



AV FISTULA

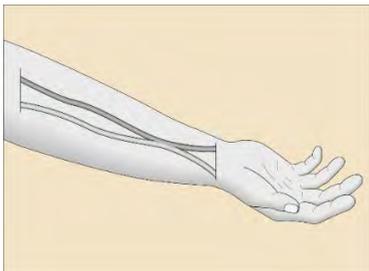
Hemodialysis access

During hemodialysis, your blood flows into a hemodialysis machine, where the wastes and excess fluid that have built up are removed. The cleaned blood then flows out of the machine and back into your body.

You can be attached to the dialysis machine in several different ways. The commonly used methods of providing access to the bloodstream for hemodialysis are:

- Fistula (arteriovenous fistula or AVF for short)
- Graft (arteriovenous graft or AVG for short)
- Central venous catheter (also called a central venous line or hemodialysis catheter)

Your medical team (nephrologist, radiologist, and surgeons) will create this access using a minor surgical procedure.



The AV fistula

The AV fistula is generally considered to be the best choice to access your bloodstream for hemodialysis treatments, but it may not be possible in all patients.

To create an AV fistula, a surgeon will connect an artery and a vein in your arm. Because of the higher than normal blood flow through your AV fistula, the vein will become stronger and thicker. This will allow hemodialysis needles to be inserted for your treatments.

Your surgeon or nephrology team may ask you to do some exercises to help your AV fistula to mature, or thicken up and become stronger.

Benefits of an AV fistula

- An AV fistula uses your own arteries and veins to create an access without the need for an artificial tube. This means there is a lower risk of infection and clotting compared to AV grafts or central venous catheters.
- An AV fistula also has the best chance of lasting a long time, compared to AV grafts or central venous catheters.
- Once your surgical site has healed, there are no restrictions on swimming or showering.

Surgery to create an AV fistula

A surgical procedure is needed to create an AV fistula. Usually this can be done under local anesthetic, i.e., freezing, but your surgeon will discuss this with you. The procedure typically takes between 30 and 60 minutes and you can go home the same day.

Once the surgery is done, the AV fistula needs to mature before it can be used. This usually takes between four and six weeks, or longer in some circumstances.

When the AV fistula is mature and ready to use, each time you have a hemodialysis treatment the dialysis nurse will insert two needles into your fistula.

Care of your AV fistula

After surgery

Your surgeon and/or nephrology team will give you instructions about the care of your dressing and when it can be removed.

Once your incision has healed, about two weeks after surgery, exercise the AV fistula arm as directed by your surgeon and/or nephrology team and follow any other directions they give you.

As your fistula matures, you will start to notice a “thrill,” which feels like a vibration just above your incision line. It’s caused by blood flowing through your fistula and indicates that your AV fistula is working.

At home everyday

It’s important that you take good care of your access to keep it working well. Check your access regularly for the following:

In the hand below your AV fistula

- A change in colour or temperature.
- Numbness or tingling.
- Swelling and/or pain.

At the AV fistula site

- Redness, warmth, swelling and/or pain.
- Bleeding from your fistula.
- Loss of the thrill, or a change to its intensity.

Notify your surgeon and/or your nephrology team if any of the above occur.

At each hemodialysis treatment

Make sure that your access and needles can be seen at all times during your treatment.

Your nephrology team will meet with you to discuss options about how the needles can be placed. This may be individualized to your specific needs.

At the end of each treatment, the needles will be removed. Apply light pressure for 10 minutes (or as instructed by your nephrology team) using the fingers from your other hand at each needle site to promote clotting.

If bleeding starts again after you leave your dialysis unit, apply light pressure for 20 minutes. If the bleeding doesn't stop, go to your nearest emergency department. Remember to report this problem to your nephrology team as well.

Important Reminders

Before surgery, do not allow anyone to take blood or place an intravenous line in your fistula arm.

To care for your fistula, avoid...

- Having your blood pressure taken on that arm.
- Having blood drawn or IV's inserted in that arm.
- Wearing tight watches and sleeves on that arm.
- Sleeping on that arm or keeping it bent for long periods of time.

The Kidney Foundation would like to acknowledge and thank the members of the Kidney Foundation's National Programs & Public Policy committee for their contributions and professional expertise in the development of this resource.