System Automatically Tracks Radiation From CT Scans

Researchers have developed a computer-based system that can automatically track patient-specific radiation dose exposure (based on a patient's size and weight) for every patient that receives a CT scan, providing patients with a way to start tracking their cumulative health care-related radiation exposure, according to a study presented at the ARRS 2010 Annual Meeting.

CT studies account for about 50 percent of the radiation dose exposure administered in the health care system. “The purpose of the computer-based system, called Valkyrie, is to extract the radiation dose information from CT dose reports so as to eventually perform automated quality control, promote radiation safety awareness, and provide a longitudinal record of patient health care-related radiation exposure,” said George Shih, MD, lead author of the study.

During the study, performed at Weill Cornell Medical Center and Columbia University Medical Center in New York, NY, a random selection of 518 CT dose reports were processed by the Valkyrie system. “Our initial tests showed that Valkyrie accurately extracted dose information from 518/518 CT dose reports,” said Shih.

“Valkyrie will eventually enable patients to keep a digital log of their health care-related radiation dose. While the system is functional, it is still in a development phase. We hope that eventually all hospitals will use Valkyrie or something equivalent for all CT studies, so that we can provide more accurate health care-related radiation dose information to our patients' personal health records,” he said.

“The fact that Valkyrie works with older CT equipment is important. This is an immediate solution for almost all hospitals, many of which may not be able to upgrade their CT technology in the short or medium term,” said Shih.

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