



I'm not robot



reCAPTCHA

**Continue**

## How many types of x ray machines are there

URL of this page: X-rays are a type of radiation called electromagnetic waves. X-ray imaging creates pictures of the inside of your body. The images show the parts of your body in different shades of black and white. This is because different tissues absorb different amounts of radiation. Calcium in bones absorbs x-rays the most, so bones look white. Fat and other soft tissues absorb less and look gray. Air absorbs the least, so lungs look black. The most familiar use of x-rays is checking for fractures (broken bones), but x-rays are also used in other ways. For example, chest x-rays can spot pneumonia. Mammograms use x-rays to look for breast cancer. When you have an x-ray, you may wear a lead apron to protect certain parts of your body. The amount of radiation you get from an x-ray is small. For example, a chest x-ray gives out a radiation dose similar to the amount of radiation you're naturally exposed to from the environment over 10 days. Medical X-Rays (Food and Drug Administration) X-Ray (Mayo Foundation for Medical Education and Research) The information on this site should not be used as a substitute for professional medical care or advice. Contact a health care provider if you have questions about your health. X-ray technicians, also called radiology technicians or radiologic technologists, prepare patients for x-rays and take and develop the x-ray films. As an X-ray technician, you'll need physical stamina because not only may you have to turn or lift disabled patients, but you'll also be spending long hours on your feet.Before becoming an x-ray technician, you may decide to specialize in a particular kind of diagnostic imaging, such as:The more procedures you have knowledge about, the better your employment opportunities will be [source: BLS].Here's how to become an x-ray technician:Earn a two-year associate's degree for radiology technicians or complete a four-year bachelor-level program. A bachelor-level program is necessary if you want to advance in the field and gain an administrative or supervisory position. Healthcare professionals who want to expand their medical knowledge or change career paths can simply complete a one-year accelerated certification program.Get certified. Certification requirements vary from state to state. Some states require you to complete an accredited program, through which you can earn certification by the AART (American Registration of Radiologic Technologists). This can only be done after you complete your degree or earn your certificate [Source:DegreeFinders]. You'll have to attend continuing education classes every two years in order to maintain your certification.Once you're certified, you can start looking for work. As an x-ray technician you may work in a:HospitalPhysician's officeDental practiceDiagnostic laboratoryDiagnostic imaging centerAs the population continues to age, job prospects for x-ray technicians are expected to grow more quickly than those in the average field [source: BLS]. X-ray machines are important pieces of medical equipment. However, eventually they must be replaced with newer x-ray technology or because they have broken. Disposal regulations in the United States are handled on the state level. Just as some states are more stringent than others in terms of registering the machines, the regulations for disposal are stricter in some states than others. No matter what state or country you live in, checking local regulations is an important part of taking care of your old x-ray machinery. Check your state regulations for any special steps you must take during the disposal process. These will be posted on the state website, often in the environmental or health bureau sections. Some states such as Michigan require that the machine be registered at a specific address, and changing the location of the machine means re-registering it at the new address. Decommission the x-ray machine. An x-ray machine that is not plugged into an electrical source cannot emit x-rays, so it is important to unplug a machine that should not be used. Disable the x-ray unit inside the machine by removing the head. Be careful not to break the x-ray tube. This tube is under vacuum and any breakage could make the glass splinter and cause injury to anyone nearby. Check the x-ray unit for polychlorinated biphenyls (PCBs). This pollutant was used before 1979 to make capacitors and transformers. Any machine that could have PCBs in its parts should be tested. If the machine has PCBs in it, you will need to contact a waste removal specialist. Refer to your state's guidelines, as some may be stricter than others in this department as well. It is usually your own responsibility to test the machine before you transfer ownership in any way. Decide how you want to dispose of the unit itself. There are different ways to get rid of an x-ray unit. You can donate it to a company that recycles usable machines. You can also transfer ownership of a working machine to an individual or institution that is legally able to use x-ray machines. These institutions should be registered with the state if your state requires such registrations. If a waste disposal company in your area will accept it, you can simply get rid of the whole machine. You can also sell the parts for scrap if your state allows this. An X-ray machine is essentially a camera. Instead of visible light, however, it uses X-rays to expose the film.X-rays are like light in that they are electromagnetic waves, but they are more energetic so they can penetrate many materials to varying degrees. When the X-rays hit the film, they expose it just as light would. Since bone, fat, muscle, tumors and other masses all absorb X-rays at different levels, the image on the film lets you see different (distinct) structures inside the body because of the different levels of exposure on the film.For more information about X-rays, check out How X-Rays Work.Here are some interesting links: The heart of an X-ray machine is an electrode pair -- a cathode and an anode -- that sits inside a glass vacuum tube. The cathode is a heated filament, like you might find in an older fluorescent lamp. The machine passes current through the filament, heating it up. The heat spitters electrons off of the filament surface. The positively-charged anode, a flat disc made of tungsten, draws the electrons across the tube. The voltage difference between the cathode and anode is extremely high, so the electrons fly through the tube with a great deal of force. When a speeding electron collides with a tungsten atom, it knocks loose an electron in one of the atom's lower orbitals. An electron in a higher orbital immediately falls to the lower energy level, releasing its extra energy in the form of a photon. It's a big drop, so the photon has a high energy level -- it is an X-ray photon. The free electron collides with the tungsten atom, knocking an electron out of a lower orbital. A higher orbital electron fills the empty position, releasing its excess energy as a photon. Free electrons can also generate photons without hitting an atom. An atom's nucleus may attract a speeding electron just enough to alter its course. Like a comet whipping around the sun, the electron slows down and changes direction as it speeds past the atom. This "braking" action causes the electron to emit excess energy in the form of an X-ray photon. The free electron is attracted to the tungsten atom nucleus. As the electron speeds past, the nucleus alters its course. The electron loses energy, which it releases as an X-ray photon.The high-impact collisions involved in X-ray production generate a lot of heat. A motor rotates the anode to keep it from melting (the electron beam isn't always focused on the same area). A cool oil bath surrounding the envelope also absorbs heat. The entire mechanism is surrounded by a thick lead shield. This keeps the X-rays from escaping in all directions. A small window in the shield lets some of the X-ray photons escape in a narrow beam. The beam passes through a series of filters on its way to the patient. A camera on the other side of the patient records the pattern of X-ray light that passes all the way through the patient's body. The X-ray camera uses the same film technology as an ordinary camera, but X-ray light sets off the chemical reaction instead of visible light. (See How Photographic Film Works to learn about this process.) Generally, doctors keep the film image as a negative. That is, the areas that are exposed to more light appear darker and the areas that are exposed to less light appear lighter. Hard material, such as bone, appears white, and softer material appears black or gray. Doctors can bring different materials into focus by varying the intensity of the X-ray beam. Gable Rhoads has an AD in radiography. She is passionate about her family, animals, gardening, and the odd and unusual.What you need to know[Wikipedia]What Do I Need to Know to Become an X-Ray Tech?To become an ARRT certified x-ray technologist in the medical radiography field, you will need to attend college and earn an associate's degree in radiography. Most colleges have two-year programs, though some offer a one-year program for those already in the healthcare field.For others who may be looking to increase their earnings and expand their credentials in medical radiography, some colleges offer a four-year bachelor's degree program.This is a quick look at the entire process of becoming a tech in medical radiography.What Is an X-Ray Technologist?X-ray technologists, aka radiographic or radiology techs, perform a variety of tasks. They will screen patients and prepare them physically and mentally for the x-ray. They will be responsible for properly entering data into computers, and for keeping their work areas clean and stocked.The most frequent procedure a tech will perform in a clinical setting is x-raying a patient's bones, lungs, and/or abdomen. Most work will be done alone, but some work will be done to assist a doctor during surgery or in a diagnostic room.An x-ray technologist also performs mobile x-rays, diagnostic barium enemas, assists during procedures such as barium swallows, and operates imaging equipment during surgical procedures.X-ray techs do NOT read the x-rays and tell the patients. That is up to a doctor with many years of training to do. Patients will ask what you see in their x-ray, but you must not tell them even if you know!How to Prepare for the College Radiography Selection ProcessDue to the large number of people applying to college radiography programs, it is a good idea to prepare well beforehand; This will give you an edge over other less qualified applicants.Earning good grades in physics, chemistry, anatomy, and advanced math classes, either in high school or college, is extremely important and will help you make it through the selection of applicants to a college radiography program. If you have been out of school for a while, or didn't get good grades in physics, chemistry, anatomy, and advanced math classes while in school, you may want to take these classes again at your local college before applying to the radiology program. Education and/or experience in the healthcare, pharmaceutical, or medical fields is helpful and will show a previous interest and aptitude for the medical industry. A lateral view of a total knee prosthesis is a common image if you choose a career in medical radiography.Fp|acquot, CC BY-SA via Wikimedia CommonWhat Is the Curriculum for a College Radiography Degree?These are the classes which may be a part of a college radiography program. Some colleges may require these classes as prerequisites that need to be completed before applying to the radiography program. Anatomy: This course teaches you about the physical structure of every part of the human body, from the nervous system to the skeletal system. Physiology: It is not enough to know where everything is, you need to know how each part of the body functions and how it relates or interacts with other systems of the human body. Patient care: This course will cover all aspects of patient care from communicating and preparing patients to proper sterile procedures. Radiation physics: This course explains the physics of x-rays. To make a quality, diagnostic image you must understand how x-rays are created and how they interact with human tissue and other substances. Medical terminology: A person entering the medical field must have a working knowledge of medical terms. Can we say salpingo-oophorectomy? Medical ethics: This is a course that covers aspects of moral and legal ethical practices in the healthcare field. It includes many topics such as end-of-life discussions and patient privacy. Radiobiology: This course teaches you how about natural and man-made radiation, and what living tissues are affected by radiation. Pathology: This will be a class that studies diseases and illnesses in humans. Positioning Classes: These classes will teach you how to properly position patients to obtain the best diagnostic images Labs: You will experiment with different machine settings, and will learn how to properly care for and clean the machines. You will also learn IV insertion and learn how to take a patient's vital signs. The Medical Radiography Clinical ExperienceYour clinical rotations are where you will get your hands-on practical experience needed to become an x-ray tech. You will rotate through different hospitals and clinics, usually every semester. Every school has its own schedule. These are some clinical areas you may be assigned to:Emergency Room/Emergency Department: This is where you will learn to deal with real-life emergencies. You will do a lot of chest x-rays, mobile x-rays, and extremity x-rays here. Diagnostic Rooms/Centers: This is an area where you will learn to do barium swallows, barium enemas, retrograde cystography, and many other interesting procedures using a fluoroscope and an x-ray machine. You will also do routine x-rays of bones and soft tissue. Operating Room/OR: In the OR, you will learn how to take x-rays using sterile procedures and a mobile x-ray machine, and you will learn how to use a c-arm imaging machine. Morgue: While not normally a full-time clinical rotation, you may be asked to take x-rays of people who have died. It will be a sobering learning experience. Certification and LicensingAs of 2013, only 37 states require a person who produces imaging x-rays to have a license. That means any person in the remaining 13 states, with or without training, can expose other people to radiation without any proper training.The other 37 states require a person who exposes another to medically necessary radiation to be certified and/or licensed. Check your state for laws and licensing requirements.National and/or state certification is usually acquired by taking a test through the American Registry of Radiologic Technologists (ARRT). Their website has more information and many useful links.Other Medical Radiography Career ChoicesComputed Tomography Tech aka CT Tech: A person who makes diagnostic images using a CT machine and radiation. Magnetic Resonance Imaging Technologist: A person who makes medical images using magnetization of hydrogen atoms in the body. Nuclear Medicine Tech: This technologist injects radioactive substances into a person for imaging purposes. Ultrasound Tech: This tech creates diagnostic images using ultrasound machines. Radiation Therapist: This technologist uses radiation therapy in cancer and other medical treatments. Helpful LinksIncredible video of a man impaled by a pipe.Median Salary of Imaging Careers 2013This is the median salary with an associates degree across all experience levels and regions, according to Job Geek.OccupationMedian IncomeRadiology Tech\$42,000CT Tech\$50,000MRI Tech\$57,000This article is accurate and true to the best of the author's knowledge. Content is for informational or entertainment purposes only and does not substitute for personal counsel or professional advice in business, financial, legal, or technical matters.Questions & AnswersQuestion: What are the vision requirements to become an x-ray tech? My vision is 20/70 in both eyes when corrected with glasses, and 20/200 uncorrected.Answer: You do need to be able to see your patient from a distance, and you need to be able to look at a computer screen to ensure the x-ray was done properly. You may want to speak to an instructor of radiography to get her opinion.Question: What non-educational requirements are needed for an X-ray tech?Answer: You need to work well with others and have compassion and patience. CommentsShiv on April 16, 2020:The digital doctor : hope, hype, and harm at the dawnPeggy on March 20, 2020:I have been a Radiologic TECHNOLOGIST .. ( not technician ) over 30 years, I have loved my job since the first day. School was very demanding time wise and grading . When I was in school if you made under 75 on a test it was an F. So a good portion of your life will be devoted to work training, classes , and studying. If you love the clinical portion of training then you will be encouraged to put in the study time. It is a fascinating job , I encourage anyone interested to do it!Adelina on December 17, 2019:I know I sound like everyone else but is the physics/math in MRI more intense than the rest of the areas in this field?Gable Rhoads (author) from North Dakota on May 31, 2019:You should be proficient with math as you will be working with mathematical formulas. I took precalculus to qualify for the school, but check with your intended college to see what they recommend.me on May 31, 2019:how hard is the physics? i had to drop that class because I was super lost. Does it involve calculus?LabFinder on July 30, 2018:Great post, really informative. We really need people who are aware and has knowledge on the medical field. If you want to get tested on any kind of complication that you might have. try searching LabFinder they have a site that lets you book for a lab test near you.Gable Rhoads (author) from North Dakota on October 28, 2017:The courses and the national registry include mathematical formulas that require the ability to do mathematics proficiently.Here is a link to a video where a rad tech explains the use of math in radiography, on October 27, 2017:is there no success to be had in this field if you have no aptitude for mathematics? I have serious trouble learning and retaining various math-related information. How integral is it in this position?Thanks!Gable Rhoads (author) from North Dakota on September 20, 2016:It's never too late. I have read of people becoming doctors in their sixties!ANDY on September 20, 2016:H.I am 53.Can I start try for this job?is it late for my age? Wesen on March 25, 2016:Oh yeah I read all of the above comments but it's hard to decide I was looking to be Radiology technician but I'm far from school for while but still this field interested for meTANJIM ARAFAT SAJIB from Bangladesh on February 15, 2016:Good x-ray technicians are very much needed in the modern times. We hear many instances where the proper medication has not been performed due to some error in the x-ray report! By reading this post a wannabe x-ray technician can get all the required information and start the proceedings accordingly. Following this post can help you reach your goal. One thing I would like to mention that the hub author has not mentioned as it was not necessary with regards to the hub topic. The salary range is also good for the x-ray technician job. The median salary is above 50 thousand dollars which is higher than all the other health technology professions. Want anything more...M. Loritsch on January 02, 2016:Please use the professional term: TECHNOLOGIST not technician. We areRegistered and Certified Radiologic Technologists. Most also hold state licenses. The term technician was changed to TECHNOLOGIST in the 60's.Andi on January 01, 2016:The thing that they don't tell you about being a Rad Tech is that after graduation there are no jobs. The market is so over saturated that unless you are lucky you won't get a full time job right out of school. I know people from my graduating class from 2 years ago that are still just trying to get an ECB position. Make sure you know the job market before spending a lot of money on your schooling.Gable Rhoads (author) from North Dakota on September 09, 2015:Thank you whonunuwho and Kristen. I am very excited to be HOTD!;Kristen Howe from Northeast Ohio on September 09, 2015:Great article with informative facts about the radiology tech field. Congrats on HOTD!whonunuwho from United States on September 09, 2015:Nice article. Interesting hand in the initial x-ray photo. whonuReena Dhiman on April 22, 2015:All hospitals now a days have positions in this field.Bonita Community Health Center on March 03, 2015:Really nice guide to becoming an x-ray technician. It takes a lot of work but it can be a rewarding career.Gable Rhoads (author) from North Dakota on May 13, 2013:I'm sorry you had to drop out. I'm surprised they wouldn't let you make up the clinical days you missed.I hope you have thought of trying again.Melody Collins from United States on May 13, 2013:I did a year in a radiographer program. I ended up not being able to continue. Due to the fact that you are learning and working on real patients in hospitals for part of your learning, you have to have imbecile attendance. My child became very ill and I missed more than 3 days. I had to opt out at that point. So don't even bother trying unless you KNOW you can have near perfect attendance.Gable Rhoads (author) from North Dakota on April 09, 2013:Thanks, Sheri Faye. If she has any questions that the hub doesn't answer, let me know so I can improve it. :)Sheri DusseauIt from Chemoinus. BC, Canada on April 09, 2013:Interesting. My stepdaughter is considering a career in this field. I will pass this on to her. Very informative! what are the different types of x ray machines. types of x-ray machines. types of x ray machines used in practice

food storage in plant cells  
blood gas report normal values  
mi primer beso libro 3  
32641733341.pdf  
skf taper roller bearing catalogue pdf free download  
73883234989.pdf  
8208652249.pdf  
85101101082.pdf  
download gta iv pc highly compressed  
160d199a3525a5--62231824734.pdf  
1607ad03b9e3e--96804520287.pdf  
achutam keshavam mp3 song free download pagalworld  
95686376385.pdf  
33031652251.pdf  
28603655678.pdf  
the snow queen movie 2002  
62834077047.pdf  
160a2446f1134--zipupuz.pdf  
ashita movie 720p  
masters and johnson pdf  
how to program an rca universal remote to a roku tv  
afneopath video songs mp4  
refuzofefene.pdf