Gloucestershire Hospitals
NHS Foundation Trust

Patient Information

Fistulogram or Fistuloplasty

Introduction

This leaflet provides information for renal patients with a fistula or graft who need a fistulogram or fistuloplasty.

The leaflet answers some of the commonly asked questions about having a fistulogram or fistuloplasty. It also explains the benefits, risks and alternatives to the procedure.

What is a fistulogram?

Fistulogram (also known as venogram) is an X-ray of the blood vessels. A contrast dye will be injected into your fistula/graft and X-rays taken immediately after. This will produce detailed images of your fistula/graft.

What is a fistuloplasty?

Fistuloplasty (also known as venoplasty) is a procedure to treat a blockage or a narrowing in your dialysis fistula/graft. A catheter (flexible tube) is inserted through the blockage in your vein and a special balloon on the catheter is then inflated. This will open up the blockage and allow more blood to flow through the vein.

Why do I need the procedure?

Your doctor or vascular access nurse are aware of a problem with part of your fistula/graft. You may already have had a Doppler ultrasound scan that has shown a blockage or narrowing in your fistula/graft. It has been decided that a fistulogram/fistuloplasty is the best treatment option for you.

Who will carry out the procedure?

The procedure will be carried out in the Imaging Department by a team of specialists. This will include consultant interventional radiologists, radiology nurses, imaging care assistants and radiographers. The interventional radiologists have expertise in image-guided procedures and the reading of the images produced.

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How do I prepare for the procedure?

Usually, you will be asked to attend the Imaging (X-ray) Department at either Gloucestershire Royal or Cheltenham General Hospital on the day of your fistulogram / fistuloplasty. Members of the interventional radiology team will explain the procedure in more detail before the procedure is carried out.

In some circumstances, you may be admitted to the renal ward before your procedure.

Giving your consent (permission)

We want to involve you in all decisions about your care and treatment. You will be asked to sign a consent form that says you have agreed to the treatment and that you understand the benefits and risks of the procedure. If there is anything you do not understand or you need more time to think about, please tell the staff caring for you.

It is your decision; you can change your mind at any time, even if you have signed the consent form.

Please let staff know straightaway if you change your mind. Your wishes will be respected at all times.

If you would like to read our consent policy, please let a member of staff know.

Is there an alternative treatment?

There is no alternative to this procedure. However, it may be possible for the vascular surgeons to create a new fistula if this procedure is not possible.

Do I need to do anything to prepare for the procedure?

You can eat a light breakfast and take your usual medications as normal. Sometimes you will be asked not to take specific medications such as those that thin the blood.

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If you are taking the following medications: Clopidrogel, Apixaban, Rivaroxaban, Prasugrel, Asasantin or warfarin, please discuss this with your renal doctor or a member of the Interventional Radiology team before attending for the procedure. You may need to stop taking these medications a few days before the procedure. Full details will be in your appointment letter.

In some circumstances, it may not be suitable to have the procedure done as a day case. If this is the case, you will be admitted to a ward before the procedure.

If you have any allergies, you must let the doctor know.

If you have previously reacted to intravenous contrast medium, the dye used for kidney X-rays and CT scanning you must let a member of staff know before the procedure takes place. You should also tell the doctor if you have diabetes, if you have had any problems with blood clotting or you have asthma.

What happens during the procedure?

You will be asked to change into a hospital gown then lie on the X-ray table, usually flat on your back.

You may have a monitoring device attached to your arm and finger to monitor your blood pressure, pulse and the oxygen levels in your blood. You may also be given oxygen.

The skin near the point of insertion of your fistula/graft will be cleaned with antiseptic and most of your body will be covered with a theatre drape.

The skin and deeper tissues over your fistula/graft will be numbed with local anaesthetic. A needle will be inserted into your fistula/graft. An ultrasound machine may be used to make sure that the needle is correctly positioned. The local anaesthetic will sting at first but this soon wears off and the skin and deeper tissues should then feel numb.

Once the radiologist is satisfied that the needle is correctly positioned, a guidewire is passed through the needle and into your vein. The needle is then removed and replaced with a fine catheter.

The contrast dye will then be injected through the catheter and X-rays taken (fistulogram).

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If you are having a fistuloplasty, the catheter and wire are moved to the narrow part of your fistula/graft and a balloon inflated. This process can cause some discomfort.

The Interventional Radiologist will check progress by injecting a contrast dye through the catheter. This will show how much the narrowed fistula/graft has opened up.

When the Interventional Radiologist is satisfied that a good result has been reached, the balloon will be let down and the catheter removed. In some circumstances, a metallic stent may be placed to keep the vein open or to treat bleeding from a small tear.

On removal of the catheter, the radiologist will then press firmly on the skin entry point, for several minutes. This is to prevent any bleeding. Occasionally a small suture (stitch) is used to close the skin entry point. This can be removed after 2 hours or at your next dialysis session, sometimes this may be the following day.

How long will the procedure take?

Every patient's situation is different. It is not always easy to know how complex or straight forward the procedure will be. As a guide, you should expect to be in the department for up to 3 hours.

What happens afterwards?

Nurses will carry out routine observations including your blood pressure, pulse and temperature. They will also look at the point where the catheter was inserted to make sure that there is no bleeding.

You will normally stay in hospital for a few hours and should be able to go home on the same day.

If you need to contact the Interventional Radiology Department for advice before or after the procedure, please call 0300 422 6765. The lines are open Monday to Friday, 9:00 am to 5:00 pm

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Risks and possible complications associated with Fistulogram/ Fistuloplasty

Fistulogram / fistuloplasty is a very safe procedure but there are some risks and complications that can arise.

The common risks include:

- bleeding at the puncture site
- bruising and swelling
- pain at the puncture site that is not improved by your usual pain relief
- a change in the colour of your arm
- fever or chills
- discharge or lump at the puncture site
- chest pain or finding it hard to breathe
- unable to feel the bruit (thrill or buzz) in your fistula arm

If you experience any of the symptoms above, please contact the Interventional Radiology (IR) Department. Out of office hours, go to your local Emergency Department.

Sometimes it is not possible to manoeuvre the wire through the blockage, despite inflating the balloon several times. Or the narrowing may be so severe that it does not open up as much as expected.

The risk of significant bleeding is low (about 3 cases in every 100 for fistulogram and 4 in every 100 for fistuloplasty). These risks are slightly higher for a fistuloplasty in veins treated near your chest (central veins).

There is also a slight chance that the fistuloplasty will lead to failure of your fistula/graft. However, without intervention, the likelihood of your fistula failing is higher and a new AV Fistula creation or a line for dialysis may be needed.

These procedures are normally very safe and are carried out with no significant side effects.

The figures for complications given in this leaflet have been taken from recommended standards for complications published by the Royal College of Radiologists.

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Monitoring of your fistula/graft after fistuloplasty

Your dialysis will start/restart using your fistula. A repeat Doppler study may be requested and you may need a further fistuloplasty if the narrowing happens again.

If you are not yet having dialysis, your care will be followed up in the nurse led Access Review Clinic for further assessment of your fistula.

If you have any concerns or worries before or after the procedure you can contact the access nurse or your renal consultants' secretary. The contact numbers can be found at the end of this leaflet.

Where can I find out more?

If you have any questions about the procedure, please ask a member of the staff managing your care. We always prefer you to ask questions rather than worry about it.

If you wish to discuss the procedure in more detail with your renal doctor, please contact the renal secretaries. The telephone numbers on the next page. You may be asked to leave a message on the answerphone.

Contact information

Interventional Radiology Department
Gloucestershire Royal Hospital
Tel: 0300 422 5152
Monday to Friday, 9:00am to 5:00pm

Cheltenham General Hospital
Tel: 0300 422 3063
Monday to Friday, 9:00am to 5:00pm

Access Nurse
Tel: 0300 422 6270
Monday to Friday, 8:00am to 4:00pm

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Renal Services Secretary
Tel: 0300 422 8298 or
Tel: 0300 422 6299 or
Tel: 0300 422 6762
Monday to Friday, 8:00am to 4:00pm

Further information

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make choices about your health.

Website: www.nhs.uk

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Making a choice