



Coronary Angioplasty

What is coronary angioplasty?

Coronary angioplasty has become a common medical procedure with more than 1 million done in the United States every year. Coronary angioplasty, also referred to as percutaneous coronary intervention (PCI), is a medical procedure used to open clogged heart arteries. Coronary angioplasty can improve some of the symptoms associated with blocked arteries, such as chest pain and shortness of breath, or can be used during a heart attack to quickly open a blocked artery and minimize heart damage. Angioplasty involves temporarily inserting and expanding a tiny balloon at the site of your blockage to help widen a narrowed artery. Angioplasty is usually combined with implantation of a small metal coil called a **stent** in the clogged artery to help prop it open and decrease the chance of it narrowing again (restenosis).

What is coronary angioplasty for?

When medications or lifestyle changes aren't enough to reduce the effects of artery blockages, or if you have a heart attack, worsening chest pain or other symptoms, your doctor might suggest angioplasty. First you'll have an imaging test called a coronary angiogram to determine if your blockages can be treated with angioplasty. You may be a good candidate for an angioplasty if:

- Your blockage is small
- Your blockage can be reached by angioplasty
- The artery affected isn't the main vessel supplying blood to the left side of your heart
- You don't have heart failure

How do you prepare for an angioplasty?

Before a scheduled angioplasty, your doctor will review your medical history and perform a physical exam. You'll receive instructions on what you can or can't eat or drink before the procedure. Typically, you have to stop eating or drinking by midnight the night before. Your preparation may vary slightly if you're already hospitalized. Whether the angioplasty is prescheduled or done as an emergency, you'll likely have some routine tests first, including a chest X-ray, electrocardiogram (EKG) and blood tests.

- **Follow your doctor's instructions** about adjusting your current medications before angioplasty. Your doctor may instruct you to stop taking certain medications before angioplasty, particularly if you take certain diabetes medications or blood thinners.
- **Take all of your medications to the hospital** with you, including nitroglycerin, if you take it. Take approved medications with only **small sips of water**. Tell your doctor or nurse if you're **allergic** to any medications.
- **Arrange for transportation home**; angioplasty usually requires an overnight hospital stay.

Who performs an angioplasty?

An interventional cardiologist with a team of specialized registered nurses and radiology technicians performs angioplasty.



Coronary Angioplasty

Where is the angioplasty performed?

An angioplasty is performed at the Cardiac and Endovascular Center at Melrose-Wakefield Hospital in our state-of-the-art cardiac catheterization procedure room. All of our interventional cardiologists are board certified and are affiliated with the Boston tertiary hospitals.

How long does an angioplasty procedure take?

An angioplasty procedure can take from 45 minutes to 1 hour.

What happens during an angioplasty?

Coronary angioplasty isn't considered surgery because it's less invasive — your body isn't cut open except for a very small puncture in a blood vessel in the leg, arm or wrist through which a small, thin tube (called a catheter) is threaded and the procedure performed.

Angioplasty is commonly performed through an artery in your groin (femoral artery).

- Before the procedure, the area is prepared with antiseptic solution and a sterile drape is placed over your body.
- A local anesthetic is injected into your groin to numb the area.
- Small electrode pads are placed on your chest to monitor your heart rate and rhythm during the procedure.
- General anesthesia isn't needed, so you're awake during the procedure.
- You'll receive fluids and medications for relaxation and mild sedation through an intravenous catheter.
- You'll get blood-thinning medications (anticoagulants) to reduce blood clotting, and then the procedure begins.
- After numbing the incision area, a small cut is made, usually in your leg, to access an artery. Your doctor will then insert a thin guide wire into the artery and thread it through the artery from the incision area up to your blockage.
- Once the guide wire reaches the blockage, a small, thin tube (catheter) is passed over the wire until it reaches the blockage. You might feel pressure in your groin while this is being done, but you shouldn't feel sharp pain. You also won't feel the catheter in your body.
- A small amount of contrast agent, or dye, is injected through the catheter. This helps your doctor look at the blockage on X-ray images called angiograms.
- A small balloon at the end of the catheter is inflated, widening the blocked artery. The balloon stays inflated for up to several minutes at the site of the blockage, stretching out the artery before it's deflated and removed. Your doctor might inflate and deflate the balloon several times before it's removed, stretching the artery a bit more each time to widen it.
- Because the balloon temporarily blocks blood flow to part of your heart, it's common to experience chestpain while it's inflated. If you have several blockages, the procedure may be repeated at each site.

Coronary Angioplasty

What are stents?

Stents provide added support. Once the artery is widened, a device called a stent is usually placed in the artery to act as scaffolding to help prevent it from re-narrowing after the angioplasty. The stent looks like a very tiny coil of wire mesh. Here's what happens:

- The stent is collapsed, placed around a balloon at the tip of the catheter and guided through the artery to the blockage.
- At the blockage, the balloon is inflated and the spring-like stent expands and locks into place inside the artery.
- The stent remains in the artery permanently to hold it open and improve blood flow to your heart
- Once the stent is in place, the balloon catheter is removed and more images (angiograms) are taken to see how well blood flows through your newly widened artery.
- Finally, the guide catheter is removed and the procedure completed.

After your stent placement, you may need prolonged treatment with medications to reduce the chance of blood clots forming on the stent material.

What happens after an angioplasty/ stenting?

You'll probably remain hospitalized a day while your heart is monitored and your vital signs are checked frequently. Your doctor will likely prescribe medications (anticoagulants) to prevent blood clots, relax your arteries and protect against coronary spasms.

When you return home, drink plenty of fluids to help rid your body of the contrast dye. Avoid strenuous exercise and lifting heavy objects for several days afterward. Ask your cardiologist or nurse about other restrictions in activity.

What are the complications?

Call your cardiologist immediately if:

- The catheter insertion site starts bleeding or swelling
- You develop increasing pain or discomfort at the insertion site
- You have signs of infection, such as redness, drainage or fever
- There's a change in temperature or color of the leg or arm that was used for the procedure
- You feel faint or weak
- You develop chest pain or shortness of breath

You should be able to return to work or your normal routine the week after angioplasty.

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Scheduled cardiac catheterizations can be made from 7:00am to 7:00pm. Monday through Friday.
Our services are available 24/7 seven days a week.

To schedule an appointment call the Cardiac and Endovascular Center at 781.979.3748.