

Coronary angiogram

A coronary angiogram is a special x-ray of your heart. The purpose of this x-ray is to look for abnormalities of your heart muscle or heart valves, and to see if your coronary arteries are narrowed or blocked. The test is done in a special laboratory called a cardiac catheterisation laboratory (Cath Lab), which is similar to an operating theatre. A slender catheter (a thin, hollow plastic tube) is threaded through the largest artery in your body (the aorta) until it reaches the coronary arteries of the heart. A special contrast dye is injected and x-rays are taken of the blood vessels as the dye moves through them. Another term for coronary angiogram is cardiac catheterisation.

Problems diagnosed by coronary angiogram

The heart receives its blood supply from the coronary arteries. If these arteries are narrowed or blocked, the heart is starved of sufficient oxygen and nutrients. The resulting pain is known as angina. Apart from diseased coronary arteries, an angiogram can also diagnose a range of heart problems including aneurysm (abnormal ballooning of the heart wall), heart arrhythmias (irregular heart beat) or birth defects, such as a hole in the heart.

Medical issues to consider

Before the procedure, you need to discuss a range of issues with your doctor including:

- Medical history, including whether or not you have asthma, allergies or kidney disease.
- If you have experienced allergic reactions to any drugs.
- Any current medications you are taking. You may need to discontinue certain medications before the test, such as medications that thin the blood.
- You need to fast four to six hours prior to your test.
- You may undergo various tests before the angiogram, including blood tests, an electrocardiogram and chest x-rays.

Angiogram procedure

You may be admitted to hospital the day before your angiogram. You shower using a special antiseptic soap to reduce the risk of infection. A small area of your body is shaved (usually the groin). Once in the Cath Lab, you lie on a special table. A heart monitor records your heart beat during the test. The doctor injects a small amount of local anaesthetic around the test site to numb the area then inserts a small catheter through the skin into the blood vessel. The doctor watches the progress of the catheter via x-rays transmitted to a television monitor. You can't feel the catheter going through the heart because there are not enough nerves in the blood vessels. Once the catheter is in place, a small amount of x-ray sensitive dye is injected through it. Further x-rays are taken as the dye goes through the blood vessels. You may feel a warm flush or tingling as the dye is injected. The angiogram lasts for around 40 minutes.

Immediately after the procedure

After the angiogram, you can expect:

- A pressure dressing is placed on the test site for around four hours.
- Your blood pressure, pulse, breathing and wound site are regularly checked and recorded.
- Intravenous fluids may be given for a short time, although you are encouraged to eat and drink as soon as you feel able.
- You will have to lie on your back for three to four hours, keeping your legs as still as possible.
- You may be allowed to sit up after four hours.
- Often, you are not allowed out of bed until the next day.
- If you are not already on a special diet, a cholesterol-lowering diet is usually suggested.

Possible complications

Some of the possible complications of a coronary angiogram include:

- Allergic reaction to the contrast dye, including hives and itchy skin
- Bleeding from the wound
- Heart arrhythmia
- Heart attack
- Stroke.

Taking care of yourself at home

Be guided by your doctor, but general suggestions include:

- Try to rest as much as you can.
- Avoid standing for more than a few minutes at a time.
- Avoid heavy lifting.
- See your doctor if you suspect infection. Symptoms include redness, heat, swelling or discharge from the wound site.

Long term outlook

You will need to make another appointment with your doctor to discuss the results of your angiogram. Treatment depends on the diagnosis. Narrowed coronary arteries can be surgically treated during the angiogram by angioplasty. A special catheter is threaded through the blood vessels and into the coronary arteries to remove the blockage. Another surgical option for severely narrowed coronary arteries is a by-pass operation. This involves transplanting veins and arteries from other parts of your body to your heart. Faulty heart valves require surgical correction.

Other tests

Currently, the angiogram is the most accurate diagnostic test for a range of heart problems, including coronary heart disease. Other tests that can help in diagnosis but can't provide conclusive results include:

- Exercise stress test
- Computed tomography (CT) scan
- Magnetic resonance imaging.

Where to get help

- Your doctor
- Cardiologist

Things to remember

- A coronary angiogram is a special x-ray of your heart.
- The purpose of this x-ray is to look for abnormalities of heart muscle or heart valves, and to see if the coronary arteries are narrowed or blocked.
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This page has been produced in consultation with, and approved by:

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