

Experts offer pointers for optimizing radiation dose in head CT

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An article in the August issue of the *Journal of the American College of Radiology* summarizes methods for radiation dose optimization in head computed tomography (CT) scans. Head CT is the second most commonly performed CT examination, with 28 percent of the total number of CT examinations.

Magnetic resonance imaging (MRI) has emerged as the imaging modality of choice for a vast majority of brain and spinal indications. However, CT remains an integral part of modern neuroradiologic practice that can provide lifesaving information about patient management, specifically in patients with cerebrovascular diseases and head trauma.

Investigators from Massachusetts General Hospital, Harvard Medical School, in Boston, MA, and Johns Hopkins University in Baltimore, MD, looked at various head CT examinations and outlined strategies for radiation dose reduction for the application of CT in the head, paranasal sinuses and spine.

"In the head, specific scanning protocols must be assigned depending on the examination type or clinical indication, such as routine head CT, CT angiography, CT perfusion and paranasal or facial CT. In addition, users must ensure that CT is being performed for a valid clinical indication, whereby CT is expected to add information that will affect patient management," said Mahadevappa Mahesh, MS, PhD author of the article.

Investigators emphasize the use of certain techniques such as lower tube current, automatic exposure control and scanning at a lower tube voltage (especially for perfusion CT scans) are key for allowing substantial dose reduction for head CT examinations in both children and adults.

Provided by American College of Radiology

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