
RSNA Press Release

Radiologists, Medical Physicists Working Toward Patient Safety in CT

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Chicago, Nov. 28, 2007 – Today at the annual meeting of the Radiological Society of North America (RSNA), the largest international medical meeting, radiology professionals responded to a review article in *The New England Journal of Medicine* (NEJM). "Computed Tomography – An Increasing Source of Radiation Exposure," authored by David Brenner, Ph.D., D.Sc., and Eric J. Hall, D.Phil., D.Sc., discussed the growth in the use of computed tomography (CT) and the increase in patient radiation exposure as a result.

Radiologists, medical physicists and other radiology professionals have long recognized that there needs to be conscientious implementation of CT practice and have assumed a collective responsibility for maintaining rigorous standards of practice. Radiologists recognize their responsibility as physicians to provide appropriate imaging algorithms for CT and to make these as safe as possible by minimizing dose without sacrificing diagnostic ability. They are directly involved in the development of technologies and protocols to ensure patient safety in medical imaging scenarios. Radiologic scientists are working closely with manufacturers to lower radiation doses to patients without losing imaging quality.

The NEJM article has elicited media and public attention to a topic that many radiology professionals believe should be at the forefront. It is important that one of the salient points from the authors is not overlooked, that "from an individual standpoint, when a CT scan is justified by medical need, the associated risk is small relative to the diagnostic information obtained." There is overwhelming agreement in the radiology community that there is risk with CT, but that the potential benefits far outweigh this small risk.

Several radiology organizations made up of radiologists, medical physicists, radiologic technologists and other related societies including RSNA, are working toward a primary objective to ensure that all patients' CT scans are safe and of high quality. These groups, as a collective, are currently working on mandates to assure high quality care of all patients in relation to CT.

Some of the key points that these groups are in general agreement about include:

- CT helps save lives – in many cases it is the imaging exam to use to provide the best possible care to a patient.
- CT should only be used when needed, when other exams would not provide the same level of diagnostic accuracy.
- CT scans should be tailored to the individual. Protocols should be supervised by a radiologist.
- The radiation dose in every CT scan should be as low as possible, without sacrificing diagnostic quality.
- Appropriate equipment should be used. The latest CT technology can adjust techniques during a patient's exam to reduce radiation dose. Modern scanners frequently use doses smaller than those cited in the article. Smaller doses reduce the risks.
- Practices using CT scanners should have a quality control program to ensure appropriate image quality and dose.
- Radiologists, highly trained in medical imaging technology and interpretation, should be consultants to referring physicians regarding the most appropriate exam for particular patients.
- When possible, patients should be informed about their imaging options and know the benefits versus risk ratio.
- The American College of Radiology (ACR) produces the ACR Appropriateness Criteria, evidence-based guidelines to assist referring physicians and other providers in making the most appropriate imaging or treatment decision.
- CT scans should be performed at medical imaging facilities that have CT expertise, including ACR accreditation, or those facilities that have expertise with CT scanning in children, if applicable.
- Screening CT should only be undertaken following discussion with a physician.

Discussion and action to improve the safety of CT scanning will continue and should include groups with a shared interest in patient care and safety, including medical professionals in radiology such as radiologists, medical physicists and radiology technologists, as well as other specialties, manufacturers, patients and healthcare regulators such as the FDA.

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RSNA is an association of more than 41,000 radiologists, radiation oncologists, medical physicists and related scientists committed to excellence in patient care through education and research. The Society is based in Oak Brook, Ill. (RSNA.org).