

# Arteriovenous Fistula and Graft

Information for Patients



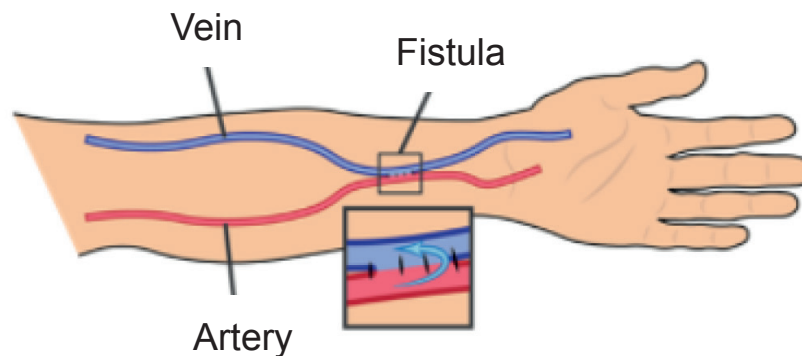
In order to have regular haemodialysis treatment, dialysis staff requires access to your bloodstream. This is known as 'Vascular Access' and will require a surgical or specialised procedure.

### The three most common types of vascular access;

- ♦ Arteriovenous Fistula (AVF) - usually referred to as your 'Fistula'
- ♦ Arteriovenous Graft (AVG) - usually referred to as your 'Graft'
- ♦ Ventral Venous Catheter (CVC) - usually referred to as your 'Line'

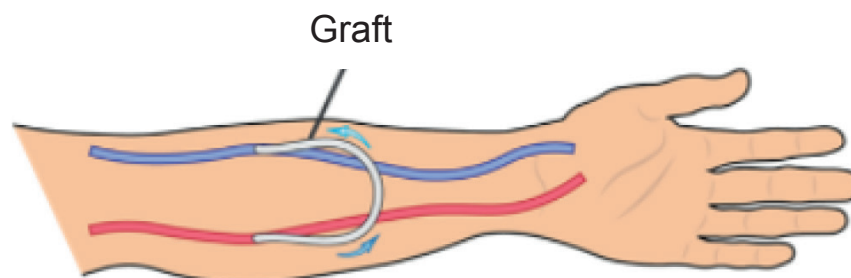
### Arteriovenous Fistula (AVF)

An arteriovenous fistula is formed during an operation to join two blood vessels, a vein and an artery, together in your arm. This forms an accessible blood vessel that gives the increased flows of blood that are required for haemodialysis. Once the fistula is formed it usually takes six to eight weeks for it to enlarge sufficiently to be used for haemodialysis.



### Arteriovenous Graft

This is similar to a fistula but instead of the artery being connected directly to the vein a synthetic tube is used to link the two together. This is called a graft. This may be used if the blood vessels are unsuitable to be connected directly. Grafts are usually ready to be used for dialysis more quickly than a fistula.



## Haemodialysis via a fistula or graft

To use the graft or fistula for haemodialysis, two needles are placed into the vessel some distance apart by either the nurses or yourself. These needles connect to the dialysis lines and blood flows out through the lower needle (often termed the arterial needle) around the dialysis machine and is returned back via the upper needle (often called the venous needle).

At the end of the dialysis the needles are removed and bleeding stopped by applying pressure to the needle site.

## Formation of a fistula graft

The formation of a fistula or graft may be arranged some months before dialysis starts, to ensure it is ready when it is needed. Before to the formation of access (fistula or graft), the surgeon may arrange for a scan to be taken. The fistula or graft is formed in surgery usually using a local anaesthetic. You will be awake but unable to feel the operation. If this isn't possible, it may be formed using a general anaesthetic, when you will be asleep. The nurse will give instructions on taking care of the arm until it is healed.



View  
**Look** Assessment



View  
**Feel** Assessment



View  
**Listen** Assessment

## Having the procedure

You will be sent a letter providing you with a date to attend the Royal Liverpool Hospital to have your fistula or graft. You may only be required to stay at the hospital for the day but you may need to remain in hospital overnight, so please bring an overnight bag with you. Ensure to pack all the medication you need.

The nursing staff will prepare you for the procedure which is performed in a theatre. After a short time spent in the recovery area you will return to the ward for post-operative observation. This will include regular checks including your blood pressure, pulse and temperature and also checks of your newly formed access. Nurses will take a look, listen and feel approach to assess your access and you will be encouraged to feel the access yourself. If you have a fistula, you will be able to feel a 'buzz'. It is important to check this regularly and if it starts to feel fainter or stops altogether, it is vital you tell the nurse. If you have been discharged and this happens you must notify the ward.

Staff will be able to provide you with pain relief should you feel you need it. There will be a small dressing over your access site. It is normal to see a small amount of blood on the dressing but it should be monitored closely for bleeding that is worsening.

## Care of fistula/graft

### Taking care of your fistula/graft helps keep it working well;

- ◆ Keep the skin over your fistula/graft clean. Once your arm has healed following surgery, wash it daily with soap and water and always wash it before dialysis.
- ◆ Check the 'buzz' or 'thrill' daily. The nurses will show you how to do this. Report any loss of flow immediately to your unit.
- ◆ Do not obstruct the flow of blood
  - ◆ Don't allow blood pressure to be taken from this arm
  - ◆ Avoid wearing tight clothing or jewellery, including watches on this arm
  - ◆ Don't loop shopping bags over your fistula/graft arm
  - ◆ Avoid sleeping on your fistula or graft.
- ◆ Avoid carrying heavy loads with this arm.
- ◆ Avoid injury to the fistula/graft arm.
- ◆ Do not allow anyone to take blood (unless during dialysis) or put a cannula in your fistula/graft arm.

## Possible complications

A fistula or graft is preferred vascular access for dialysis because there is less likelihood of problems. However you should be aware of problems that can occur and report new or changing problems to dialysis staff, so they can be acted on quickly.

### Bruising or swelling

This can occur due to the needle piercing the fistula wall after insertion resulting in swelling or bruising. This is less likely as the fistula matures. All bruising or swelling should be reported to dialysis staff so they can investigate the cause.

### Scab

If a scab over your needle site does not heal quickly or it gets larger, let nursing staff know, as a non-healing scab puts you at risk of bleeding.

### Bleeding during dialysis

If blood oozes around your needle during dialysis or if it starts to take longer than usual for bleeding to stop when needles are removed, let nurses know immediately.

### Allergies

If your fistula becomes red, itchy or sore after applying anaesthetic cream or following cleaning, let your nurses know.

### Steal syndrome

This occurs if your hand on your fistula arm is not receiving enough blood supply because it is being used by your fistula. Let renal staff know if you are experiencing pain, coldness or tingling in the fingers or hand on your fistula/graft arm.

### Redness or heat, sometimes accompanied by swelling

**This can be a sign of infection. Please contact your renal unit immediately if you experience pain, redness or swelling around your fistula or graft or if it feels hot.**

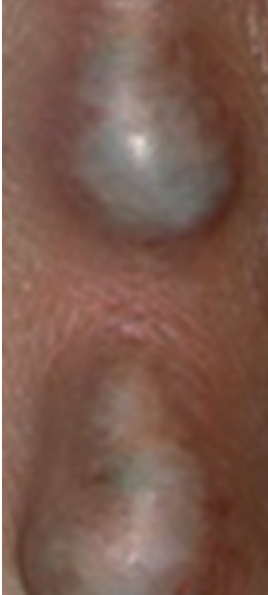


### **Reduction in blood flow**

Inform your renal doctor or nurses immediately if you cannot feel the usual buzzing over the fistula or if it weakens. This can occur due to narrowing or blood clot.

### **Aneurysm**

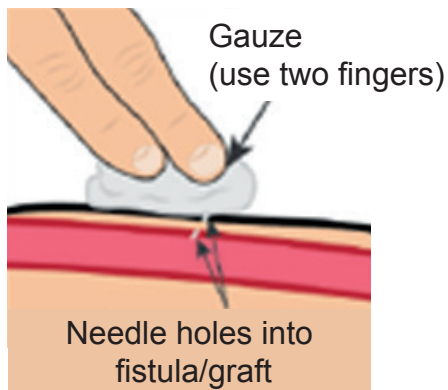
This is a swollen area which can occur over time due to the needle being put in the same small area. Please rotate needling sites to prevent this (buttonhole needling can also avoid this). If your skin becomes thin and shiny or you can see a pulse under the skin in an aneurysmal area please tell renal staff.



## Bleeding emergency from Fistula or Graft

Occasionally a fistula may bleed a little after the plaster is removed at home, if this happens it should stop quickly when pressure is applied. However, although it is a very rare occurrence you should be aware of the actions to take if profuse bleeding occurs from a fistula or graft site unexpectedly between dialysis sessions. **This is a medical emergency.**

- ◆ Seek help urgently from anyone who is around. The blood flow can be fast and make you feel faint so do not delay in alerting others.
- ◆ Dial 999 and report 'excessive bleeding from a dialysis fistula'.
- ◆ Apply firm pressure over the bleeding site, use gauze and two fingers, or a bottle top or similar can help localise pressure over the bleeding site.



- ◆ Do not use too large a dressing: for example a towel may stop you applying enough pressure in the right place.
- ◆ If the bleeding is not controlled by you pressing on it then lay down and ask someone to help by supporting your arm over your head. Check you are pressing in the right place.
- ◆ Stay calm; bleeding can usually be stopped with enough pressure in the right place. It may take more pressure than usual if the bleeding is not easily controlled.
- ◆ If bleeding stops before help arrives it is important that your fistula is still checked urgently as bleeding should not happen between dialysis sessions. You should attend hospital so your fistula can be checked by a fistula surgeon. Also tell your unit.

**Please be aware this is a rare occurrence but it is important that your family know how to act if it should occur. Being aware of signs of complications and reporting these promptly should ensure you do not experience a bleeding emergency.**

**You will be given an emergency bleed kit by your dialysis nurse.**



## **Feedback**

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

## **Contact numbers**

### **Aintree Hospital**

**Tel: 0151 529 8800**

**Text phone number: 18001 0151 529 8800**

### **Aintree Hospital Ward 14**

**Tel: 0151 529 8825**

**Text phone number: 18001 0151 529 8825**

### **Broadgreen Dialysis Unit**

**Tel: 0151 282 6135**

**Text phone number: 18001 0151 282 6135**

### **Halton Dialysis Unit**

**Tel: 01928 706 900**

### **Royal Liverpool Hospital Ward 7b**

**Tel: 0151 706 2395**

**Text phone number: 18001 0151 706 2395**

### **Royal Liverpool Hospital Renal Dialysis Unit**

**Tel: 0151 706 3606**

**Text phone number: 18001 0151 706 3606**

**Southport Dialysis Unit**

**Tel: 01704 518 980**

**St Helens Dialysis Unit**

**Tel: 01744 610 970**

**Warrington Dialysis Unit**

**Tel: 01925 256 850**

**Warterloo Dialysis Unit**

**Tel: 0151 920 4280**

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