United Lincolnshire Teaching Hospitals NHS Trust

Fistulogram, fistuloplasty and venoplasty (stents)

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About this patient information

This patient information tells you about having a fistulogram, fistuloplasty and venoplasty (stents), including what is involved, why they are performed, and the possible risks. It is not meant to replace discussions between you and your doctor but can act as a starting point. If you have any questions about the procedure, please ask the doctor who has referred you or the Interventional Radiology department.

What is a fistulogram?

A fistulogram is a special diagnostic X-ray test used to examine the blood vessels that form your dialysis fistula (or graft).

A dye (contrast agent), which usually contains iodine, is injected directly into a blood vessel through a fine tube (catheter). The contrast fills the blood vessels, allowing narrowing or blockages to be seen.

What is a fistuloplasty or venoplasty?

A fistuloplasty or venoplasty is a minimally invasive x-ray guided procedure used to treat a narrowing or blockage. Whether this is possible or not usually depends on the findings of the initial fistulogram. If the narrowing or blockage is in the fistula it is called a fistuloplasty, if it is in a central vein, it is called a venoplasty.

How it works:

1. After the fistulogram, a catheter is passed through the narrowing or blockage
2. A tiny balloon on the catheter is inflated for a short time to stretch the narrowing and improve blood flow.

If blood flow is improved unfortunately, we cannot guarantee how long this will last. It is important that you follow your referring doctor’s recommendations. These help the procedure’s success rate.

What is a stent?

A stent is a small metal mesh tube placed across a narrowing or blockage. The tube remains in the blood vessel to keep the vessel open. Stents are only used if the balloon treatment does not work or if a complication occurs.

Why do you need a fistulogram?

Your doctor feels that there may be a problem with your dialysis fistula (or graft). This test is the best way to diagnose the problem associated with your fistula. You may already have had a Doppler ultrasound scan to assess the flow in your fistula to help decide how to approach this problem.

Why do you need a fistuloplasty/venoplasty?

Your doctor has identified that there is a narrowing or blockage affecting your fistula and this is felt to be the most appropriate method of treatment.

Are there any risks?

Fistulograms, fistuloplasties and venoplasties (stents) are safe procedures, but as with any medical procedure, there are some risks and complications that can arise.

Very rarely a small infection can occur at the catheter site which can usually be treated with antibiotics.

A small bruise (haematoma) around the site of the catheter can occur, but this is quite normal. The bruise might be sore for a few days but will disappear in a few weeks. Less commonly, ongoing bleeding in this area can lead to a short inpatient stay. The risk of bleeding is slightly higher for fistuloplasties/venoplasties.

There is a small risk that the treatment may damage or even rupture the fistula/vein. If this were to happen, the fistula may fail and could not be used for dialysis. Further treatment by the interventional radiologist or a small operation may be required. When considering this risk, it is important to bear in mind that leaving a narrowing in a fistula or vein, without treatment, it is likely your fistula would ultimately fail.

The dye (contrast agent) used during the procedure is very safe but occasionally can cause damage to the kidneys. You may be required to attend hospital prior to the procedure for hydration or asked to arrange dialysis at a certain time following the procedure to reduce this risk. Allergic reactions to the dye or other medications are also possible but are very rarely serious.

Unfortunately, it is not always possible to perform a fistuloplasty/venoplasty (stent). It depends on the findings of the initial fistulogram. Sometimes the blockage is too severe, or the catheter cannot pass through the blockage.

During the procedure you will receive a dose of radiation as a result of the X-rays used. There is a possible risk of cancer induction from exposure to X-rays. However, we are constantly exposed to radiation from the air we breathe, the food we eat, the ground and from space. This is known as background radiation and has a cancer risk of around 1 in 10,000 per year. Having the procedure could result in you receiving an additional dose of radiation equivalent to a few years of background radiation. The associated risk of possible cancer induction from receiving a dose of radiation equivalent to a few years of background radiation is considered to be low. Your doctor has agreed that this procedure is the best examination for you compared with others and that the benefit of having it outweighs the risks from radiation.

Are you required to make any special preparations?

Fistulograms are sometimes performed as an outpatient. However, if you require a fistuloplasty or venoplasty, you may be admitted as a day case. You will be asked to attend the ward early in the morning so all required paperwork can be completed.

You may be asked not to eat for 4 hours before the procedure, although you may take small sips of water if needed.

You may be sent a blood form and asked to arrange a blood test prior to the procedure to check your bloods are within safe limits to have the procedure.

If you are taking anti coagulation or anti platelet medication, such as warfarin, you will be given instructions detailing if this medication needs to be stopped and for how long. If you have not been given this information, please contact the Interventional Radiology department. Unless advised otherwise please continue all other medication e.g. for blood pressure.

If you have previously had a reaction to the dye (contrast agent) or a local anaesthesia, please contact the Interventional Radiology department.

You should have someone to drive you home following the procedure. Following a fistuloplasty/venoplasty someone should be at home with you for 24 hours following the procedure. If you do not, please let the Interventional Radiology department know.

Who will you see?

A specially trained team led by an interventional radiologist who has special expertise in reading x-rays and x-ray guided procedures.

Where will the procedure take place?

In the Interventional suite, which is located within the X-ray department and is similar to an operating theatre.

What happens during a fistulogram, fistuloplasty/venoplasty?

1. If you are having a day case procedure you will be asked to attend the ward early in the morning so all required paperwork can be completed.
2. You will change into a hospital gown.
3. A small cannula (thin tube) may be placed into a vein.
4. Before the procedure, a member of the interventional team will explain the procedure and may ask you to sign a consent form. Please feel free to ask any questions that you may have and remember that even at this stage, you can decide against going ahead with the procedure if you so wish.
5. You will lie flat on your back on the X-ray table. The X-ray machine will be positioned above you. The skin over the area will be cleaned and you will be covered with sterile drapes. Local anaesthetic will be injected into the skin to numb the area.
6. A small incision will be made, a needle, a wire and finally a catheter (fine plastic tube) will be inserted into the blood vessel and guided to the correct position to obtain the images required for the fistulogram. You may be asked to hold your breath for a few seconds while the images are taken.
7. For a fistuloplasty or venoplasty, you may have monitoring devices placed on your chest, arm and on your finger. Once the narrowing or blockage has been identified on the fistulogram, a balloon is inflated to open up the blood vessel and allow more blood to flow. You may feel a dull ache, which stops when the balloon deflates.
8. Once the interventional radiologist is satisfied with the images, the catheter will be removed. Pressure will be applied to the skin entry point, to prevent any bleeding. Sometimes a stitch may be used. You will be advised at the end of the procedure about wound/dressing care.

Will it hurt?

It may sting a little when the local anaesthetic is injected. You may feel a warm sensation for a few seconds when the dye is injected and feel like you are passing urine. Occasionally when the balloon is inflated during fistuloplasty/venoplasty, a dull ache may occur but this passes when the balloon is deflated.

How long will it take?

Every patient is different, and it is not always easy to predict, however, expect to be in the interventional suite around 1 hour for a fistulogram. A fistuloplasty/venoplasty could take longer.

What happens afterwards?

Fistulograms are sometimes performed as an outpatient, you can usually go home 30 minutes after a fistulogram. If you have been admitted as a day case, you will be taken back to your ward. Nursing staff will carry out routine observations. You will generally be required to stay in bed for a few hours. If you have an issue lying flat, please contact the Interventional Radiology department. After which you will be allowed to walk around the ward, until you have recovered and are ready to go home, usually 4 to 6 hours post procedure. You will be informed following the procedure when dressings should be removed and when normal daily activities should recommence.

If you have any concerns after discharge; for non-urgent issues please contact your GP or 111, for urgent issues please come to A&E.

Finally, some of your questions should have been answered by this patient information but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure.

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www.accessable.co.uk/united-lincolnshire-hospitals-nhs-trust