

Safety Facts: X-ray Safety in the Workplace*



Radiation is simply energy that is in motion. It can travel either in waves or as particles through space or some other material medium. All matter, whether at rest or moving, has energy. X-rays are a form of high energy electromagnetic radiation. It has the potential to harm us, so it is important to receive training on X-ray equipment operation and safety practices.

How Are X-rays Used?

BC manufacturers are leading the growth in use of X-ray machines to help ensure product quality. They are used in food inspection to identify impurities and to verify fill-levels. They are the best way of assessing the quality of electronic components and machine parts. They are used to analyze the chemical make-up of a variety of materials.

Can Radiation Be Harmful?

X-rays can be harmful, but it is extremely rare when an injury occurs. In fact, you are exposed to more radiation from the sun or in undergoing a dental X-ray than you are when operating X-ray machines in the workplace. It is still best practice to do everything we can to reduce any exposure to X-rays.



Safety Standard—ALARA

ALARA is both a safety principle and regulatory requirement. ALARA stands for As Low As Reasonably Achievable. Its main concept is that we should do everything possible to reduce the risk of any exposure to X-rays.

ALARA in Action

The most basic steps you (and management) can take to minimize exposure to X-rays are:

Time

The less time you are exposed to X-rays, the better. Doubling the time of exposure while working doubles the dose.

Distance

The further away a worker is from the radiation source, the better. Doubling the distance between yourself and the source of radiation cuts exposure by a factor of four.

Shielding

Appropriate shielding including personal protective equipment should always be in place to provide protection from X-ray exposure.

Preventative Next Steps

My workplace uses X-rays. Your employer is responsible to:

- Conduct a radiation hazard assessment (by a qualified person).
- Post the results of that assessment for all to see.
- Ensure proper safety signage around X-ray equipment.
- Work with the employer to identify an X-ray Safety Officer (XSO).
- Conduct regular X-ray safety audits as well as mandatory, industry-standard testing of X-ray equipment.



For additional resources visit:

In British Columbia, radiation safety is regulated in the Workers Compensation Act, Occupational Health and Safety Regulation – 296/97, Part 7, Division 3 – “Radiation Safety.”

X-ray Safety in the Workplace
Toolbox Talk*

Name of Supervisor: _____ Date: _____

Safety Specific Training Requirements: Identified Hazards/concerns

_____	_____
_____	_____
_____	_____
_____	_____

Employee feedback/questions/recommendations

_____	_____
_____	_____
_____	_____
_____	_____

Workers who attended

Name	Initial	Name	Initial
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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Key Talking Points

