
Coronary angiogram

Summary

- A coronary angiogram is a special procedure that takes dynamic x-ray pictures of your heart.
 - The purpose of this procedure is to see if the coronary arteries are narrowed or blocked and to look for abnormalities of heart muscle or heart valves.
 - You may undergo various tests before the angiogram, including blood tests, an electrocardiogram, chest x-ray or cardiac CT.
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A coronary angiogram is a special procedure that takes dynamic x-ray pictures of your heart. The purpose of this procedure is to see if your coronary arteries are narrowed or blocked and to look for abnormalities of your heart muscle or heart valves. Another term for coronary angiogram is cardiac catheterisation.

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) via the wrist or the groin artery until it reaches the coronary arteries of the heart. A special x-ray sensitive dye (contrast) is injected and dynamic x-rays are taken of the blood vessels as the contrast moves through them.

Problems diagnosed by coronary angiogram

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 having an angiogram

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

- your 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
- fasting – you need to fast four to six hours prior to your test
- other tests – you may undergo various tests before the angiogram, including blood tests, an electrocardiogram and chest x-ray and cardiac CT (computed tomography).

Coronary angiogram procedure

Most diagnostic coronary angio procedures are done as day cases. That means that you are in and out of hospital within one day. Before the procedure, a nurse will take your medical history and you will change into a hospital gown. The nurse will prepare you for the procedure by putting in an IV cannula and shaving both sides of your groin and wrist if necessary.

Once in the cath lab, you will lie on a special table. A heart monitor will record your heart beat during the test. The skin on your wrist and both sides of your groin is cleaned with an antiseptic wash and you are covered with sterile drapes.

The doctor injects a small amount of local anaesthetic around the access site (wrist or groin) 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 dynamic 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 contrast (x-ray sensitive dye) is injected through it. Further dynamic x-rays are taken as the contrast goes through the blood vessels. You may feel a warm flush or tingling as the contrast is injected. The angiogram lasts for around 40 minutes.

Immediately after the coronary angiogram

After the angiogram, you can expect the following:

- Your blood pressure, pulse, breathing and wound site are regularly checked and recorded.
- You may be given intravenous fluids for a short time, although you will be encouraged to eat and drink as soon as you feel able.
- You may be allowed to sit up after four hours.
- You may be discharged to go home up to six hours post (after) recovery.
- If you are not already on a special diet, you will be encouraged to adopt a cholesterol-lowering diet.
- Initial results are given to you by the cardiologist who performed the procedure. You may have to make follow up appointment with a cardiologist to further discuss your treatment.

Complications of a coronary angiogram

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 after a coronary angiogram

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 for at least a week after the procedure.
- See your doctor if you suspect infection. Symptoms include redness, heat, swelling or discharge from the wound site.
- Drink plenty of fluids eight hours after the procedure (unless told otherwise by your cardiologist) to help flush the contrast from your body.

Long-term outlook after a coronary angiogram

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 may possibly be treated during the angiogram by a technique known as 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 bypass operation. This involves transplanting veins and arteries from other parts of your body to your heart.

Other heart 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 **(MRI) scan**

- echocardiogram (special **ultrasound** of the heart).

Where to get help

- Your **GP (doctor)**
- **Cardiologist**

This page has been produced in consultation with and approved by:

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