

Protective Equipment – Lead Aprons

Section 5(2)(b)(i) of *The Radiation Health and Safety Act, 1985*, states that the owner of ionizing radiation equipment (which includes x-ray) must ensure that no person is unnecessarily exposed to radiation from that equipment. Lead garments should be used to protect patients from radiation whenever it is possible and does not interfere with the diagnostic image.

Personal Protective equipment

Radiation safety standards are based on internationally accepted principles of best practice and use of radiation. While there is not one research study that defines an absolute safe minimum for radiation exposure, most regulations are based on the Linear Non-Threshold Model (LNT) that assumes all radiation exposure carries some risk to the individual. However, the regulations are tempered with the ALARA principle, which means to keep radiation exposure As Low As Reasonably Achievable. What is accepted as reasonable is dependent on the type of radiation, the benefit derived from its use, and the amount of burden caused by implementing radiation safety practices.

It is reasonable to ask that a dentist to supply protective equipment for patients, and if required for the operators, since the cost and time of placement is minimal. It is recommended that a lead apron with a thyroid collar be used for intraoral films. Panoramic or cephalometric radiographic exams are usually preformed with a lead apron and no thyroid collar.

For lasers, the primary concern is eye exposure. Reflections from mirrors or stainless steel surgical equipment can cause accidental exposure. All personnel in the laser treatment area including the patient should use safety eyewear of the appropriate protective wavelength. Laser generated air contaminants are typically contained with conventional dental high volume evacuation systems.