



Radiation Safety Information and Resources for Referring Practitioners

Referring physicians and other health care providers need reliable information to help manage their patients' imaging needs. The resources on this page provide medical information to help address many of your imaging-related questions.

Q: Does my patient need diagnostic imaging? How do I decide which examination best answers the clinical concern? Does the examination involve ionizing radiation (e.g., X-rays or gamma rays), and is there a reasonable alternative?

Please refer to the following sources:

- Bettman M. A. [Selecting the Right Test and Relative Radiation Dose as They Relate to Appropriateness Criteria](#). Image Wisely. November 2010.
- [American College of Radiology Appropriateness Criteria®](#)

Q: What is ionizing radiation and what are its biological effects and risks?

Please refer to the following sources:

- Goodman T.R. [Ionizing Radiation Effects and Their Risk to Humans](#). Image Wisely. November 2010.
- Peck D.J., Samei E. [How to Understand and Communication Radiation Risk](#). Image Wisely. November 2010.

Q: When can ultrasound or magnetic resonance (MR) (which do not involve ionizing radiation) be used instead of X-ray or computed tomography (CT) imaging (which do involve ionizing radiation)?

Please refer to the following sources:

- Levine D. [Use of Ultrasound as an Alternative to CT](#). Image Wisely. November 2010.
- Martin D.R. [Diagnostic Imaging of Thoracic-Abdominal-Pelvis Diseases: The Role for MRI as a High Diagnostic Yield, Safe, and Cost-Effective Alternative to CT](#). Image Wisely. November 2010.
- [American College of Radiology Appropriateness Criteria®](#)



Q: What are the special concerns of my pregnant patients and of my pediatric patients?

Please refer to the following sources:

- Coakley F.V., Cody D.D., Mahesh M. [The Pregnant Patient: Alternatives to CT and Dose Saving Modifications to CT Technique](#). Image Wisely. November 2010.
- Hernanz-Schulman M. [Pediatric CT and Image Gently](#). Image Wisely. November 2010.
- ACR practice guideline for imaging pregnant or potentially pregnant adolescents and women with ionizing radiation. *In: Practice Guidelines and Technical Standards*. Reston, Va: American College of Radiology; 2008:23-37.
- [Image Gently](#), the website of the Alliance for Radiation Safety in Pediatric Imaging

Q: How can I best care for my patients who have long-term or recurring medical conditions requiring periodic imaging?

Please refer to the following sources:

- Birnbaum S. [Radiation Safety in the Era of Helical CT: A Patient-Based Protection Program Currently in Place in Two Community Hospitals in New Hampshire](#), *Journal of the American College of Radiology*, June 2008: 714-718.
- Zink F.E., Morin R.L. [Statement on Multiple CT Exams](#). Image Wisely. November 2010.
- [American College of Radiology Appropriateness Criteria®](#)

Q: What is imaging accreditation and why should I seek accredited imaging facilities for my patients?

Please refer to the following source:

- Zeman R.K. [Why Seek Accreditation of Your CT Program?](#) Image Wisely. November 2010.



Q: Where can I find additional information on imaging studies, medical radiation, and controlling patient radiation dose?

Please refer to the following sources:

- [American College of Radiology Appropriateness Criteria®](#)
- [American College of Radiology Radiology Safety Resources](#)
- [Computed Tomography \(CT\)](#) — Food and Drug Administration
- [Image Gently](#) — The Alliance for Radiation Safety in Pediatric Imaging
- [Radiation Protection of Patients \(RPOP\)](#) — The International Atomic Energy Agency
- [Health Physics Society Public Information](#)
- [National Council on Radiation Protection & Measurements](#)
- [International Commission on Radiological Protection](#)

Q: Are there good information sources for patients and the general public to get information on medical imaging and radiation?

Please refer patients and the general public to the following sources:

- [RadiologyInfo.org](#)
- [Patient Information](#) — The International Atomic Energy Agency Radiation Protection of Patients (RPOP)
- [Computed Tomography \(CT\)](#) — Food and Drug Administration
- [Image Gently](#) — Information on Radiation Safety in Pediatric Imaging
- [Health Physics Society Public Information](#)
- Image Wisely website — [Information for Patients](#)
- [Radiology Benefits and Risks](#) — interactive presentation series