



# Medical Radiation Safety at Radiology Ltd.



## One Area of Focus: Radiation Safety



According to the Environmental Protection Agency, most people in the United States receive an annual radiation dose of 360 millirem (a measure of radiation exposure). About 80% of that exposure amount is from natural sources such as soil, rocks, radon gas, human bodies, or plane trips. Diagnostic imaging procedures typically account for **only** 20% of the average Americans' yearly exposure.

## Radiation Exposure Risks Associated with Common Imaging Procedures

- ◆ **Magnetic Resonance Imaging (MRI)** – MRI does NOT use X-rays or other ionizing radiation to image patients.
- ◆ **Ultrasound (US)** – US also does NOT use X-rays or ionizing radiation to image patients.
- ◆ **X-ray** – A small dose of radiation is used to perform most X-ray examinations. As an example, the radiation exposure from a typical chest X-ray is comparable to the radiation exposure received during a cross-country plane trip.
- ◆ **Mammogram** – A small dose of radiation is used to perform this study – approximately equal to the radioactivity your own body naturally produces each year.
- ◆ **Computed Tomography (CT)** – A CT scan requires more radiation than conventional X-ray examinations; however, it also provides more detailed pictures. Total radiation exposure varies greatly by CT procedure; a typical chest CT is comparable to the radiation exposure the average American receives from radon gas naturally occurring in their home.
- ◆ **Positron Emission Tomography (PET)** – Positron Emission Tomography uses small amounts of radioactive isotope-labeled materials which are injected to target the area of the body being imaged. The radiation dose varies by procedure.

continued on back...



### Important Questions to Ask Before an Imaging Exam

Both Radiology Ltd. and the American College of Radiology urge patients and physicians to review the following questions:

- ◆ Why do I need this imaging exam?
- ◆ How will having this imaging exam improve my health care?
- ◆ Are there equally good imaging alternatives that do not use radiation?
- ◆ Is the facility where I am scheduled for the exam accredited by an official accreditation organization (e.g. the American College of Radiology)?
- ◆ Does the physician ordering the scan have a financial interest in the facility providing the exam (i.e. do they directly profit from having the exam performed at that facility)?
- ◆ Are the imaging technologists at the facility certified?
- ◆ Are the physicians reading my exam sub-specialty trained radiologists?
- ◆ If the exam is for a pediatric patient, is the radiation dose appropriately reduced or “kid-sized?”

For more information about radiology safety, please visit these web sites:

[acr.org](http://acr.org)  
[theabr.org](http://theabr.org)  
[radltd.com](http://radltd.com)

There Is A Difference  
[radltd.com](http://radltd.com) or  
[espanol.radltd.com](http://espanol.radltd.com)



### Precautions We Take to Avoid Unnecessary Exposure

Radiology Ltd. participates in rigorous quality assurance and patient safety programs and takes several steps to ensure that our patients receive only the lowest amounts of radiation necessary to obtain high quality diagnostic imaging examinations. These steps include:

- ◆ All of our radiologists are certified by the American Board of Radiology and have extensive training in techniques that minimize patient radiation exposure.
- ◆ Our advanced imaging equipment at all of our facilities is accredited by the American College of Radiology, meaning that the equipment is regularly calibrated and monitored to ensure that patient radiation exposure is appropriately limited.
- ◆ Our scanners are routinely inspected by medical imaging physicists, ensuring that all calibrations are correct.
- ◆ Our medical imaging technologists are certified and trained to monitor patient radiation exposure on equipment.
- ◆ We adjust the radiation exposure for each CT examination based on the size of the individual patient – furthermore, this allows us to minimize radiation exposure doses for children undergoing examinations.
- ◆ Our radiologists use the American College of Radiology Appropriateness Criteria to determine that the most appropriate imaging examinations are prescribed. Appropriate usage of examinations that do not require radiation (e.g. MRI or ultrasound examinations) prevents unnecessary patient radiation exposure.
- ◆ Our radiologists participate in the American College of Radiology “Image Gently” campaign, an initiative of the Alliance of Radiation Safety in Pediatric Imaging to increase awareness of the opportunities to lower radiation doses in the imaging of children.
- ◆ Our radiologists are actively involved in the American College of Radiology and the American Board of Radiology so that they can monitor new trends for reducing radiation exposure and implement new standards and guidelines quickly when needed.