

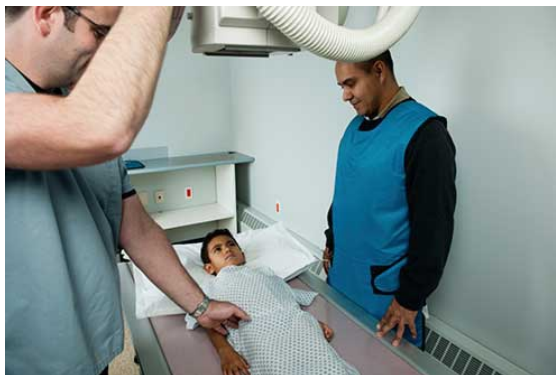
## Radiation Safety for Children

### Is it safe for my child to have x-rays?

Medical imaging is valuable. Diagnostic imaging exams help your doctor accurately diagnose and treat your child's condition. Doctors also use radiation to effectively treat certain conditions, but that type of radiation use is considered therapy and not diagnostic imaging. *For more information, see What is*

*Radiation Therapy* (<https://www.rtanswers.org/What-is-Radiation-Therapy>).

It should be noted that radiation from diagnostic imaging exams may present a very small risk. It is important to know that everyone is exposed daily to small amounts of radiation as part of our natural environment. This is called *natural background radiation*. Most discussions of medical imaging radiation compare exposures to this natural background radiation. This helps you understand and compare the information with the radiation that our bodies are already accustomed to receiving. *For more information, see Radiation Dose in X-Ray and CT Exams* (<https://www.radiologyinfo.org/en/info/safety-xray>).



### Some imaging exams use radiation; others do not

Many types of medical imaging exams use radiation to produce diagnostic information.

Plain x-rays, fluoroscopy (uses continuous or “live” x-rays like a movie) used for upper GI and lower GI exams, computed tomography (CT) scans, some image-guided procedures, and all nuclear medicine tests involve radiation. Ultrasound imaging and magnetic resonance imaging (MRI) do not use radiation. *For more detailed information, see the Upper GI* (<https://www.radiologyinfo.org/en/info/uppergi>) *and Lower GI* (<https://www.radiologyinfo.org/en/info/lowergi>) *pages.*

### What are the effects of radiation?

Very large doses of radiation from some medical procedures have the potential to cause temporary skin burns, but this is very rare. A more common concern is whether radiation from routine diagnostic imaging exams can cause cancer. There is no conclusive evidence that the small amounts of radiation from diagnostic imaging cause cancer, but large population studies have shown a slight increase in cancer from large amounts of radiation.

### Is the benefit of the imaging test worth the very small potential risk?

To help determine if the benefit from having the imaging test is worth the very small potential risk, you should ask your doctor:

- Is the imaging test medically necessary?
  - If the answer is yes, then the benefit will most certainly outweigh the risk.
- Can previous tests substitute for this exam?
  - If your child has had other imaging exams that your doctor is not aware of, make sure your doctor receives copies of those exams. You may be able to avoid repeating exams that your child has already undergone.
- Are there alternative imaging exams that do not require radiation?

- Ask your doctor if it is possible to substitute ultrasound or MRI instead.
- Is the facility familiar with imaging children?
  - Children should have exams properly tailored for their size and weight.

## One size does not fit all

With radiation exposure, one size does not fit all. This is a point of emphasis of the Image Gently® campaign, developed by an alliance of medical societies and professionals focused on radiation safety for children.

## Are the facility and its equipment accredited by the American College of Radiology (ACR)?

Accreditation in United States facilities ensures a high standard of image quality, ongoing oversight by a medical physicist, and proper monitoring of radiation exposure.

### Disclaimer

This information is copied from the RadiologyInfo Web site (<http://www.radiologyinfo.org>) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at <http://www.radiologyinfo.org> to view or download the latest information.

**Note:** Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

### Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2024 Radiological Society of North America, Inc.