Information for patients undergoing fistulograms and fistuloplasty/venoplasty

What is a fistulogram?

A fistulogram is an X-ray examination of the blood vessels that make up your fistula. X-ray dye is injected through a small needle (or sometimes a small plastic tube) placed in your fistula. This dye mixes with blood and provides an X-ray picture (like a road map) of the blood vessels that would otherwise be invisible on X-ray. The images are then interpreted by the Interventional Radiologist who carries out the procedure. If you use local anaesthetic pain relief cream prior to dialysis then you should do the same before coming for a fistulogram.

Why do I need a fistulogram?

Your doctors feel there maybe a problem with your dialysis fistula (or graft). This test is the gold standard in diagnosing problems associated with fistulas, however ultrasound can also provide useful information and you may have this test at the same time.

What is a fistuloplasty/venoplasty?

Occasionally the blood vessels that make up a fistula can develop a narrowing which is initially diagnosed with a fistulogram. A special balloon called an ‘angioplasty’ balloon is introduced into the area of narrowing inside the fistula. This balloon is then inflated from outside the body momentarily and then deflated. Fistuolplasty usually refers to this treatment within the fistula itself and venoplasty when the veins that drain your fistula in your chest are treated in the same way. Another fistulogram is then carried out to check the result immediately following angioplasty to check how successful the angioplasty has been. Occasionally angioplasty alone will not treat the narrowing and a special metal pipe called a ‘stent’ or ‘stent-graft’ will need to be used also. This is permanent and keeps the narrowing open if the angioplasty has not been able to do so or can treat complications that may occur.

Who carries out the fistulogram / fistuloplasty?

A specially trained doctor called an Interventional Radiologist or a specially trained Interventional Radiographer will carry out your procedure. They have special expertise in using X-ray guided techniques and are highly trained to carry out this procedure.

Who makes the decision about my treatment?

Your kidney doctor, the vascular access nurse and the Interventional Radiologist will have discussed your case and feel this is the most appropriate next step in your diagnosis / treatment. You will have the opportunity to express your opinion, and if after discussion with the doctor you do not want the procedure, you can decide against it.

How do I prepare?

You will be sent specific instructions in the post with your appointment details. Generally, fistulograms are done as an outpatient. If you require fistuloplasty this may be done as a day case stay or an outpatient, depending on how complex the Interventional Radiologist anticipates your

procedure to be. For fistuloplasty you will be given instructions including not eating for 6 hours prior to the procedure and you should not drive yourself. If you require a day case stay generally you can go home after 1–2 hours following the procedure. When you arrive on the ward you will be asked to put on a hospital gown and a small needle may be placed in your arm (opposite arm to your fistula). This is for an injection of a painkiller or a light sedative (a drug used to relax you) that may be required. If you have any allergies or have previously had a reaction to X-ray dye you must let the doctors know before you have the test. It is important that you bring your next of kin contact telephone numbers and a list of your medications and tablets needed for the day.

What happens during a fistulogram/ fistuloplasty?

The procedure will take place in the X-ray Department at the Queen Elizabeth Hospital Birmingham and you will be asked to lie flat on your back. If you are having a fistuloplasty you will have small stickers placed on your chest and a small monitor on your finger to conduct cardiac monitoring. The skin over the area of your fistula will be cleaned with an antiseptic and a drape placed over this so only a small area of skin is exposed. Local anaesthetic will then be injected into the skin. A needle, often followed by a fine plastic tube will then be placed in the fistula and X-ray dye injected. You may be asked to hold your breath for a few seconds when pictures are taken. If you require a fistuloplasty, a sedative may be given at this point and an oxygen mask will be placed on your face at the same time. Occasionally, it may be necessary to place a fine plastic tube in the vein in your groin as all the veins inside your body are connected and treatment is sometimes carried out via the groin vein as this may be a safer option than directly through the fistula.

Will it hurt?

As local anaesthetic is injected it will sting initially, but this soon passes. When the balloon is inflated during fistuloplasty a dull ache may occur but this passes when the balloon is deflated. Intravenous painkillers and sedatives, which are administered through a vein via a small plastic tube called a cannula, may be required at this point.

How long will it take?

Every patient’s situation is different. But as a guide a fistulogram takes around 10–15minutes and fistuloplasty can take up to an hour, or very occasionally a little longer than this.

What happens after the procedure?

Light pressure is applied for a few minutes to the region where the needle/plastic tube was placed to prevent bleeding. You can usually go home immediately following a fistulogram but will need to stay in hospital for 1–2 hours following fistuloplasty or venoplasty. If you have had a fistuloplasty you may have had a sedative and should make arrangements in advance for someone to take you home and have someone available to contact in the first 24 hours. Some patients require a follow up fistulogram after 1 month and the Interventional Radiologist will let you know if this is required in your case. You will then receive this appointment in the post. Very occasionally, at the end of the procedure a stitch will need to be placed in the skin over the fistula and arrangements will be made for removal.

What are the risks or complications of a fistulogram?

Fistulograms are very safe procedures but there are some risks and complications that can occur. Very occasionally a small bruise can appear at the site of needle puncture. Very rarely damage to the fistula can occur that may require further treatment by the Interventional Radiologist or a small operation. The risk of infection is very low.

What are the risks or complications of a fistuloplasty?

Fistuloplasty like a fistulogram is very safe but occasionally complications do arise. The risks of a fistulogram apply here as well as a small risk of failure of treatment. Sometimes the narrowing in a fistula does not respond well to fistuloplasty or stenting and further non-urgent surgery is required to re-make the fistula. The risk of bleeding is slightly higher than for fistulograms (around a 3 in 100 chance). There is a small risk of damaging or even breaking the fistula/vein. If this were to happen the fistula may fail and could no longer be used for dialysis. In these circumstances a small operation may be required but more likely a dialysis line would be placed and plans made to make a new fistula in the near future. When considering this risk it is important to bear in mind that leaving a narrowing in a fistula/vein without treatment is likely to lead to that fistula failing and no longer being adequate for dialysis.

Contact details: Renal Assessment Unit
Tel: **07766500092** or **0121 371 3017/3024**

Monday–Friday, 08.00–20.00
Saturday and Sunday, 08.00–16.00
Outside of these hours the on-call renal registrar can be contacted by ringing the Queen Elizabeth Hospital Birmingham switchboard on **0121 627 2000**.

The vascular access nurse specialist can be contacted on **07585125835** between 09.00 - 17.00, Mon–Fri.

Radiology
Queen Elizabeth Hospital Birmingham
Mindelsohn Way, Edgbaston, Birmingham, B15 2GW
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