

# Coronary Angioplasty and Stenting

## What is angioplasty and stenting?

**Angioplasty** [AN-jee-oh-plas-tee] and **stenting** are treatments for narrowed or blocked blood vessels (arteries and veins).

- **Angioplasty** opens a blood vessel by inflating a small balloon inside it.
- **Stenting** places a tube-shaped device (stent) in the blood vessel to keep it open.

While angioplasty can be done alone, it's often combined with stenting.

## Why do I need it?

Angioplasty and stenting are used to treat narrowing of the arteries that feed the heart. If these arteries become blocked by **plaque** [plak] (or fatty deposits), the heart can't get enough oxygen. This may cause shortness of breath or chest pain (angina), especially with exercise. Some people may not have symptoms.

Over time, the arteries may become completely blocked, which can cause a heart attack. If this happens, you might have angioplasty as an emergency procedure.

## What can I expect?

This procedure usually takes about an hour. You'll be relaxed but awake, because the doctor might ask you to breathe deeply or cough at certain points. See **pages 2–4** to learn what happens during the procedure.

## What do I need to do next?

Here's what you need to do to get ready for your procedure:

- 1 Arrange for a ride.** You will need someone to drive you to and from the hospital.
- 2 Tell your healthcare provider about your allergies.** Your healthcare provider needs to know if you have asthma, if you're allergic to any medicines or dyes, or if you've ever had a bad reaction to contrast dye.
- 3 Tell your healthcare provider about all the medicines you take.** Include all prescriptions, over-the-counter remedies (such as cough syrup, allergy pills, or pain relievers), patches, inhalers, vitamins, and herbal supplements.
- 4 Follow all instructions about your medicines.** You may be prescribed medicine to take a few days before your procedure or asked to stop taking certain medicines. If you take metformin (Glucophage), you'll need to stop taking it 2 days before the procedure and you'll need blood tests before starting it again. Be sure to check your blood glucose regularly during this time. Call your healthcare provider if it goes higher than 300 mg/dL.
- 5 Follow all instructions on when to stop eating and drinking before your procedure.** This will help prevent possible problems with the anesthesia.
- 6 Be sure to arrive at the cath lab or surgery center at your scheduled check-in time.**

## What happens during procedure?

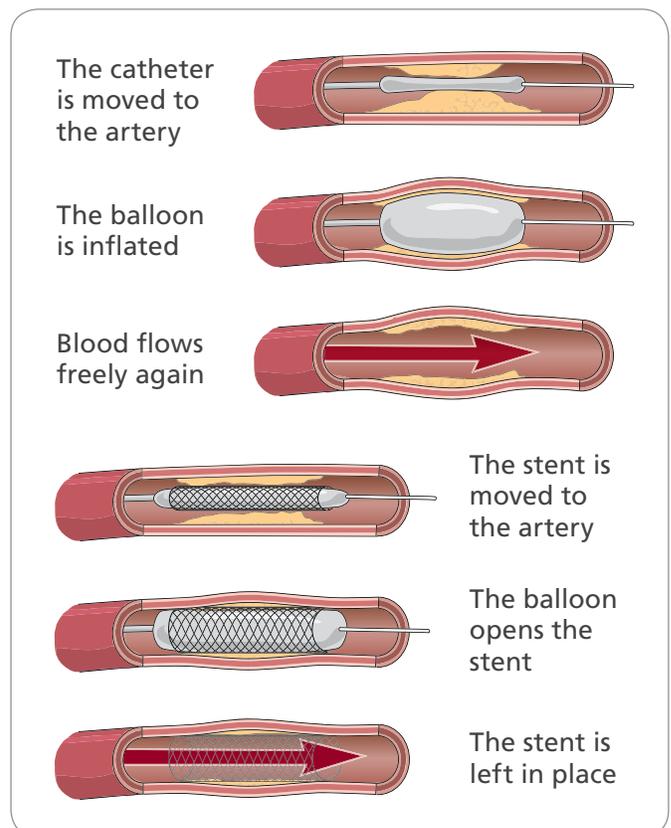
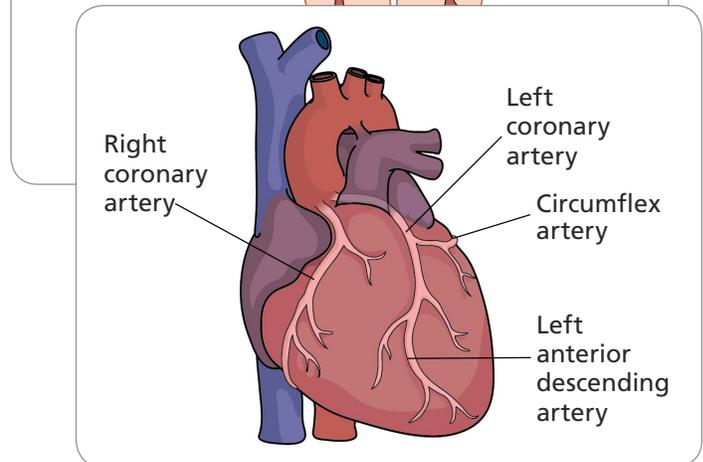
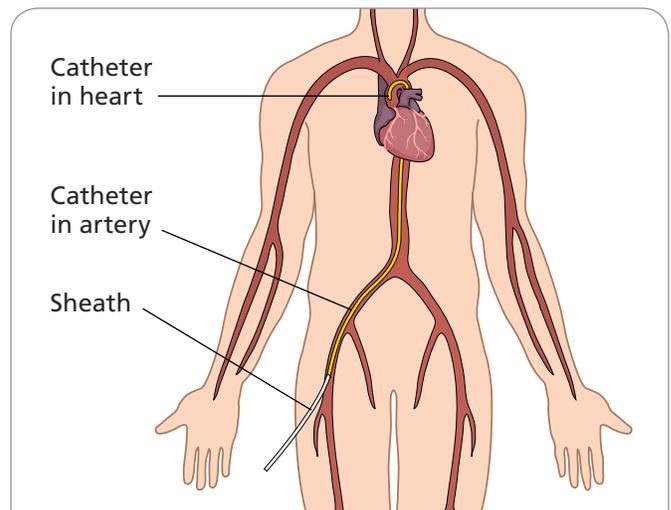
- 1 You will fill out some paperwork, including a consent form. You'll change into a hospital gown.
- 2 An IV (intravenous) line will be placed in your arm or hand to give you fluids. You may be given medicine through the IV to make you feel relaxed and drowsy.
- 3 You will be moved to the cardiac cath lab. Monitoring devices will be attached to you to check your heart rate and breathing during and after the procedure.
- 4 Numbing medicine will be injected into the site where the catheter (hollow tube) will be inserted, usually in your groin or wrist.
- 5 Your doctor will insert a sheath (a short plastic sleeve) into a blood vessel. The catheter will be put into the sheath and threaded through the blood vessel to your heart. You won't feel this.

## Finding and compressing the plaque

- 1 The doctor will inject contrast dye through the catheter. For a few seconds, you'll feel a warm sensation. The contrast dye will appear on x-ray images.
- 2 The doctor will use the x-ray images to move the catheter to the artery that needs treatment and insert a balloon catheter.
- 3 The balloon will be inflated and deflated several times. This compresses the plaque and stretches the artery open. The balloon is removed so blood can flow more freely through the artery.

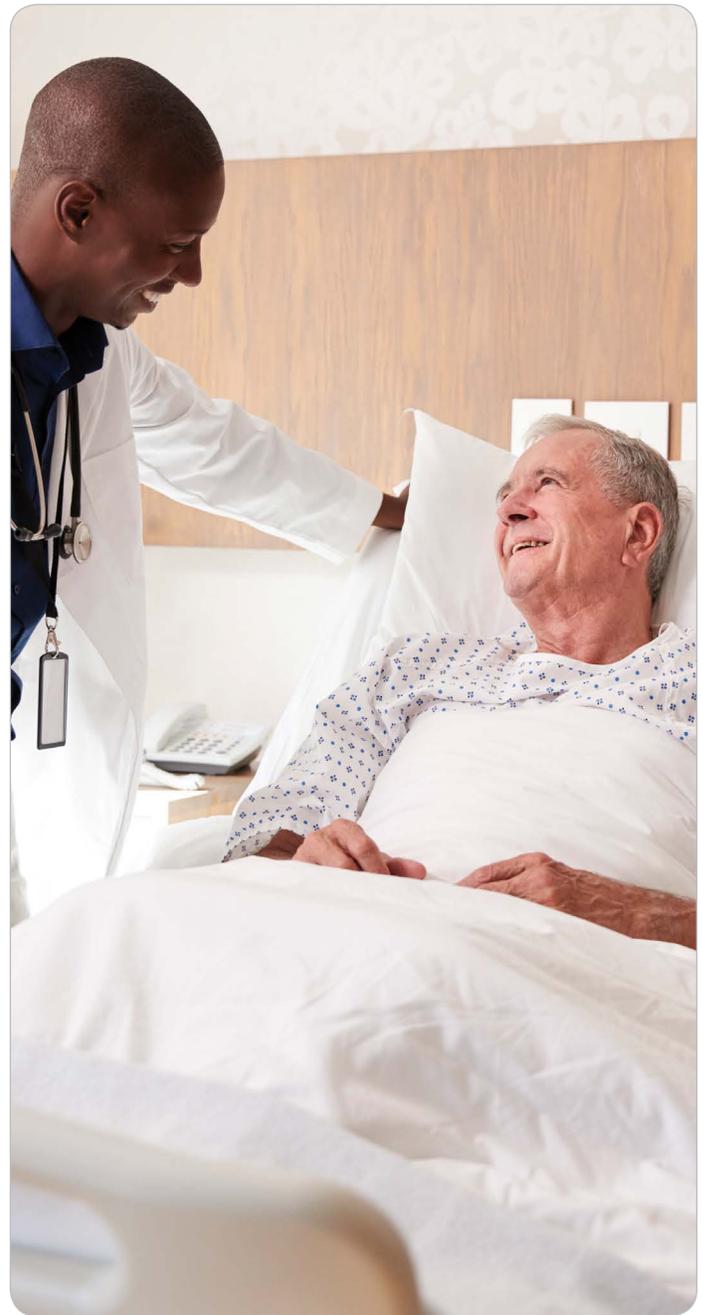
If needed, your doctor may place a stent in the artery.

- 1 The stent will be attached to the balloon catheter. When the catheter is in the correct place, the balloon is inflated to expand the stent, then deflated and removed.
- 2 The stent remains in place to hold the artery open.



## What happens after the procedure?

- 1 The catheter will be slowly taken out.** Then, the sheath will be removed. Pressure will be placed on the insertion site to prevent bleeding.
- 2 The insertion site will be closed with a stitch, plug, or a closure device,** such as a protein (collagen) plug or dressing. Ask your doctor about whether a device will be used, and how you should care for it.
- 3 You'll be moved to a recovery unit.** The medical team will watch your heart rhythm and blood pressure. You may need to lie flat for up to 4 to 8 hours.
- 4 You may have temporary numbness or weakness in your leg.** Special steps will be taken to make sure you're safe when you 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.
- 5 You may have temporary numbness in your lower arm or hand** if your catheter was inserted at the wrist.
- 6 You may be asked to drink fluids** to flush the X-ray contrast dye out of your body.
- 7 Your doctor will decide if you can go home the same day, or if you will need to stay in the hospital overnight.** If the catheter was inserted in your groin, try to keep that leg straight. Avoid sitting so the leg is not bent at the groin.



### Notes

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## Talking with your doctor about angioplasty and stenting

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 best way to learn about these risks and benefits. If you have questions, be sure to ask.

Possible benefits	Risks and possible complications	Alternatives
<ul style="list-style-type: none"> <li>• Relief of symptoms, such as chest discomfort or shortness of breath.</li> <li>• Restoration of blood supply to the heart muscle. This can prevent a heart attack or stop heart damage if you've had a heart attack.</li> <li>• Faster recovery than with surgery. The procedure doesn't require a major cut or general anesthesia.</li> <li>• Lower risk and cost when compared to surgery.</li> </ul>	<p><b>General risks</b> include:</p> <ul style="list-style-type: none"> <li>• Numbness or weakness for a few hours after (rare) in the leg or arm</li> <li>• Bleeding or infection where the catheter was inserted (rare)</li> <li>• Leaking of the contrast dye into tissues (rare and temporary)</li> <li>• Allergic reaction to the contrast dye (very rare)</li> <li>• Reduced kidney function (kidney failure in rare cases) — tell your doctor or the imaging technician if you have kidney disease or diabetes</li> <li>• Damage to the artery or heart muscle (extremely rare)</li> <li>• Heart attack or stroke (extremely rare, and not typically caused by the procedure itself)</li> <li>• Radiation exposure from the X-rays, which can slightly increase your lifetime cancer risk (for more information, see Intermountain's Guide to Understanding Radiation)</li> <li>• Unforeseen complications</li> </ul> <p><b>Risks of angioplasty</b> include plaque quickly re-narrowing arteries (restenosis). Stent placement may reduce this risk</p> <p><b>Risks of stent placement</b> include blood clots in the stent. You will need to take medicine to prevent clots for at least 6 to 12 months afterward</p>	<ul style="list-style-type: none"> <li>• Medications</li> <li>• Lifestyle changes</li> <li>• Surgery to bypass blocked arteries</li> </ul>

### Questions for my doctor

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