

Angioplasty / Stent Insertion

Radiology

Introduction

The aim of this leaflet is to explain the procedure for patients undergoing an angioplasty or stent insertion. This leaflet is not meant to replace informed discussion between you and your doctor, but can act as a starting point for outlining risks and benefits.

What is an angioplasty?

It is a minimally invasive procedure which means it is all done through a hole less than 3mm wide. A balloon on a long fine tube is used to widen an artery which has become narrowed or open a blockage. Having stretched the artery the balloon is deflated and removed.

What is a stent insertion?

A stent is like a spring which is placed into an artery in order to improve blood flow and relieve symptoms. It may be used if the result of the angioplasty is not good enough alone.

Who has made the decision?

Images may have already been taken of the affected arteries using ultrasound, Computed Tomography (CT) or Magnetic Resonance Imaging (MRI). The choice about which treatment is best for you will be made together with your doctor. This will be based on the risks and benefits of the treatment and your individual circumstances.

Who will carry out the procedure?

An interventional radiologist will perform the angioplasty/stent insertion. They have special expertise in interpreting the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

Consent

We must seek your consent for any procedure or treatment beforehand. Written consent will be obtained from yourself, by a doctor, to give permission to have the procedure carried out. The doctor will explain the benefits, risks and alternatives where relevant before you sign the consent. A referral will be made and your appointment will be arranged. If you are unsure about any aspect of the procedure or treatment proposed, please do not hesitate to ask for more information.

The prevention of infection is a major priority in all healthcare and everyone has a part to play.

- Please decontaminate your hands frequently for 20 seconds using soap and water or alcohol gel if available
- If you have symptoms of diarrhoea and/or vomiting, cough or other respiratory symptoms, a temperature or any loss of taste or smell please do not visit the hospital or any other care facility and seek advice from 111
- Keep the environment clean and tidy
- Let's work together to keep infections out of our hospitals and care homes.

What are the benefits of having an angioplasty or stent?

- Can restore or improve blood flow
- May relieve or reduce symptoms making you feel better and possibly enable you to do more than you could before your procedure.

What are the potential risks of having an angioplasty or stent insertion?

Serious complications from angioplasties and stent insertions are uncommon but, please be aware of the following:

- Bruising around the puncture site
- Blockage of an artery after angioplasty due to either 'clot formation' or 'collapse of the artery walls'. Clot formation may be treated by removing it with suction devices or possibly with clot dissolving drugs
- Blockage of the artery by a small tear of the lining. This is treated by stenting
- When the balloon is inflated it is possible for the artery to rupture. This is very rare and can sometimes be repaired in the X-ray department with a covered stent
- Pieces of the atheroma (furring up of the artery wall) may break off and block smaller arteries in the thigh or lower leg. We can sometimes remove (by suction) these parts causing the blockage or you may need surgery
- 'Amputation' (loss of limb). This is rare and varies according to how severe the artery disease is in each individual patient
- Death as a result of the procedure is extremely rare
- **Radiation:** Ionising radiation may cause cancer many years or decades after the exposure. We are all at risk of developing cancer during our lifetime. 50% of the population is likely to develop one of the many forms of cancer at some stage during our lifetime. It has been estimated that undergoing this procedure may increase the chances of this happening to you to about 0.1 %. The requesting doctor and the doctor that will be performing your examination feel that the benefit of having the test or treatment outweighs the risk from the exposure to radiation
- If you have further questions about the risk of exposure to radiation, please talk to your doctor during consent.

Please contact the X-ray Department as soon as you receive this appointment if you think you may be pregnant.

Contrast agent: The "dye" that is used to show up the blood vessels can have side effects for a minority of patients:

- 3 in 100 patients experience nausea and hot flushes
- 4 in 10,000 may have more serious effects including breathing difficulties.

If a side effect does occur the doctors, nurses and radiographers are trained to deal with it.

Are there any alternative treatments and what if I decide not to have it done?

The consultant in charge of your care will discuss the alternatives with you, which may include surgery. They will also discuss the consequences of no treatment.

Are you required to make any special preparations?

Angioplasties and stent insertions are usually carried out as a day case procedure under local anaesthetic (a medication used to numb an area of the body to reduce pain).

- You can eat and drink as normal unless a doctor or nurse has specifically said otherwise
- You may have been asked to have your bloods taken prior to the procedure to check for clotting

- If you have any allergies or have previously had a reaction to the dye (contrast agent), you must tell the radiology staff before you have the procedure

If you are taking the following blood thinning medication and the doctor has not discussed them during consent please contact the X-ray Department when you receive this information:

- Acenocoumarol, Apixaban, Aspirin, Bivalirudin, Dabigatran, Dalteparin, Danaparoid, Dipyridamole, Edoxaban, Enoxoparin (clexane) Fondaparinux, Heparin, Phenindione, Tinzaparin, Warfarin.

Where will the procedure take place?

The procedure will take place in the angiography suite; this is located within the Radiology department. This is similar to an operating theatre in which specialised X-ray equipment has been installed.

If you are a patient on a different ward, the angiography suite will liaise with your ward nurse and porters to arrange transport for your procedure.

What actually happens during an angioplasty / stent?

You will be asked to get undressed and put on a hospital gown. Observations of your heart rate and blood pressure will be taken during and after the procedure. This is routine. You will lay flat on your back for the procedure but will be given a pillow for your head. A team of nurses and radiographers will assist the interventional radiologist during the procedure. The radiologist uses an ultrasound probe and X-rays to allow accurate diagnosis and treatment of the narrowed artery or vein through a 2 to 3mm incision.

Local anaesthetic is injected at the site where they will enter the guidewires into the body (this may be your arm or either groin). This may sting for a few seconds but then will go numb. The Interventional Radiologist places various catheters and wires up or down the artery or vein. They will use contrast to highlight the narrowed artery or vein throughout the procedure. You may be able to feel this but there should be no pain.

If the radiologist feels the balloon inflation did not keep the artery or vein expanded, a stent may need to be inserted at the same time. This will be discussed with you before the procedure. All tubes will be removed at the end of the procedure but the stent will remain in your artery or vein

Will it hurt?

When the local anaesthetic is injected it will sting for a few seconds but should then be numb during the procedure. After this, the procedure is not usually painful. Some people experience discomfort when the balloon is inflated. There will be a nurse next to the X-ray table to look after you. As the contrast passes around your body you may get a warm feeling which some people can find a little unpleasant. This should not last long. Pain relief may be given at the time of the procedure if appropriate. You should discuss this with the radiologist carrying out your procedure on the day.

How long will it take?

Every patient is different, and it is not always easy to predict; however, expect to be in the procedure room for about 60 minutes. Afterwards, you will have to stay on the day ward for bed rest and further observations.

What happens afterwards?

- You will return to the radiology day case unit or your ward if you are an inpatient
- The nurse on the unit will take 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 need to lie flat and rest in bed to recover after your procedure. The length of bed rest will depend on the access site for the procedure and can be anywhere between two to four hours. After your bed rest, you will be able to sit up and eventually walk around before being discharged

- If your access is in the arm, your recovery time may be shorter
- If you are a day case patient, please arrange for somebody to collect you. We will telephone them and let them know when you are ready to go home.

Going home advice

- Do not undertake heavy or physical activities for the next 48 hours
- On returning home, it is advised that you undertake minimal activity on the evening of discharge
- You will need somebody to stay with you at home for 24 hours following the procedure. You will also need access to a telephone during this time
- You will need to regularly check the procedure site for oozing or swelling
- You must not bathe for five days after the procedure but you may shower
- The dressing can be removed 48 hours after the procedure
- If a closure device (Exoseal) has been used at your puncture site, please carry the information card with you for 90 days. After this time the plug will have dissolved
- Special care must be taken when driving especially if your access site is in the groin. Staff will give you further information on the day unit but we advise you do not drive for the first 48hrs after the procedure but if bruising over the groin is preventing you from braking quickly and effectively, it is advised you do not drive until the bruise has resolved. Further information can be found on the DVLA website: <https://www.gov.uk/guidance/general-information-assessing-fitness-to-drive>
- Any concerns should be reported to the interventional radiology department or your GP within working hours. Outside of working hours please call 111.
- It is unlikely that the puncture site will bleed, but if this happens, you should follow the instructions below:
 - Stop what you are doing and lie down
 - Press firmly on the site with your fingers
 - Call NHS helpline on **111** or **999**, say you have had an angioplasty and the site is bleeding. If appropriate an ambulance will be sent out to you or you will be given advice
- You will receive a phone call from the department the day after your procedure (or the following Monday if your procedure was on a Friday) to check there have been no complications and that you were satisfied with your care.

Trainees

A radiology trainee (qualified experienced doctors training in radiology) or occasionally a student may be present during the examination. If you would prefer them not to attend, please let a member of radiology staff know.

How to contact us

If you have any personal access needs, require wheelchair access or wish to speak to a member of staff for further information please contact the interventional radiology department on 01902 307999 ext. 86344 between 08:30 and 16:30 as the department cannot help with queries outside of these hours.

Angiography Suite / Interventional Radiology

Second floor Radiology A2
New Cross Hospital
Wolverhampton
West Midlands
WV10 0QP

Patient Advice and Liaison Service

New Cross Hospital

01902 695362

Email: rwh-tr.pals@nhs.net

Further information

Further information about your examination is available from The British Society of Interventional Radiologists at:

<http://www.bsir.org/patients/angioplasty-and-stenting/>

English

If you need information in another way like easy read or a different language please let us know.

If you need an interpreter or assistance please let us know.

Lithuanian

Jeigu norėtumėte, kad informacija jums būtų pateikta kitu būdu, pavyzdžiui, supaprastinta forma ar kita kalba, prašome mums apie tai pranešti.

Jeigu jums reikia vertėjo ar kitos pagalbos, prašome mums apie tai pranešti.

Polish

Jeżeli chcieliby Państwo otrzymać te informacje w innej postaci, na przykład w wersji łatwej do czytania lub w innym języku, prosimy powiedzieć nam o tym.

Prosimy poinformować nas również, jeżeli potrzebowaliby Państwo usługi tłumaczenia ustnego lub innej pomocy.

Punjabi

ਜੇ ਤੁਹਾਨੂੰ ਇਹ ਜਾਣਕਾਰੀ ਕਿਸੇ ਹੋਰ ਰੂਪ ਵਿਚ, ਜਿਵੇਂ ਪੜ੍ਹਨ ਵਿਚ ਆਸਾਨ ਰੂਪ ਜਾਂ ਕਿਸੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਿਚ, ਚਾਹੀਦੀ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

ਜੇ ਤੁਹਾਨੂੰ ਦੁਆਸ਼ੀਏ ਦੀ ਜਾਂ ਸਹਾਇਤਾ ਦੀ ਲੋੜ ਹੈ ਤਾਂ ਕਿਰਪਾ ਕਰਕੇ ਸਾਨੂੰ ਦੱਸੋ।

Romanian

Dacă aveți nevoie de informații în alt format, ca de exemplu caractere ușor de citit sau altă limbă, vă rugăm să ne informați.

Dacă aveți nevoie de un interpret sau de asistență, vă rugăm să ne informați.

Traditional Chinese

如果您需要以其他方式了解信息，如易读或其他语种，请告诉我们。

如果您需要口译人员或帮助，请告诉我们。