Patient Information

University Hospitals Coventry and Warwickshire NHS Trust

Radiology

Angiography

You have been advised by your hospital consultant that you need to have an angiogram. You have been referred to the Radiology Department to have this procedure.

This information leaflet has been produced to give you general information and answer most of your questions. It's not intended to replace the discussion between you and your consultant, but it may act as a starting point for discussion.

If you have any concerns or need further explanation, please contact the Radiology team on **024 7696 7115**.

Please inform us before your procedure on **024 7696 7115** if:

- You have allergies to contrast (X-ray dye)
- You are, or might be, pregnant
- You weigh more than 200kg (31 stone)

We advise that you leave any valuable possessions at home.

Please remember to bring all the medicines you are taking, including inhalers, with you to the X-Ray department.

Please read this leaflet carefully to ensure you're successfully prepared for the procedure.

What is an angiogram?

An angiogram is a minimally invasive procedure used to obtain images of your blood vessels.

A catheter (small plastic tube) is inserted into an artery, usually in your groin. A special dye (X-ray contrast) is injected into the catheter. X-ray pictures are then taken as the dye passes along the arteries.

The procedure is performed by an Interventional radiologist (a specialist X-ray doctor). They are assisted by a radiographer and a radiology nurse.

It's not always easy to predict how long the procedure will take. As a guide, expect to be in the Radiology Department for at least one hour.

As the radiologist performs the angiogram, they may feel it's appropriate and possible to proceed on to an angioplasty.

What is angioplasty?

Angioplasty is a procedure to re-open a narrowed or blocked artery.

A small balloon on the end of a catheter is inflated to re-open the narrowed or blocked artery. This technique means that surgery is often avoided.

A slightly larger catheter is used to perform the angioplasty. This slightly increases the risk of bleeding afterwards.

You may feel the radiologist changing and moving catheters in and out of your groin artery. Although this may be uncomfortable, it should not be painful.

You may feel pressure for a short time while the balloon is inflated.

Sometimes, the radiologist may need to insert a ‘stent’. A stent is a small metal cage that expands in your artery. This keeps the vessel open and allows more blood to flow through it.

If the radiologist feels it is appropriate, they may proceed on to an angioplasty or may arrange this for a later date. The radiologist will discuss this with you during the procedure.

Referral and consent

Before the procedure, the radiologist will discuss it with you. If you do not want it carried out, you are within your rights to decide against it.

If the radiologist feels that your condition has changed or symptoms don’t indicate the procedure is necessary, they will explain this to you. They will communicate their reasons with the referring clinician and ask you to return to your referring clinician for review.

At all times, the radiologist and referring clinician will be acting in your best interests.

Before the test

It’s important you understand the test and its implications. If you have any questions, please ask the radiologist. We want you to be as relaxed as possible for the procedure.

Please tell the radiologist or nurse if:

- You have had any allergies or bad reactions to drugs or other tests.
- You have asthma, hay fever, or any heart or kidney problems.
- You have diabetes.

If you're taking blood thinners

If you are taking any blood thinning medication, such as warfarin, dabigatran, rivaroxaban, tinzaparin or clopidogrel, this may need to be stopped five days before the procedure. This is not always possible, or you may need to take additional short-acting blood thinners for a few days before.

If you're at home, taking any of these medications and have not received instructions to stop them, please contact the Radiology Department on 024 7696 7115.

Preparation

- You don't need to stop eating before the procedure, but it is important that you drink plenty before the procedure. **We advise one pint (500mls) of water or squash above your normal fluid intake.**

Important information for patients on a fluid-restricted allowance:

If you are under the care of a renal specialist or follow a fluid-restricted diet, include this preparation as part of your fluid allowance.

Clopidogrel and aspirin

- If you are taking clopidogrel and aspirin therapy and have **not** had a coronary stent fitted in the last 12 months, aspirin should be stopped 5 days before the procedure. You will need to start taking aspirin again after the procedure.

Metformin

- If you are taking **metformin,** please inform the ward staff. This **may** have to be stopped for 48 hours after the procedure.

Painkillers

- Some painkillers (non-steroid anti-inflammatory drugs) **may** have to be stopped on the day of the examination for 24 hours. Please discuss this with the nurses on the ward. Paracetamol may be used instead.

You will have had some blood tests to check your blood clotting ability and kidney function.

The Fluoroscopy Department will schedule a time for your procedure to take place. You will be brought down to the Department on your bed or in a wheelchair.

The procedure will be explained to you by the radiologist. You can ask any questions you may have.

During your examination

The procedure will be explained to you by the radiologist. You will be able to ask any more questions you have.

You will be taken into the Fluoroscopy X-ray room. You will be asked to get onto the X-ray table and lie on your back.

The radiologist will inject a local anaesthetic into the skin of your groin to freeze the area. You may still feel some pressure sensation, but if you feel any pain during the procedure inform the radiologist. You will be asked to lie as still as you can.

The catheter is then inserted into the artery at the groin. Using X-rays to help, the radiologist moves the catheter into the correct position. X-ray pictures are taken whilst the dye is injected down the catheter into the arteries. Sometimes the injection may cause a hot feeling for a short while or the feeling that you have passed urine.

At the end of the procedure, the catheter is taken out. The radiologist then presses firmly on the skin entry point for several minutes to prevent any bleeding. Alternatively, the radiologist may insert a small stitch (arterial closure device).

Risks of the procedure

As with any procedure or operation, complications are possible. The possibility of these complications happening to you will be discussed with you before the procedure takes place.

The doctor or nurse will discuss these with you when you sign the consent form.

Injury or tearing of the artery

Major complications after an angioplasty are uncommon. However, inserting the catheter can lead to injury or tearing of the artery resulting in blockage of the artery. This may be either at the site of angioplasty or lower down the circulation towards the foot.

Dealing with this may require emergency surgery. In extremely rare circumstances, this may eventually lead to amputation.

Emboli

The balloon used during angioplasty also poses a risk of emboli (blood clots) forming around it or dislodging a clot already there. These may travel along the artery and block a smaller blood vessel further down the leg.

Kidney function

Rarely the contrast medium used for angiograms can cause deterioration in kidney function. This is usually only temporary but occasionally can be more long-term. This is of particular concern for people who already have impaired kidney function. You will have a blood test to assess your kidney function before the procedure.

Allergic reactions

Rarely, allergic reactions can occur with X-ray contrast, only very rarely requiring any treatment. You will be asked about allergies by the radiologist at the time.

Despite these possible complications, the procedure is normally very safe. At all times during and after the procedure, the staff will monitor your responses to this treatment to reduce the effects of any complications.

X-rays

X-rays are a type of 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. Exposure to X-rays carries a small risk, but your doctor feels that this risk is outweighed by the benefits of having the test. We will take all safeguards to minimise the X-rays you receive.

After your examination

If you have any problems after the procedure, please speak to the radiologist or nurse looking after you.

The nurses will check your groin, blood pressure and feet regularly.

You'll be taken back to the ward so the nurses can observe you for 4 hours after the procedure.

If a stitch was used to close the artery, you must lay flat for the first 45 minutes. You may then sit up after 90 minutes. After this you'll be allowed to move around gently.

If a stitch was not used, you'll be asked to lie flat for 4 hours. This is so your groin does not start to bleed. **It is important that you do not try to sit up or get out of bed**. You can sit up gradually after 4 hours.

You should eat and drink normally. Please **drink** at least **1 pint (500ml) of water in the first 2 hours after the procedure**.

Important information for patients with renal impairment

You will be kept on intravenous fluids for the remainder of the 6 hours. You should have a further kidney function test before you are discharged home from the ward. You may require special monitoring and referral to a renal specialist if your kidney function has decreased by 10%.

If you have any problems after the procedure, please speak to staff on the ward. The radiologist will generate a report to inform the Vascular Team.

What can I do to help?

If you smoke, you must make a sincere and determined effort to stop completely.

Continued smoking will cause more damage to your arteries and increase the risk of the artery re-narrowing. It also increases the chance of you having a heart attack or stroke.

General health measures such as losing weight, a low-fat diet and regular exercise are also important. These actions will help to slow the 'hardening of the arteries' which has caused the problem. These actions may also avoid the need for further treatment in the future.

Safety

Patients aged 12 – 55 years, could you be pregnant? The risks of radiation are higher for an unborn child. You'll be asked to confirm that you are not pregnant before the procedure can proceed.

If you'd like to discuss the information in this leaflet, please contact a Vascular Nurse Specialist.

Suzanne Davies, Lauren Wells & Zoe Noakes on **024 7696 6914**.

Or

Alison Kite on **024 7696 5569**

Other sources of information

For general information about radiology departments visit 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 UHCW NHS Trust or the NHS.

The Trust has access to interpreting and translation services. If you need this information in another language or format, please contact the number on your appointment letter and we will do our best to meet your needs.

The Trust operates a smoke-free policy.

Did we get it right?

We would like you to tell us what you think about our services. This helps us make further improvements and recognise members of staff who provide a good service.

Have your say. Scan the QR code or visit: www.uhcw.nhs.uk/feedback

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