

Radiology Tech

What They Do Radiologic technologists (RTs) perform diagnostic imaging examinations, such as x rays, on patients.

Duties RTs 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 the location needed to get the correct image
- Operate the computerized equipment to take the images
- Work with radiologists reading the images to determine whether other images need to be taken
- Keep detailed patient records

Healthcare professionals use many types of diagnostic equipment to diagnose patients. Radiologic technologists specialize in x-ray, computed tomography (CT), and magnetic resonance imaging (MRI) equipment. They may be called CT technicians or MRI technicians, depending on the equipment they work with. 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.

Healthcare professionals who specialize in other diagnostic equipment include nuclear medicine technologists, diagnostic medical sonographers, cardiovascular technologists and technicians, and vascular technologists. Some radiologic technologists prepare a mixture for the patient to drink that allows soft tissue to be seen on the images that the radiologist reviews.

Work Environment In addition to preparing patients and operating equipment, radiologic technologists and technicians keep patient records and maintain equipment. RTs work in healthcare facilities. Like other healthcare workers, radiologic 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 following industries employed a majority of radiologic technologists in 2010:

- Hospitals 61%
- Physician offices 21%
- Medical and Diagnostic labs 9%
- Outpatient centers 3%
- Government 2%

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. RTs wear badges measuring radiation levels in the radiation area, and detailed records are kept on their cumulative lifetime dose.

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

How to Become a RT RTs 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 technologists. Technologists must be licensed or certified in most states; requirements vary by state.

Education There are formal training programs in radiography that lead to a certificate, an associate's degree, or a bachelor's degree. Associate's degree programs are the most common. Certificate programs typically last 6 to 12 months. Typical programs 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 (JRCERT) accredits educational and training programs in radiography. Completing an accredited program is required for licensure in some states.

High school students who are interested in radiologic technology should take courses that focus on science and math. Suggested courses include anatomy, biology, chemistry, physiology, mathematics, and physics.

Licenses and Certification RTs must be licensed or certified in most states; requirements vary by state. To be licensed in most states, radiologic technologists must have graduated from an accredited program and must pass a certification exam from the state or from The American Registry of Radiologic Technologist (ARRT). For specific state requirements, contact your state's health board. To keep their certification, radiologic technologists must meet continuing education requirements.

Important Qualities

Detail oriented. Must follow exact instructions to get the images needed to diagnose and treat the patient.

Interpersonal skills. 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. Must understand anatomy, physiology, and other sciences. They may also need to mix the right dose of chemicals used in imaging procedures.

Stamina. RTs often work on their feet for long periods and must be able to lift and move patients who need assistance.

Technical skills. Must understand how to operate complex machinery.

Pay Median annual wages, May 2010: **\$54,000**

Most RTs work full time. Because imaging is needed in emergencies, some work evenings, weekends, or on call.

Job Outlook Percent change in employment, projected 2010-20: **28% growth**

An increasing aging population will have more medical conditions, such as breaks and fractures caused by osteoporosis, which require imaging to diagnose and treat. Radiologic technologists will be needed to maintain and use the diagnostic equipment.

Although hospitals will remain the main employer of RTs, a number of new jobs will be in physicians' offices and in 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, which allow for more procedures to be done outside of hospitals.

RTs with multiple certifications will have the best job prospects.

Similar Occupations

- Cardiovascular technologists and technicians and vascular technologists use imaging technology to help physicians diagnose cardiac (heart) and peripheral vascular (blood vessel) ailments in patients. They also help physicians treat problems with cardiac and vascular systems, such as blood clots. Entry-level education: AA degree Median pay: \$49,400
- Diagnostic medical sonographers use special imaging equipment that directs sound waves into a patient's body (in a procedure commonly known as an ultrasound, sonogram, or echocardiogram) to assess and diagnose various medical conditions. Entry-level education: AA degree. Median pay: \$64,300

- 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. Entry-level education: AA degree. Median pay: \$68,600
- Radiation therapists treat cancer and other diseases in patients by giving radiation treatments. Entry-level education: AA degree. Median pay: \$75,000

SOURCE: Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2012-13 Edition*, Radiologic Technologists, on the Internet at <http://www.bls.gov/ooh/healthcare/radiologic-technologists.htm> (visited August 10, 2012).

Local Schools:

Cumberland County College

Garden AHEC 9/12

