

# PROTECTION

## KEY FACTORS FOR RADIATION SAFETY

### RADIATION SAFETY AWARENESS

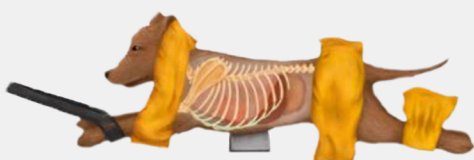
In Veterinary radiology, the need for radiation protection exists because occupational exposure to ionizing radiation can result in harmful effects that may manifest themselves not only in the exposed individual but in their descendants as well. The result of radiation exposure may cause an increased risk of cancer as well as genetic damage to reproductive cells, potentially causing birth defects. Exposure precautions are always the best defense.



### HANDS-FREE TECHNIQUES

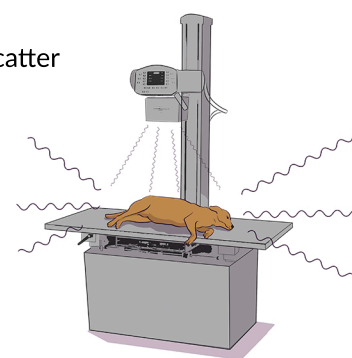
- ◆ Must be the first approach to consider for both awake and sedated patients for radiographs.
- ◆ Replace hands with positioning devices
- ◆ Patient comfort is essential
- ◆ It is DOABLE!

Learn more at [HANDSFREEXRAYS.COM](http://HANDSFREEXRAYS.COM)



### SCATTER

- ◆ Always collimate down to reduce scatter
- ◆ Scatter comes from the patient
- ◆ Lead PPE is designed to protect from scatter radiation - **not the primary beam.**
- ◆ Never keep gloved hands in the primary beam



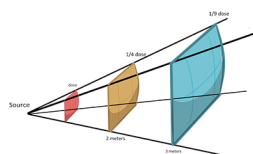
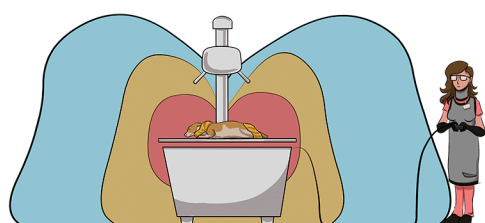
### DISTANCE (Inverse Square Law)

Doubling your distance from the x-ray source will reduce your dose by a factor of 4!

#### Remember:

Even small amount of increased distance = exposure reduction

#### SCATTERING AROUND THE PATIENT



### Keep Your Dose As Low As Reasonably Achievable (ALARA)

- ☑ Be efficient – be prepared and remember image quality (settings, straightness, collimation)
- ☑ Attention to distance/hands-free - even if one person can leave the room and be replaced with a sandbag
- ☑ Keep settings low to reduce exposure and consider a lower exposure system
- ☑ Keep manual restraint to a minimum and always wear PPE when staying inside the room