

Angled gantry technique reduced breast radiation exposure by 50 percent

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A novel angled gantry approach to coronary CT angiography reduced radiation exposure to the breast by more than 50%, according to Thomas Jefferson University researchers.

Ethan Halpern, M.D., associate professor of Radiology at Jefferson Medical College of Thomas Jefferson University in Philadelphia, presented the research at the 94th Scientific Assembly and Annual Meeting of the Radiological Society of North America.

"Radiation dose to the breast during coronary CT is especially a concern for young women as the dose may increase the risk for breast cancer," Dr. Halpern said. "Physicians are working diligently to reduce the patient radiation dose related to coronary CT."

Dr. Halpern and colleagues retrospectively reviewed 100 consecutive coronary CT angiography images that were obtained with a 64 detector helical scanner. They evaluated sagittal images to: 1) define the position of the breasts and the gantry angulation required to perform a CT examination parallel to the long axis of the heart; and 2) determine the reduction in breast exposure to radiation that might be accomplished by imaging the heart with an angled gantry acquisition.

The standard axial imaging plane for coronary CT angiography required a 6.5cm. \pm 1.8 cm. overlap with the lower breast. The overlap with the lower breast using the angled scan was reduced in half to 3.2 cm \pm 1.6 cm (P

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