

CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY

Coronary Computed Tomography Angiography (CCTA) is a newer type of imaging test used to detect or rule out coronary artery disease (CAD). CCTA is often called Coronary CTA, Coronary CT Angiography, or Coronary CT.

CCTA uses a special scanner that uses X-rays to create cross-sectional pictures of the heart's structures and blood vessels. These computed tomography (CT) scanners have been used to look at blood vessels in other parts of the body for many years. The heart vessels (coronary arteries) are harder to see because they are small and move quite fast with the heartbeat. Some CT scanners are now fast enough to show the small moving coronary arteries very well.

CCTA shows the coronary arteries and any plaque that may exist in the artery walls. Prior to this new test, to directly look at the heart's blood vessels, you or your loved one would have to undergo a surgical procedure called **cardiac catheterization**.

How it Works

1. You will receive an injection of a special dye, called "contrast," through a vein in your hand or forearm. Contrast helps to highlight specific areas inside the body so the image will be clear. A medication to slow or stabilize the heart rate may also be given through an IV to improve imaging results.
2. You will lie on a table that slides into the center of the CT scanner. Then an X-ray beam will rotate around you.
3. During the test, X-rays pass through your body and are picked up by special detectors in the scanner. The individual images collected are called "slices." Three-dimensional (3D) images can be created in a computer by stacking the slices together. As a rule, higher numbers of these slices lead to clearer final images.
4. The test shows 3D images of the coronary arteries on a computer screen. These images provide precise information showing the arteries with problems.

Benefits

CCTA is a non-invasive way to look at the heart's blood vessels without surgery. It has strong negative predictive value. That means if the test is negative, there is a high level of confidence that you don't have a heart problem.

