

# Having a fistuloplasty or venoplasty

This leaflet is intended to provide you with information about having a fistuloplasty or venoplasty procedure.

## What is a fistuloplasty or venoplasty?

The blood vessels that make up a fistula can develop some narrowing which can make dialysis less effective or can cause bleeding, arm swelling or other problems. To treat this, a small balloon can be inserted and inflated to stretch the narrowed area. The balloon is then deflated and removed.

If the narrowing is in the fistula, the procedure is called a **fistuloplasty**. If it is in a central vein (in the chest or pelvis), it is called a **venoplasty**. Sometimes a metal scaffolding called a **stent** is inserted into the fistula if the results of balloon treatment alone are not satisfactory. Unlike the balloon, the stent stays in the fistula permanently.

## Why do I need a fistuloplasty?

An arterio-venous fistula or graft is the best means of access to the bloodstream for long-term haemodialysis. Your fistula or graft allows you to have effective dialysis.

You have been referred for a fistuloplasty because there is a problem with your fistula or graft. You may have had an ultrasound before being referred for this procedure which has demonstrated a narrow segment in the vein called a stenosis within the fistula/graft, restricting blood flow and causing problems with dialysis.

The problem with the fistula or graft may be something you are not aware of but has been diagnosed by the renal access team when the blood flow (volume flow), recirculation and quality of your dialysis has been assessed. If left untreated, there is a risk for some patients that the fistula will clot or fail. A fistuloplasty will treat this and help the fistula to maintain its patency and allow sufficient dialysis.

## Who carries out the fistuloplasty?

The procedure is usually performed in the radiology department by a team made up of a specially trained doctor called an interventional radiologist, radiology nurses and radiographers. The interventional radiologist has special expertise in reading the images and using imaging to guide catheters and wires to aid diagnosis and treatment.

## What happens during the procedure?

The skin over the fistula will be cleaned and sterile drapes will be placed around the fistula or graft. Local anaesthetic is used to numb a small area of skin over the fistula/graft. This stings a little when it is injected but then the skin goes numb.

A small tube (called a sheath) of around 1.3mm to 2mm in diameter is inserted into the fistula/graft. Small guidewires and catheters are passed through the tube which are guided by the radiologist across a blocked or narrow segment of vein.

A balloon catheter is inserted over a guidewire, and this is inflated to usually between 5-10mm depending on the size of the vein. The balloon stretches the narrow segment of vein to the size of the balloon. When the balloon is used to stretch a narrow or blocked vein it can be painful, the doctor performing the procedure will talk to you about this. We usually offer patients Entonox, also known as "gas and air", which is usually very effective as the balloon is only used for 30 seconds to a minute and the remainder of the procedure is not painful. We also offer conscious sedation if required.

The flow in the fistula improves with successful treatment and the small tube (sheath) is removed at the end of the procedure. After the sheath is removed, the radiologist or surgeon will either press on the fistula, use a small stitch or will place a special dressing over the fistula which applies pressure to stop any bleeding.

During the procedure the nursing staff will be checking your observations, making sure you are comfortable and will be there to answer any questions you may have.

After the procedure you should be able to continue using the fistula or graft for dialysis.

## What are the risks of a fistuloplasty?

Fistuloplasty is generally a very safe, low risk procedure. The risks and benefits vary depending on what the problem with your fistula is and these will be discussed with you by the doctor performing the procedure. In general, the risks are:

- The procedure may be painful, but only when the balloon is used. As explained above, the doctor will talk to you about this and your options for the procedure.
- Perforation (a small hole to the vein) caused by the balloon stretching the vein. This can result in localised bruising and bleeding. This is a very small risk and can be treated at the time of the procedure.
- Rupture of the vein and more significant bruising and bleeding, which is generally very rare and can usually be treated using the balloon to seal the rupture or by using a stent graft, which is a stent covered with a coating to seal a perforation or rupture.
- If there is damage to the vein there is an extremely small risk of less than 1% that the fistula could clot, this can usually be treated at the time of the fistuloplasty.
- The narrow segments of vein often come back with time and you are likely to need repeat treatments in the future.
- There is a small risk the treatment will not be effective at improving the flow in the fistula and therefore your dialysis.
- Allergic reactions to X-ray contrast are extremely rare. **If you are allergic to X-ray contrast, please let the nurses and doctors know;** there are alternatives.

- If you are **not on dialysis yet** but need a fistuloplasty, we will do everything we can to reduce the amount of X-ray contrast used as this is processed by the kidneys and there is a small risk it could make your kidney function worse. Your procedure may be able to be performed without using any contrast and the doctor will discuss this option with you.

## Are there any alternatives?

Leaving a narrowing in a fistula or vein untreated is likely to cause a fistula to clot or fail. The main alternative to a fistuloplasty is to form a new fistula. However, as a fistula is often a preferred dialysis option, it is worth preserving it as long as possible before creating a new one.

## What will happen before I have the procedure?

- A few days before the procedure you will need a blood test to check that your blood is able to clot satisfactorily. We may ask you to see your renal nurse for these blood tests or we may ask you to go to your local GP surgery.
- If you are a diabetic, asthmatic, suffer from any allergies or take blood thinning drugs, i.e. Warfarin, please contact the renal access nurse as soon as you receive your appointment (see 'Useful contact details' on page 4).
- On the day of your procedure, you will be asked to come to one of our day case wards approximately 2-3 hours before your appointment time. This enables the nursing staff to arrange blood tests if required and to also ensure there are beds available post-procedure. Occasionally, your appointment may be delayed if there are emergencies in the X-ray department.
- You will be asked **not to eat or drink for 4 hours before the procedure**, but you can drink **clear fluids up to 2 hours before this time**. If you require sedation, **you must not eat or drink anything 6 hours before the procedure**. We will advise you of this.
- Please continue to take your normal medications, unless you have been advised otherwise.
- You are able to bring a friend or relative with you for your appointment, but they will not be able to go into the procedure room with you.
- Near to your appointment time, you will be transferred to the radiology department and asked to put on a hospital gown. The doctor will talk to you about the procedure and ask you to sign a consent form giving your permission for the procedure to be done.
- If you do not speak or understand English and need an interpreter, please contact either the dialysis access nurse or the radiology department when you receive your appointment letter.

## What happens if my appointment is on my usual dialysis day?

Occasionally, your appointment for your fistuloplasty may coincide with your usual dialysis day. Please contact your dialysis unit who will arrange for you to have dialysis the day before.

## What happens afterwards?

- After the procedure you will be transferred on a bed back to the ward where you will be observed for 2 hours. During this time the nurses will check your observations and the access site where the sheath for the procedure was put in.
- You may eat and drink as normal.

- If all is well, you will go home on the same day. Very rarely, or if you are having deeper sedation for the procedure, you may have an overnight stay on the ward.
- **It is essential that someone collects you from the hospital to take you home and you have someone stay with you overnight.**
- A follow-up ultrasound examination may be required after 6 weeks. You will receive this appointment in the post.

## Care at home

**If any of the following occur after your fistuloplasty, call the Renal Unit or Radiology Department or go to your nearest Emergency Department (A&E):**

- Any bleeding from the puncture site (other than very minor bleeding which stops quickly with pressure being applied).
- Large amounts of bruising or swelling.
- Severe pain at the procedure site, or if your arm/leg becomes pale, painful or cold.
- Fevers (high temperature) or chills.
- You are unable to feel the 'thrill' or 'buzz' in your fistula

## Aftercare

It is important for you to check daily for the 'buzz' in your fistula. If you can't feel it, call the Renal Department immediately for advice.

## Further information

**NHS Website** [www.nhs.uk](http://www.nhs.uk)

**Kidney Care UK** [www.kidneycareuk.org](http://www.kidneycareuk.org)

**National Kidney Foundation** [www.kidney.org](http://www.kidney.org)

**Kidney Patient Guide** [www.kidneypatientguide.org.uk](http://www.kidneypatientguide.org.uk)

**Vascular Access Society of Britain and Ireland** [www.vasbi.org.uk](http://www.vasbi.org.uk)

## Useful contact details

**East and North Hertfordshire Teaching NHS Trust:**

- Website [www.enherts-tr.nhs.uk](http://www.enherts-tr.nhs.uk)
- Telephone 01438 314333

**Renal Access CNS and Practitioner:**

- Telephone 01438 284624 or 07385 228263

**Radiology Department:**

- Telephone 01438 284815

**Lister Haemodialysis Unit:**

- Telephone 01438 284152

**Strathmore Renal Unit (Lister):**

- Telephone 01438 285657

**St Albans Haemodialysis Unit:**

- Telephone 01727 897588

**Chiltern Kidney Centre:**

- Telephone 01438 288850

**Bedford Renal Unit:**

- Telephone 01438 286750

**Harlow Renal Unit:**

- Telephone 01279 278205

## Leaflet information

**You can request this information in a different format or another language;  
please speak to your doctor or nurse.**

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