West Yorkshire
Association of Acute Trusts

NHS

Angiography and Angiogram

This leaflet is to help answer some of the questions you may have about your procedure. It explains the benefits and risks, as well as what you can expect when you come into hospital.

This information has been put together by clinical representatives from across the acute hospital trusts in West Yorkshire and will be reviewed in September 2025. If you require this information in a different format, please contact your treatment team through the details provided on your appointment letter.

West Yorkshire
Vascular Service | WYVaS

Angiography and Angiogram

Angiography

Angiography is a special X-ray examination of blood vessels. Normally, blood vessels cannot be seen on X-rays, so we inject a special dye called contrast medium into an artery through a special fine plastic tube called a catheter. This means when we take an X-ray shortly afterwards, an image called an angiogram is produced in which your blood vessels can be seen in detail. This helps us to diagnose your issue and put in place a treatment plan in place.

Why do I need an angiogram?

Arteries supply blood and oxygen to the organs and muscles in your body. An angiogram allows doctors to see if there is a blockage or narrowing, known as stenosis, in the blood vessel to the part of the body these arteries supply. This procedure is often used to diagnose blood vessel problems in the legs. The angiogram helps your specialist to determine if you require any further treatment, including procedures like an angioplasty, stenting, or medication.

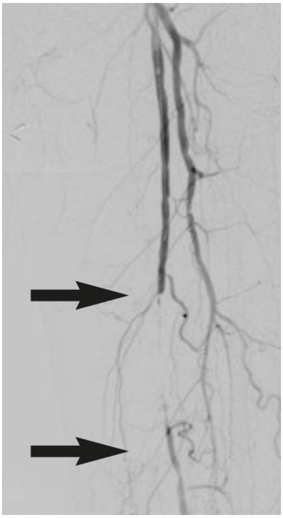

Image shows the blockage in the blood vessel (between the arrows).

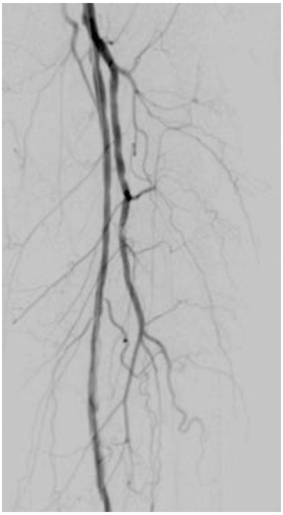

Image shows the same blood vessel after the angioplasty. The blockage has been successfully treated, and this patient's symptoms were improved.

What causes arteries to narrow?

Healthy arteries are flexible and smooth on the inside, meaning blood can easily flow through them. As a person gets older, fatty deposits (plaque) can start to build up, hardening the arteries and making them narrower. This process is called atherosclerosis.

As well as ageing, there are several other factors that contribute to the build-up of plaque. These include:

- An unhealthy diet that is high in fat
- High blood pressure
- Smoking
- Diabetes

Pre-admission

Prior to the date of your angiogram, you will have a pre-assessment appointment to check you are well enough to have the procedure. This may involve taking some blood samples and undergoing some other routine tests. Unless you have been told otherwise, you should have your breakfast and take any medication as normal on the morning of your angiogram. You will also be asked to bring an overnight bag (e.g. nightclothes, toothpaste, toiletries etc.) with you on the day of your procedure, as you may be advised to stay overnight (even if you are listed as a day-case patient).

The pre-admission assessment is also a good opportunity for you to ask the treatment team any questions you may have about the procedure, although you can discuss any concerns you have at any time.

The anaesthetic

Most angiogram procedures are performed under a local anaesthetic, which is used to numb the area around the catheter entrance point. This is normally your groin but can also be your wrist. As the dye passes around your body, you may get a warm feeling, which some people can find a little unpleasant. This will soon pass and throughout the procedure there will be a nurse, or another member of clinical staff, looking after you. If the angiogram becomes uncomfortable, they will arrange for you to have some pain relief through the needle in your arm.

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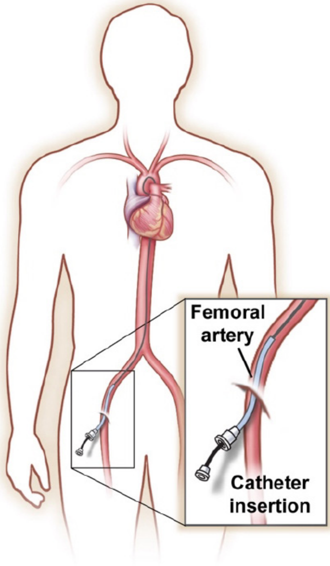
Interventional radiology suite

Angiogram

Once you have arrived in the Radiology Department, you will be welcomed by the staff and changed into a theatre gown, as well as having your pulse and blood pressure checked. A small tube called a cannula will be placed into a vein in your arm, in case you need any medication during your procedure.

Your angiogram will be carried out by a radiologist – a doctor who specialises in using medical images to diagnose and treat patients. A radiographer will operate the X-ray equipment. The procedure will take place in an interventional radiology suite, similar to the one pictured, where we use X-ray machines to see the arteries under repair. We need to keep everything as clean as possible during the angiogram, so both the radiologist and the nurse will be wearing theatre gowns and sterile gloves.

You will lie down on your back on the X-ray table and a device will be placed on your finger to monitor your breathing and pulse. A cuff on your arm will be used to check your blood pressure throughout the procedure. An area near to your groin or wrist will be exposed and cleaned with antiseptic fluid and numbed with local anaesthetic before a small cut is made to access one of your arteries. The rest of your body will then be covered with a large drape or towel. A needle is then inserted into your artery and a fine wire passed through the needle. The needle is then withdrawn and a short tube called a sheath is placed over the wire into the artery.



The radiologist will then insert a long flexible tube called a catheter through the sheath and advance it to the damaged section of artery. The radiologist will use the X-ray equipment to make sure the catheter and wire are moved into the right position before the wire is withdrawn. The special dye is then injected through the catheter and X-rays are taken. Please be aware that the table and the X-ray camera will move throughout the procedure.

Once the radiologist is satisfied that the x-rays show all the information required, the catheter will be removed and firm pressure will be applied to the entry point for several minutes to prevent any bleeding.

An angiogram can vary in terms of duration. This can be due to your medical history, or the complexity of the procedure. If the angiogram is looking at the large arteries in the legs, that is generally more straightforward and is usually completed within 30 minutes. Other angiograms that are looking at much smaller vessels are more complex and may take over an hour. As a guide, you should expect to be in the X-ray department for around two hours.

Recovery

You will be taken to a Radiology Day Case area on a trolley. The nurses will carry out routine observations, such as taking your blood pressure and pulse. They will also check the entry site to make sure there is no bleeding. During this period, you will need to stay lying down for between 2-4 hours. This helps the wound around the entry site to heal.

Depending on your circumstances, you will:

- Remain in Radiology Day Case and be discharged home from there. You will need collecting from hospital and someone must stay with you overnight. If you live alone, we may ask that you stay overnight on a ward.
- Be admitted to a ward – you will be transferred from Radiology Day Case to the ward where you will remain overnight and be discharged the next day.

You should not drive or do anything strenuous for approximately 48 hours after your procedure. Following that, you should be able to return to normal activities. You can shower or bathe as normal 24 hours after the procedure.

An appointment will be made for you to see your consultant as an outpatient to check on your progress and discuss any findings and subsequent treatment.

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Complications

An angiography is a very safe and relatively painless procedure but, as with all operations and procedures, there is a small risk of complications.

Possible minor complications include:

- An infection where the cut was made, causing the area to become red, hot, swollen and painful – this may need to be treated with antibiotics
- A mild reaction to the dye, such as an itchy rash – this can usually be controlled with medicine

Possible serious complications include:

- **Kidney damage due to the dye**
- **A heart attack or stroke**
- **Damage to a blood vessel, causing internal bleeding**
- **A serious allergic reaction to the dye (anaphylaxis)**

These serious complications are very rare. For example, an estimated 1 in 1,000 people will have a stroke that causes permanent numbness or weakness after having angiography.

What can I do to help myself?

If you are a smoker, you should make every effort to stop. Smoking will continue to damage your arteries, increase the risk of heart attack and stroke, and will lengthen your recovery time. You should also try to eat a healthy diet and take regular exercise. All our hospital grounds are smoke-free.

Contact us

- If you have any questions or concerns, please do not hesitate to contact a member of the medical team caring for you.

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The West Yorkshire Vascular Service (WYVaS) is an overarching single, shared regional vascular service to ensure that patients, regardless of where they live within West Yorkshire, have access to the same high-quality treatment.

Service provided by:
Airedale NHS Foundation Trust
Bradford Teaching Hospitals NHS Foundation Trust
Calderdale and Huddersfield NHS Foundation Trust
The Leeds Teaching Hospitals NHS Trust
The Mid Yorkshire Hospitals NHS Trust

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