New CT Scanner at Eisenhower Smilow Heart Center

The Eisenhower Smilow Heart Center is a Center of Excellence providing a full range of advanced cardiac care services.Always renowned for its cutting-edge, advanced technology, Smilow Heart Center has just added a new tool for physicians, the Philips Brilliance iCT system, which is at the forefront of computed tomography (CT) technology.

A CT scan combines multiple X-ray images with computer technology to produce cross-sectional views of the body, or of specific organs, such as the brain or heart. Cardiac CT is a heart-imaging test that visualizes the heart's anatomy and the vessels leading to and from the heart through which the blood circulates, including the aorta, pulmonary veins and arteries. It can be used to determine whether fatty deposits, calcium deposits, or plaque have built up in the coronary arteries that supply blood to the heart. If left untreated, these areas of build-up can cause heart disease, and eventually a heart attack or stroke.

In a new study published in April 2010 in the Journal of the American Medical Association, researchers found that CT heart scans may help physicians better predict a patient's risk for heart disease. They determined that the technology can be particularly useful for patients who are at intermediate risk, as images provided by a CT scan can help identify whether a patient believed to be at intermediate risk is actually at high risk.

The Philips Brilliance iCT system provides cardiologists at Eisenhower with detailed and clear three-dimensional (3D) images of the entire heart. It is a 256-slice CT scanner, which means it produces 256 "slices" of information during each rotation of the scanner — all in about a quarter of a second! At that speed, a full body scan takes less than a minute. The resulting images are extraordinarily high in resolution, and so are more detailed, clearer and easier to read. Because the images are 3D, they can be rotated and viewed from different angles — giving doctors the greatest possible assistance in detecting signs of abnormalities or disease.All of the images can be accessed from computers throughout the hospital or remotely,making it possible for a patient's entire medical team to access and share test results.

Because the scanner works so quickly, patients are exposed to much lower doses of X-ray radiation than with other scanners, and the testing process is quicker and more comfortable. The Philips Brilliance can scan a complete image of the heart in only two beats, so patients do not need to hold their breath or lie still for as long as with other CT scanners.

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