

# Cardiac CT

Cardiac CT (Computed Tomography) is performed by using a multi-slice CT scanner. CT is an abbreviation for computed tomography, which is a valuable diagnostic medical exam that combines X-rays and computers. A CT scan gives the radiologist a non-surgical way to see inside your body. A Cardiac CT scan has to be even faster than a normal CT scanner because it has to have the ability to "freeze" the heart. The heart is an extremely rapid moving structure, so in order to produce images within the heart the scanner has to scan as fast as the heart beats or as close as possible. The Cardiac CT evaluates if there are any issues with the heart, including diagnosis of coronary artery disease. Coronary artery disease (CAD) is the leading cause of heart attacks.

## What Are These Scans Looking For?

Cardiac CT can be used to examine the coronary arteries, which is also called a Coronary Artery CT. For this scan, the patient will be given a contrast solution intravenously to show the coronary arteries, or blood vessels, of the heart. This test can show if there is any narrowing of the arteries or if any arteries are occluded or blocked. If there is blockage or narrowing of these vessels it could potentially cause a heart attack or chest pain. The Cardiac CT may also evaluate the heart valves and how well the heart is functioning.

Calcium Scoring, also called Coronary Calcium Scan, is another test that can be done with Cardiac CT. This scan is used to evaluate the calcium build up within the coronary arteries and does not require any contrast agent. The results of this scan are given in a score to indicate whether there is a presence of stenosis, narrowing, or blockages within the arteries, which could be signs of a heart disease called coronary artery disease (CAD). These exams are not guaranteed to show soft plaque, which is the plaque that often causes heart attacks. Calcium Scores are a tool to simply assess the calcium, as an initial part of the total Cardiac CT examination.

Some other uses for Cardiac CT may include: evaluating the aorta for aneurysms or dissections; looking for a pulmonary embolism, a blood clot in the lungs; examining the pericardium, the sac around the heart, to diagnose pericardial disease; functional assessment of the heart, including wall motion and ejection fraction. Ejection Fraction is traditionally measured by MRI (Magnetic Resonance Imaging).

## Do I Need to Get a Cardiac CT?

Talking with your physician about your family history and other risk factors will clarify whether this test is for you. For assessment of your risk visit:

<http://www.americanheart.org/presenter.jhtml?identifier=3003499>

## **What Should I Expect?**

A CT technologist will escort you into the CT scanning room, where you'll see a table and a large, doughnut-shaped device called a gantry. The technologist will have you lie down on the padded table, and make sure you're comfortable. You'll be asked to lie very still during the scan and may be asked to hold your breath for a short time to minimize any body movement.

During the scan you might hear a humming noise. You may notice the table moving while images are being taken at certain locations of your body. The technologist can monitor you during the entire exam through a window and will talk to you through an intercom.

**Images provided by GE Healthcare, [www.gehealthcare.com](http://www.gehealthcare.com).**