

Please read this carefully and sign the attestation at the bottom of the page.

*The State of Ohio requires that "all personnel participating in or performing fluoroscopic procedures shall receive at least two hours of radiation protection training . . . prior to performing or participating in fluoroscopic procedures." [OAC 3701:1-66-07 (G)(2)]*

Radiation causes damage to DNA. At the low exposure levels typical of most X-rays cells can repair the damage and there is no harm to the patient, even from repeated X-ray imaging. However, during lengthy fluoroscopy procedures, especially those employing "boost" modes, a patient may receive sufficient radiation to cause permanent damage. Transient erythema can appear after only 10 minutes of continuous fluoroscopy in a high output mode. Dry desquamation can occur after 50 minutes.

Fluoroscopy does not induce any feeling in a patient. Even as damage is occurring there is no sensation of heating or discomfort. The effects of fluoroscopy appear anywhere from hours to weeks after the irradiation. It is imperative that the physician control the amount of radiation used because there is no feedback to know when you have used "too much". Modern fluoroscopy equipment will often include a readout estimate of dose to the patient's skin. The total dose should stay below 2 Gray to avoid any kind of damage.

Excessive fluoroscopy also exposes you and the hospital staff to unwanted radiation. *The amount of radiation you receive can only be determined from your film badge.* If you do not wear a film badge we have no way of knowing if you have received a dangerous level of exposure.

You can keep the exposure level at a minimum by following these rules.

- **Use the lowest current and highest kV consistent with a good image.** On most machines these values are set automatically.
- **Position the patient far from the X-ray head.** Moving the patient closer to the X-ray head will increase the magnification but also increase image blur, distort the anatomy, and greatly increase patient dose.
- **Keep the tube moving.** Dose will build up in one location if the X-ray head is parked over it. Moving the head spreads out the dose.
- **Collimate.** The collimators on the X-ray head restrict the beam to a small area. Avoid exposing areas in which you are not interested.
- **Avoid magnification if possible.** The magnification modes of the image intensifier provide a closer look at an area, but also increase the dose rate.
- **Keep the beam off.** Use only enough fluoro time to guide your procedure. Turn the beam off when you are working on other things. If it is available, last image hold will give you an image for reference without any additional fluoro exposure. A buzzer will sound after every five minutes of fluoro time to let you know how long the beam has been on.

The State of Ohio requires that only physicians or licensed radiologic technologists operate fluoroscopes. *Unless they are licensed, nurses may not operate a fluoroscope.* If you are the only person in the room legally authorized to operate the equipment you must position the patient, set the technique (often done automatically), and operate the pedal.

I have read and understand this information on fluoroscopy.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

*Additional information on fluoroscope safety and State law is available from Dr. Steven Cartwright, Radiation Safety Officer, at X58818.*