

Matt Pavin

English 12 - Mr. Woods

Laguna Creek High School

April 28, 2015

### The Evolving Profession of X-ray Technician

One of the most exciting new careers in the world of medical technology is the field of radiologic image specialist, commonly known as an X-ray technician. These professionals create the radiologic visuals of the human interior that make it possible for physicians to diagnose and treat illnesses or injuries. The world of medical technology has come a long way since the invention of what used to be called “X-ray machines.” This technology – just about a century old – has evolved into a multi-faceted scientific field of “physiological imaging.” Specialists working with doctors can generate images of a whole range of human tissues within the body, and do so without surgery. These professionals are helping push the medical profession toward new standards of non-surgical testing. It is a challenging new career, and it pays excellent salaries to those who are willing to meet its challenges.

The working environment of the X-ray technician is as interesting as it is challenging. The heart of the work is the set-up for an “imaging.” When a patient arrives for an imaging study, the technician takes a brief medical history, explains what to expect from the procedure, and answers any of the patient’s questions or concerns. The patient is positioned in front of the imaging equipment. The technician then performs the required X-ray visualizations according to the doctor’s orders. In some cases, the technician works with a physician (called a radiologist) to

analyze the images and determine whether additional tests are necessary. In performing these procedures, X-ray technicians work with a wide variety of imaging technologies, including X-ray machines, computerized axial tomography (CT) Fluoroscopy, magnetic resonance imaging (MRI), and digital mammography (Endicott 231).

Some X-ray technicians are generalists while others specialize in a particular type of machine or clinical area such as colon imaging, lung imaging, or brain imaging (“X rays”). Because technology advances quickly, technicians must continuously upgrade and enhance their skills through continuing education. The responsibilities are expansive: X-ray technicians are accountable not only for imaging, but also for basic maintenance of these advanced devices. They must also keep detailed records of each procedure (Endicott 244).

Medical imaging is far more complicated than “taking pictures.” Obtaining images of high diagnostic quality requires precise attention to detail. X-ray technicians must therefore follow physicians’ written orders carefully. Technicians should enjoy hands-on work with complex machinery and be able to troubleshoot minor equipment problems (257).

Above all, modern X-ray technicians must adapt themselves to a set of new scientific imaging technologies. Just one example of such a technology is magnetic resonance imaging. This technology – the MRI – is an essential diagnostic tool for doctors today. It is the latest technique for creating detailed images of the human body. The device uses a very powerful magnet to align the nuclei of atoms inside the body, and a variable magnetic field that causes the atoms to resonate - a phenomenon called “nuclear magnetic resonance.” The nuclei produce their own rotating magnetic fields that a scanner detects and uses to create an image. MRI is used to diagnose a variety of disorders, such as strokes, tumors, aneurysms, spinal cord injuries, multiple sclerosis and eye or inner ear problems, according to the Mayo Clinic. The modern X- ray

technologist is the professional who puts this powerful technology into practice (“How to Become a Radiologic Specialist”).

The work of X-ray imaging is fascinating, but the educational requirements are demanding. X ray technicians must earn an associate’s degree from an accredited institution in order to be eligible for national certification through The American Registry of Radiologic Technologists. A number of states require that the program be accredited by the Joint Review Committee on Education in Radiologic Technology. Training programs in X-ray technology include courses in anatomy, biology and physics. Students take an in-depth look at the relationships between radiation and living tissue. Most X-ray technicians complete both classroom and practical training (“Radiologic MRI Technologists”).

To be eligible for national certification, candidates must demonstrate proficiency in a number of clinical procedures within three years of earning an associate’s degree. These skills may be developed within a certificate or degree program or through on-the-job training. Licensure of X-ray technicians is mandatory in California. Candidates must meet educational requirements and pass a certification exam (“How to Become a Radiologic Specialist”)

Experienced X-ray technicians can expect salary increases and expanding flexibility in scheduling. Over time and with experience, radiologic technicians will use more sophisticated imaging techniques and may specialize in a clinical area of interest such as MRI or cardiac imaging (Endicott 271).

According to the Bureau of Labor Statistics, the median pay for radiologic technicians and technologists is \$65,870 - much higher than the median salary for all health technology occupations – with most radiologic image specialists earning between \$47,000 and \$88,000 annually. More importantly, the Bureau of Labor Statistics projects that employment of these

technicians will increase by 21% between 2015 and 2025, which is faster than most occupations. An aging population will require more diagnostic imaging services in coming years. Additionally, new federal laws mean that a growing number of people will be medically insured, likely leading to a greater demand for the services of X-ray technicians (273).

A number of colleges and credentialing schools are currently preparing students to become X-ray technicians – and they can be found right here in the Central Valley (“Radiology Schools”). For the student who is interested in a challenging career and isn’t afraid to learn a technical skill, the field of X-ray technology is a promising one.

Works Cited

Endicott, Rhonda H. *The Modern X-ray Technician*. New York: Dover Science Publications, Inc., 2013. Print.

“How to Become a Radiologic Specialist.” *Get Educated .Com*. America Online and the Electronic University Network. 2015. Web. 22 Mar. 2015.

“Radiologic MRI Technologists.” *Occupational Outlook Handbook*. Bureau of Labor Statistics, U.S. Department of Labor. 17 Dec. 2015. Web. 22 Mar. 2015.

“Radiology Technologist Schools in California.” *Radiology Schools 411*. 2015. Web. 27 Feb. 2015.

“X-rays.” *Science Education*. National Institute of Biomedical Imaging and Bioengineering. 26 Feb. 2015. Web.