Radiologic Technologists, also known as radiographers, perform diagnostic imaging examinations like x-rays, computed tomography, and mammography.

MRI Technologists operate magnetic resonance imaging (MRI) scanners to create diagnostic images.

Radiologic and MRI technologists typically do the following:

- Adjust and maintain imaging equipment
- Precisely follow orders from physicians on what areas of the body to image
- Prepare patients for procedures, including taking a medical history and answering questions about the procedure
- Protect the patient by shielding exposed areas that do not need to be imaged
- Position the patient and the equipment in order to get the correct image
- Operate the computerized equipment to take the images
- Work with physicians to evaluate the images and to determine whether additional images need to be taken
- Keep detailed patient records

Healthcare professionals use many types of equipment to diagnose patients. Radiologic technologists specialize in x-ray and computed tomography (CT) imaging. Some radiologic technologists prepare a mixture for the patient to drink that allows soft tissue to be viewed on the images that the radiologist reviews.

Radiologic technologists might also specialize in mammography. Mammographers use low-dose x-ray systems to produce images of the breast. Technologists may be certified in multiple specialties.

MRI technologists specialize in magnetic resonance imaging scanners. They inject patients with contrast dyes so that the images will show up on the scanner. The scanners use magnetic fields in combination with the contrast agent to produce images that a physician can use to diagnose medical problems.

Healthcare professionals who specialize in other diagnostic equipment include nuclear medicine technologists and diagnostic medical sonographers, and cardiovascular technologists and technicians, including vascular technologists.

IMPORTANT qualities

- **Detail oriented.** Radiologic & MRI technologists must follow exact instructions to get the images needed to diagnose and treat the patient.
- **Interpersonal skills.** Radiologic & MRI technologists must work closely with patients. Patients may be in extreme pain or mental stress and the technologist must get cooperation from the patient to make usable images.
- **Science and mathematical skills.** Radiologic & MRI technologists must understand anatomy, physiology, and other sciences. They may also need to mix the right dose of chemicals used in imaging procedures.
- **Physical Stamina.** Radiologic & MRI technologists often work on their feet for long periods and must be able to lift and move patients who need assistance.
- **Technical skills.** Radiologic & MRI technologists must understand how to operate complex machinery.
Working Conditions

Radiologic technologists held about 197,000 jobs in 2014. MRI technologists held about 33,600 jobs in 2014.

The industries that employed the most radiologic technologists in 2014 were as follows:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals; state, local, and private</td>
<td>59%</td>
</tr>
<tr>
<td>Offices of physicians</td>
<td>21</td>
</tr>
<tr>
<td>Medical and diagnostic laboratories</td>
<td>8</td>
</tr>
<tr>
<td>Outpatient care centers</td>
<td>4</td>
</tr>
</tbody>
</table>

The industries that employed the most MRI technologists in 2014 were as follows:

<table>
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</tbody>
</table>

Radiologic and MRI technologists work in healthcare facilities. Technologists are often on their feet for long periods and may need to lift or turn patients who are disabled.

Like other healthcare workers, radiologic and MRI technologists may be exposed to infectious diseases. In addition, because radiologic and MRI technologists work with imaging equipment that uses radiation, they must wear badges that measure radiation levels in the radiation area. Detailed records are kept on their cumulative lifetime dose. Although radiation hazards exist in this occupation, they are minimized by the use of protective lead aprons, gloves, and other shielding devices, and by badges that monitor exposure to radiation.

Education

An **associate’s degree** is the most common educational requirement for radiologic and MRI technologists. There also are postsecondary education programs that lead to graduate certificates or bachelor’s degrees. Education programs typically include both classroom study and clinical work. Coursework includes anatomy, pathology, patient care, radiation physics and protection, and image evaluation. The Joint Review Committee on Education in Radiologic Technology (JRCERT) accredits programs in radiography. Completing an accredited program is required for licensure in some states. High school students who are interested in radiologic or MRI technology should take courses that focus on math and science, such as anatomy, biology, chemistry, physiology, and physics.

Licenses, Certifications, and Registrations

Radiologic and MRI technologists must be licensed or certified in most states; requirements vary by state. To become licensed, technologists must graduate from an accredited program and must pass a certification exam from the state or from the American Registry of Radiologic Technologists (ARRT). Many MRI technologists first are licensed or certified radiologic technologists who have the required amount of work experience in magnetic resonance imaging to meet the certification standard. Beginning in 2016, MRI technologists must complete a set number of documented imaging examinations and 16 hours of formal education to be certified. Those who do not have experience as a radiologic technologist must first complete a formal education program before taking the certification exam. MRI certification is available from the ARRT and is accepted by most states for licensure. For specific state requirements, contact the state’s health board. In Virginia: [https://www.dhp.virginia.gov/medicine/advisory/rt/faq.asp](https://www.dhp.virginia.gov/medicine/advisory/rt/faq.asp)
Related Schools (Virginia Colleges & Universities)

- ECPI University – Newport News, VA
- ECPI University – Manassas, VA
- Virginia Commonwealth University

Related Schools (Virginia Community Colleges)

- Central Virginia Community College
- Eastern Shore Community College
- Northern Virginia Community College
- Piedmont Virginia Community College
- Southwest Virginia Community College
- Tidewater Community College
- Virginia Western Community College

Related Schools (Virginia Hospitals and Health Care Facilities)

- Bon Secours – St. Mary’s Hospital – Richmond, VA
- Danville Regional Medical Center/LifePoint Hospitals, Inc.
- Mary Washington Hospital – Fredericksburg, VA
- Riverside School of Health Careers – Newport News, VA
- Sentara Rockingham Memorial Medical Center – Harrisonburg, VA
- Southside Regional Medical Center/Community Health Systems – Petersburg, VA
- Winchester Medical Center – Winchester, VA

Average Salary Range

The median annual wage for radiologic technologists was $55,870 in May 2014. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than $37,610, and the highest 10 percent earned more than $80,080.

The median annual wage for magnetic resonance imaging technologists was $67,090 in May 2014. The lowest 10 percent earned less than $46,310, and the highest 10 percent earned more than $92,220.

In May 2014, the median annual wages for radiologic technologists in the top industries in which they worked were as follows:

- Medical and diagnostic laboratories: $56,980
- Hospitals; state, local, and private: $56,900
- Outpatient care centers: $55,750
- Offices of physicians: $50,990

In May 2014, the median annual wages for MRI technologists in the top industries in which they worked were as follows:

- Medical and diagnostic laboratories: $68,200
- Offices of physicians: $67,620
- Hospitals; state, local, and private: $66,290

Most radiologic and MRI technologists work full time. Because imaging is sometimes needed in emergency situations, some technologists work evenings, weekends, or overnight.
Job Outlook

Employment of radiologic technologists is projected to grow 9 percent from 2014 to 2024, faster than the average for all occupations. Employment of MRI technologists is projected to grow 10 percent from 2014 to 2024, faster than the average for all occupations.

As the population grows older, there will be an increase in medical conditions, such as cancer and Alzheimer’s disease, which require imaging as a tool for making diagnoses. Radiologic and MRI technologists will be needed to take the images. In addition, the number of individuals who have access to health insurance is expected to continue to increase because of federal health insurance reform.

However, employment growth of radiologic and MRI technologists may be tempered, as many medical facilities and third-party payers encourage the use of less-costly, noninvasive imaging technologies, such as ultrasound.

Radiologic technologists with multiple certifications will have the best job prospects.

PROFESSIONAL ASSOCIATIONS

- **American Society of Radiologic Technologists, Inc.**
  15000 Central Ave. S.E.
  Albuquerque, NM 87123-3909
  (505)298-4500
  (800)444-2778
  [www.asrt.org](http://www.asrt.org)

- **Virginia Society of Radiologic Technologists (VSRT)**
  Executive Office
  P.O. Box 11
  Pounding Mill, VA 24637
  (800)929-8778
  [www.vsrt.org](http://www.vsrt.org)

Related Websites: [http://www.vaview.vt](http://www.vaview.vt)  [www.ahec.vcu.edu](http://www.ahec.vcu.edu)