

Cardiac catheterisation

Your specialist has recommended that you have a medical test called cardiac catheterisation or angiogram. This leaflet provides some standard information and advice about the procedure. However, you should always follow the instructions of your own specialist.

If you have any unanswered questions or concerns, please do not hesitate to ask your specialist or nurse for more information. It is natural to feel anxious, but often knowing what to expect can help.

What is cardiac catheterisation?

This is an examination of the heart muscle and the blood vessels (arteries) that supply blood to the heart using a thin, flexible tube called a catheter combined with a special dye that shows up on X-ray pictures.

The procedure is usually performed as a day case using a local anaesthetic, so you will stay awake but should not feel serious pain.

The procedure helps to find out:

- if your arteries are narrowed or blocked - and if so, how badly and where
- how well your heart is working
- if valves that control the direction of blood flow in the heart are faulty

The results will help you and your doctor to decide if you need further treatment with drugs or surgery.

You will not be able to drive for 24 hours after the test, so you need to arrange for someone to collect you.

Preparing for the procedure

Your specialist or hospital will give you some information about when and how to check into hospital.

On the day of your admission you should have a bath or shower at home. It's best not to wear jewellery, make-up or nail varnish. Avoid eating for around six hours before the procedure. More advice about fasting will be given by your doctor or hospital.

When you arrive at the hospital, a nurse will explain the care you will receive. Your specialist may also visit you to explain the test in detail. This is a good time to ask any outstanding questions, which you may wish to write down in advance.

Before the procedure, you may need to have a physical examination, blood and urine tests, and an electrocardiogram (ECG) - which measures electrical activity in the heart. Your nurse may ask you to shave your groin area to help reduce the risk of infection.

Consent

You will be given a consent form to sign. By doing this, you confirm that you understand what the procedure involves, including the benefits and risks, and give your permission for it to go ahead.

Please see the back of this leaflet for further information about possible side-effects and complications of this procedure. You need to know about these in order to give your informed consent.

What to expect

You may be given a mild sedative to relax you. This will be in the form of a tablet or an injection through a narrow tube (cannula) placed in a vein in the back of your hand.

The procedure lasts 20 to 40 minutes and is usually carried out in a "catheterisation lab", which looks like an operating theatre. A nurse will stay with you throughout to provide reassurance and to ensure you are as comfortable as possible.

In a private room or cubicle, you will be asked to change out of your clothes and put on a surgical gown. At the lab, you will lie on a bed and an X-ray machine will be positioned above your chest. You will be given an injection of local anaesthetic in your groin or arm. This may sting but will quickly numb the area.

Your specialist will make a small cut (incision) in your groin or arm and thread the catheter through an artery and towards your heart. Once it's in the correct position, dye will be injected into the tube. You may feel a warm flushing sensation or your heart thumping. This is normal and will quickly pass.

The X-ray machine takes pictures of the dye flowing through your blood vessels and heart and sends these to a video monitor. Your doctor will watch this to see if there is any narrowing in the arteries or pumping problems in the heart. You might be asked to cough or breathe deeply to help get better pictures.

The catheter is then removed. A nurse will press firmly on your groin (or arm) for a few minutes to seal the artery. This can feel uncomfortable. You will have a dressing on the wound but you are unlikely to need stitches.

After the procedure

You will be taken back to your room or the day care ward in a wheelchair. You will need to lie flat on a bed, or reclining on a chair, for a couple of hours to allow the cut in your groin (or arm) to seal properly. The catheter used in the procedure is very thin so you are unlikely to feel any lasting discomfort, although the incision site may feel sore once the anaesthetic has worn off (about two hours after).

The nursing staff will regularly check your blood pressure, pulse and the incision. If you feel ready, you can sit up after a couple of hours, and walk around after about six hours (or more quickly if the catheter was inserted through your arm). Try to drink plenty of water as this helps to flush the dye out of your system.

Results

You will get preliminary test results at the end of the procedure or shortly after you have returned to your room. Your doctor will explain what these results mean and, if necessary, discuss further treatment options. If you have had a sedative, it may be a good idea to have someone with you when you are told the results, as you may not remember later.

Going home

Before you go home, a nurse will advise you how to care for your wound. You will also be given a follow up appointment with your specialist.

After you return home

Once home, it's sensible to take it easy for the rest of the day. If you've had a groin incision, it's best not to drive for 24 hours after the procedure and to avoid vigorous walking or heavy lifting for a few days. You can expect to have a bruise where the catheter was inserted.

If you suffer any swelling in your groin (or arm), continuous bleeding, change in the sensation or colour of your legs, or if you have chest pain, contact your doctor straight away. These can be signs of damaged blood vessels or clots.

What are the risks?

This is a commonly performed and generally safe procedure. For most people, the benefits of having a clear diagnosis are much greater than any disadvantages. However, like all invasive medical procedures, there are some risks. These can be divided into the risk of side effects and the risk of complications.

Side-effects

These are the unwanted, but usually mild and temporary, effects of a successful procedure. Some people experience some angina pain or a fluttery heartbeat during and straight after the test because the catheter and dye irritate the heart. This is not usually serious and will quickly pass. After the test, your groin (or arm) may feel sore where the catheter was inserted and the cut may bleed slightly.

Complications

This is when there are problems during or after the procedure. Most people are not affected.

However, it is possible for blood vessels in the groin to be damaged causing heavy bleeding. This blood can accumulate internally and create a painful, solid swelling called a haematoma. This can resolve itself or may require surgery. It is also possible, but uncommon, for blood vessels leading to the heart to be punctured during the procedure. If this happens, you will need urgent surgery to repair the damage.

Some people have an allergic reaction to the dye, which can cause an itchy rash that usually disappears quite quickly. Rarely the reaction can cause shortness of breath and shock - medication is on hand to treat this.

Occasionally, complications develop after the test is finished. In rare cases, the tip of the catheter can dislodge a clot of blood or fatty plaque from the wall of a blood vessel. It is possible for these to block an artery leading to the heart or brain causing a heart attack or stroke. Clots can also form near the wound, blocking blood flow to your arm or leg. If this happens, you may need surgery to restore circulation.

The chance of complications depends on the exact type of procedure you are having and factors such as your general health. Ask your specialist to explain how these risks apply to you.

Further information

The British Heart Foundation

<http://www.bhf.org.uk/hearthealth/index.asp>

WebMD

<http://my.webmd.com/encyclopedia/article/1675.60428>

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