

3215 Medical Radiation Technologists

This unit group includes technologists who operate radiographic and radiation therapy equipment to administer radiation treatment and produce images of body structures for the diagnosis and treatment of injury and disease. They are employed in hospitals, cancer treatment centres, clinics and radiological laboratories. Medical radiation technologists who are supervisors or instructors are included in this unit group.

Example Titles

- brachytherapy technologist
- chief radiographer
- chief radiotherapy technologist
- chief technologist, nuclear medicine
- chief technologist, radiation therapy
- chief technologist, radiography
- clinical co-ordinator, nuclear medicine
- clinical co-ordinator, radiation therapy
- clinical co-ordinator, radiography
- clinical instructor, nuclear medicine
- clinical instructor, radiation therapy
- clinical instructor, radiography
- diagnostic imaging technologist
- diagnostic medical radiation technologist
- diagnostic radiography technologist
- diagnostic radiological technician
- diagnostic radiological technologist
- diagnostic radiology technologist
- magnetic resonance imaging (MRI) technologist
- magnetic resonance technologist
- mammography technician
- mammography technologist
- medical radiation technologist
- medical radiation technologists supervisor
- MRI (magnetic resonance imaging) technologist
- NMRI (nuclear magnetic resonance imaging) technologist
- nuclear magnetic resonance imaging (NMRI) technologist
- nuclear medicine chief technologist
- nuclear medicine clinical instructor
- nuclear medicine supervisor
- nuclear medicine technical co-ordinator
- nuclear medicine technical director
- nuclear medicine technician
- nuclear medicine technologist
- nuclear medicine technologists supervisor
- oncology technologist

- oncology technologist, radiation therapy
- PET (positron-emission tomography) technologist
- positron-emission tomography (PET) technologist
- radiation oncology simulator technologist
- radiation oncology technician
- radiation oncology technologist
- radiation technologist – cancer therapy
- radiation technologist – oncology
- radiation therapist
- radiation therapists supervisor
- radiation therapy chief technologist
- radiation therapy clinical co-ordinator
- radiation therapy clinical instructor
- radiation therapy technical co-ordinator
- radiation therapy technologist (RTT)
- radiographer, medical
- radiographic technologist
- radiography chief technologist
- radiography clinical co-ordinator
- radiography clinical instructor
- radiography supervisor
- radiography technical co-ordinator
- radiography technical director
- radiography technologist
- radiography technologists supervisor
- radioisotope technician
- radioisotope technologist
- radiological technician
- radiological technologist
- radiology technologist
- radiotherapy technician
- radiotherapy technologist
- registered radiology technologist
- registered technologist in nuclear medicine (RTNM)
- registered technologist in radiation therapy
- registered technologist in radiography (RTR)
- RTNM (registered technologist in nuclear medicine)
- RTR (registered technologist in radiography)
- RTT (radiation therapy technologist)
- senior radiation therapy technologist
- supervisor, medical radiation technologists
- supervisor, nuclear medicine
- supervisor, nuclear medicine technologists
- supervisor, radiation therapists
- supervisor, radiography
- supervisor, radiography technologists

- technical co-ordinator, nuclear medicine
- technical co-ordinator, radiation therapy
- technical co-ordinator, radiography
- technical director, nuclear medicine
- technical director, radiography
- technician, mammography
- technician, nuclear medicine
- technician, radiation oncology
- technician, radioisotope
- technician, radiotherapy
- technician, X-ray (radiology)
- technologist, brachytherapy
- technologist, diagnostic medical radiation
- technologist, diagnostic radiography
- technologist, magnetic resonance
- technologist, magnetic resonance imaging (MRI)
- technologist, mammography
- technologist, medical radiation
- technologist, MRI (magnetic resonance imaging)
- technologist, NMRI (nuclear magnetic resonance imaging)
- technologist, nuclear magnetic resonance imaging (NMRI)
- technologist, nuclear medicine
- technologist, oncology
- technologist, PET (positron-emission tomography)
- technologist, positron-emission tomography (PET)
- technologist, radiation oncology
- technologist, radiation oncology simulator
- technologist, radiation therapy
- technologist, radiography
- technologist, radioisotope
- technologist, radiology
- technologist, radiotherapy
- therapeutic radiological technician
- X-ray (radiology) technician
- X-ray machine operator – medical
- X-ray technician
- X-ray technician – military

Main duties

Radiological technologists perform some or all of the following duties:

- Operate X-ray, radiographic and fluoroscopic equipment, computerized tomography (CT) scanners, mammography units and magnetic resonance imaging (MRI) scanners to produce radiographs or anatomic images of the human body for the diagnosis by radiologists of disease or injury

- Record and process patient data
- Perform basic verification and quality control checks on radiographic and film processing equipment
- Provide appropriate care for the patient during the radiographic examination
- Apply radiation protection measures
- May train and supervise student radiographers or supervise other radiological technologists.
- Radiological technologists may specialize in areas such as computerized tomography, angiography, mammography, magnetic resonance imaging, interventional radiology, dosimetry, stereotaxy or brachytherapy.

Nuclear medicine technologists perform some or all of the following duties:

- Prepare radiopharmaceuticals, such as radionuclides and other materials and administer them to patients or to biological samples
- Operate radiation detection equipment, such as gamma cameras, scanners, scintillation counters, tomodensitometers and ionization chambers, to acquire data for use by nuclear medicine physicians in the diagnosis of disease
- Perform diagnostic procedures using radioactive materials on biological specimens, such as blood, urine and faeces
- Record and process results of procedures
- Check equipment to ensure proper operation
- Provide appropriate care for the patient during the examination
- Apply radiation protection measures
- May train and supervise student nuclear medicine technologists or supervise other nuclear medicine technologists.

Radiation therapists perform some or all of the following duties:

- Operate linear accelerators, cobalt 60, X-ray and other radiation therapy equipment to administer radiation treatment prescribed by radiation oncologists
- Check radiation therapy equipment to ensure proper operation
- Assist radiation oncologists and clinical physicists with preparation of radiation treatment plan
- Assist in the preparation of sealed radioactive materials such as cobalt, radium, cesium and isotopes and the construction of devices such as plaster casts and acrylic moulds to assist with administration of radiation treatment
- Monitor the patient's physical and psychological well-being during the entire course of treatment
- Advise the patient regarding side effects of radiation
- May train and supervise student radiotherapy technologists or supervise other radiotherapy technologists.

Employment requirements

- Completion of a two- to three-year college, hospital or other approved program in diagnostic radiography (for radiological technologists), nuclear medicine technology (for nuclear medicine technologists) or radiation therapy (for radiation therapists)
or
A bachelor of health sciences in radiography, nuclear medicine or radiation therapy
and
A period of supervised practical training are required.
- Licensure with a regulatory body is required in all provinces.
- Certification by the Canadian Association of Medical Radiation Technologists is required in all provinces except Quebec.
- Experience as a medical radiation technologist is required for supervisors and instructors.

Additional information

- There is no mobility between the three types of medical radiation technologists without further training.

Classified elsewhere

- Other medical technologists and technicians (in [321](#) *Medical Technologists and Technicians (Except Dental Health)*)