Patient Information
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NHS Golden Jubilee

Cardiac Catheterisation or Coronary Angioplasty/Stenting

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About this leaflet

The purpose of this leaflet is to tell you about coronary angiography (cardiac catheterisation) and coronary angioplasty (stenting).

About your visit to the Golden Jubilee University National Hospital

You will have had a discussion with your doctor and you have decided to undergo a cardiac catheterisation procedure called an Angiogram. This is a test to obtain further information about your heart, and particularly your heart arteries. If the angiogram shows narrowing in your heart arteries that can be treated by angioplasty and stents, (this will be described later) we may, if you agree, do this at the same time.

In order that we can care for you to the best of our ability, you:

- must tell us if you are allergic to anything, including x-ray dye;
- will need to bring with you a dressing gown and slippers and a book or something to read to help you pass the time;.
- will be asked to stay in hospital for a minimum of 3 hours after you have had your procedure;
- must remove any make-up and nail polish in order that we are able to assess you accurately during the whole process; and.
- should leave all jewellery and valuables (other than your wedding ring and a watch) at home. You will be allowed to wear your wedding ring during the procedure.

If you wear a hearing aid, please leave it in for the procedure to allow you to hear any instructions your doctor may give you.

Fasting

For coronary procedures carried out under local anaesthetic there is no requirement to fast. You should eat breakfast before you leave home but avoid a heavy meal.

Medications

Please bring all your current medication (in their original packaging) with you when you come in for your procedure. Continue to take your medication as normal with the following exceptions:

- If you are taking Warfarin please continue this as normal.
- If you are taking Rivaroxaban(Xarelto), Apixaban(Eliquis), Dabigatran(Pradaxa) or Edoxaban (Lixiana) please stop these 48 hours before your admission.
- If you have diabetes and are being admitted on the morning of your procedure you will need to modify your insulin dosage as per your usual routine. If you are on metformin please do not take this on the morning of the procedure. If you require assistance with the management of diabetes around your angiogram, please contact the Day Unit.
- Sometimes during the angiogram we measure blood flow to decide whether or not any narrowing of the arteries needs treated. This requires a medication called adenosine. Some medications can block the effects of adenosine. Please avoid taking any of these medications for 48 hours prior to your angiogram:
  - Drugs containing theophylline e.g. Phyllocontin, Nuelin SA, Uniphyllin
  - Drugs containing dipyridamole e.g. Persantin, Persantin Retard
  - Over the counter cough and cold remedies e.g. Lemsip

Caffeine has a similar effect. **So it is very important to abstain from caffeine for 24 hours before your angiogram.** This means no coffee, tea, (including decaffeinated coffee or tea), herbal teas, chocolate, hot chocolate, chocolate ice cream or fizzy drinks. Ideally you should only drink water, squash or fruit juice for the 24 hours before your angiogram.

Before your procedure

Please report to hospital reception and let staff know that you are attending the Cath Lab for an Angiogram. You will be given directions to the Cardiac Day Unit located on level 2. You will be shown to your room and given a gown to put on. The nurse will ask you some questions about your medical history and take your blood pressure and pulse. They will insert a small tube into a vein in your arm or the back of your hand to allow the administration of any sedation, fluids and medications you may need during the procedure. The doctor will explain the procedure to you and answer any questions before asking you to sign a consent form.

Escort information

The Cardiology Day Unit is busy; you will be sharing a room with another patient or you may be in an area with several other patients.

Your escort will be asked to leave when you are being admitted but can make use of the visitors waiting area, hospital dining room and hotel facilities. If you feel that it is necessary for you to have an escort, please tell the nurse who is admitting you.

The Consultant will discuss the results with you. Every effort will be made to ensure your friend or relative will be with you for this discussion.

After your procedure

After the tube has been removed from your wrist or leg, pressure will be applied to stop any bleeding. When the artery has sealed over, a dressing will be applied to the area. You will need to rest lying quite flat or sitting in a chair for around 3 hours.

The nurses will regularly check your blood pressure, pulse and wound dressing. When you are able to sit up, you will be given something to eat and drink. After resting, you will be encouraged to move to make sure you are well enough to go home.

The doctor will explain the result of the tests before you leave. Any changes to your medication or any further plans will be discussed with you at this time and you will be given a discharge letter to take to your General Practitioner (GP).

Do not drive yourself to hospital as you will need someone to drive you home after your procedure. Do not drive for 2 days following coronary angiogram and do not drive for 7 days following stenting. Please check Driver and Vehicle Licensing Agency (DVLA) guidelines for further information.

What is coronary angiography (cardiac catheterisation)?

Your procedure will be carried out in a special x-ray room called the Cath Lab. During the procedure you will lie flat on an x-ray table. A very small hollow tube (catheter) is passed via an artery in your leg or wrist directly to your heart. The doctor will then inject an x-ray dye (contrast), which will allow x-ray pictures of your arteries to be taken. An x-ray camera will move around you, taking pictures. A team of doctors, nurses, radiographers and cardiac technicians will look after you while you are in the cath lab. You will be awake during the procedure but sedation can be given if you or your doctor feels it is necessary. The results of the test are usually provided immediately after the procedure by the Cardiologist.

Risk of complications during coronary angiography

The majority of patients (approximately 99%) have no major problems but significant complications can occur. These are listed below for your information. It is important you understand these potential complications of the procedure before you sign the consent form.

Death: 1 in 1000 (0.1%)
Heart attack (myocardial Infarction): 1 in 500 (0.2%)

If a heart artery blocks off during an angiogram, this is usually treated by immediate angioplasty and/or a combination of different medications. Very rarely it may be necessary to consider emergency bypass surgery.

Stroke: 1 in 500 (0.2%)

The catheterisation procedure can cause strokes, usually because the catheter has dislodged material from the main blood vessel in the body (aorta) and this material has obstructed the blood flow to one of the arteries supplying blood to the brain.

Other less serious complications include bleeding/bruising at the groin/arm site, a subsequent need for blood transfusion (less than 1%) and an allergic reaction to the x-ray dye (less than 1%).

What is coronary angioplasty and stenting?

Following the angiogram you may be advised by your doctor that you require an angioplasty also known as percutaneous coronary intervention or PCI. This is a procedure during which a balloon and/ or a small metal coil (stent) is used to open narrowed areas in the arteries of your heart. This improves the blood flow to your heart muscle and will help your symptoms and/or improve how your heart works.

Depending on the results of your angiogram and other tests, this procedure may be done at the same time as your angiogram. Alternatively, you may be discharged and readmitted for the angioplasty at a later date.

As with an angiogram, angioplasty involves passing a small tube via the artery in your leg or arm to the heart artery. If you are having angioplasty as a follow-on procedure, the same tube is used for both procedures. You are awake during the procedure but sedation is given if necessary. It is possible you will feel some chest discomfort during the time the balloon is inflated, if this becomes very uncomfortable, you will be given pain-killing medication.

In some cases opening the artery with a balloon is enough to give a good result and sometimes arteries are not suitable for stenting. However, in most cases, a stent will be inserted to reduce the chance of the blood vessel narrowing again in future.

Risk of complications during coronary angioplasty and stenting

The majority of patients (approximately 97-98%) have no major problems but serious complications can happen. It is important you understand the risk of these complications attached to this procedure before you sign your consent form.

Death: 1 in 500 (0.2%)
Heart attack (myocardial infarction): 1 in 50 (2%)

If this happens, it is often because a small side branch of the heart artery has blocked off during the procedure. Usually it is a minor event detected only by blood tests.

Occasionally a serious heart attack can happen following angioplasty.

Stent thrombosis: 1 in 100 (1%)

This complication happens when a blood clot forms within the stent, causing it to block off. It is serious and can result in a heart attack. Drugs are given for at least 4 weeks after the stent is inserted to reduce the risk of stent thrombosis. Sometimes we may ask you to keep taking this for up to a year. This medication must not be stopped without the agreement of your Cardiologist.

Stroke: 1 in 200 (0.5%)
Emergency “bypass surgery”: less than 1 in 500 (0.2%)

If emergency surgery is needed, you will be taken directly to the operating theatre after discussing this surgery with your cardiologist and surgeon.

Renarrowing following angioplasty or stenting (Restenosis)

The risk of heart arteries becoming renarrowed following angioplasty or stenting (restenosis) varies from 5-20%. The risk depends on a number of factors including the type of narrowing found during the original angiogram and the result of the angioplasty. If you have further chest pains following your procedure, your doctor may suggest a repeat angiogram. The balloon/stenting therapy can be repeated if an angiogram confirms that a narrowing has recurred. Your doctor may also suggest that bypass surgery would be a better option for you.

The likelihood of these potential complications actually happening depends on the severity of the heart disease you have and when and why the procedure is being carried out.

- Problems are less common during elective (planned) procedures compared to urgent or emergency procedures.
- Problems are more common in patients with severe heart disease compared to those with mild or moderate disease.

In summary, the vast majority of angiograms and angioplasties are performed without major complications but these procedures are not risk free. Angiography is the only available method of obtaining high quality pictures of the heart arteries, and in the vast majority of patients, the benefit of obtaining this information is much greater than the small risks of the procedure.

If you have any questions about the procedure, please talk to the doctor about them before signing the consent form.

Taking part in research

The Golden Jubilee National Hospital participates in a number of research studies for the treatment of heart disease.

During your stay, you may be invited to take part in such a study. Participation is entirely voluntary and will not affect the standard of care you receive.

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