

## FEATURES

### Latest Advanced Viz Tools Simplify Post-Processing

*Some cardiologists might still be hesitant to adopt coronary CT angiography because of post-processing concerns. However, today's automated advanced visualization workstations make the task easier than ever.*

The number of cardiologists involved in coronary CT angiography (CCTA) is growing. Adoption of 64-slice CT scanners by U.S. cardiology practices has more than doubled over the past two years, according to a report by market research firm IMV issued in February. Approximately 1,000 cardiologists are actively utilizing coronary CT in their practice and another 5,000 have trained to do so, according to Daniel Berman, MD, president of the Society of Cardiovascular Computed Tomography (SCCT) and director of cardiovascular imaging at Cedars-Sinai Medical Center, Los Angeles.

Those who have taken the plunge have discovered that image post-processing is not the cumbersome task it was even two years ago. On today's workstations, readers can program any number of presentation protocols to occur automatically before the images are uploaded. These include segmentation and color-coded plaque components, among others. The cardiologist then has all the advanced visualization tools at his or her fingertips to manipulate and spin images, as well as create 3D volume-rendered images. "The 3D tools now make post-processing part of the reading procedure," says Carter Newton, MD, clinical professor of cardiology and radiology at the University of Arizona, Tucson, and a cardiac CT quality assurance reader for a number of hospitals in his area.



TeraRecon Intuition software automatically identifies the right coronary artery and draws a center line through it. The software then extracts the right coronary artery and creates a volume-rendered image as an independent structure. Source: Carter Newton, MD, University of Arizona

Cardiologists can choose different models from which to access and review post-processed coronary CT angiography images. One is to outsource 3D post-processing to dedicated labs. Another is to access images from a hospital PACS, but cardiologists should request access to high-resolution diagnostic-quality 3D-rendered images that can be manipulated. A third option is accessing images from a thin-client server, which acts like a mini-PACS.

Having skilled technologists is paramount to any CCTA program. Baptist Health System in Miami has a crop of technologists who are very good at processing, but the health system will soon be migrating to a dedicated 3D lab model, according to Jack A. Ziffer, MD, chief of radiology at Baptist Hospital of Miami and president-elect of the SCCT. The rationale behind the decision is for increased uniformity, in terms of excellence, particularly in a model that reads CCTA studies 24/7.

"Baptist Health is one of the largest health systems in the country. We looked at economies of scale, but not just these, we also looked at, if you will, economies of excellence," Ziffer says. "We believe this model will provide high-quality images throughout our healthcare system, from the smallest hospital to the largest, including multiple outpatient labs.

Still, if a cardiologist is signing the report, he or she should understand and be able to do post-processing, says Berman. Technologists can make mistakes and anatomy can sometimes be challenging. The bottom line, however, is that CCTA is here to stay and cardiologists can add this imaging modality to their patient management strategy. "I believe, because of the strength of the modality, CCTA will affect the practice of every cardiologist in the years to come—and that's not too far away," Berman says. Last Updated ( Tuesday, March 17 2009 )