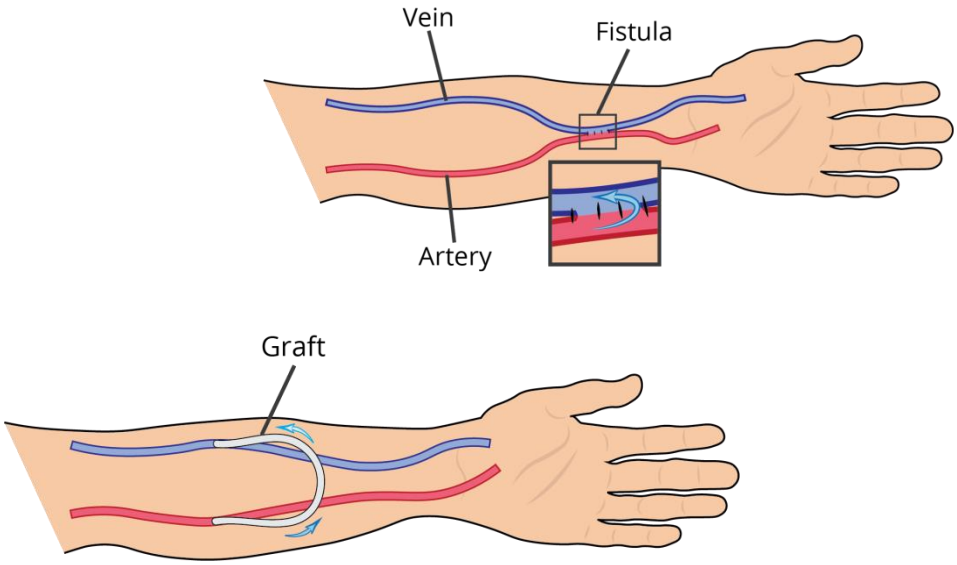
Information for Patients

Arteriovenous fistula (AVF) or graft



Important facts you should know

Haemodialysis Treatment

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
- Central 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 6-8 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 unsuitabe to be connected directly. Grafts are usually ready to be used for dialysis more quickly than a fistula

Formation of a fistula or 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. Prior 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.

Haemodialysis via a fistula or graft.

To use the graft or fistula for dialysis, 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 dialysis the needles are removed and bleeding stopped by applying pressure to the needle site.

Care of fistula/graft

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

- Keep the skin over your fistula/graft clean. Once the 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 on this arm
    - Avoid wearing tight clothing or jewellry, 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 the 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.

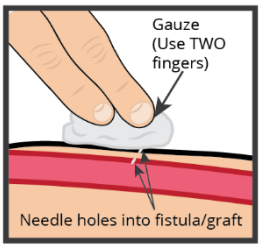
- **Redness or heat**, sometimes accompanied by swelling; this can be a sign of infection. Please contact your renal unit immediately if you experience pain, redness, swelling around your fistula or graft or if it feels hot.
- **Allergies**: If your fistula becomes red, itchy or sore after applying anaesthetic cream or following cleaning, let your nurses know.
- **Aneurysm:** This is a swollen area which can occur over time due to the needles being put in the same small area. Please rotate needling sites to prevent this (buttonhole needling can also avoid this). If skin becomes thin and shiny or you can see a pulse under the skin in an aneurysmal area please tell renal staff.
- **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 experience pain, coldness or tingling in the fingers or hand on your fistula/graft arm.
- **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 a narrowing or blood clot.
- **Scab**: If a scab over your needle site does not heal quickly or 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 needles during dialysis let nurses know immediately, also if it starts taker longer than usual for bleeding to stop after needles are removed.

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 occurance 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 occurance but it important that you and 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.