Physicians can dramatically reduce the radiation dose delivered to patients undergoing coronary CT angiography in a “triple rule-out” protocol by simply using tube current modulation, according to a study performed at Thomas Jefferson University Hospital in Philadelphia, PA.

The study included 172 patients who were evaluated using coronary CT angiography without tube current modulation and 95 patients who were evaluated with tube current modulation. The effective radiation dose ranged between 9.9 and 31.3 mSv in patients without modulation; the dose ranged between 5.4 and 16.6 mSv in patients with modulation. "Image quality was comparable to when we didn’t use tube current modulation," said Kevin M. Takakuwa, MD, lead author of the study.

"Our goal is to be able to perform cardiac CT using tube current modulation 24/7 and as a means to be able to admit or discharge patients more rapidly," he said.

This study appears in the April issue of the American Journal of Roentgenology.

Source: American Roentgen Ray Society