Radiologic and MRI Technologists

Summary

Radiologic technologists use CT scans, and other imaging technology, to perform diagnostic imaging exams on patients.

Radiologic and MRI Technologists

Quick Facts: Radiologic and MRI Technologists

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</thead>
<tbody>
<tr>
<td>2012 Median Pay</td>
<td>$55,910 per year</td>
<td>Associate's degree</td>
<td>See How to Become One</td>
<td>None</td>
<td>229,300</td>
<td>21% (Faster than average)</td>
<td>48,600</td>
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<tr>
<td></td>
<td>$26.88 per hour</td>
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What Radiologic and MRI Technologists Do

Radiologic technologists perform diagnostic imaging examinations, such as x rays, on patients. MRI technologists operate magnetic resonance imaging (MRI) scanners to create diagnostic images.

Work Environment

Radiologic and MRI technologists work in healthcare facilities, and more than half work in hospitals.

How to Become a Radiologic or MRI Technologist

An associate’s degree is the most common educational path for radiologic technologists. Most MRI technologists start out as radiologic technologists and specialize later in their career. Technologists must be licensed or certified in some states; requirements vary by state.

Pay

The median annual wage for radiologic technologists was $54,620 in May 2012. The median annual wage for MRI technologists was $65,360 in May 2012.

Job Outlook

Employment of radiologic and MRI technologists is projected to grow 21 percent from 2012 to 2022, faster than the average for all occupations. As the population grows older, there will be an increase in medical conditions, such as breaks and fractures caused by osteoporosis, which can require imaging to diagnose them.

Similar Occupations
What Radiologic and MRI Technologists Do

Radiologic technologists perform diagnostic imaging examinations on patients. MRI technologists operate magnetic resonance imaging (MRI) scanners to create diagnostic images.

Duties

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. MRI technologists 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, diagnostic medical sonographers, and cardiovascular technologists and technicians, including vascular technologists.

Work Environment
Radiologic technologists held about 199,200 jobs in 2012. MRI technologists held about 30,100 jobs in 2012. Radiologic and MRI technologists work in healthcare facilities. Like other healthcare workers, radiologic and MRI technologists may be exposed to infectious diseases. Technologists are often on their feet for long periods and may need to lift or turn patients who are disabled.

The industries that employed the most radiologic technologists in 2012 were as follows:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment Percentage</th>
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<tbody>
<tr>
<td>General medical and surgical hospitals; state, local, and private</td>
<td>59%</td>
</tr>
<tr>
<td>Offices of physicians</td>
<td>22%</td>
</tr>
<tr>
<td>Medical and diagnostic laboratories</td>
<td>7%</td>
</tr>
<tr>
<td>Outpatient care centers</td>
<td>4%</td>
</tr>
</tbody>
</table>

The industries that employed the most MRI technologists in 2012 were as follows:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General medical and surgical hospitals; state, local, and private</td>
<td>55%</td>
</tr>
<tr>
<td>Medical and diagnostic laboratories</td>
<td>21%</td>
</tr>
<tr>
<td>Offices of physicians</td>
<td>15%</td>
</tr>
<tr>
<td>Specialty (except psychiatric and substance abuse) hospitals; state, local, and private</td>
<td>2%</td>
</tr>
</tbody>
</table>

**Injuries and Illnesses**

Radiologic technologists wear badges measuring radiation levels in the radiation area, and 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 instruments that monitor exposure to radiation.

**Work Schedules**

Most radiologic and MRI technologists work full time. Because imaging is needed in emergency situations, some technologists work evenings, weekends, or on call.

**How to Become a Radiologic or MRI Technologist**
Radiologic and MRI technologists must follow exact instructions to get the images needed to diagnose and treat the patient.

An associate’s degree is the most common educational path for radiologic and MRI technologists. Technologists must be licensed or certified in some states; requirements vary by state.

**Education**

There are postsecondary education programs in radiography and MRI that lead to graduate certificates, associate’s degrees, or bachelor’s degrees. Associate’s degree programs are the most common. Education programs typically include both classroom training and clinical training. Coursework includes anatomy, pathology, patient care, radiation physics and protection, and image evaluation.

The [Joint Review Committee on Education in Radiologic Technology](https://www.jrcert.org) (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 science and math. Suggested courses include anatomy, biology, chemistry, physiology, mathematics, and physics.

**Work Experience in a Related Occupation**

Many MRI technologists start out as radiologic technologists. After gaining experience in all of the areas of radiologic technology, they then begin to specialize in giving MRI examinations. After a few years, most technicians are considered to be experienced enough to sit for an MRI certification exam.

Other MRI technologists may be required to complete specific imaging examinations on patients and then have this information verified by a doctor before being considered an MRI technologist.

**Licenses, Certifications, and Registrations**

Radiologic and MRI technologists must be licensed or certified in some 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](https://www.arrt.org) (ARRT).

Many MRI technologists are first licensed or certified radiologic technologists who have the required amount of work experience in magnetic resonance imaging to meet certification standards, which includes a set number of documented imaging examinations. Those who are not radiologic technologists need to 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.

**Important Qualities**

*Detail oriented.* Radiologic and MRI technologists must follow exact instructions to get the images needed to diagnose and treat the patient.

*Interpersonal skills.* Radiologic and MRI technologists work closely with patients who may be in extreme pain or mentally stressed. Technologists must be able to put the patient at ease to get usable images.

*Math skills.* Radiologic and MRI technologists may need to calculate and mix the right dose of chemicals used in imaging procedures.
Physical stamina. Radiologic and MRI technologists often work on their feet for long periods during the day and they must be able to lift and move patients who need assistance.

Technical skills. Radiologic and MRI technologists must understand how to operate complex machinery.

Pay

<table>
<thead>
<tr>
<th>Radiologic and MRI Technologists</th>
<th>Median annual wages, May 2012</th>
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</thead>
<tbody>
<tr>
<td>Magnetic resonance imaging technologists</td>
<td>$65,360</td>
</tr>
<tr>
<td>Radiologic and MRI technologists</td>
<td>$55,910</td>
</tr>
<tr>
<td>Radiologic technologists</td>
<td>$54,620</td>
</tr>
<tr>
<td>Total, all occupations</td>
<td>$34,750</td>
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</tbody>
</table>

Note: All Occupations includes all occupations in the U.S. Economy.

The median annual wage for radiologic technologists was $54,620 in May 2012. 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 $37,060, and the highest 10 percent earned more than $77,160.

The median annual wage for MRI technologists was $65,360 in May 2012. The lowest 10 percent earned less than $46,400, and the highest 10 percent earned more than $89,130.

Most radiologic and MRI technologists work full time. Because imaging is needed in emergency situations, some technologists work evenings, weekends, or on call.

Job Outlook

<table>
<thead>
<tr>
<th>Radiologic and MRI Technologists</th>
<th>Percent change in employment, projected 2012-22</th>
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<tbody>
<tr>
<td>Magnetic resonance imaging technologists</td>
<td>24%</td>
</tr>
<tr>
<td>Radiologic and MRI technologists</td>
<td>21%</td>
</tr>
<tr>
<td>Radiologic technologists</td>
<td>21%</td>
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<tr>
<td>Total, all occupations</td>
<td>11%</td>
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</table>

Employment of radiologic technologists is projected to grow 21 percent from 2012 to 2022, faster than the average for all occupations. Employment of MRI technologists is projected to grow 24 percent from 2012 to 2022, much faster than the average for all occupations.

As the population grows older, there will be an increase in medical conditions, such as breaks and fractures caused by osteoporosis, which can require imaging to diagnose them. Radiologic and MRI technologists will be needed to maintain and use the diagnostic equipment. In addition, federal health legislation will expand the number of patients who have access to health insurance, increasing patient access to medical care.

Although hospitals will remain the main employer of radiologic and MRI technologists, a number of new jobs will be in physicians' offices and in outpatient imaging centers. Employment in these healthcare settings is expected to increase because of the shift toward outpatient care whenever possible. Outpatient care is encouraged by third-party payers as a cost-saving measure and is made possible by technological advances, such as less expensive equipment, that allow for more procedures to be done outside of hospitals.

**Job Prospects**

Technologists with multiple certifications will have the best job prospects.

### Employment projections data for Radiologic and MRI Technologists, 2012-22

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<tbody>
<tr>
<td>Radiologic and MRI technologists</td>
<td>—</td>
<td>229,300</td>
<td>277,900</td>
<td>21</td>
<td>48,600</td>
</tr>
<tr>
<td>Radiologic technologists</td>
<td>29-2034</td>
<td>199,200</td>
<td>240,800</td>
<td>21</td>
<td>41,500</td>
</tr>
<tr>
<td>Magnetic resonance imaging technologists</td>
<td>29-2035</td>
<td>30,100</td>
<td>37,200</td>
<td>24</td>
<td>7,100</td>
</tr>
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### Similar Occupations

This table shows a list of occupations with job duties that are similar to those of radiologic and MRI technologists.

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>JOB DUTIES</th>
<th>ENTRY-LEVEL EDUCATION</th>
<th>2012 MEDIAN PAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic Medical Sonographers and Cardiovascular Technologists and Technicians, Including Vascular Technologists</td>
<td>Diagnostic medical sonographers and cardiovascular technologists and technicians, including vascular technologists, operate special imaging equipment to create images or conduct tests. The images and test results help physicians assess and diagnose medical conditions. Some technologists assist physicians and surgeons during surgical procedures.</td>
<td>Associate's degree</td>
<td>$60,350</td>
</tr>
<tr>
<td>Nuclear Medicine Technologists</td>
<td>Nuclear medicine technologists use a scanner to create images of various areas of a patient's body. They prepare radioactive drugs and administer them to patients undergoing the scans. The radioactive drugs cause abnormal areas of the body to appear different from normal areas in the images.</td>
<td>Associate's degree</td>
<td>$70,180</td>
</tr>
</tbody>
</table>
Radiation therapists treat cancer and other diseases in patients by administering radiation treatments.

Contacts for More Information

For information about radiologic and MRI technology, visit

American Society of Radiologic Technologists
Joint Review Committee on Education in Radiologic Technology
American Registry of Radiologic Technologists
American Registry of Magnetic Resonance Imaging Technologists

O*NET

Radiologic Technologists
Magnetic Resonance Imaging Technologists

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