X-Ray Technician Safety Meeting Kit

WHAT’S AT STAKE

X-Ray technicians operate medical x-ray machines in the healthcare setting to provide valuable and often life-saving diagnostic information. X-Ray technicians should know hazards that accompany their job functions.

WHAT’S THE DANGER

DANGERS OF X-RAY TECHNICIAN WORK

Every job, there come health risks and occupational hazards. It should be noted that as an X-ray technician, you may be exposed to higher radiation levels depending on demand. Diagnostic information can be used to help determine the best course of action for the patient in their recovery, but the imaging process has the potential to put you at risk if you are exposed.

Potential Risks. You may also find yourself in the way of bloodborne or airborne pathogens due to the nature of your work. Patients come to you looking for help with a cough or ache, which means you’ll need to run tests and get an x-ray ready for them. Because a diagnosis can only be delivered after these are performed, technicians may find themselves handling a patient with a contagious disease.

Physical Stress. Long shifts may leave you on your feet for the majority of the day. You may have to lift patients or turn them over to assist them if they can’t do so themselves. When repeated on a daily basis, these actions can be draining and wear one down. Without proper support or knowledge of body mechanics, the work may be strenuous on your joints over the years. Several injuries may come as a result, like torn ligaments, sprained knees, and back pain.

Emotional Trauma and Mental Health Concerns. School can only prepare you for so much. Seeing patients at their worst can take a toll on your mental health. Professionals face patients who have breast cancer, domestic abuse, accidents, and other traumatic incidents that walk through the door. You could spend your time in the ER witnessing trauma cases. Exposure to these cases can make any you uneasy, no matter how many years they have under their belt.

HOW TO PROTECT YOURSELF

STEPS TO ENSURE RADIATION SAFETY FOR X-RAY TECHNICIANS

Reviewing And Reporting

Review of X-rays is an important step in radiation safety. After the image has been acquired, there are certain essential steps for the technologist to ensure radiation safety:

- Record DAP and cumulative air kerma on the patient’s dose record, and if unavailable, use surrogate measures such as fluoroscopy time to estimate the patient’s dose.
- Review radiation dose. Flag for follow-up and counsel the patient if the skin dose exceeds 2 Gy or the cumulative dose exceeds 3 Gy (per NCI guidelines)
- Audit occupational exposure

Training

- Receive training in radiation safety, basic radiation physics, as well as the effects of radiation.
- Undergo ongoing education following initial credentialing and feedback when needed.

ALARA (as low as reasonably achievable)

ALARA is a philosophy of safety that aims to minimize radiation dose and keep exposure as much below the established limit as is practically possible. It entails making all reasonable efforts to keep radiation exposure low, taking into account practical considerations such as technology and socioeconomic.

What are the essential steps for technologists to ensure radiation safety based on the ALARA principle? **Time, distance, and shielding** are ways to keep external radiation exposure ALARA. Good hygiene, contamination control, protection against airborne hazards, and proper use of personal protective equipment are ways to keep internal radiation exposure ALARA.

- Periodically reviewing occupational radiation doses
- Briefing the hospital management regarding occupational exposure
- Reviewing radiation devices to ensure they incorporate the ALARA philosophy.
- Establishing investigation levels of occupational exposure, which when exceeded warrant a review of technique.
- Providing ongoing education and training to keep radiation exposures ALARA.

THE NITTY – GRITTY OF X-RAY TECHNICIAN SAFETY

Learn the appropriate machine settings and the exposure limits for radiation. Always be aware when the x-ray tube is active. Warning lights, shielding, and other safety devices should be maintained in good working order. Get the training to adjust, maintain, and operate the equipment properly. Step behind protective walls or wear a shielded apron when the x-ray is active. Personal dosimetry can be used to monitor your potential exposures to radiation and make sure that you are within safe limits.

Make sure that you take universal precautions when working with patients. Wear gloves at all times and goggles, a mask, and gown when necessary. Wash and sterilize equipment after each use to practice infection control; this protects you and the patients.

When moving x-ray equipment, make sure to use good ergonomic techniques. Avoid static postures and don’t overreach or overextend your body to move the equipment. Be aware that patients that have been injured or are in pain may act unpredictably. Get assistance from other workers when transporting and assisting patients. Use good lifting techniques with a straight back and soft knees to protect your back.

Read the safety data sheets (SDS) for chemicals and ensure that you know how to operate the equipment properly. Know and understand the mix ratios and fill levels for all of the chemicals. Wear chemical resistant gloves and splash goggles when working with wet chemicals.

FINAL WORD

There are dangers involved with being a X-ray technician, such as cancer risk and radiation exposure. However, properly following safety regulations and using modern technology may make risks like cancer development less threatening over the years. New radiology technologists need to understand these risks and come prepared to work each day in their desired career.