

Radiology & Children: Extra Care Required



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Most everyone knows of the need for safety when having radiological imaging, such as X-rays, done. Steps to protect against the low-level radiation involved with these procedures include the wearing of lead aprons and the extra precautions required for imaging pregnant women.

Additional vigilance and safety are also needed when it comes to the radiological imaging of children.

Kids May Be More Sensitive

The individual risk from radiological imaging is quite small when compared to the benefits that it can provide through helping with accurate diagnosis. Still, unnecessary radiation exposure during medical

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procedures should be avoided. This is particularly important when the patient is a child.

Children may be more sensitive to radiation received from medical imaging scans than adults. One factor to consider is that children have more rapidly dividing cells that can be exposed to the low-level radiation. Also, they have a longer expected life-time for the effects of radiation exposure to manifest as cancer.

That is why it is important that with children, the lowest radiation dose necessary is used for providing an image from which an accurate diagnosis can be made.

FDA's Center for Devices and Radiological Health (CDRH) regulates medical imaging devices. Among its many responsibilities is helping consumers keep informed about minimizing unnecessary radiation exposure in medical procedures.

This emphasis on information is why the agency is assisting Image Gently, a national initiative of the Alliance for Radiation Safety in Pediatric Imaging. Image Gently aims to educate parents and health care professionals about the special precautions required for children undergoing radiological imaging.

Participants in the Image Gently campaign include the Society for Pediatric Radiology, the American College of Radiology, the American Society of Radiologic Technologists, and the American Association of Physicists in Medicine. FDA has included links to Image Gently on CDRH Web pages, helping the initiative get its message out.

First Focus: Computed Tomography (CT)

The campaign's introductory focus is on child-safety awareness in regard to

computed tomography (CT) scans.

CT scans are taken in large machines containing a round hole and tunnel chamber. Patients lie on a table that slides into the chamber, where an X-ray camera rotates around them and snaps pictures offering health care professionals three-dimensional views of internal organs, bone, soft tissue, and blood vessels.

CT has helped improve the diagnosis and care for conditions such as cancer, heart disease, brain disorders, and cardiovascular illnesses. But the technology does expose patients to higher doses of radiation than most other radiological exams.

FDA has long been involved in notifying the public and health care professionals about reducing radiation risk from CT for pediatric and small adult patients.


The agency has advised radiology professionals to optimize CT settings based on patient weight or diameter and the part of the body of interest, reduce dose while maintaining diagnostic image quality, reduce the number of multiple scans with contrast material, and eliminate inappropriate patient referrals for CT.

CT: Tips for Parents

Meanwhile, the Image Gently campaign advises parents to

- **Talk with your child's physician.** He or she will know or can find out if the imaging center to which they refer uses appropriate pediatric CT scanning techniques, and if a non-radiation imaging test might be as useful for your child's situation.
- **Be your child's advocate.** Learn about ways health care professionals can lower and limit radiation dose in the CT imaging of children

without compromising diagnostic quality. Ask questions.

- **Be sure that the imaging facility is using appropriate reduced radiation techniques.** You may not know unless you ask, and it is reasonable and within your rights to do so.
- **Check credentials.** Ask whether the facility has American College of Radiology accreditation, whether the CT technologists have the proper credentials, and if the person interpreting the studies is a board-certified radiologist or pediatric radiologist. 

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Protect Your Health
Joint FDA/WebMD resource
www.webmd.com/fda

Image Gently Web page
www.pedrad.org/associations/5364/ig/index.cfm?page=392

FDA: What are the Radiation Risks from CT?
www.fda.gov/cdrh/ct/risks.html

FDA Fact Sheet: Whole-Body Computer Tomography (CT) Imaging
www.fda.gov/womens/getthefacts/ct.html