

## Radiation and your safety by Mike DeCinti

We never plan to be sick. We never hope to become injured. But unfortunately these things happen to us on a regular basis. And when they do we have to seek medical attention. It can be a scary thing for some, especially if you're not quite sure what's wrong.

The road to getting better usually starts with your "family" doctor. The person you've chosen to help when you are having issues with your health. But often times it takes more than just a trip to your doctor's office. Tests have to be run, specialists have to be seen and all of them need to work together to make sure you get healthy. But more importantly they need to work together to make sure you are given the best healthcare possible and that you are treated properly.

One organization that helps with the proper treatment of patients is the National Patient Safety Foundation, and last week was the National Patient Safety Awareness Week. The NPSF defines patient safety as the prevention of healthcare errors, and the elimination or mitigation of patient injury caused by healthcare errors, the unintended healthcare outcome caused by a defect in the delivery of care to a patient. Healthcare errors may be errors of commission (doing the wrong thing), omission (not doing the right thing), or execution (doing the right thing incorrectly). As their website ([www.npsf.org](http://www.npsf.org)) points out, the NPSF works to eliminate these problems through their mission of

- Developing and enhancing the culture of receptivity to patient safety;
- Raising public awareness and foster communications about patient safety; and
- Improving the status of the Foundation and its ability to meet its goals.

So with patient awareness in mind, I wanted to share with you some safety information regarding your exposure to radiation if you are ever referred to a radiologist for some tests.

Diagnostic imaging provides valuable information about your health and plays an important role in helping your doctor make an accurate diagnosis. Some tests, like X-rays are a form of radiant energy, like light or radio waves. But unlike light, x-rays can penetrate the body, which allows a radiologist to produce pictures of internal structures. The scientific unit of measurement for radiation dose, commonly referred to as effective dose, is the millisievert (mSv).

However, we are exposed to radiation from natural sources all the time. The average person in the U.S. receives an effective dose of about 3 mSv per year from naturally occurring radioactive materials and cosmic radiation from outer space. People living in the plateaus of Colorado or New Mexico receive about 1.5 mSv more per year than those living near sea level. The added dose from cosmic rays during a coast-to-coast round trip flight in a commercial airplane is about 0.03 mSv. The largest source of background radiation comes from radon gas in our homes (about 2 mSv per year). Like other sources

of background radiation, exposure to radon varies widely from one part of the country to another.

To explain it in simple terms, we can compare the radiation exposure from one chest x-ray as equivalent to the amount of radiation exposure one experiences from our natural surroundings in 10 days.

The decision to have an X-ray exam is a medical one, based on the likelihood of benefit from the exam and the potential risk from radiation. For low dose examinations, usually those that involve only films taken by a radiologist, this is generally an easy decision. For higher dose exams such as computed tomography (CT) and those involving the use of contrast material (dyes) such as barium or iodine, the radiologist may want to consider your past history of exposure to x-rays. If you have had frequent x-ray exams and change healthcare providers, it is a good idea to keep a record of your families x-ray history. This can help your doctor make an informed decision. It is also very important to tell your doctor if you are pregnant before having an exam that involves the abdomen or pelvic region.

If you have any question regarding the information listed in this article, please consult your primary healthcare provider or your local radiologist.

Mike DeCinti is the marketing director for Lumberton Radiological Associates. He can be reached at [mdecinti@lraxray.com](mailto:mdecinti@lraxray.com) or by calling 738-8222, ext. 258.