

It is most important to follow the nurse's instructions. They will let you know when it is safe to sit up and slowly move around.

- If you feel any bleeding, pain, dizziness, sweating or a warm, wet feeling around the catheter insertion site, call the nurse immediately
- If you experience discomfort at the site, inform the nurse and you will be given pain relief
- It is normal to have some bruising around the site and for it to be slightly tender
- You may feel a small lump where the sheath was inserted. This should disappear over the next few weeks.

Before going home, a nurse will teach you how to check the site for swelling or bleeding and will explain what to do if this does happen. You will be advised not to do any heavy lifting or straining for about a week to prevent bleeding or bruising from the insertion site.

## Results of angiography

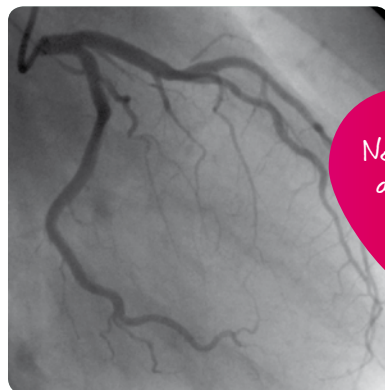
If the angiogram shows a narrowing that can be treated immediately, your cardiologist may decide to continue and perform an angioplasty (procedure to open a narrowed artery). In most cases this will include inserting one or more stents. Alternatively, an angioplasty and stenting might be scheduled for a later date, or coronary artery bypass graft surgery may be recommended. Your cardiologist will also prescribe appropriate medications for you to take.

A letter will be sent to your GP giving the results of your angiography.

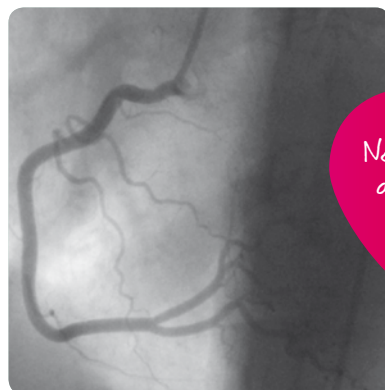
You should ask a friend or relative to drive you home and you should not be alone on the night following your procedure.



Your doctor may use the diagrams below showing the coronary arteries to explain their findings.



Normal coronary arteries on the left side of the heart.



Normal coronary arteries on the right side of the heart.

**The Heart Foundation provides additional resources on:**

- A guide to angioplasty
- A guide to coronary artery bypass graft surgery
- Reducing your risk of heart attack and stroke
- A guide to recovery after a heart attack
- Staying well with heart failure
- A guide to heart healthy eating.

These are available from your health professional or by contacting the Heart Foundation.

[www.heartfoundation.org.nz](http://www.heartfoundation.org.nz)



At the Heart Foundation we are unwavering in our determination to defeat heart disease – the disease that kills more New Zealanders than any other. But we can't do it alone. All the research we fund, materials we produce and activities we undertake, with the support of people like yourself, enable New Zealanders to learn about heart disease and make lifestyle changes, so that they can live heart healthy lives.

We want you to fulfil a lifetime and look forward to precious moments with those you love. You're not done yet. Neither are we.

With your help we can continue to produce high quality resources for New Zealanders affected by heart disease. To make a donation go to [www.heartfoundation.org.nz/donate](http://www.heartfoundation.org.nz/donate) or contact us at:

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# A guide to coronary angiography



Fulfil a lifetime

## What is coronary angiography?

Coronary angiography is an x-ray procedure or test that looks at the coronary arteries. The coronary arteries supply your heart muscle with vital blood and oxygen. Angiography provides information on the extent and location of any narrowing that may be in your coronary arteries. The x-ray images provided by angiography are called coronary angiograms.

Occasionally other tests are done at the same time as the coronary angiography to:

- Measure the blood pressure within the heart chambers
- Check the heart valve function
- Check the heart pump function.

The results of the angiography will help your doctor decide what treatments, if any, are best for you.

## What happens before angiography?

You will usually be seen at a pre-admission clinic some days or weeks beforehand. At the clinic, or when you arrive for angiography, you will likely be asked to have:

- Blood tests
- An electrocardiogram (ECG)
- A chest x-ray.

### Important – your medications

- You should bring all your medications to hospital
- If you are taking aspirin, continue to take it as it reduces the risk of clots developing in your coronary arteries
- If you are taking any of the following medication, ask your doctor or nurse whether you should continue or stop them before your procedure
  - Blood thinning medication e.g. warfarin or clopidogrel
  - Insulin medication for diabetes
  - Diuretics (water pills)
- If in doubt ask your doctor, nurse or cardiologist.

If you live in another city, arrange any necessary accommodation you and your family might need before or after your procedure. You may need to stay overnight near to the hospital.



You will usually be admitted to hospital on the day of your angiography. The doctor or nurse will explain the procedure and any risks, and can answer any questions you and your family/whānau may have. They will ask you about your medical history and note your allergies and medications. You will then be asked to sign a consent form agreeing to the procedure and any further tests or treatment that may be necessary.

On the day of your angiography you will need to:

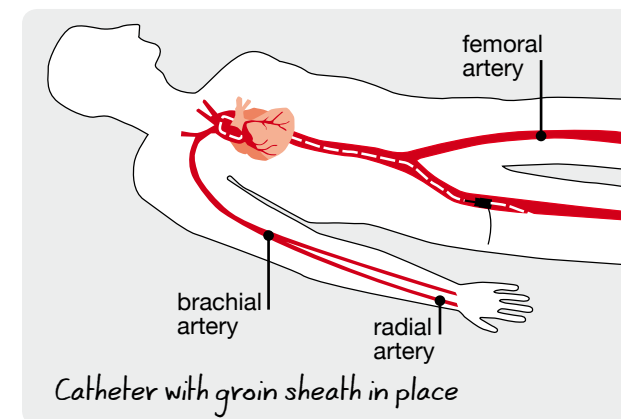
- Not eat any food although you may be encouraged to drink clear fluids before your procedure. You will be given instructions about this in your appointment letter, at the pre-admission clinic and/or from the nurse
- Have an intravenous (IV) cannula placed in a vein on the back of your hand or arm (medications are given through this as required)
- Have the catheter insertion site shaved (groin or arm)
- Change into a gown which you will wear during the procedure.

You may be given a sedative tablet, which will help you to relax. This may make you a little drowsy, but you will still be able to follow the doctor's instructions.

## What happens during angiography?

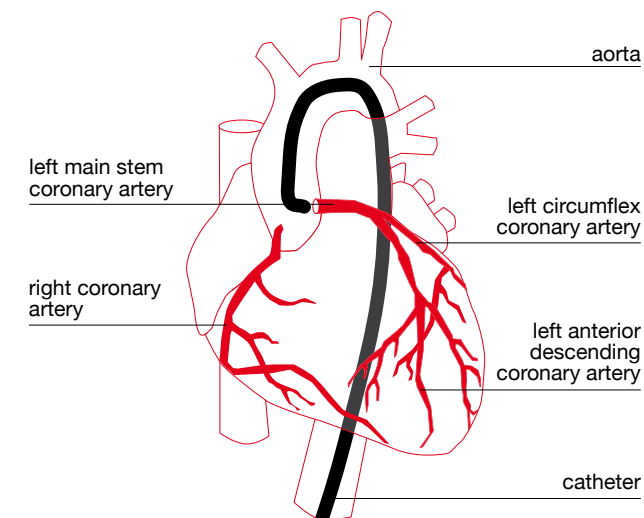
The angiography procedure takes place in a cardiac catheterisation laboratory (cath lab). You will be taken to the cath lab on a bed. Once there you will be transferred to an examination table. You will be lying directly below an x-ray camera, through which the angiography procedure is viewed. The angiography procedure usually takes about 30 minutes.

## Catheter insertion points



The catheter insertion site in your groin or arm will be cleaned and covered in sterile sheets. The doctor will inject local anaesthetic into this area. When this area is numb an introducing sheath (narrow tube) is inserted into your artery. A thin, flexible, plastic tube called a catheter is then threaded through the sheath. The catheter is guided through the artery until it reaches the part of the aorta, immediately outside the heart, where the coronary arteries begin (see diagram). This should not cause any discomfort. The catheter's movement is monitored by x-rays which your doctor can see on a television screen. You may be able to watch this too. Ask your doctor if you would like to.

## The heart being catheterised



Coronary arteries do not show up on normal x-rays, so a special x-ray contrast fluid is used.

Once the catheter is in place, this contrast fluid is injected through the catheter to highlight the blood flow in your coronary arteries. This will show any narrowings. You may be asked to hold your breath whilst x-rays are continuously taken of your heart and coronary arteries. Your cardiologist will watch and monitor the procedure on a television screen.

## Will I feel discomfort during angiography?

Please tell the doctor/nurse if you start to feel flushed or develop chest pain. Common feelings, which are normal, include:

- Slight pressure as the catheter is inserted, but not once it is inside your artery
- You may feel mild discomfort in the lower and upper arm if the catheter is inserted into the radial artery. Pain relief medication is usually given for this
- Occasional missed heart beat – but don't worry – your heart rate will be monitored throughout the procedure
- Wanting to pass urine and feeling flushed as the contrast fluid is injected.

Very rarely, an allergic reaction to the x-ray contrast fluid can happen, so it is important to know if you have had a previous reaction. If you develop itching, a rash or welts, medications are given to stop the reaction immediately.

## What happens after angiography?

The sheath in your groin or arm will be taken out at the end of the procedure. Pressure will be applied to the area for up to 20 minutes to stop any bleeding, or a tiny plug inserted into the artery to seal the insertion site. It is very important that you lie still during this time to prevent bleeding. If the catheter was inserted in your groin, you will need to lie flat for several hours. If the catheter was inserted in your arm, you will be able to sit up and walk soon after, with help from your nurse.

When you return to the ward the nursing staff will regularly check the catheter insertion site, your blood pressure, pulse and circulation of either your lower leg or arm, depending where the insertion site is.