Intermountain® Healthcare

Coronary Calcium CT Scan

What is a coronary calcium CT scan?

A **CT (computed tomography) scan** is a test that uses x-rays to create a clear, detailed image of body tissues.

A **coronary calcium CT scan** helps your doctor detect calcium in the coronary arteries (the arteries that feed your heart muscle). Calcium in your arteries can show the presence of plaque. **Plaque** is a buildup of cholesterol (a fatty material), scar tissue, and calcium.

If plaque builds up in your arteries, it can narrow or block them — a condition called **coronary artery disease (CAD)**. Because CAD can lead to a heart attack, it's a good idea to find plaque early on so it can be treated.

During a CT scan, special x-ray equipment takes many images from different angles by rotating an x-ray tube around the body. A computer then uses the information to create detailed images. The images look like thin cross-sections ("slices") of the area being studied.

How should I prepare for the test?

Before your coronary calcium CT scan, you'll meet with your doctor to learn about the test and how to prepare. Here are some tips:

- **Tell your doctor about any medical conditions you have**, especially asthma, kidney problems, or heart failure.
- **Tell your doctor if you are pregnant or may be pregnant.** The x-rays used in a coronary calcium CT scan can harm a developing fetus, so you should not have this test if you could be pregnant.
- **Tell your doctor about all medications** you take, including vitamins and herbal supplements.
- **Do not have any caffeine or stimulants** for 4 hours before the test. These include coffee, tea, energy drinks, diet aids, and some over-the-counter medications.

A coronary calcium CT scan is painless and takes about 30 minutes from start to finish.

- **Do not smoke or use tobacco for 4 hours** before the test.
- **Do not wear jewelry** to the appointment, since metal objects may affect the scan.

What happens before the test?

Here's what happens when you arrive for the test:

- **Preparation.** You'll check in and put on a hospital gown. A technician will place electrodes (sensors that connect to a machine) on your chest. These will help monitor your heart's electrical activity during the test.
- **Medication.** You might receive medication to slow your heart rate. A slower heartbeat can improve the images.
- **Placement.** You will lie down on an exam table that can slide into the opening in the middle of the CT machine. You'll rest your arms over your head during the test.

What happens during the test?

The scan itself takes about 15 minutes. Here's what happens:

- **Starting the scan.** The exam table will slide into the CT machine. A scanner inside the machine will take a series of images. The technician will control the scanner from another room, but he or she can see you and talk with you.
- **Lying still.** Movement can blur the images, so you will need to lie still during the scan. The technician will also ask you to hold your breath for short periods of time.

What happens after the test?

When the scan is finished, the technician will remove the electrodes. There is no self-care needed after the test.

Your doctor will tell you the results in a follow-up appointment. The information gained during the test will help your doctor diagnose your condition and propose a treatment plan.

Talking with your doctor about the coronary calcium CT scan

The table below lists the most common potential benefits, risks, and alternatives for a coronary calcium CT scan. Other benefits and risks may apply in your unique medical situation. Talking with your doctor is the most important part of learning about the risks and benefits. If you have questions, be sure to ask.

Potential benefits	Risks and potential complications	Alternatives
A coronary calcium CT scan: • Can help your doctor find signs of plaque in your coronary arteries • Can provide information to diagnose coronary artery disease **before** it causes a heart attack, so that you can be treated • Is painless and relatively fast, when compared with other heart tests	**Coronary calcium CT scans are safe.** Because CT scans use x-rays, you are exposed to a small amount of radiation that could slightly increase your lifetime cancer risk. (For more information, see Intermountain's *Guide to Understanding Radiation*.)	Alternatives include tests that provide images of your arteries, or that look for signs of coronary artery disease: • Blood tests • Chest x-ray • Cardiac MRI (magnetic resonance imaging) • Echocardiogram • Stress test • Cardiac catheterization (angiogram) • Cardiac nuclear imaging

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