipment.
14. Ability to act as consultant to medical personnel.
15. Ability to conduct research studies in collaboration with researchers.
16. Ability to prepare technical reports.