

Understanding coronary computed tomography angiography (CCTA)



Coronary computed tomography angiography (CCTA) is a type of imaging test. It's a noninvasive test that can detect blockages in the coronary arteries. These are the blood vessels that supply blood to the heart. CCTA uses a special dye put into the blood and a CT scanner to make 3-D images of the coronary arteries.

Why CCTA is done

CCTA checks if the coronary arteries are healthy. It shows narrowing of the arteries and a buildup of plaque. Plaque is a substance made up of fat, cholesterol, and calcium. Too much plaque in the arteries can block blood flow to the heart. This is called coronary artery disease. It can lead to a heart attack.

You may have a CCTA if your healthcare provider thinks there is a problem with your coronary arteries. You may also have one if you are having chest pain and other tests are not clear as to why. Chest pain may be a sign of a sudden blockage in a coronary artery.

How CCTA is done

Before you have the test, your healthcare provider may tell you to not eat or drink for some time beforehand. You will also have to stay away from caffeine. It could raise your heart rate for the test.

Your healthcare provider may tell you to stop taking certain medicines. Tell your provider about all the medicines and supplements you take. This includes vitamins, minerals, and herbs. If you use drugs, it's important to tell your provider. Also tell your provider if you have any allergies or health conditions or if you may be pregnant or are breastfeeding.

Before the procedure, you will be asked to sign a form saying you agree to the procedure. Be certain to ask any questions you have before you sign. CCTA often takes about 15 to 20 minutes. But it may take longer if you need to take medicine to slow your heart rate. During the test:

- You will change into a gown. You will be asked to remove all metal objects from your body, such as jewelry.
- Once in the test room, you will lie down on your back on a narrow table. The table is part of the CT scanner.
- A healthcare provider will put 3 electrodes on your chest. These sticky pads are connected to an electrocardiograph (ECG) machine. The ECG monitors your heart's electrical activity during the test.
- The healthcare provider will put an intravenous (IV) line in your arm. They may put medicine into the IV line to slow your heart rate down. Or you may be given a pill.
- You may also be given nitroglycerin as a pill or mouth spray. This substance helps dilate the coronary arteries so they can be seen more easily.
- The healthcare provider will then inject the special dye into the IV line. You may feel warm as the dye goes into your bloodstream.
- You may be asked to raise your arms above your head for the duration of the test. This helps capture better images.
- The table will slide into the CT scanner. The scanner will make several passes over your body. You need to stay still during the test to make sure the images are clear.
- At some points during the test, the healthcare provider may ask you to hold your breath for 5 to 15 seconds.
- Once the test is over, the table will slide out of the CT scanner. The healthcare provider will take out the IV line.

What happens after CCTA

You may return to your normal activities right away. A healthcare provider, often a radiologist, will look at the images. They will send the results to your healthcare provider. It may take a few days for you to get the results. Schedule a follow-up visit with your healthcare provider, as directed.

Risks of CCTA

- Allergic reaction to the special dye
- Damage to kidneys from the dye
- Low levels of radiation exposure
- Discomfort around the IV site

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