

TOP STORIES

SCCT publishes CCTA acquisition, radiation exposure guidelines



Image Source: Society of Cardiovascular Computed Tomography (SCCT)

good image quality.

The Society of Cardiovascular CT (SCCT) has issued guidelines to establish a consensus of the minimally required standards for appropriate coronary CT angiography (CCTA) acquisition, as well as to provide recommendations for methods to avoid unnecessarily high radiation exposure, to be printed in the May/June issue of the *Journal of Cardiovascular Computed Tomography*.

The guidelines state that in addition to being clinically competent in CCTA, physicians should have adequate knowledge of the ALARA (As Low As Reasonably Achievable) principle from the standpoint of radiation exposure. "It is critically important for any physician ordering or applying x-rays, which includes CT, to have a fundamental understanding of the risks from radiation and of the measures to minimize exposure to patients," the authors stated.

Specifically, several radiation dose-reduction strategies were recommended: tube voltage and current should be adjusted for each individual patient according to their characteristics (radiation risk, weight) and test indication with the lowest settings necessary to achieve

The SCCT report noted that scan range should be as short as reasonably possible. Yet, they noted that not every dose-reduction technique is applicable for all patients: "prospective ECG triggering should strongly be considered in patients who have a high radiation risk and in whom diagnostic image quality can be expected--this technique produces best results in a cooperative patient with a low and regular heart rate."

"Using the proper technique, CCTA can be safely performed in the appropriately selected patient with a relatively low radiation exposure," said Wm. Guy Weigold, MD, co-chair of the guidelines committee and director of cardiac CT at Washington Hospital Center in Washington, D.C.

The report included the following sections, and gives specific recommendations for each: physician and technologist competencies/institution and scanner standards;

- patient screening and preparation;
- patient positioning;
- contrast injection protocols;
- CCTA acquisition; and
- image reconstruction and post processing.

The writing group, comprised of seven cardiologists and radiologists, noted that it recognizes the highly variable nature of medical cases, and an approach to the acquisition that differs from these guidelines may represent an appropriate variation based on a thorough assessment of an individual patient's needs.

"We hope all cardiologists, radiologists and technologists involved in the performance and acquisition of CCTA will adhere to these guidelines in order to ensure its appropriate application and the highest levels of patient safety possible," said Daniel S. Berman, MD, SCCT's president and chief of cardiac imaging at Cedars-Sinai Medical Center in Los Angeles. "Following these guidelines will enable this valuable diagnostic tool to serve in the best interest of the patient."

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