



Diagnostic Imaging

Information for patients undergoing fistulogram or fistuloplasty

What is a fistulogram?

This is an x-ray examination of the blood vessels that make up your fistula. A needle is placed into the area where your fistula has been formed and contrast (x-ray dye) is injected through this needle allowing an x-ray image of the blood vessels to be taken. The Radiologist can then interpret these pictures to see if there is a narrowing in the vessel.

Why do you need a fistulogram?

You will need a fistulogram if your dialysis fistula does not appear to be developing as it should be upon assessment in clinic. It may also be appropriate if you are not achieving good flows on the dialysis machine. You may have an ultrasound of your fistula in clinic which will diagnose the narrowing.

What is a fistuloplasty?

Occasionally the blood vessels that make up a fistula can develop a narrowing or a blockage. A fine plastic tube (catheter) is inserted into the fistula and travels along the vessel to the narrowing. A special balloon within the catheter is then inflated to open up the narrowing. This is to improve the blood flow into the fistula.

Who will be performing the procedure?

These procedures are performed by a specially trained Doctor called an Interventional Radiologist. There will be a Nurse assisting the Radiologist, a Nurse to support you and a Radiographer who will be operating the equipment.

Where will the procedure take place?

In the x-ray department in an interventional suite.

Consent

Informed consent will be obtained prior to the procedure. The consultant will explain all the risks, benefits and alternatives before asking you to sign a consent form. If you are unsure about any aspect of the treatment proposed, please do not hesitate to speak with a senior member of staff.

Is there any preparation?

If you are taking any 'blood thinning' medication e.g. warfarin, please contact the Radiology Nurses on 01305 255276.

If you have any allergies specifically if you have previously reacted to intravenous contrast medium, the dye used for kidney x-rays and CT scanning, then you must tell the Radiology Nurses.

What happens on the day of the procedure?

You will have been given instructions on your appointment letter as to where to attend the prior to your procedure, For example, Medical Day Unit. This will be where the Nurses will complete the pre-procedure paperwork. You will be asked to change into a hospital gown, and we advise you bring a dressing gown with you as it can be cold in the corridors. You will return to your admissions area post procedure to recover.

During the procedure, you will be asked to lie on an x-ray table; the staff will assist you with this. You will have leads placed on your chest to monitor your pulse; a blood pressure cuff will be placed on your arm to monitor your blood pressure, and a device on your finger to monitor your oxygen levels. Your vital signs will be recorded regularly throughout the procedure.

The fistula arm will be cleaned with antiseptic and most of your body will be covered with sterile drapes. The Radiologist, who will have put on a sterile theatre gown and gloves, will inject local anaesthetic into the area. The local anaesthetic can sting for approximately 30 seconds before it makes the area numb. You may feel some pushing on your arm as a thin tube is inserted into your fistula, contrast (x-ray dye) will be injected through the tube and x-rays will be taken. The x-ray table and large x-ray monitor will be moved during the procedure and you may also be able to see pictures of the x-rays on the monitors.

The fistulogram will confirm a blockage or narrowing which will determines whether the Radiologist needs to proceed onto the next stage, fistuloplasty.

If a narrowing has been confirmed, a special balloon is passed down the fistula across the affected area and is inflated momentarily and then deflated. This may happen several times in order to improve the flows within the fistula. Another fistulogram will be carried out to check the result. If the balloon has not opened the narrowing sufficiently, a metal tube called a stent may be used to widen the vessel and improve blood flow.

At the end of the procedure, the balloon will be removed. The puncture site will need pressure to be applied to stop the bleeding. Sometimes a stitch will be placed at the puncture site, this will be removed by a Nurse at your dialysis session or an appointment with the Practice Nurse at your GP. Surgery will need to be arranged.

Is it uncomfortable/ painful?

The local anaesthetic can sting for up to 30 seconds but this will ease as the area becomes numb.

When the dye is injected, you may experience warmth spread along the fistula. Some people find this unpleasant but it will soon pass.

You may feel the Radiologist pushing around the puncture site.

When the Radiologist is trying to widen the narrowing, by inflating the balloon, this can be uncomfortable. This should only last a few seconds each time.

If the procedure is painful then please let the Radiologist or Nurse know and they will be able to administer some pain relief for you.

How long will it take?

Every situation is different, and it is not always easy to predict how complex or straight forward the procedure will be. You can expect to be in the X-ray Department for around 30 minutes for the fistulogram. If the doctor proceeds to a fistuloplasty this could take up to an hour or more.

What are the risks of having this procedure?

Both fistulogram and fistuloplasty are deemed very safe procedures but there are some risks and complications that may occur.

The risk of infection is low.

With regards to a fistulogram, a small bruise may appear at the puncture site. Less commonly, ongoing bleeding in this area leads to an inpatient hospital stay. Very rarely, damage to the fistula can occur that may require further treatment by the Radiologist or a small operation.

The risk of bleeding is slightly higher for the fistuloplasty. There is a small risk that the treatment may damage or even rupture the fistula. If this were to happen, the fistula may fail and could not be used for dialysis. A small operation may be required at the time but more likely another form of access would be required until a new fistula could be formed.

When considering this risk, it is important to bear in mind that leaving a narrowing or blocked fistula or vein without treatment may also cause the fistula to fail.

After the procedure

You will be taken back to your admissions area to recover where your blood pressure, heart rate and oxygen levels will be monitored. A Nurse will regularly assess the puncture site. You will be required to remain in hospital for 2-4 hours after the procedure and will be advised of this once the procedure is complete. This can differ if there are any complications during the procedure, if you take warfarin or if a stent has been placed in the fistula.

What should I do when I leave the hospital?

You should be given advice regarding stitch removal, dressings and what happens in an emergency. However, you can use the following advice if deemed appropriate for your procedure.

Dressing and Stitch Removal

The dressing should be left in place until your next dialysis session. If you are not yet dialysing then leave the dressing in situ for 24-48 hours.

There may be a stitch in place called a purse string suture. This will need to be removed 7 days post procedure. If you attend dialysis then the closest dialysis slot to 7 days is appropriate. If you do not dialyse then please arrange for this to be removed by the Practice Nurse at your GP Surgery.

Dialysis

If you are a dialysis patient then the fistula should be able to be used as normal at your next dialysis session and any differing advice should be given to you prior to discharge.

Bleeding

If the puncture site starts to bleed then press on it firmly and call an ambulance.

Driving

It is appropriate to return to driving if you can safely perform an emergency stop or brake sharply.

Finally

We hope that you have found this booklet useful. If you have any questions or you are worried about anything, please contact your family doctor (GP) or:

- Radiology Sister – 01305 255276

Make sure you are satisfied that you have received enough information about the procedure, before you sign the consent form.

You can also contact NHS 111 - 24 hours a day on 111 or <https://111.nhs.uk/>

About this leaflet:

Author:	Radiology Sister; Michelle De La Haye
Written:	December 2018
Approved:	
Edited:	March 2025
Review date:	March 2027
Edition:	v3

If you have feedback regarding the accuracy of the information contained in this leaflet, or if you would like a list of references used to develop this leaflet, please email pals@dchft.nhs.uk



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