Intermountain® Healthcare

Cardiac Catheterization

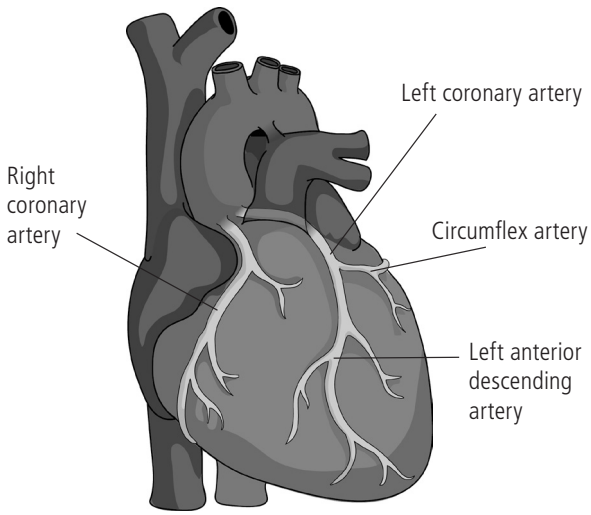
What is it?

In cardiac catheterization, your doctor inserts a long, flexible tube called a **catheter** into a blood vessel in your groin, arm, or wrist. The catheter is then threaded to your heart.

This procedure helps your doctor see how well your heart is pumping, inspect the arteries that feed your heart, and examine your heart valves. It may also be called cardiac cath, heart cath, or an **angiogram**.

Why do I need it?

- **Cardiac catheterization gives your healthcare providers detailed information about your heart.** It is used to evaluate problems that keep the heart from functioning well, such as heart failure or valve disease. It is also used to diagnose **coronary artery disease (CAD)** — a narrowing of the arteries that supply blood and oxygen to the heart.
- **Cardiac catheterization can help your doctor diagnose and prevent problems.** For example, if you have CAD, you might experience shortness of breath or **angina** (chest discomfort), especially when you exercise. However, many people don't experience symptoms until the arteries are completely blocked. Angiography helps your doctor diagnose the problem so it can be treated before it causes any more damage.



Cardiac catheterization can examine blockages in the arteries that feed the heart.

Talking with your doctor about this procedure

The table below lists the most common potential benefits, risks, and alternatives for this procedure. Other benefits and risks may apply in your unique medical situation. Talking with your healthcare provider is the most important part of learning about these risks and benefits. Don't be afraid to ask questions or discuss your concerns.

Potential benefits	Potential risks and complications	Alternatives
• **Useful information for diagnosis.** Cardiac catheterization gives your doctor more detailed information than other tests. • **Faster recovery.** The procedure doesn't require a major incision (cut) or general anesthesia (medication that makes you sleep).	• Leg numbness or weakness for a few hours after (rare) • Bleeding or infection where the catheter was inserted (rare) • Bad reaction to the contrast dye (very rare) • Reduced kidney function (kidney failure in rare cases) — tell your doctor or the imaging technician if you have kidney disease or diabetes • Exposure to x-ray energy, which can slightly increase your lifetime cancer risk (for more information, see Intermountain's *Guide to Understanding Radiation*) • Damage to the artery or heart muscle (extremely rare) • Heart attack or stroke (extremely rare, and not typically caused by the procedure itself) • Unforeseen complications	Cardiac catheterization is the **best way to get accurate information** about your arteries or heart valves. Other tests include: • Electrocardiogram • Cardiac stress test • Cardiac CT scan • Cardiac MRI If you have any concerns about your cardiac catheterization, discuss them with your doctor.

How do I prepare?

- **Arrange for a ride.** Ask someone to drive you to and from the hospital.
- **Don't eat or drink anything after midnight,** if directed by your doctor. If your doctor allows it, have a liquid breakfast the morning of the procedure.
- **Ask about how to handle your medications.** If you take metformin (Glucophage), you'll need to stop taking it the day of the procedure and wait to restart it until at least 2 days after. (You'll need blood tests before starting it again.) Monitor your blood glucose during this time, and call your doctor if it's higher than 300 mg/dL.
- **Tell your doctor** if you have a cold, flu, or fever the day of the procedure.
- **Bring a list of your current medications,** such as over-the-counter drugs, herbs, and supplements.
- **Tell your doctor about allergies,** especially to medications, iodine, or dyes.

What happens before the procedure?

- A nurse will prepare the patch of skin where the catheter will be inserted.
- An IV line will be placed to give you medication that makes you drowsy, and blood may be drawn for lab work.
- You'll be moved to the cardiac cath lab. The room may feel cool, but you will be covered with sterile drapes. You can also ask for a blanket if you want.

What happens during the procedure?

The procedure takes about an hour. You'll be relaxed but awake, because you might be asked to breathe deeply or cough. Here is what will happen:

- **Local anesthetic.** The doctor will inject numbing medication where the catheter will be inserted. This usually feels like a pinprick with some burning, and only lasts a few seconds.
- **Inserting the catheter.** Your doctor will insert a sheath (short plastic sleeve) into a blood vessel. You'll feel some pressure at first. The catheter will be put into the sheath and threaded to your heart.
- **Locating the problem.** The doctor will inject contrast dye through the catheter. For a few seconds, you'll feel a warm sensation. X-rays will be used to show the contrast dye on a screen.
- **Removing the catheter.** The catheter will be withdrawn and the sheath will be removed. The site may be closed with a stitch or closure device.

What happens after?

- You'll be moved to a recovery unit. You may need to lie flat for up to 4 to 8 hours.
- The insertion site may be held under pressure to prevent bleeding.
- In case you have temporary numbness or weakness in your leg, special steps will be taken to make sure you're safe when you first get up. If you need to urinate and your leg is numb, it may not be safe to walk to the bathroom. You will use a urinal or bedpan instead.
- In the first few hours, you may want to drink plenty of fluids to flush the contrast dye out of your body.

What should I do after?

- **The first 48 hours:** Watch for swelling or bleeding. The site will be bruised, but this should go away in a week or so. Avoid bending or squatting. Avoid intense activity such as climbing stairs, running, or lifting anything over 20 pounds. Take short walks (5 to 10 minutes) four or five times a day. Avoid constipation.
- **Care for the puncture site:** Avoid hot baths, hot tubs, or swimming pools for the first 5 days or until the wound is closed. Showers are okay after 24 hours, but don't let the spray hit the site. If the site is sealed with a special closure device, ask your doctor what you should watch for. In some cases, you might need to remove a dressing or pad.
- **Returning to work:** When you go back to work depends on your physical condition and the nature of your job. Check with your doctor.

When should I call the doctor?

Contact your doctor if:

- The arm or leg where the catheter was inserted feels cold or numb.
- There is bleeding or severe pain at the insertion site, or if bruising, redness, or swelling gets worse.
- You have a fever over 100° F.
- You have chest pain or discomfort. If it is severe or not relieved by medication for chest pain, **call 911.**

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