

Having an angiogram/ angioplasty

Department of Radiology
Information for Patients



Radiology Leaflet No. 1

University Hospitals of Leicester **NHS**
NHS Trust

Caring at its best

This leaflet has been produced with reference to guidelines from the Royal College of Radiologists.

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1. Introduction

This leaflet tells you about the procedure called angiography (or having an angiogram) and angioplasty. It explains what is involved and what the possible risks are.

2. Referral and consent

The referring clinician should have discussed the reasons for this procedure with you in the clinic and you should make sure that you understand these before attending for the procedure. You will be referred to a radiologist for this procedure.

Before the procedure you will need to sign a consent form. This form says that you need to know what risks are involved with the procedure. This is a legal requirement and ensures that you are fully informed about your procedure.

If the angiogram/angioplasty is being done as a pre-planned procedure you should have plenty of time to discuss the situation with your consultant and the radiologist (a specialised x-ray doctor) who will be doing the angiogram/angioplasty, and perhaps even your own GP. If you need the angiogram/angioplasty as an emergency, then there may be less time for discussion, but none the less **you should have had sufficient explanation before you sign the consent form.**

If after discussion with your hospital doctor or radiologist you do not want the procedure carried out then you can decide against it.

If the radiologist feels that your condition has changed or that your symptoms do not indicate such a procedure is necessary then he/she will explain this to you, communicate with the referring clinician and ask that you return to your referring clinician for review. At all times the radiologist and referring clinician will be acting in your best interests.

3. What is an angiogram / angioplasty?

An angiogram is an X-ray examination which will show if there is a narrowing or blockage in your blood vessels (arteries). Normally, blood vessels do not show up on ordinary X-rays, however by injecting a contrast medium (a liquid that shows up on X-rays), into an artery and taking X-rays immediately afterwards, detailed images of arteries can be produced.

If there is a narrowing or blockage the radiologist may carry out an angioplasty to treat it, if this is the case it will be discussed with you at that time.

An angioplasty is the treatment for blocked or narrowed arteries. This is usually caused by atherosclerosis (also called plaque or fur) lining the wall of the artery. A thin tube (called a catheter) with a balloon on it is passed into your artery. The balloon is placed in the blocked or narrowed part of the artery and inflated to stretch the artery and improve the blood flow through it.

In some cases a stent may be used. A stent is a small mesh tube (attached to a catheter) which keeps the blocked or narrowed artery open. The stent remains in your artery and becomes part of your artery wall.

4. Preparing for the procedure

The test can be done as an inpatient or as a day case. The radiologist will have chosen the best for you depending on your current medical condition and home circumstances.

You may be asked to attend for a pre-assessment meeting with the vascular, or radiology nurse specialist. At this meeting you will be asked about your condition and any medical problems you may have. You should bring any tablets or medicines with you to this meeting. You may need to have blood tests.

4. Preparing for the procedure (continued)

The procedure will be explained to you and you will be told how to prepare for the procedure including what time to come into the hospital and whether you will be an inpatient or day case patient. Any paper work will be completed and you will be able to ask any questions about the procedure that you may have.

You need to tell the hospital doctor who sent you for the test (and the radiology department when you get the appointment) if:

- If you have any allergies, in particular to iodine
- If you have reacted previously to an intravenous contrast medium, the dye used for kidney X-rays and CT scanning
- If you are diabetic (please read the information on page 12)
- If you take medicine to thin your blood
- If you are on renal dialysis or have any problems with your kidneys
- If there is any possibility that you may be pregnant.

Inpatient – If the test is being done as an inpatient you will be admitted to the ward. You should follow the instructions sent with your admission information about contacting the ward and when you should arrive on the ward. Your length of stay is usually overnight.

Day case patient – If the test is being done as a day case you should follow the information sent to you about the appointment for this test. Your length of stay will be 4 to 6 hours. Minor complications may occur such as bruising, which may mean that you have to be kept in hospital overnight. This occurs in about one in ten cases.

4. Preparing for the procedure (continued)

Sedation – You may receive a sedative to relieve anxiety. Sedation will help you relax for the procedure but it will not put you to sleep. Sedation is only given after a discussion with the consultant either before or during the procedure. On rare occasions sedation can cause some problems with breathing. You must not drive for three days after this procedure.

Following sedation you should be aware:

For 12 hours: You should be accompanied by a responsible adult.

For 24 hours do not:

- Drink alcohol
- Operate any machinery or do anything requiring skill or judgement
- Make important decisions or sign any documents
- Climb ladders
- Return to work until after this period of time.

For three days: do not drive a car or ride a bicycle.

5. On the day of your angiogram/angioplasty

On the day of your appointment please have a light breakfast (cereal or toast with a cup of tea or coffee). It is important that you continue to drink until one hour before your appointment time. This will help prevent any damage to your kidneys.

Have a bath or shower in the morning or the night before. Take all of your usual morning medications and bring all your medication with you. On the ward you will be asked to put on a hospital gown and disposable pants, you may also bring your own dressing gown, slippers and toiletries.

6. What happens during an angiogram/angioplasty?

The procedure is usually performed in the radiology department. You will lie on the X-ray table, generally flat on your back. Everything will be kept sterile, and the radiologist and nursing assistant will wear a theatre gown and sterile gloves. Your skin will be cleaned with antiseptic and you will have some of your body covered with sterile sheets.

An injection of local anaesthetic will be given into the skin in your groin, this may sting a little until the area becomes numb. In addition light sedation may be given, if requested. Please discuss this with a nurse on arrival in the radiology department. When your groin becomes numb, the radiologist will place a thin catheter in the artery. Contrast medium will be injected through the catheter and X-rays will be taken to find any narrowings or blockages in the arteries. The contrast medium will give you a warm sensation but this will last only a few seconds.

The angiogram should not be painful. There will be a nurse, or another member of staff looking after you. If the procedure does become uncomfortable for you, they will be able to arrange for you to have some painkillers.

If the radiologist decides that your narrowed or blocked arteries are suitable for angioplasty treatment then this will be explained to you. This treatment may take place straight away or another appointment may be arranged for it. When the balloon is inflated at the site of the narrowing or blockage you may experience some discomfort and a sensation of pressure but this will pass when the balloon is deflated. Further X-rays will be taken to confirm that the artery is unblocked.

Once the radiologist is satisfied that the X-rays show all the information required, the catheter will be removed and the radiologist will then press firmly on the skin entry point, for several minutes, to prevent any bleeding.

7. How long will the procedure take?

Every patient's situation is different and it is not always easy to predict how complex or how straightforward the procedure will be. Some angiograms, for example those looking at the large arteries in the legs, are generally straightforward and do not take very long, perhaps half an hour. Other angiograms, looking at smaller arteries, may be more complex and take longer, perhaps over an hour. As a guide, expect to be in the X-ray department for about an hour and a half altogether.

If you have an angioplasty as well to treat a narrowing or blockage in the arteries this may take longer.

8. What happens after the procedure and when I go home?

Nurses will carry out routine observations, such as taking your pulse and blood pressure, to make sure that there are no problems. They will also look at the skin entry point to make sure there is no bleeding from it. You will stay in bed for a few hours until you have recovered.

The nurse will discuss your post-procedure care including how to look after yourself at home.

You may be allowed home on the same day, or kept in hospital overnight. This will be discussed with you. If you are an inpatient you will be cared for on the ward.

If you are a day case patient you will be cared for in either the X-ray department or the ward depending upon which hospital your examination is being done in until you go home. **You will need someone to drive you home afterwards.**

When you have been escorted home you must make sure that an able bodied person remains with you until morning. You must lie flat with your feet up until the following morning, and get up only to use the toilet.

9. The 24 hours after the procedure

- Take things easy for the next 24 hours
- Check your wound site every 30 minutes until you go to bed
- Drink plenty of fluid
- Do not cover the wound site with a dressing
- Do not take a bath or shower
- Do not lift anything, bend or stretch
- Do not climb a large number of steps
- Do not take any strenuous exercise or play sport for 48 hrs.

It is recommended that you do not drive for three days although you may need to wait longer if you have discomfort.

10. Checking your wound site

Your puncture site will heal very quickly and does not require a dressing. If you should experience any bleeding at the site it will show itself in one of two ways:

- **Fresh blood will be seen coming from the wound site or**
- **Blood will collect under the skin and cause a hard swelling.**

In both circumstances you must get the person who is staying with you to apply pressure over the site. They should press firmly for 5 minutes. If this does not stop the bleeding continue to apply pressure yourself while the person with you calls the ward for advice (See page 10 for contact numbers).

Other things to look out for:

If your legs or feet become cold, pale, painful or numb, or if you have excessive bruising please contact the ward urgently for advice (See page 11 for contact numbers).

11. Are there any risks or complications?

Angiography is a very safe procedure but as with any procedure or operation complications are possible. We have included the most common risks and complications in this leaflet. The possibility of these complications occurring will vary for each patient and the possibility of these complications happening to you will be discussed with you before you sign a consent form.

Bruising – There will be a bruise around the site where the needle has been inserted. This is quite normal and will normally go away on its own. There is a chance that the bruise may become large and uncomfortable, but this does not happen very often. If a large bruise develops there is a risk of it getting infected. This may then need treatment with antibiotics or surgery. Some bruising and tenderness is to be expected.

The radiologist doing your angiogram will be able to tell you how often problems with bruises occur in your hospital, and how they are treated.

Discomfort in the leg and groin may persist for 2 to 3 weeks but should not be severe.

Circulatory problems – This is a risk of 1 to 2%.

Sometimes damage can be caused to the artery by the catheter. Bits of the plaque or blood clots may be knocked off and cause blockage of arteries lower down. These may need to be treated by another radiological procedure like the one you are about to have or even an operation. If it is not possible to repair the damage then there is a risk to the limb (amputation) but this is very rare.

Despite these possible complications, the procedure is normally very safe and carried out with no significant side effects at all.

11. Are there any risks or complications? (continued)

Contrast medium – Some patients may be allergic to the contrast agent so radiology staff will ask you a series of questions about your health before the test starts. Some patients get a warm feeling and/or a metallic taste when the injection is given and sometimes can feel sick. If you do get these feelings they usually last about 1 minute.

The overall risk of any complication including minor ones is 5 to 6%.

12. What if I need to talk to someone?

Contact numbers: **Leicester Royal Infirmary:**

Ward 21: 0116 258 5429 or 0116 258 6571

Vascular nurse specialist: 0116 258 6437

Leicester General Hospital:

See telephone numbers in your appointment letter.

13. How do I get the results?

The detailed results of the procedure will not be given to you immediately.

If the problem with your blood vessels appears treatable with angioplasty the radiologist may explain this and either arrange a further appointment for the treatment or possibly proceed to perform the angioplasty straight away. You will be kept informed at all times.

13. How do I get the results? (continued)

If further treatment is required discussion may be necessary between the radiologist and the doctor who referred you for the procedure.

You will be given an explanation on how to get the results of your procedure. The results are normally discussed with you in detail by the hospital doctor who referred you for the procedure. You will be sent an appointment to attend the outpatient department.

14. Do I need time off work?

It may be wise to take a week or longer off work depending on the job you do, as you may have some discomfort from bruising. You are advised not to drive or do anything strenuous immediately.

15. Information for patients with diabetes

If you are diabetic and are taking **Metformin (also called Glucophage, Glucovance, Duformin, Orabet or Glucamet) tablets**, continue to take these as normal until the time of your examination.

When you arrive in the radiology department please let us know you are diabetic.

At the time of your examination you will be asked if you are taking Metformin (also called Glucophage, Glucovance, Duformin, Orabet or Glucamet) before the doctor, radiographer or nurse gives you the injection of contrast medium.

15. Information for patients with diabetes (continued)

If you are taking Metformin (also called Glucophage, Glucovance, Duformin, Orabet or Glucamet) it is necessary for you to stop taking these tablets for a few days after the procedure. This is to avoid the build up of acid in the blood.

Stopping the tablets temporarily will not cause any harm to you.

15. Information for patients with diabetes (continued)

After the examination you will need to contact your General Practitioner (GP) surgery to arrange a blood test to determine whether it is safe to start taking your tablets again. At this time you do NOT need to see your GP and will NOT need a GP appointment.

The blood test should not be performed until at least 2 days (48-72 hours) after your procedure. A small sample of your blood will be taken by an assistant in the GP's practice and sent to a laboratory for analysis. Once the results of your blood test are known to your GP, he/she will be able to advise you if it is safe to restart your tablets. Again, you will NOT need to arrange an appointment with your doctor.

The surgery will either contact you within a week of the blood test or you should contact the surgery to find out the result of the test and whether you can restart your tablets.

If you are diabetic and taking insulin or any other diabetic treatment, but not Metformin (also called Glucophage, Glucovance, Duformin, Orabet or Glucamet) then there is no need to alter your treatment or have a blood test.

Please ask the radiographer, nurse or doctor dealing with you if you would like further advice.

16. Recommendations following angioplasty

Smoking – If you were a smoker before the procedure you should never smoke again as smoking can affect the success of the procedure. Patients who continue to smoke have a much greater risk of their treated arteries re-blocking and of having a stroke or heart attack leading to disability or death. The nurse will be able to give you information on the help that is available to the NHS patient to support and encourage you to stop smoking. If you would like help to give up smoking please telephone resolution on 0800 022 4332

Diet – The nurse specialist can refer you to a dietician if you need guidance to lose weight.

Exercise – People who have intermittent claudication (cramping in the leg/s when walking) can improve their walking distance by taking regular exercise. Walking, cycling and swimming or any age appropriate exercise can be of benefit. Always check with your doctor before starting an exercise programme.

17. Background radiation

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 radiation from the X-rays during an angiogram/angioplasty examination is equivalent to receiving approximately 1-2 years of natural background radiation.

18. Other sources of information

Websites

For general information about radiology departments visit the **Royal College of Radiologists website:** www.goingfora.com

For information about the effects of x-rays read the NRPB publication: 'X-rays how safe are they', on the **Health Protection Agency website:** www.HPA.org.uk

Please note that the views expressed in these websites, do not necessarily reflect the views of UHL or the NHS.

University Hospitals of Leicester website:

www.leicestershospitals.nhs.uk

NHS Direct: For health advice or information you can call NHS Direct on: 0845 46 47.

19. Additional hospital information

How was it for you?

If you wish to make any comments or suggestions regarding your visit to the Radiology Department please fill in a suggestion form or speak to a member of staff. Suggestion forms are located in all waiting areas within the department.

University Hospitals of Leicester NHS Trust also has a Patient Information and Liaison Service (PILS), and you are welcome to contact them on:

Freephone: 08081 788337

email: pils.complaints.compliments@uhl-tr.nhs.uk

We review our information leaflets on a regular basis. If you have any comments about how we can improve these leaflets please speak to a member of staff.

19. Additional hospital information (continued)

Directions and car parking

Hospital car parking is available to all hospital patients and visitors. Spaces are limited so please allow plenty of time to find a car parking space. A charge is payable. Dedicated disabled parking bays are also available.

Drop off bays exist at the main entrances, these bays have a 20 minutes maximum stay.

Parking charges are payable, please check tariff boards or the hospital website for full details. As well as the hourly rates there are a range of saver tickets available for patients and prime carers.

Marked disabled bays exist outside of the public car parks for which there is no charge. If you park in the car parks the fee will apply.

Certain qualifying benefits as notified by the Department of Social Security entitle the patient to free or reduced parking. For more information contact the Cashiers office.

Bus services to the hospital

Our aim is to ensure that there are car parking spaces available for those who really need to use them. We encourage you to use public transport or walk to the hospital if you are fit and well.

For information on bus routes and times contact Traveline on 0871 200 2233. Our Hospital Hopper shuttle bus service links our three hospitals with Beaumont Leys Centre, Hamilton Centre, the Railway station and St Nicolas Place (Park and Ride hub). The buses run from 6:30am until 7pm every 30 minutes from Monday to Friday. The nationally recognised concessions are valid on buses in Leicester including the Hospital Hopper. Contact the UHL Travelwise Manager on 0116 258 3796 for more information on the Hospital Hopper.

19. Additional hospital information (continued)

Relatives and escorts

You may wish to bring a friend or relative to accompany you to and from the Radiology Department when you have your examination although they may not always be allowed into the examination room. This may be useful if you do not understand English very well or if you have any special needs.

Children

Baby changing facilities are available. Please ask to be shown to them if you wish to use them.

We are unable to offer childcare facilities. If you need to bring your children with you, please bring along an adult who can supervise them whilst your examination is being carried out. Radiology staff are not able to supervise your children.

Facilities available

Refreshments: Refreshments including hot and cold drinks are available in the hospital. Please ask a member of staff for directions.

Shops: Each hospital contains a shop selling magazines, newspapers, sweets and drinks. Please ask a member of staff for directions.

20. Any questions?

If you have any questions write them down here to remind you what to ask when you speak to your consultant or radiologist.

[illegible]

If you would like this information in another language or format, please contact the service equality manager on 0116 250 2959

إذا كنت ترغب في الحصول على هذه المعلومات في شكل أو لغة أخرى، يرجى الاتصال مع مدير الخدمة للمساواة في 0116 250 2959.

আপনি যদি এই লিফলেটের অনুবাদ - লিখিত বা অডিও টেপ'এ চান, তাহলে অনুগ্রহ করে সার্ভিস ইকুয়ালিটি ম্যানেজার ডেভ বেকার'এর সাথে 0116 250 2959 নাম্বারে যোগাযোগ করুন।

如果您想用另一种语言或格式来显示本资讯，请致电 0116 250 2959 联系“服务平等化经理” (Service Equality Manager)。

જો તમને આ પત્રછાનું લેખિત અથવા ટેપ ઉપર ભાષાંતર જોઈતું હોય તો મહેરબાની કરી સર્વિસ ઇક્વાલિટી મેનેજરનો 0116 250 2959 ઉપર સંપર્ક કરો.

यदि आप को इस लीफलेट का लिखती या टेप पर अनुवाद चाहिए तो कृपया डेव बेकर, सर्विस ईक्वालिटी मैनेजर से 0116 250 2959 पर सम्पर्क कीजिए।

Jeżeli chcieliby Państwo otrzymać niniejsze informacje w tłumaczeniu na inny język lub w innym formacie, prosimy skontaktować się z Menedżerem ds. równości w dostępie do usług (Service Equality Manager) pod numerem telefonu 0116 250 2959.

ਜੇਕਰ ਤੁਹਾਨੂੰ ਇਸ ਲੀਫਲੈਟ ਦਾ ਲਿਖਤੀ ਜਾਂ ਟੇਪ ਕੀਤਾ ਅਨੁਵਾਦ ਚਾਹੀਦਾ ਹੋਵੇ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਡੇਵ ਬੇਕਰ, ਸਰਵਿਸ ਇਕੁਅਲਿਟੀ ਮੈਨੇਜਰ ਨਾਲ 0116 250 2959 'ਤੇ ਸੰਪਰਕ ਕਰੋ।

Ak by ste chceli dostať túto informáciu v inom jazyku, alebo formáte, kontaktujte prosím manažéra rovnosti služieb na tel. číslo 0116 250 2959.

Haddaad rabto warqadan oo turjuman oo ku duuban cajalad ama qoraal ah fadlan la xirii, Maamulaha Adeegga Sinaanta 0116 250 2959.