

# Cardiac computed tomography (CCT) scans

Cardiac CT (CCT) scans are quick, non-invasive tests for women and men that use a specialized computed tomography (CT) scanner to obtain a 3-dimensional image of the heart including blood vessels that supply the heart muscle (the “coronary arteries”). CCT scans allow physicians to see whether or not plaque has developed in the coronary arteries that may result in “blockages” that might cause symptoms or increase your risk of a future heart attack. CCT scans also allow for accurate visualization of the 3-dimensional heart structure.

There are two types of CCT scans: Cardiac CT Angiogram (CCTA) and Coronary Artery Calcium (CAC).

## CCTA

## CAC

What does the test do?

Can detect plaque build up and blockages in the coronary arteries, as well as other features of the heart such as the muscle, valves, or for clots.

Can detect the amount of calcified coronary plaque present. However, a CAC scan cannot show blockages in the coronary arteries.

How is the test performed?

A specialized CT scanner is used in conjunction with a electrocardiogram and an intravenous (IV) contrast dye. Often requires medications to temporarily slow the heart and dilate the blood vessels.

While there are many similarities between a CAC scan and a CCTA, the CAC scan does not require an injection of contrast dye or the use of an IV line.

Why might a healthcare provider order this test?

CTA is generally considered best for individuals with symptoms suggestive of heart disease such as chest discomfort or shortness of breath.

CAC may be useful to guide the use of preventive therapies, such as cholesterol lowering medications, among individuals who do not have known coronary artery disease.

What information can be gathered from these tests?

CTA is able to find both severe blockages, as well as any plaque build up in the coronary arteries that may not be causing severe narrowing at present but may lead to heart problems in the future.

CAC scans can be used to show hardened plaque build up, which allows your doctor to estimate the risk of future heart attacks or coronary heart disease, and guide the usage cholesterol lowering medication.