X-ray Vision

A look inside medical imaging and radiation therapy

Radiologic Technologist

ra·di·o·log·ic tech·nol·o·gist
(rā'dē-ō-loj'ik tek-nol'ŏ-jist)

the medical personnel who perform diagnostic imaging examinations and administer radiation therapy treatments

Education

2 YEARS
Combination Certificate/Associate Degree Program

4 YEARS
Bachelor's Degree Program

PASS
National Certification Exam

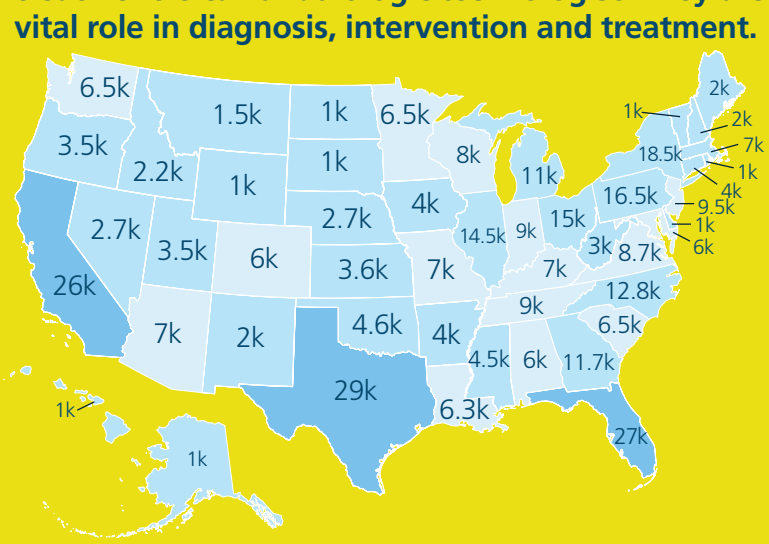
+

Earn **24** continuing education credits every **2 years**

R.T.

Who's Taking My X-Ray?

When you're scheduled for a medical imaging examination or radiation therapy treatment, the person who performs your examination, assists with your intervention or delivers your treatment is call a radiologic technologist. They are health care professionals who play a vital role in diagnosis, intervention and treatment.



Registered radiologic technologists, R.T.s, are educated in anatomy, patient positioning, examination techniques, equipment protocols, radiation safety, radiation protection and patient care.

356,670
Registered radiologic technologists
23,320 hold radiation therapy credentials

Source: September 2024 American Registry of Radiologic Technologists Census

1900

1895
The x-ray was discovered by German physicist **Wilhelm Conrad Roentgen** on **Nov. 8.**

First X-ray image
X-ray of Roentgen's wife's hand and wedding ring.

1950

1971 First CT scan

1977 First MR scan

2000

Where Medical Imaging Staff Work

Hospital: 53%
(39.3% nonprofit)

Imaging Center: 13.7%

Physician's Office: 9.6%

Large Clinic: 7.6%

Small Clinic: 4.9%

Education: 4.1%
Mobile Unit: 1.4%
Corporate: 1%
Other: 4.7%

Source: ASRT Radiologic Sciences Workplace and Staffing Survey, 2023

Technology/Practice Areas

(R) Radiography
(X-ray) Produces images of anatomy to detect bone fractures, find foreign objects and show the relationship between bone and soft tissue.

(CT) Computed Tomography
(CT scan) Obtains "slices" of anatomy at different levels of the body so physicians can view what's happening inside organs.

(T) Radiation Therapy
Administration of targeted doses of radiation to the patient's body to treat cancer or other diseases.

(N) Nuclear Medicine
Radiopharmaceuticals in the body emit gamma rays that provide functional information about organs, tissues and bone.

(CI) Cardiac Interventional Radiography
Fluoroscopic procedures specifically targeted for diagnosis and treatment of cardiac diseases.

(VI) Vascular Interventional Radiography
Fluoroscopic procedures specifically targeted for catheter placement and the diagnosis and treatment of vascular diseases.

(M) Mammography
Produces images of breast tissue to diagnose and rule out breast disease.

(MR) Magnetic Resonance
Creates detailed images of anatomy by exposing atoms in the patient's body to a strong magnetic field.

(QM) Quality Management
Monitors the quality of processes and systems in the radiology department.

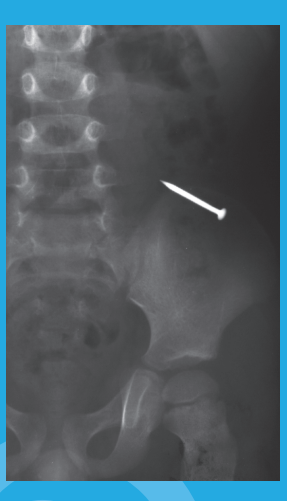
(S) Sonography
(Ultrasound) Uses sound waves to obtain images of organs and tissues in the body.

(BD) Bone Densitometry
Measures bone mineral density to diagnose and rule out osteoporosis.

(CMD) Medical Dosimetry
Radiation dose is calculated and generated for distribution treatment plans, determined by the patient's oncologist.

Strange Appearances...

Foreign bodies are frequently encountered in medical images and can range from intentionally placed objects, such as medical devices and surgical hardware, to debris from accidents and injuries and a wide variety of swallowed items.



Radiologist Assistant

Radiologist assistants are experienced R.T.s who have obtained additional education and certification that qualifies them to serve as radiologist extenders. They work under the supervision of a radiologist to help improve productivity and efficiency.

New!

Advanced Practice Radiation Therapist

A developing career pathway is the advanced practice radiation therapist. They are experienced radiation therapists who perform clinical and patient care responsibilities, while also receiving training and specialization in additional areas of practice under the guidance of a radiation oncologist as part of the task-sharing radiation oncology team.

A Little Lead Goes a Long Way...

207.2
Pb
82 lead
2
8
18
32
18
4

On average, x-ray room walls have lead lining that is 1/16 inch thick. That's many times thinner than the iPhone 16. The lead-plate walls stop radiation in its tracks.

Lead Sheet — **1.58** mm

iPhone 16 — **7.87** mm

THE GOLDEN RULE

ALARA

As Low As Reasonably Achievable

The practice to make every reasonable effort to minimize patient and personal radiation exposure by adjusting time, distance and shielding during a procedure.

Dosimetry Badge

Contains storage phosphors that are sensitive to ionizing radiation and are used for monitoring radiation exposure to R.T.s.

asrt.org

The ASRT is the largest radiologic science association in the world. Its mission is to advance and elevate the medical imaging and radiation therapy profession and to enhance the quality and safety of patient care.

asrt American Society of Radiologic Technologists