

**MICHIGAN DEPARTMENT OF LABOR AND ECONOMIC
OPPORTUNITY
RADIATION SAFETY SECTION**

**IONIZING RADIATION RULES GOVERNING THE USE
OF RADIATION MACHINES**

DETAILED TABLE OF CONTENTS

PART 5. OPERATOR QUALIFICATIONS

	PAGE
R 333.5201 Purpose and scope.	1
R 333.5202 Definitions;A.	1
R 333.5203 Definitions;B.	1
R 333.5204 Definitions; C to G.	1
R 333.5205 Definitions; L.....	1
R 333.5206 Definitions; M.....	2
R 333.5207 Definitions; P.	2
R 333.5208 Definitons; R.	2
R 333.5209 Exemptions.	2
R 333.5210 Categories and types of qualification.....	3
R 333.5211 Credentialing requirements.	4
R 333.5212 Limited diagnostic radiography requirements.	4
R 333.5213 Continuing education requirements.	4

PART 5. OPERATORS QUALIFICATIONS

R 333.5201 Purpose and scope.

Rule 201. (1) This part establishes the qualification requirements of individuals engaged in medical radiologic technology. Improper performance of medical radiologic technology results in unnecessary exposure to machine produced ionizing radiation and the unnecessary re-administration of machine produced ionizing radiation. Therefore, the qualification of these individuals to apply machine produced ionizing radiation to humans has a direct impact on the machine produced ionizing radiation burden of the patient.

(2) Unless specifically exempt in accordance with R 333.5209, a registrant shall not employ an individual to perform medical radiologic technology who does not meet the requirements of this part or without the expressed written approval of the department.

R 333.5202 Definitions; A.

Rule 202. (1) "ACRRT" means American Chiropractic Registry of Radiologic Technologists.

(2) "Approved program" means a formal education program in the respective discipline of radiography or radiation therapy that is accredited by 1 or more of the following:

(a) Joint Review Committee on Education in Radiologic Technology.

(b) Regional institutional accrediting agencies.

(c) Conjoint Secretariat of the Canadian Medical Association.

(3) "ARRT" means American Registry of Radiologic Technologists.

R 333.5203 Definitions; B.

Rule 203. "Bone densitometry" means the science and art of applying machine produced ionizing radiation to human beings for the determination of site-specific bone density.

R 333.5204 Definitions; C to G.

Rule 204. (1) "CAMRT" means Canadian Association of Medical Radiation Technologists.

(2) "CBRPA" means Certification Board for Radiology Practitioner Assistants.

(3) "CCI" means Cardiovascular Credentialing International.

(4) "Chiropractic radiography" means the science and art of applying machine produced ionizing radiation to human beings for diagnostic evaluation of skeletal anatomy.

(5) "Continuing education activity" means a learning activity that is planned, organized, and administered to enhance the professional knowledge and skills underlying professional performance that a medical radiologic technologist uses to provide services for patients, the public, or the medical profession. To qualify as continuing education, the activity must be planned and organized to provide sufficient depth and scope of a subject area.

(6) "CE credit" or continuing education credit means a unit of measurement for continuing education activities. One CE credit is awarded for 1 contact hour, which is 50 minutes. Activities longer than 1 hour are assigned whole or partial credits based on the 50-minute hour.

(7) "Direct supervision" means the required individual must be present in at least an adjacent area and immediately available to furnish assistance and direction throughout the procedure, and is responsible for the control of quality, radiation safety protection, and technical aspects of the application of radiation to human beings for diagnostic, therapeutic, or research purposes.

(8) "General supervision" means the procedure is furnished under the overall direction and control of a licensed practitioner whose presence is not required during the performance of the procedure., and is responsible for the control of quality, radiation safety protection, and technical aspects of the application of radiation to human beings for diagnostic, therapeutic, or research purposes.

R 333.5205 Definitions; L.

Rule 205. (1) "Licensed practitioner" means a health practitioner licensed under article 15 of the public health code, 1978 PA 368, MCL

333.16101 to 333.18838.

(2) "Limited diagnostic radiographer" means an individual, other than a licensed practitioner, who, while under the general supervision of a licensed practitioner, performs limited diagnostic radiography.

(3) "Limited diagnostic radiography" means the science and art of applying machine produced ionizing radiation to human beings for limited diagnostic purposes.

R 333.5206 Definitions; M.

Rule 206. (1) "Medical radiologic technologist" means an individual, other than a licensed practitioner, who, while under the general supervision of a licensed practitioner performs medical x-radiation procedures involving the application of machine produced ionizing radiation to human beings for diagnostic, therapeutic, and research purposes.

(2) "Medical radiologic technology" means the science and art of performing medical x-radiation procedures involving the application of machine produced ionizing radiation to human beings for diagnostic, therapeutic, and research purposes. The specialized disciplines of medical radiologic technology are medical radiography, radiation therapy technology, chiropractic radiography, limited diagnostic radiography, and radiologist assistant.

(3) "Medical radiographer" means an individual, other than a licensed practitioner, who, while under the general supervision of a licensed practitioner, applies machine produced ionizing radiation to a part of the human body.

(4) "Medical radiography" means the science and art of applying machine produced ionizing radiation to human beings for diagnostic, and research purposes.

R 333.5207 Definitions; P.

Rule 207. (1) "Personal supervision" means the required individual is in attendance in the room during the performance of a procedure, and is responsible for the control of quality, radiation safety and protection, and technical aspects of the application of radiation to human beings for diagnostic, therapeutic, or research purposes.

(2) "Physician's assistant" means an individual who is licensed as a physician's assistant under part 170 or part 175 of the public health code, 1978 PA 368, MCL 333.17001 to 333.17097 and 333.17501 to 333.17556.

(3) "Podiatric" means a radiographic examination of the toes, foot, ankle, calcaneus, and distal tibia/fibula but does not include the knee joint.

R 333.5208 Definitions; R.

Rule 208. (1) "Radiation therapy technology" means the science and art of applying radiation emitted from x-ray machines or particle accelerators to human beings for therapeutic purposes.

(2) "Radiologist assistant" means an individual, other than a licensed practitioner, who as a medical radiographer with advanced-level training and certification, performs a variety of activities under the direct, general, or personal supervision of a radiologist, certified by the American Board of Radiology (ABR), the American Osteopathic Board of Radiology (AOBR), or Royal College of Physicians and Surgeons of Canada (RCPSC), in the areas of patient care, patient management, clinical imaging, and interventional procedures. The radiologist assistant shall not interpret images, make diagnoses, or prescribe medications or therapies.

(3) "Radiology" means the branch of medicine that deals with the study and application of imaging technology to diagnose and treat disease.

(4) "RCEEM" or "recognized continuing education evaluation mechanism" means a mechanism used by the ARRT for evaluating the content, quality, and integrity of an educational activity. The evaluation shall include a review of education objectives, content selection, faculty qualifications, and educational methods and materials.

R 333.5209 Exemptions.

Rule 209. (1) Nothing in this part shall be construed to limit or affect in any respect, the medical practice of individuals properly licensed under article 15 of the public health code, 1978 PA 368, MCL 333.16101 to 333.18838 with

respect to their professions and scope of practice.

(2) The following individuals are exempt from the requirements of this part:

(a) A student enrolled in an approved program applicable to his or her profession who, as a part of his or her course of study, applies machine produced ionizing radiation to human beings while under the direct supervision of a licensed practitioner or medical radiologic technologist who meets the requirements of this part.

(b) An individual employed as a dental assistant or dental hygienist who performs radiography under the general supervision of a licensed practitioner.

(c) A nurse, technician, or other assistant who, under the general supervision of a licensed practitioner, performs bone densitometry.

(d) A medical radiologic technologist performing mammography who meets the qualification requirements of R 333.5630.

(e) A computed tomography (CT) operator who meets the qualification requirements of R 333.5705.

(f) A nuclear medicine technologist who, under the supervision of an authorized user, utilizes sealed and unsealed radioactive materials for diagnostic, treatment, and research purposes.

R 333.5210 Categories and types of qualification.

Rule 210. (1) The department recognizes all of the following categories in the practice of medical radiologic technology:

- (a)** Medical radiography.
- (b)** Radiation therapy technology.
- (c)** Radiologist assistant.
- (d)** Chiropractic radiography.
- (e)** Limited diagnostic radiography.

(2) The department recognizes the following types of qualifications:

(a) Active status for individuals who have passed an examination as indicated in R 333.5211 and who maintain current registration status with the registry providing the examination.

(b) Temporary status for individuals who have completed an approved program in medical radiography, radiation therapy technology, radiologist assistant, chiropractic radiography, or cardiac catheterization and

interventional radiography and are eligible for the examination required to obtain the credential or credentials specified in R 333.5211.

Temporary status conveys the same rights as active status. Temporary status must not exceed 3 years after completion of the approved program.

(c) Limited diagnostic radiography for individuals who have completed the training required in R 333.5212. Limited diagnostic radiography procedures that require specific limited qualifications are as follows:

(i) Limited diagnostic radiography – chest:

- (A)** Posterior anterior upright.
- (B)** Anterior posterior supine.
- (C)** Lateral upright.
- (D)** Lateral decubitus.
- (E)** Anterior posterior lordotic.
- (F)** Obliques.

(ii) Limited diagnostic radiography – extremities:

- (A)** Finger or fingers.
- (B)** Forearm.
- (C)** Shoulder.
- (D)** Toes.
- (E)** Tibia and fibula.
- (F)** Femur.
- (G)** Hand.
- (H)** Elbow.
- (I)** Clavicle.
- (J)** Foot.
- (K)** Knee.
- (L)** Wrist.
- (M)** Humerus.
- (N)** Scapula.
- (O)** Ankle.
- (P)** Patella.

(iii) Limited diagnostic radiography – spine:

- (A)** Cervical spine.
- (B)** Sacroiliac joints.
- (C)** Thoracic spine.
- (D)** Sacrum.
- (E)** Lumbar spine.
- (F)** Coccyx.

(iv) Limited diagnostic radiography - skull and sinuses:

- (A)** Skull.
- (B)** Paranasal sinuses.
- (C)** Mandible facial bones.

(v) Limited diagnostic radiography – podiatric:

- (A)** Foot.
- (B)** Ankle.

(d) Conditional status for individuals can occur during the 3 years immediately following

the effective date of this part. A medical radiologic technologist that does not meet the requirements of subdivision (a), (b), or (c) of this subrule shall be considered qualified contingent upon a written statement of assurance that the individual is competent to apply machine produced ionizing radiation to human beings. This statement of assurance must be maintained for inspection by the department and must specify the nature of the equipment and procedures the individual is competent to utilize. The statement of assurance must be provided by a licensed practitioner under whose general supervision the individual is employed or has been employed. Three years after the effective date of this part, a medical radiologic technologist shall meet the requirements of subdivision (a), (b), or (c) of this subrule.

R 333.5211 Credentialing requirements.

Rule 211. Individuals who seek to qualify for active status in medical radiologic technology shall possess the appropriate credential or credentials as specified below or equivalent:

- (a) Medical radiography:
 - (i) ARRT – radiography (R).
 - (ii) CAMRT – registered technologist, radiation technology (RTR).
- (b) Radiation therapy technology:
 - (i) ARRT – registered radiation therapists (RTT).
 - (ii) CAMRT – registered radiation therapists (RTT).
- (c) Radiologist assistant:
 - (i) ARRT – registered radiologist assistant (RRA).
 - (ii) CBRPA – radiology practitioner assistant (RPA).
- (d) Chiropractic radiography provided through ACRRT.
- (e) Cardiac catheterization and interventional radiography:
 - (i) ARRT – cardiovascular interventional radiography (CV).
 - (ii) ARRT – cardiac interventional radiography (CI).
 - (iii) ARRT – vascular interventional radiography (VI).
 - (iv) CCI – registered cardiovascular invasive specialist (RCIS).

R 333.5212 Limited Diagnostic radiography requirements.

Rule 212. (1) Individuals who perform limited

diagnostic radiography shall pass an approved program or obtain a minimum of 40 hours of training relevant to the radiologic science within the limited scope of practice. This training must include both clinical and didactic components.

(2) The following general categories must be included in limited diagnostic radiography training or program:

- (a) Fundamentals of healthcare.
- (b) Medical terminology.
- (c) Patient care and management.
- (d) Human anatomy and physiology.
- (e) Imaging production and evaluation.
- (f) Imaging equipment and radiation production.
- (g) Radiation protection and radiobiology.

(3) In addition to the categories in subrule (2) of this rule, the curriculum must include the following:

- (a) Limited chest radiography programs must include instruction on chest radiography procedures.
- (b) Limited extremity programs must include instruction on extremity radiographic procedures.
- (c) Limited spine programs must include instruction on spine radiographic procedures.
- (d) Limited skull and sinus programs must include instruction on skull and sinus radiographic procedures.
- (e) Limited podiatry programs must include instruction on foot, ankle, and leg below the knee radiographic procedures.

(4) Limited diagnostic radiography programs must be competency-based educational programs.

(5) All limited diagnostic radiographers are required to maintain proof of completion of approved program or training.

R 333.5213 Continuing education requirements.

Rule 213. (1) The required number of CE credits for limited diagnostic radiography is 12 CE credits.

(2) CE credits required by subrule (1) of this rule must be completed within 24 months after the effective date of these rules and every 24 months after their initial completion.

(3) The options for meeting CE requirements are any of the following:

(a) Activities approved by an RCEEM.

Among the requirements for qualification as an RCEEM, an organization shall be national in scope, non-profit, radiology based, and willing to evaluate CE activity developed by a medical radiologic technologist within a given discipline. Organizations with current RCEEM status include:

(i) American College of Radiology.

(ii) American Healthcare Radiology

Administrators.

(iii) American Institute of Ultrasound in Medicine.

(iv) American Roentgen Ray Society.

(v) American Society of Nuclear Cardiology.

(vi) American Society of Radiologic Technologists.

(vii) Association of Vascular and Interventional Radiographers.

(viii) Canadian Association of Medical Radiation Technologists.

(ix) Medical Dosimetrist Certification Board.

(x) Radiological Society of North America.

(xi) Society of Diagnostic Medical Sonography.

(xii) Section for Magnetic Resonance Technologist of the International Society for Magnetic Resonance in Medicine.

(xiii) Society of Nuclear Medicine Technologist Section.

(xiv) Society of Vascular Ultrasound.

(b) Approved academic courses offered by a post-secondary educational institution that are relevant to the radiologic sciences or patient care, or both. Courses in the biologic sciences, physical sciences, verbal and written communication, mathematics, computers, management, or education methodology are considered relevant. Credit is awarded at the rate of 12 CE credits for each academic quarter or 16 CE credits for each academic semester credit.

(c) Advanced cardiopulmonary resuscitation (CPR) certification, including advanced life support, instructor, or instructor trainer, through the American Red Cross, the American Heart Association, or the American Safety and Health Institute is awarded 6 CE credits.

(4) All limited diagnostic radiographers are required to maintain proof of participation in

continuing education activities. Proof may be in the form of a certificate or an itemized list from an ARRT-approved record-keeping mechanism.