

Cardiac CT Angiogram

A cardiac CT angiogram is a procedure to look at the heart and the area around the heart. It may be done to help find the cause of chest pains or other symptoms of heart disease. During this procedure, a large X-ray machine, called a CT scanner, takes detailed pictures of the heart and the surrounding area after a dye (*contrast material*) has been injected into blood vessels in the area. The procedure is also sometimes called a coronary CT angiogram, coronary artery scanning, or CTA.

A cardiac CT angiogram allows the health care provider to see how well blood is flowing to and from the heart. The health care provider will be able to see if there are any problems, such as:

- Blockage or narrowing of the coronary arteries in the heart.
- Fluid around the heart.
- Signs of weakness or disease in the muscles, valves, and tissues of the heart.

Tell a health care provider about:

- Any allergies you have. This is especially important if you have had a previous allergic reaction to contrast dye.
- All medicines you are taking, including vitamins, herbs, eye drops, creams, and over-the-counter medicines.
- Any blood disorders you have.
- Any surgeries you have had.
- Any medical conditions you have.
- Whether you are pregnant or may be pregnant.
- Any anxiety disorders, chronic pain, or other conditions you have that may increase your stress or prevent you from lying still.

What are the risks?

Generally, this is a safe procedure. However, problems may occur, including:

- Bleeding.
- Infection.
- Allergic reactions to medicines or dyes.
- Damage to other structures or organs.
- Kidney damage from the dye or contrast that is used.
- Increased risk of cancer from radiation exposure. This risk is low. Talk with your health care provider about:
 - The risks and benefits of testing.
 - How you can receive the lowest dose of radiation.

What happens before the procedure?

- Wear comfortable clothing and remove any jewelry, glasses, dentures, and hearing aids.
- Follow instructions from your health care provider about eating and drinking. This may include:

- For 12 hours before the test — avoid caffeine. This includes tea, coffee, soda, energy drinks, and diet pills. Drink plenty of water or other fluids that do not have caffeine in them. Being well-hydrated can prevent complications.
- For 4–6 hours before the test — stop eating and drinking. The contrast dye can cause nausea, but this is less likely if your stomach is empty.
- Ask your health care provider about changing or stopping your regular medicines. This is especially important if you are taking diabetes medicines, blood thinners, or medicines to treat erectile dysfunction.

What happens during the procedure?

- Hair on your chest may need to be removed so that small sticky patches called electrodes can be placed on your chest. These will transmit information that helps to monitor your heart during the test.
- An IV tube will be inserted into one of your veins.
- You might be given a medicine to control your heart rate during the test. This will help to ensure that good images are obtained.
- You will be asked to lie on an exam table. This table will slide in and out of the CT machine during the procedure.
- Contrast dye will be injected into the IV tube. You might feel warm, or you may get a metallic taste in your mouth.
- You will be given a medicine (*nitroglycerin*) to relax (*dilate*) the arteries in your heart.
- The table that you are lying on will move into the CT machine tunnel for the scan.
- The person running the machine will give you instructions while the scans are being done. You may be asked to:
 - Keep your arms above your head.
 - Hold your breath.
 - Stay very still, even if the table is moving.
- When the scanning is complete, you will be moved out of the machine.
- The IV tube will be removed.

The procedure may vary among health care providers and hospitals.

What happens after the procedure?

- You might feel warm, or you may get a metallic taste in your mouth from the contrast dye.
- You may have a headache from the nitroglycerin.
- After the procedure, drink water or other fluids to wash (*flush*) the contrast material out of your body.
- Contact a health care provider if you have any symptoms of allergy to the contrast. These symptoms include:
 - Shortness of breath.
 - Rash or hives.
 - A racing heartbeat.
- Most people can return to their normal activities right after the procedure. Ask your health care provider what activities are safe for you.
- It is up to you to get the results of your procedure. Ask your health care provider, or the department that is doing the procedure, when your results will be ready.

Summary

- A cardiac CT angiogram is a procedure to look at the heart and the area around the heart. It may be done to help find the cause of chest pains or other symptoms of heart disease.
- During this procedure, a large X-ray machine, called a CT scanner, takes detailed pictures of the heart and the surrounding area after a dye (*contrast material*) has been injected into blood vessels in the area.
- Ask your health care provider about changing or stopping your regular medicines before the procedure. This is especially important if you are taking diabetes medicines, blood thinners, or medicines to treat erectile dysfunction.
- After the procedure, drink water or other fluids to wash (*flush*) the contrast material out of your body.

This information is not intended to replace advice given to you by your health care provider. Make sure you discuss any questions you have with your health care provider.

Document Released: 11/30/2009 Document Revised: 11/30/2018 Document Reviewed: 11/06/2017
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