

Having an arteriovenous fistula (AVF) for dialysis treatment

Renal and Transplant Services

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Information for Patients

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Introduction

This leaflet tells you about having an arteriovenous fistula (AVF) for haemodialysis treatment. Please read this but you should also talk to your surgeon/doctor/nurse.

What is a fistula?

An arteriovenous fistula (AVF) is made by joining a vein and an artery in your arm through a small cut. The blood vessels used are usually at the wrist or the elbow.

Joining the vein to the artery lets some blood from the artery flow directly into the vein. The rest of the blood still goes to your hand. This makes the vein bigger and stronger. This part of the vein is called the fistula.

For dialysis, 2 needles are put into the fistula. This can be done by your nurse or by yourself, if you want. After dialysis, the needles are taken out.

One needle takes blood out of your body to go through the dialysis machine. The other needle returns the clean blood to your body.

Your dialysis unit can give you a numbing cream (anaesthetic cream) to use before the needles are put in if you want.

Why do we recommend an arteriovenous fistula (AVF)?

A fistula is the best access for dialysis because it usually has:

- fewer problems,
- better quality dialysis
- last longer than other types of dialysis access
- helps save your veins for future

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Why are fistulas is important in dialysis?

Having a fistula helps prevent infection and protects your blood vessels.

Using a fistula instead of a plastic tube (catheter) lowers the chance of infections. Infections can damage blood vessels and make them harder to use for dialysis later.

We only have a limited number of blood vessels. It is important to protect them.

We try not to use plastic tubes (catheters) in the veins that go to your heart. Blocked tubes can make future treatments harder.

If a plastic tube near your heart gets infected, it can also damage the heart valves.

If the veins in your groin get blocked, it can make a transplant harder. Sometimes, if the main vein in your arm is blocked, a fistula may not be possible in the future.

How is it done?

Before your operation, your surgeon will explain what will happen. They will answer any questions you have. They will ask for your permission (consent) before starting.

The fistula is made through a small procedure. Most of the time, local anaesthesia is used to numb the area so it does not hurt.

If you need a bigger operation, or if the local anaesthetic is not enough, you may be given general anaesthesia. You will be asleep during the procedure.

Fistula is usually done either at your wrist or the elbow area.

Usually, a fistula is made in the arm you do not write with. If you are right-handed, it will usually be in your left arm.

If the veins in one arm are not suitable, the fistula may be made in the other arm or wherever good blood vessels are found.

To protect your vein, do not have needles or blood tests from the veins in your wrists or elbows.

If you have any questions, ask your surgeon or nurse.

What happens afterwards?

After the operation, your arm is wrapped in a soft bandage to keep it warm. Nurses will check that blood is flowing well through the fistula. They feel for a 'buzz' or 'thrill' or listen to the blood flow with a stethoscope.

Your nurses will explain how your fistula should feel and sound, so you can check it yourself and make sure it is working properly.

It takes about 6 to 8 weeks for your fistula to be fully ready (mature) for use.

The renal vascular access nurse or your surgeon will watch it closely and let you know when it is ready.

It is important to keep an eye on your fistula. You might be the first to notice when something is not right. Noticing any problem early is important. You can let your nurses know. They can take action to keep your fistula working well.

If you have any questions or concerns about looking after your fistula, please speak to your doctor or nurse.

How should I take care of my fistula?

Looking after for your fistula is very important. Your nurse will teach you how to look after your fistula before you leave the hospital.

Here are some important things to do to protect your fistula:

- **Keep your fistula clean.** Although infections are less likely with a fistula they can still happen. Once it has healed after surgery, wash your arm with soap and water every day, and always before dialysis.
- **Check your fistula daily.** Your nurse will show you how to feel for a pulse or vibration (called a 'thrill') and listen for a sound (called a 'bruit'). If you cannot feel or hear these, contact your unit or renal ward right away. The fistula may be blocked.
- **Never** allow blood pressure or blood samples to be taken from your fistula arm. This can damage the fistula.
- **Do not** wear tight clothes or jewellery on your fistula arm. This may reduce the blood flow to the fistula.
- **Do not** carry heavy shopping bags with that arm.
- **Do not** sleep on your fistula arm.
- **For blood samples**, use your **other** arm or the back of your hand.
- **Do not** scratch your fistula. If it itches, tell your doctor as there are medications to help.

How can I tell if something is wrong with my fistula?

- **Bleeding** from your fistula when not on dialysis is very rare. If it happens, apply pressure to the wound. Call for help right away by dialling 999.
- **Bruising** can happen if the needle moves when you move your arm too much during dialysis. When this happens, a small amount of blood can leak under the skin and cause a bruise. It may feel uncomfortable, but it is not dangerous if it is noticed early and the needle is safely moved back into place.
- **Redness or warmth** can sometimes happen around the fistula. Infection is not common, but it can still occur. If you notice pain, redness, swelling, or the area feels hot, it may be a sign of infection. Please contact your renal unit or nurse right away.
- **Aneurysm** – An aneurysm is a swollen area that happens when a blood vessel becomes weak. It can slowly develop if needles are put in the same spot too often. To help prevent this, needles should be placed in different spots on the fistula each time. This is called the rope

ladder technique. If you notice swelling, thin or shiny skin, or see the fistula pulsing under the skin, tell your dialysis nurse right away.

- If the **fistula becomes large**, a surgeon may be able to make it smaller in some cases. Please talk to your nurse or surgeon for more advice.
- **Steal syndrome** – This happens when the fistula takes too much blood away from your hand or fingers. Your hand or fingers may feel cold, painful, or numb. In some cases, you may get skin sores or feel pain when using your hand.

Steal syndrome usually starts soon after your fistula surgery, or sometimes when dialysis begins. If you notice any of these symptoms, please tell your dialysis nurse or doctor. They can help treat it if needed.

- **Allergy** – If your fistula becomes red, itchy, or sore after using numbing cream or cleaning products, tell your nurse so they can use something different. Also let your nurse know if you have a reaction to tape or plasters. This helps your care team act quickly and change your treatment if needed.
- **Scab or wound** – If you notice any scabs or areas that are not healing between dialysis sessions, tell your nurse right away.

Seek immediate medical attention:

If your fistula starts **bleeding a lot** when you are away from the dialysis unit, and it looks like it does right after a needle is removed. **Treat this as an emergency.**

- **Get help right away from anyone nearby.** The bleeding can happen very fast and may make you feel faint.
- **Press directly on the area that is bleeding.** Use your thumb or a bottle top to push firmly on the spot.
- **You can use a small dressing** if you need to.
- **Do not use a towel.** It can make it harder to press on the bleeding spot.
- **Do not wait** if the bleeding does not stop when you press on the fistula. **Call for help.**
- **Dial 999 right away.** If you can, ask someone else to call so you can keep pressing on your fistula.
- **Getting the bleeding under control** – If the bleeding does not fully stop, keep pressing on the area and lie down. Ask someone to help you raise your arm above your head. This can be very tiring to do on your own.
- **Stay calm.** Pressing firmly can usually stop the bleeding. If it does not stop right away, you may need to press a bit harder.

More information

- Kidney Care UK: www.kidneycareuk.org
- National Kidney Federation:
www.kidney.org.uk / email: nkf@kidney.org.uk
- The National Kidney Foundation: www.kidney.org

Useful contact numbers

Useful contact for your local dialysis unit:

Leicester South Dialysis Unit:	0116 504 6880
Hamilton Dialysis Unit:	0116 246 4176
Loughborough Dialysis Unit:	01509 564270
Northampton Dialysis Unit:	01604 628976
Kettering Dialysis Unit:	01536 492974
Peterborough Dialysis Unit:	07921 545385
Lincoln Dialysis Unit:	01522 572321
Skegness Dialysis Unit:	01754 762220
Boston Dialysis Unit:	01205 316401

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