

SUMMARY: This chapter sets forth the permissible scope of practice of radiographers, nuclear medicine technologists, radiation therapists and limited radiographers.

1. General

Radiographers, nuclear medicine technologists, radiation therapists and limited radiographers may only perform the respective activities and procedures described in Sections 2 – 5 of this chapter.

2. Radiographers

Radiographers may use ionizing radiation on human beings for imaging purposes, excluding the administration of radiopharmaceuticals or radionuclide devices, under the supervision of a licensed practitioner. These activities include, but are not limited to, adjusting equipment settings, positioning the patient, positioning the equipment, positioning the image receptor, radiation protection, equipment operation and maintenance, image production and evaluation, patient care/management/education, and administration of radiographic contrast.

In interpreting and applying this section the board may consult and be guided by the ARRT “Task Inventory for Radiography.” The task inventory is available at ARRT’s web site, www.arrt.org.

3. Nuclear Medicine Technologists

Nuclear medicine technologists may use radionuclides and radiopharmaceuticals on human beings for diagnostic and therapeutic purposes under the supervision of a licensed physician. This includes the use of dual imaging devices for the purpose of nuclear medicine imaging and all activities involved in the application of radioactive material. These activities include, but are not limited to, calibration and administration of radiopharmaceuticals, adjusting equipment settings, positioning the patient, positioning the equipment, positioning the image receptor, radiation protection and quality assurance, instrument quality control, and patient care/management/education.

Nuclear medicine technologists that hold a current ARRT or NMTCB certification in computed tomography that has been provided to the Board may use computed tomography for diagnostic purposes.

In interpreting and applying this section the board may consult and be guided by the NMTCB Task List, Procedures List, Equipment List and Pharmaceuticals List, and the ARRT “Task Inventory for Nuclear Medicine Technology.” The NMTCB lists are available at NMTCB’s web site, www.nmtcb.org. The ARRT task inventory is available at ARRT’s web site, www.arrt.org.

4. Radiation Therapists

Radiation therapists may use ionizing radiation on human beings for therapeutic and simulation purposes, excluding the administration of radiopharmaceuticals, under the supervision of a licensed practitioner. These activities include, but are not limited to, adjusting equipment settings, positioning the patient, positioning the equipment, positioning the image receptor, radiation protection and quality assurance, radiation treatment planning and procedures, and patient care/management/education.

In interpreting and applying this section the board may consult and be guided by the ARRT “Task Inventory for Radiation Therapy.” The task inventory is available at ARRT’s web site, www.arrt.org.

5. Limited Radiographers

1. Permissible Areas of Practice

A limited radiographer may practice only in the same one or two categories in which the licensee trained pursuant to Chapter 6 of the board’s rules.

2. Permissible Practice Settings

Limited radiographers may only practice in a setting authorized by 32 MRSA §9855(4).

3. Permissible Practices

Limited radiographers may use ionizing radiation on human beings for limited imaging purposes, excluding the administration of radiopharmaceuticals or radionuclide devices, under the supervision of a licensed practitioner. These limited activities include, but are not limited to, adjusting equipment settings, positioning the patient, positioning the equipment, positioning the image receptor, radiation protection, equipment operation and maintenance, image production and evaluation, and patient care/management/education.

4. Impermissible Practices

Limited radiographers may not perform cardiovascular-interventional radiography, cardiac-interventional radiography, vascular interventional radiography, mammography, computed tomography, bone densitometry, fluoroscopy or administration of radiographic contrast.

5. Task Inventory

In interpreting and applying this section the board may consult and be guided by the following task inventory:

- A. Preparation and operation of the radiographic unit and accessories;
- B. Preparation and operation of digital imaging devices such as computerized radiography, direct digital radiography, and a picture archival and communication system;

- C. Provision of radiation protection for patients, workers and the public, including monitoring; shielding; and knowledge and application of units of measurement and permissible levels; biological effects of radiation; technical considerations in reducing radiation exposure; and frequency of retakes. In performing these tasks, the limited radiographer shall:
- (1) Evaluate the need for and document the use of protective shielding;
 - (2) Take appropriate precautions to minimize radiation exposure to the patient, worker and member of the public;
 - (3) Question a female patient of child-bearing age about possible pregnancy and take appropriate action (e.g., document the response, contact the physician);
 - (4) Restrict the beam to limit exposure area, improve image quality and reduce radiation dose;
 - (5) Set kVp, mA and time or automatic exposure system as appropriate for the procedure;
 - (6) Prevent all unnecessary persons from remaining in the area during x-ray exposure;
 - (7) Monitor personal occupational exposure; and
 - (8) Evaluate individual occupational exposure reports to determine if values for the reporting period are within established limits;
- D. Provision of image acquisition, including x-ray production using films/screens or digital detectors, holders and grids; technique conversions; image processing; artifact evaluation; image quality critique; and control of secondary radiation, for the specific category requested. In performing these tasks, the limited radiographer shall:
- (1) Remove all radiopaque materials from the patient or table that could interfere with the radiographic image;
 - (2) Select the appropriate image receptor for exposure;
 - (3) Select equipment and accessories (e.g., grid, compensating filters, shielding) for the examination requested;
 - (4) Use radiopaque markers to indicate anatomical side, position or other relevant information (e.g., time, upright, decubitus);
 - (5) Explain breathing instructions prior to making the exposure;
 - (6) Position the patient to demonstrate the desired anatomy using body landmarks;

- (7) Determine appropriate exposure factors using calipers, technique charts and automatic exposure control;
 - (8) Modify exposure factors for circumstances such as involuntary motion, casts and splints, pathological conditions, or the patient's inability to cooperate;
 - (9) Process the exposed image;
 - (10) Reload cassettes or magazines by selecting film of the proper size and type, if applicable;
 - (11) Verify the accuracy of the patient identification on the radiograph;
 - (12) Evaluate radiographs for diagnostic quality;
 - (13) Determine corrective measures if the radiograph is not of diagnostic quality and take appropriate action; and
 - (14) Store and handle film/cassettes in a manner that will reduce the possibility of artifact production.
- E. Provision of patient care procedures, including aseptic technique, and emergency procedures such as basic life support and first aid. In performing these tasks, the limited radiographer shall:
- (1) Clean, disinfect or sterilize facilities and equipment, and dispose of contaminated items in preparation for the next examination;
 - (2) Confirm the patient's identity;
 - (3) Evaluate the patient's ability to understand and comply with requirements for the requested examination;
 - (4) Examine the radiographic order to verify accuracy and completeness of information (e.g., patient history, clinical diagnosis);
 - (5) Exercise responsibility for medical equipment attached to patients (e.g., IVs, oxygen) during radiographic procedures;
 - (6) Provide for patient safety, comfort and modesty;
 - (7) Communicate scheduling delays to waiting patients;
 - (8) Practice standard precautions;
 - (9) Select immobilization devices, when indicated, to prevent patient movement and ensure patient safety;
 - (10) Use proper body mechanics and/or mechanical transfer devices when assisting a patient;

- (11) Recognize the need for prompt medical attention and administer emergency care;
 - (12) Explain post-procedural instructions to the patient or the patient's family;
 - (13) Maintain the confidentiality of patient information; and
 - (14) Document required information on the patient's medical record (e.g., shielding, exposure factors, pregnancy status);
- F. Proper positioning of anatomy for the requested procedure;
- G. Maintenance of radiographic equipment, including x-ray tubes, grids, generators, electrical circuitry and cabling, image processors, collimators, x-ray control consoles and ancillary equipment. In performing these tasks, the limited radiographer shall:
- (1) Visually inspect the radiographic unit and accessories and report and correct any malfunctions;
 - (2) For a film screen receptor system:
 - (a) Perform daily processor maintenance (e.g., clean rollers, check transport system and solutions); and
 - (b) Perform daily sensitometry and check darkroom conditions (e.g., safe light, light leak).
 - (3) For a digital receptor system, perform routine reader/receptor quality control as determined by the manufacturer.

STATUTORY AUTHORITY: 32 MRSA §9853(6)(E)

EFFECTIVE DATE:

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