

SAFE IMAGING AT THE JOE BUCK IMAGING CENTER



Children's
HOSPITAL • ST. LOUIS
BJC HealthCare

 **Washington**[®]
University in St. Louis
Physicians

WHEN IT COMES TO RADIOLOGY, ONE SIZE DOES NOT FIT ALL.

Imaging tests help physicians and healthcare providers better understand what's going on inside your child's body. We use imaging to identify bone fractures, diagnose an illness, monitor response to treatment or aid doctors during a procedure. It's an important tool in providing appropriate, effective medical treatment.

Imaging tests can also expose children to radiation. Since children's bodies are still developing, too much exposure can put them at risk for radiation-related health problems.



RADIATION SAFETY: COMMON QUESTIONS AND ANSWERS

WHAT IS RADIATION?

Radiation is simply energy traveling in the form of waves. Radiation is not always bad – in fact, it's everywhere. We encounter radiation every time we are exposed to sunlight or sound waves.

There are two types of radiation:

- Non-ionizing radiation (such as visible light or radio waves) do not hurt you even when used to form medical images.
- Ionizing radiation (such as X-rays) is often useful but may be harmful to the human body. Some imaging tests use ionizing (medical) radiation. Tests that use radiation include X-rays, computerized tomography (CT) scans, and radionuclide (nuclear-medicine) studies. The pediatric radiology team at the Joe Buck Imaging Center carefully determines the appropriate imaging test for your child based on his or her condition and diagnosis.

WHAT IS AN X-RAY?

X-rays are the most common imaging test. They allow physicians to see bones and organs within your child's body. An X-ray is quick, painless and safe, especially when compared to other methods of examining bones and internal organs.

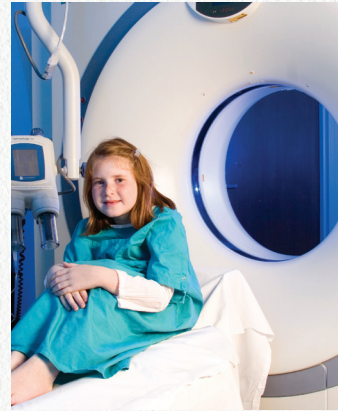
X-ray imaging sends small amounts of ionizing radiation through the body. Dense structures in the body (such as bones) block these particles and appear white in the final image.

At the Joe Buck Imaging Center, pediatric technologists are specially trained to take the minimum number of X-rays needed of the exact bone or internal organ. Child-life specialists help keep a child still and calm to minimize any retakes due to blurry images.

WHAT IS A CT SCAN?

A CT or CAT scan uses X-ray pictures to reconstruct images of inside the body. These pictures are called “slices” or “cross sectional” images.

CT studies give more information and details about the inside of a body than a single X-ray image. In many cases, it’s necessary for your child’s medical treatment. CT scans also result in more radiation exposure than a single X-ray.



The pediatric radiology team at the Joe Buck Imaging Center carefully determines the appropriate imaging test for your child based on their condition and diagnosis. When a CT scan is needed, we use state-of-the-art CT technology to deliver the lowest dose of radiation, individualized and based on your child’s size.

HOW CAN I MINIMIZE RADIATION RISK TO MY CHILD?

It’s important to choose an imaging facility that specializes in low-dose radiology techniques to minimize the amount of radiation your child receives during an imaging test.

At these facilities, radiologists and technologists are specially trained to:

- **Choose the correct imaging test.** Frequently X-rays, CT and nuclear medicine are the appropriate imaging test. MRI and ultrasound are alternative imaging tests that do not use ionizing radiation. Our radiologists will review requests for CT and nuclear medicine tests and suggest alternatives when appropriate.
- **Take the minimum number of images necessary.** You wouldn’t think of repeating an X-ray every hour or every day for evaluation of how a simple fracture is healing, or taking 20 different views of the arm with every X-ray study.

Similarly, retaking blurry or inconclusive images due to a child moving can result in unnecessary exposure to radiation. Child life specialists, distraction techniques and, in some cases, sedation, are tools used in pediatric radiology centers to reduce the need for retakes.

- **Take images only of the specific body part or area.** There's no need to X-ray an entire arm for a suspected finger fracture.
- **Use the lowest amount of radiation that will create effective images based on the weight and body part thickness of the child.** Performing an abdominal CT on a 100-pound child requires a much different dose than on a 20-pound child.

WHAT QUESTIONS SHOULD I ASK BEFORE CHOOSING AN IMAGING FACILITY FOR MY CHILD?

It's important to ask questions and learn more about safe imaging practices at an imaging facility. ***Imaging centers that perform tests on both adults and children may not use radiation dose reduction techniques when scanning children.*** This may needlessly expose your child to large amounts of radiation.

Before choosing an imaging center, parents should ask the following questions:

- What steps does the facility take to reduce radiation doses in children?
- Do they select dosage for imaging tests based on the child's weight and body part thickness?
- Is the facility accredited in CT by the American College of Radiology?
- Is there a pediatric radiologist on staff?
- Will a pediatric-trained technologist perform the test?
- Does the facility routinely track radiation usage?
- Does the imaging center follow guidelines to limit the number of CT scans?

Additional resources: ImageGently.org, Radiologyinfo.org



SAFE IMAGING AT THE JOE BUCK IMAGING CENTER

The Joe Buck Imaging Center at St. Louis Children's Hospital is committed to providing the safest imaging services for your child. To accomplish this, we follow national guidelines to keep radiation doses as low as reasonably possible.

At the Joe Buck Imaging Center, you'll find:

- **Pediatric radiologists** and technologists specially-trained in pediatric imaging so your child gets the right test as quickly and accurately as possible.
- **Child-sized radiation doses.** Every imaging test is individualized to deliver the lowest radiation dose possible.
- **Flash CT technology**, a pediatric CT scan that uses up to 75% less radiation than a standard adult CT.
- **A dose reduction team**, continually monitoring exposure and looking for ways to preserve the benefits of medical imaging and reduce its risk.
- **Collaboration with your child's primary care provider** to select the safest, most appropriate imaging test. The number of CT scans performed by St. Louis Children's Hospital has decreased since 2005 because of advances in ultrasound and MRI.
- **A child life specialist, to make your child's experience better.** These specialists help to minimize scan time and limit the number of retakes needed.

Meet our team and learn more about radiation safety, imaging tests and preparing your child for a test at StLouisChildrens.org.

The number of CT scans performed at St. Louis Children's Hospital has decreased since 2005 because of advances in ultrasound and MRI. Our radiology team selects the appropriate imaging tests for your child.



WE'RE READY FOR YOUR CALL

For questions about safe imaging, imaging tests or childhood health and development, call the St. Louis Children's Hospital Answer Line at 314.454.KIDS (5437) or 800.678.KIDS (5437).

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