



York and Scarborough
Teaching Hospitals
NHS Foundation Trust

Coronary Angioplasty

Information for patients, relatives and carers

① For more information, please contact:

Vascular Imaging Unit

Telephone: 01904 726065

York Hospital, Wigginton Road, York, YO31 8HE

Telephone: 01904 631313

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Introduction

Your Consultant thinks that you may require a coronary angioplasty. This is a treatment used to stretch narrowed or blocked coronary arteries.

The coronary arteries supply the heart with blood. Narrowed or blocked arteries can cause angina and heart attacks. You may already have undergone a diagnostic procedure called an angiogram to assess your coronary arteries. If this is not the case it will be performed prior to the angioplasty to ensure that the treatment is indicated.

This leaflet explains what the procedure involves, outlining the risks and benefits. We wish to ensure you have sufficient information in order for you to make an informed choice about your care and treatment before signing your consent form.

We recommend that you read this leaflet carefully. Please ask your cardiology team about anything you do not fully understand or want to be explained in more detail.

What does the procedure involve?

A fine plastic tube will be inserted through an artery in your leg (groin) or arm (wrist) and will be passed into the heart under X-ray guidance. This tube can then be used to inject contrast fluid (dye) into each of the coronary arteries to highlight on X-ray any areas that require treatment.

Should a narrowing be identified, a balloon catheter is passed through the affected part of the artery and inflated in order to stretch it.

It may be necessary to make several inflations to widen the narrowed artery. Usually one or more thin metal mesh tubes (stents) are inserted to support the artery wall and keep it open. Once the procedure is complete the balloon is deflated and removed, leaving the stents in position. A thin film of cells will then grow through the stent to line the inner surface.

Intended benefits of the procedure

The aim of the procedure is to improve blood flow to your heart muscle by stretching your narrowed coronary arteries. This is usually done to improve angina. If you have recently had a heart attack, it may also reduce the risk of future heart attacks.

Radiation Risk

Performing a coronary angioplasty requires the use of x-rays, a type of ionising radiation, which can cause harm including cancer. Everybody is exposed to ionising radiation all of the time as background radiation, for example a four hour plane flight exposes you to the same radiation dose as a chest x-ray. We all have a one in three chance of developing cancer.

A relatively high dose of radiation is required to perform a coronary angioplasty. If the procedure is prolonged, there is a one in 1000 risk of experiencing some skin changes, which may result in reddening of the affected area. There is a one in 10,000 chance of developing a cancer.

This risk has been considered by your consultant cardiologist who has a legal duty to ensure that the potential benefit to you is greater than the risk from your increased radiation exposure.

The operator carrying out your procedure has a legal duty to ensure that your exposure is as low as reasonably practicable.

Coronary angioplasty is not normally recommended for pregnant women. It is essential that you inform the medical team responsible for your care if you suspect you are pregnant.

Potential complications/risks

A coronary angioplasty is considered to be a safe procedure, however occasionally complications can arise. These include:

- **Bleeding:**
Following your procedure the tube will be removed and pressure applied to stop the bleeding. If an artery in the wrist has been used, an inflatable cuff will be applied. Air will be gradually released from the cuff as bleeding from the artery stops. If an artery in your groin has been used, then a member of staff will remove the tube and apply pressure until the bleeding has stopped. Occasionally bleeding can reoccur and pressure will be reapplied over the puncture site.
- **Blood vessel damage:**
Damage to the blood vessel can occur during the course of the procedure. Occasionally a further procedure to reseat the artery may be required.
- **Haematoma formation:**
A haematoma is a collection of blood under the skin. Should a haematoma form a member of staff will apply pressure to the area in order to disperse the blood into the surrounding tissues. A cold compress may be applied.

- Bruising:
Bruising at the puncture site is common, but will usually disappear over a couple of weeks.
- Infection:
There is a small risk of infection at the puncture site.
- Allergic reactions:
There is a small risk that you could experience a reaction to the contrast agent (dye) used during the procedure. This could range from a rash to more severe symptoms such as breathing difficulties. These situations will be dealt with promptly by the staff in the imaging department, should they occur.
- Heart attack:
There is a one in 50 chance of experiencing a heart attack during or immediately following the procedure.
- Stroke:
There is a one in 1000 chance of experiencing a stroke during or immediately following the procedure.
- The artery may re-narrow:
After the procedure the artery may re-narrow; if this occurs you will probably experience angina and a repeat angioplasty may be required. There is a one in 1000 chance of this occurring.

- Heart surgery:
Should complications arise it may occasionally be necessary to transfer you to another hospital for emergency heart surgery. There is a one in 200 chance of this occurring.
- Death:
As with some other acute procedures there is the risk of a complication occurring that could result in death. There is a one in 400 chance of this occurring.

A skilled team of doctors, nurses and other healthcare professionals, who are involved in this type of procedure every day, will care for you. If problems arise, we will be able to assess them and deal with them appropriately.

Clinic Visits

With this information leaflet your Consultant may have given you a prescription for tablets called Clopidogrel. If this is the case, you should take these for seven days before the procedure. There will be clear instructions for their use provided by the pharmacist. Following the procedure you will normally take these tablets for up to a year.

Before you come into hospital

Preparation

You may be staying in hospital overnight and will need to bring with you any items you will require; such as toiletries and nightwear. **You will need to bring with you a dressing gown and slippers.**

It will be helpful if you can shave your groins before coming into hospital. If you are unable to do this, we will do this for you on the day of your procedure.

Instructions for eating and drinking

On the morning of your procedure, you may take your usual medications with an early light breakfast (such as tea and toast), but other than this have nothing to eat or drink until after the procedure. If there proves to be a delay to your procedure time, a light meal will be offered to you in the imaging department if appropriate. **It is important that you follow these instructions.**

Your normal medicines

We will usually ask you to continue with your normal medication so please bring it with you. Exceptions are:

Blood thinning medications (anticoagulants)

If you are taking **warfarin, apixaban, rivaroxaban, dabigatran, edoxaban, prasugrel or dipyridamole**, an alternative method of thinning your blood may be required before the procedure. Changing treatment can take several days so please contact your cardiologist's secretary so that arrangements can be confirmed. You need to do this at least seven days before the procedure.

Diabetic

If you are diabetic, you should follow the appropriate instructions below.

- **Treated with a special diet**

You do not need to follow any specific instructions other than the above.

- **Treated with tablets**

If you take Metformin (Glucophage) do not take it for 48 hours following the procedure.

- **Treated with insulin.**

If you take insulin you should take your usual dose on the morning of your procedure before your early breakfast. Please ensure that your breakfast is sufficient taking into account your insulin dosage. The nurses will do regular checks on your blood sugar levels. You will usually be able to have something to eat after the procedure. Please bring your insulin with you so that you can continue with this treatment throughout your stay in hospital.

If you have any questions or concerns about your diabetic treatment, please contact whoever normally advises you about your diabetes.

If you do not feel well in any way, for example have a cough, fever, diarrhoea or vomiting prior to the procedure, please contact the Vascular Imaging Unit.

Please remember to bring your usual medications in with you as it is important that we are aware of your current treatment.

On the day of the procedure

You will be admitted to the Vascular Imaging Unit on the day of your procedure. We will welcome you, check your details and ask a range of questions relating to your general wellbeing and medical condition. We will fasten an armband containing your hospital information to your wrist. We will ask you to change into a gown ready for your procedure.

Prior to the procedure, the consultant cardiologist will be available to answer any queries and you will be asked to sign a form consenting to the treatment (reference FYCON109-3 Percutaneous Coronary Angioplasty). You sign the consent form to confirm that you agree to the procedure and understand the information given to you. The form will be kept in your patient notes and you will be given a copy for your own records.

Please let us know if you are allergic to anything, for example: medicines, foods, plasters or any other preparations.

Before the procedure you will be asked to remove any jewellery and a record will be made of any dentures or crowned teeth. Please avoid bringing valuable items into hospital with you.

During the procedure

A coronary angioplasty is performed using a specialised X-ray machine. We will ask you to lie on a padded surgical table which has a wide range of equipment around it. You will be attached to a machine, which will monitor your heart.

Before the procedure an antiseptic solution is used to clean the skin and local anaesthetic will be injected into the area. A small plastic tube will then be inserted into an artery. This can be either in your wrist or groin. You will usually be given some sedation to help you relax.

The X-ray equipment will be brought close to your chest while the cardiologist positions the catheters/ tubes into your arteries. Whilst the balloon is being inflated, you may feel some chest discomfort. This is due to the balloon causing a temporary blockage of blood flow through the artery and is normal. It is important to tell your cardiologist, or a member of the team, if you feel any pain during the procedure.

A coronary angioplasty may take from 30 minutes to two hours depending on the complexity and number of narrowings in your coronary arteries.

The team will be speaking to each other about your procedure. One of the team will keep you informed of progress.

After your procedure

If an artery in your wrist has been used, the tube will be removed in theatre and the inflatable cuff applied. The amount of blood thinning medication you have received during the procedure will determine how soon the cuff can be deflated. If you feel well you may be able to sit up very soon after the procedure.

If your procedure has been undertaken using an artery in your groin, the tube will remain in your artery when you come out of theatre and the time of its removal determined by the amount of blood thinning medication you have received and the consultant's clinical assessment. You will need to lie flat for some time following the procedure. This could be up to three hours.

Initially you will be looked after in the Vascular Imaging Unit and be attached to a heart monitor. This is a mixed sex area, however your privacy and dignity will be maintained at all times.

You will be closely observed by the nursing staff with regular checks on your blood pressure, pulse and puncture site to ensure there is no bleeding. If you feel any pain or discomfort, especially chest pain, report it to the nursing staff immediately. A heart recording may be performed.

Following the immediate recovery period you may be transferred to either the Coronary Care Unit or the Cardiology Ward (Ward 32). The Coronary Care Unit offers high dependency care within a large mixed sex environment. Each bed area can be screened from the next by the use of curtains. Should your recovery period be spent on Ward 32 you may be in a mixed sex 'recovery bay', to allow for close cardiac monitoring, then will be moved into single sex accommodation when fully recovered from your procedure.

Leaving hospital

Length of stay

You may go home on the day of your procedure or the following day. This will be determined by your consultant following the procedure. Very occasionally you may need to stay in hospital for a day or so longer. You may need to have blood tests taken the following morning either at hospital or at your GP surgery.

Medication when you leave hospital

Before you leave hospital, the pharmacy will give you any extra medication that you need to take when you are at home.

If you have had a stent inserted, you will be given a supply of medication to prevent blood clots forming on the stent and blocking it. You will be advised how to take this drug. This is vital to ensure that your stent/s remain open. You will need your GP to provide a repeat prescription before your hospital supply runs out. You will probably need to continue this medication for 12 months after your stent – if anyone advises you to stop this, you must tell him or her to consult with your cardiologist first. If you experience any problems with your medication please contact your GP.

Convalescence

How long it takes for you to fully recover from your test varies from person to person. Once home, it is important to rest quietly for the remainder of the day. It is best to avoid doing any demanding activities, such as heavy lifting, pushing or pulling for at least a week. Gentle walking, for example round the house, garden or local area should not be a problem.

Mild discomfort at the site where the tube was inserted may be treated with simple painkillers such as paracetamol.

It is important that you drink plenty of fluids over the next two to three days in order to allow your body to excrete the dye used during the procedure.

Personal hygiene

You will be advised not to bathe or shower on the day of your procedure. Avoid hot baths for a couple of days. The nursing staff will give further advice on the day. Do not apply talcum powder or creams to the puncture site until it is fully healed.

Driving

If you have an ordinary driving licence, you should not drive in the first week after having an angioplasty. You do not need to notify the DVLA but you should notify your insurance company. If your angioplasty has been performed following a heart attack, this may be longer and you will be advised by nursing staff prior to your discharge.

If you have an LGV (large goods vehicle) or PCV (passenger-carrying vehicle) licence, you need to let the DVLA know you have had an angioplasty. Usually you will not be allowed to drive for six weeks and you will need to have further tests before you can drive an LGV or PCV again.

Work

Your return to work will depend partly on your job. You should expect to be off work for a minimum of a week after your angioplasty, unless advised otherwise by your Consultant. Please feel free to discuss this with the nursing staff prior to your discharge from hospital.

Procedure results

We will usually explain the results and any recommendations about your treatment to you before you leave the hospital. Many people find it helpful to have someone with them when their results are explained. A full report of your procedure will be sent to your doctor (GP) within a few days.

Wound

After the procedure it is common to experience some bruising and discomfort around the puncture site. You may develop a small lump in your groin. A lump the size of a pea is very common; should the lump become larger than a 50 pence piece then you should follow the advice below related to bleeding. For the first few days after you get home you should check your wound site regularly, but if there is any redness, if you have swelling or if you are concerned, contact your GP or contact the nursing staff on the Vascular Imaging Unit on 01904 726065.

In the following circumstances you **must** seek further advice:

- If you experience fresh bleeding from the puncture site.

or

- If you develop a lump at the puncture site larger than a 50 pence piece:

Summon help

Get your helper to dial 999

State you have had an arterial puncture

Apply pressure to the puncture site

Continue to press until the ambulance arrives

- If you get numbness of the limb or it becomes cold and/or blue.

or

- If you experience severe chest pain which is not relieved after 10 minutes by GTN spray:

Summon help

Dial 999

Outpatient Appointment

You will be sent an outpatient's appointment to attend an Outpatients clinic within three to six months of your angioplasty.

Contact details

If you have any specific concerns that you feel have not been answered and need explaining please contact the following:

- Nursing staff, Vascular Imaging Unit,
York Hospital
Mon-Fri 08.00 to 17.00
(01904 726065)

If you take warfarin and this has not already been discussed with your cardiologist in clinic please contact their secretary on the appropriate number below:

- Dr Pye's secretary: 01904 725606
- Dr Crook's secretary: 01904 725677
- Dr Durham's secretary: 01904 726474

Additional Information

The following Internet websites contain additional information that you may find useful:

www.patient.co.uk

Information fact sheets on health and disease.

www.nhs.uk

On-line Health and Treatment Encyclopaedia and information on NHS services.

www.bhf.org.uk

British Heart Foundation website.

Driving Vehicle Licensing Agency (DVLA)

Telephone number: 0870 600 0301 Website:

www.dvla.gov.uk

Tell us what you think of this leaflet

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:
Vascular Imaging Unit, York Hospital, Wigginton Road,
York, YO31 8HE or telephone 01904 726065.

Teaching, training and research

Our Trust is committed to teaching, training and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

Patient Advice and Liaison Service (PALS)

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services.

PALS can be contacted on 01904 726262, or email yhs-tr.patientexperienceteam@nhs.net.

An answer phone is available out of hours.

Leaflets in alternative languages or formats

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website:

www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/

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