

Radiographic Safety

Radiographic examinations must be performed with proper respect for radiation safety procedures. Diagnostic x-ray machines are potent sources of radiation and can, if improperly used, result in injurious exposure to personnel over time.

The exposure factors used in modern x-ray systems are substantially lower than those used in the past but can still result in injury.

It is never acceptable to hold animals without the use of lead-impregnated aprons and gloves to decrease exposure to personnel. Leaded gloves should not be used within the primary beam of the x-ray machine. These gloves and aprons reduce exposure from scatter radiation by a factor of ~1,000 but only reduce exposure from the primary beam by a factor of ~10.

Thyroid shields and eye shields are also recommended, especially when radiographing large animals, as the techniques used there are sometimes quite high. Upper limb and skull studies in horses are particularly likely to result in substantial exposure to anyone holding the film or the horse.

Pregnant women and any personnel <18 yr of age should refrain from direct involvement in the making of radiographs whenever possible. If a pregnant woman is directly involved in the making of radiographs, she should wear an apron that completely encircles her abdomen.

Individuals involved in the making of radiographic images should be monitored for radiation exposure. This is essential to identify and correct conditions that can result in excessive radiation exposure to personnel. Monitoring of exposure also provides evidence of proper adherence to radiation safety standards if questions arise as to whether an employee's medical condition could be related to radiation exposure.