

Radiation Responsibility

By Ron Fujimoto, D.O., HMSA Medical Director

As the crisis at the Fukushima nuclear power plant developed following the massive earthquake and devastating tsunami that struck Japan in March, there was a heartfelt outpouring of sympathy, aloha, and financial contributions by local residents directed to the Japanese people. Meanwhile, some people grew concerned about radiation exposure in Hawaii. Fortunately, the radiation detected here has been far below a level deemed a risk to human health by both the U.S. Environmental Protection Agency and the Food and Drug Administration. However, there are other more immediate sources of radiation exposure that you should be aware of.

We are exposed to radiation from natural and artificial sources on a daily basis, but the greatest source of radiation exposure is from the many imaging tests used every day. Radiation serves many important functions in health care. It's one of the best ways to detect and treat certain diseases and injuries in a quick, painless, and non-invasive way. But medical imaging using radiation has risks, too. Studies have shown that people exposed to high levels of radiation may have an increased risk of cancer, with risk increasing over time with more imaging tests.

"There is no question that when used appropriately, diagnostic imaging delivers tremendous benefit and value," says Thomas Dehn, M.D., chief medical officer of the National Imaging Associates.

"However, there is no safe or justifiable amount of radiation from a clinically unnecessary test."

So while imaging procedures that use radiation are sometimes necessary, they should be limited whenever possible. This is especially true for children, who tend to be more sensitive to radiation. A national initiative called Image Gently (www.imagegently.org) was launched in 2008 to educate parents and health care professionals about the need for special precautions for children. If your child needs an imaging test, talk to your doctor to be sure that the test is essential and that it is the appropriate test for your child's condition.

Three common imaging procedures use radiation: X-rays, computerized tomography (CT) scans, and nuclear medicine. Most of us have had an X-ray. During X-rays and CT scans, electromagnetic waves pass through your body to form pictures of internal body masses like bone and soft tissue. The two tests are similar, but CT scans (also called CAT scans) use a higher dose of radiation to capture more distinct images. In nuclear medicine procedures, you are given a small amount of radioactive material to swallow, inject, or inhale. A camera detects energy given off by the radioactive material inside your body and forms a picture of its flow and location.

Fortunately, there are also imaging tests that do not use radiation: magnetic resonance imaging (MRI) and ultrasound. MRIs use magnetic fields and radio waves to create detailed images of the organs and tissues in your body. MRIs take longer than X-rays or CT scans. Ultrasounds, or sonograms, use high-frequency sound waves to produce images of the structures in your body.

If your doctor recommends a test that uses radiation, ask if another test, such as an ultrasound, could be used instead. As with any medical procedure, the benefit of a test should outweigh the risk. If you or your child needs a procedure that requires radiation, there are certain steps you can take to ensure that radiation exposure is kept to a minimum. Be sure that the scan will use the lowest dose of radiation possible and that the technician will scan only the affected areas of the body. It's also a good idea to go to a facility that's accredited by the American College of Radiology.

It's important to remember that the benefits of safe radiation use in health care may outweigh the risks of side effects. To keep the possibility of serious side effects as low as possible, talk to your doctor about your risks and options. Once your doctor understands your concerns, you can work together to make the best decision about your health care.

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