Cardiac Catheterisation or Coronary Angioplasty/ Stenting

Important information for patients.

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About this booklet

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

About your visit to the Golden Jubilee

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.
• You will need to bring with you a dressing gown and slippers and a book or something to read to help you pass the time.
• Please note that you will be asked to stay in hospital for a minimum of three hours after you have had your procedure.
• Please remove any make-up and nail polish in order that we are able to assess you accurately during the whole process.
• Jewellery and valuables other than your wedding ring and a watch should be left 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

Unless you have been told that you are having a general anaesthetic, you may eat a light breakfast before you leave home, such as water, squash or fruit juice and a slice of toast.

Medications and Diet

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

1. If you are taking Warfarin, Rivaroxaban, Apixaban or Dabigatran please contact the Cardiac Day Unit on 0141 951 5886 for advice on whether you should continue or temporarily stop taking these medications.
2. If you have diabetes and are being admitted on the morning of your procedure, do not take any of medicines you are on for your diabetes such as metformin and insulin. If you are coming in later in the day and are on insulin then please take half of your usual dose of insulin with light breakfast. If you are unsure what to do, please contact the Cardiac Day Unit on 0141 951 5886.
3. Sometimes during the angiogram we measure the blood flow in the heart arteries to help us decide whether or not a narrowing definitely needs to be treated. When we are doing this we give a medication called adenosine. Some medications can block the effects of adenosine and prevent us from obtaining accurate measurements. Please avoid taking any of the medications listed below for at least 48 hours prior to your angiogram:

   • Drugs containing theophylline eg Phyllocontin, Nuelin SA, Uniphyllin
   • Drugs containing dipyridamole eg Persantin, Persantin Retard
   • Over the counter cough and cold remedies eg Lemsip
In addition, caffeine can also block the effects of adenosine. So it is very important to abstain from caffeine for 24 hours prior to 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 prior to 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 two. You will be shown to your room and given a gown and disposable underwear 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 you may have before asking you to sign a consent form.

Relatives are not able to wait with you; however there is a waiting area on the same level where they are welcome to wait.

What is a coronary angiography (cardiac catheterisation)?

This is a procedure during which a very small hollow tube (catheter) is passed via an artery (large blood vessel) in your leg or wrist directly to your heart. 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 may be provided immediately after the procedure by the Cardiologist carrying out the procedure.
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. The doctor will numb the area at the top of your leg or wrist with local anaesthetic. A fine tube will then be placed in the artery at the top of your leg or wrist. This will allow the doctor to introduce catheters into the blood vessel and pass them up 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.

**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 three 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 GP.

Do not drive yourself to hospital. Do not drive for two days following coronary angiogram and do not drive for seven days following stenting. Please check DVLA guidelines for further information.
Risk of complications during coronary angiography

The majority of patients (approx 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.
The majority of patients (approx 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 only 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 four 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 queries about the procedure, please talk to the doctor about them before signing the consent form.
Other information

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.

Notes
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