

Having an angiogram/ angioplasty to look for/ treat blockages in your blood vessels

Department of Radiology

Information for Patients

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Introduction

If you are an outpatient please read your appointment letter carefully to check which hospital your appointment is at. These procedures are usually done at Glenfield Hospital.

Please read all of this leaflet. This leaflet tells you about 2 procedures called angiogram and angioplasty. It explains how to get ready for the procedure, what is involved and what the possible risks are. It also tells you about your admission into hospital and your discharge home.

What is an angiogram?

An angiogram is a test that looks at the inside of your blood vessels (arteries). The test can show if there is a narrowing or blockage in your arteries. Blood vessels do not show up on X-rays. When we inject a special dye into the blood vessel, detailed images of arteries can be produced using X-rays. These images created are called angiograms.

If a narrowing or blockage is seen, the doctor doing the test will decide if it can be treated. This is called angioplasty treatment.

What is angioplasty?

Angioplasty involves passing a wire and balloon through the narrowing or blockage in your blood vessel (artery). The balloon is inflated to stretch the artery open. This will improve blood flow. In some cases, a small mesh tube called a stent may be inserted which keeps the blocked or narrowed artery open. The stent remains in your artery and becomes part of your artery wall.

**Health information and support is available at www.nhs.uk
or call 111 for non-emergency medical advice**

Visit www.leicestershospitals.nhs.uk for maps and information about visiting Leicester's Hospitals
To give feedback about this information sheet, contact InformationForPatients@uhl-tr.nhs.uk

Why do I need an angiogram and possibly angioplasty?

Doctors will have examined you. They decided the cause of your symptoms are due to a narrowing or blockage in the arteries that supply the affected part of your body. The symptoms you are getting depend of which part of your body is affected. An angiogram and angioplasty can be done on almost any part of the body. They will be done on the part of your body that has the problem. This could be a hand, arm, foot, leg or your tummy for example. If a narrowing is found, an angioplasty is used to treat it and improve your symptoms.

Pre-assessment

Most patients will have their procedure as a day case. This means they will go home the same day. Some patients may need to stay overnight in hospital (admitted to a ward).

You will get a phone call from a radiology nurse to talk about your condition, medication and home circumstances. During this call the nurse will explain the procedure, your hospital stay (admission) and any preparation that you may need to do. This includes how and when to do an MRSA or COVID swab test and making sure that all of your blood tests are up-to-date. This will all be explained to you.

The nurse will also answer any questions that you may have (you may want to write these down beforehand to remind you what to ask).

If you are normally on any type of blood thinning medication you will receive specific instructions about stopping your medication before the procedure. Please follow these instructions given to you.

Please tell the nurse if any of the following apply to you:

- if you have any allergies.
- if you are taking any medication that thins the blood. Common examples of these drugs include aspirin, warfarin, clopidogrel (Plavix®), apixiban (Eliquis), rivaroxaban (Xarelto), ticagrelor (Brilinta), and Dalteparin and Heparin injections. You will be asked what blood thinning medication you are taking, how much you take (the dose), and what you are taking it for.
- if you are taking any other medication, including medication for diabetes.
- if you have diabetes.
- if you are on renal dialysis or have any problems with your kidneys.
- if there is any possibility that you may be pregnant.

During this phone call the nurse will also ask you the following questions to help decide if you can have this as a day case procedure:

- Are you able to provide your own transport home? You are not allowed to drive yourself.
- Do you have anyone to stay with you after your procedure?
- Do you have any mobility problems?

How do I get ready for the procedure?

Arrangements to make:

Please arrange for someone to collect you and take you home after the procedure because you must not drive for 48 hours after the procedure.

You will also need to arrange for someone to stay with you at home for at least 12 hours or overnight (unless you are staying in hospital overnight).

Getting yourself ready:

Please be prepared to spend the whole day in hospital.

Bring an overnight bag with you in case you need to stay in hospital (toiletries, dressing gown, slippers and something to occupy your time).

Have a bath or shower in the morning or the night before.

Please continue to take your normal medication unless you have been told not to (for example, stopping medicines that thin the blood). Instructions about your medicines will be explained at the pre-assessment telephone call.

On the day of your procedure:

Follow the instructions below for eating and drinking, unless you have been told otherwise by the angiography team:

- **If you have a morning appointment** - have a light breakfast (cereal or toast with a drink).
- **If you have an afternoon appointment** - have a light lunch with a drink.
- **It is important that you continue to drink until 1 hour before your appointment time.**

Please follow any instructions given to you by your pre-assessment nurse and bring any medication into hospital with you in their original boxes.

What happens when I arrive?

When you arrive at the angiography suite at the hospital a nurse will check your details and you will be asked to wear a wristband which confirms your details.

You will be shown to a cubicle or private area and asked to take off your clothes and put on a hospital gown and paper pants.

Your blood pressure and pulse will be taken and you will be asked some questions.

A special tube (cannula) will be inserted into a vein in your hand or arm which allows us to give any medication or fluids through a drip if needed during your procedure.

You will be asked for your permission (consent) for the procedure to go ahead (see page 5). A doctor will answer any questions that you may have.

What happens during the procedure?

In the X-ray room you will be looked after by a team of nursing and radiology staff. You will lie on the X-ray table flat on your back. You will be attached to a blood pressure monitoring machine. A small monitoring device (peg) is attached to your finger to check your heart rate (pulse).

Everything will be kept clean (sterile). Your skin over an artery or vein will be cleaned with antiseptic. This is usually near where your tummy and one of your legs join (your groin), but it may be a different part of your body. You will be told where on your body this will happen. You will have most of your body covered with sterile sheets.

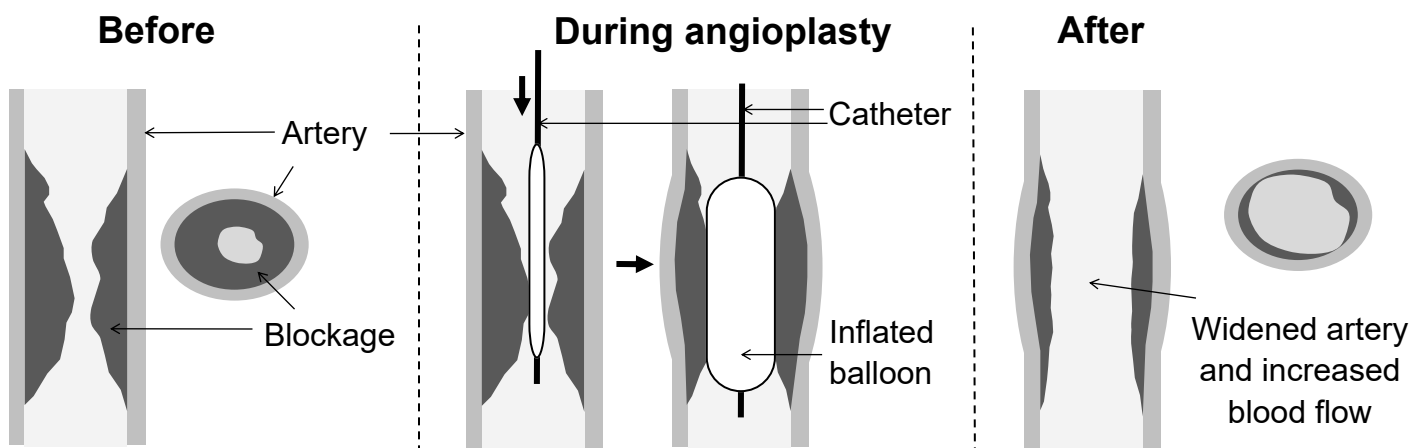
The skin and deeper tissues in the area that has been cleaned will be numbed with local anaesthetic. When the local anaesthetic is injected it will sting to start with, but this soon wears off and the skin and deeper tissues should then feel numb.

A small cut will be made in the skin. The radiologist will then place a thin flexible tube (a catheter which is about the size of a piece of spaghetti) in the artery.

A colourless liquid which shows up on X-rays (contrast liquid) will be injected through the catheter into your blood vessels. This may cause a warm feeling in your body for a few seconds.

X-rays will then be used to take pictures of your blood vessels. The radiologist will look for any narrowed or blocked arteries in these X-ray pictures. You will need to lie flat and still during the procedure, especially whilst the pictures are being taken.

If you have narrowed or blocked arteries, they may be treated at this time with angioplasty. During angioplasty a balloon is inflated within the blocked artery to stretch it open. When the balloon is inflated you may have some discomfort and a feeling of pressure but this will pass when the balloon is deflated. The pictures below show you what angioplasty looks like.



If the procedure does become uncomfortable you should tell the member of staff who will be with you throughout the procedure.

When the procedure is over, the doctor will remove all equipment. They will either press firmly on the skin entry point, for around 10 minutes, to stop any bleeding and bruising, or insert a plug device to seal the artery (called a closure device).

The doctor will explain the procedure that has just been done. If a plug closure device is used, information about this will be given to you at the time.

Are there any risks?

As with any procedure or operation, complications are possible. We have included the most common risks and complications in this leaflet, although they are different for each person. Your risks will be discussed with you before you sign the consent form.

- **Bruising** – Minor bruising is common and may take some weeks to fade. If the bruising is bad this may mean you have a lot of bleeding inside. If this happens and you are you may need a blood transfusion or an operation.
- **Bleeding at the skin entry point** – There may be a small amount of bleeding that will stop on its own or with some pressure applied. There is a small risk that, on rare occasions, the procedure may damage the blood vessel and an operation may be needed to repair it.

Less common risks are:

- **A small tear of your artery (called dissection)** - this is also a small risk. If this happens treatment may be needed to repair this. If it is not possible to repair the damage then there is a risk to the arm or leg (amputation) but this is very rare. If the procedure is for your kidney arteries then damage to the renal artery may lead to loss of the kidney if the damage cannot be repaired.
- **Blood clot (embolus)** - some of the blockage can break away and may block the artery lower down the leg which may make your symptoms worse. This might be dealt with at the time of having the procedure or you may need an operation.
- **Worse blockage or rupture of the blood vessel** - The risk of this is 1 or 2 in 100 patients (1 to 2%). This may be a serious complication. It would need more treatment to correct it.
- **Reaction to contrast liquid** - Some patients may be allergic to the contrast liquid. You may have symptoms such as feeling or being sick (nausea or vomiting), or a rash. If you get any of these symptoms at the hospital, tell the doctor, nurse or other staff looking after you. If you develop symptoms at home you should contact your GP or call 111.
- **Another treatment may be needed** - Sometimes it is not possible for the doctors to stretch the artery open. If this is the case with your artery, other treatments will be discussed with you.
- **Loss of (amputation of) the hand, arm, foot or leg (the limb) being treated.** If the procedure is unsuccessful or if there are serious complications there is a small risk of the limb needing to be amputated. The risk is about 1 or 2 in 100 patients (0.6 to 2.2%). However, the risk of needing an amputation may be higher if a blockage in the limb is not treated.
- **Risk of death** - there is a very small risk of death if there are serious complications. The risk is less than 1 in 100 patients (less than 1%).

Who will be doing the procedure?

A doctor who specialises in imaging and X-ray treatments (interventional radiologist) will do the procedure. There will also be a nurse, a radiographer and maybe a healthcare assistant. As we are a teaching hospital a student may also be present. If you wish, you can ask that a student is not present during your examination.

Asking for your permission (consent)

The doctor who referred you should have talked to you about the reasons for this procedure and any other options.

You have been referred to a hospital doctor or a Radiologist for this procedure. Radiologists are doctors who specialise in imaging and X-ray treatments. They will check that you know why the procedure is being done, its potential risks and what the chances of success are. You will then be asked to sign a consent form to confirm this. **You should feel that you have had enough explanation before you sign the consent form.**

If after talking to the radiologist you do not want to have the procedure then you can decide against it at any time.

If the radiologist feels that your condition has changed they will talk to you about whether the procedure is still needed. They may then ask you to return to your referring doctor for review.

If you feel during the procedure that you do not want it to continue we will explain the implications of not doing so to help you fully decide.

How long does the procedure take?

All procedures are different and some will take longer than others. Usually you will be in the examination room for 1 to 2 hours.

Sometimes your procedure may take longer than expected. The department also provides an emergency service and these patients will take priority. Staff will keep you informed of any delay. Please bring something to occupy your time.

What happens after the procedure?

You will be taken to the recovery ward and a nurse will carry out routine checks of your pulse, blood pressure and wound site. You will lay down flat and rest in bed for several hours to make sure your wound is healed. When you are able to sit up in bed, you will be offered food (a sandwich) and a drink.

Discharge information:

When you have completed your bed rest and you do not have any complications, you may be able to go home with your carer, friend or relative.

- **Do not drive for 48 hours from the end of the procedure. Please arrange for someone to collect you and take you home.**
- **You will need to arrange for someone to stay with you for at least 12 hours or overnight.**
- You may have a shower or a warm bath 24 hours after your procedure. A shower is preferable.

- For the next 48 hours do not lift, stretch or do any strenuous activity, for example, heavy housework, gardening, sex or walking long distances. You may do normal light activity but avoid heavy lifting for 48 hours after the procedure.
- It may be best to take a week off work depending on the job you do. Please ask the doctor or nurse if you are unsure.

Important advice after angioplasty

- **Smoking** – if you are a smoker please be aware that smoking can affect the success of the procedure. Patients who continue to smoke have a greater risk of their treated arteries becoming blocked again and of having a stroke or heart attack. The nurse will be able to give you information about the support that is available to help you stop smoking. If you would like help to give up smoking, please telephone the NHS Stop Smoking service on 0300 123 1044.
- **Exercise** – people who have cramping in 1 or both legs when walking can improve their walking distance by taking regular exercise. We would encourage gentle exercise after 1 week. Walking, cycling and swimming can also help. Please check with your doctor before starting an exercise programme.

What do I need to look out for after my procedure?

Important information:

If your legs or feet become cold, pale, painful or numb please contact the ward you were on urgently for advice:

If you had your procedure done at Glenfield Hospital, phone Ward 23 on 0116 258 3700.

If you had your procedure done at Leicester Royal Infirmary or Leicester General Hospital, phone Leicester's Hospitals switch board number and ask to be put through to the ward you were on. The hospital switchboard number is 0300 303 1573.

It is important that you look out for the following:

- **Bleeding** - it is normal to see a spot of blood on your plaster. If you notice a slight bleed, please press firmly on the plaster for 10 minutes. **If the bleeding continues, seek medical advice urgently. If you begin to bleed a lot from your wound site, this is an emergency and you need to dial 999. Please lie flat and get someone to apply firm pressure to the wound.**
- **Bruising** - this is normal. However, if a lump or a swelling occurs, please apply pressure and phone ward 23 at Glenfield Hospital on 0116 258 3700 for advice.

What are the risks from exposure to radiation in this procedure?

The main risk from having X-rays is an increase in the risk of getting a cancer in the future. This risk is thought to be very small. We are all exposed to natural background radiation every day of our lives. This comes from the sun, food we eat, and the ground. Each examination gives a dose on top of this natural background radiation. The risks of radiation are slightly higher for an unborn child so we must ask some patients aged 10 to 55 years about their periods and possibility of being pregnant. The radiation from the X-rays during an angiogram test and angioplasty procedure is equivalent to receiving about 1 to 2 years of natural background radiation.

The benefits of this examination are likely to outweigh any potential risk, and the risk from not having the examination could be greater. We will take all safeguards to minimise the amount of X-rays you get.

What if I need to talk to someone before my appointment?

If you have any questions or concerns, or cannot make the appointment please call the radiology department on 0116 258 8765 and select option 7. Monday to Friday 9am to 5pm, excluding bank holidays.



What if I need to talk to someone after my procedure?

If you have any questions please call:

Angiography Department, Glenfield Hospital: 0116 250 2318 (Monday to Friday, 9am to 5pm).

For out of hours: Please ring Ward 23 at the Glenfield Hospital on 0116 258 3700.

If you had your treatment at the Leicester Royal Infirmary or Leicester General Hospital, phone the ward you were on. Leicester's Hospitals switch board number is 0300 303 1573.



اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
على هذه المعلومات بلغة أخرى، الرجاء الاتصال على رقم الهاتف الذي يظهر في الأسفل
જો તમને અન્ય ભાષામાં આ માહિતી જોઈતી હોય, તો નીચે આપેલ નંબર પર કૃપા કરી ટેલિફોન કરો

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