Module 3 – Your Vascular Access

What is a vascular access?

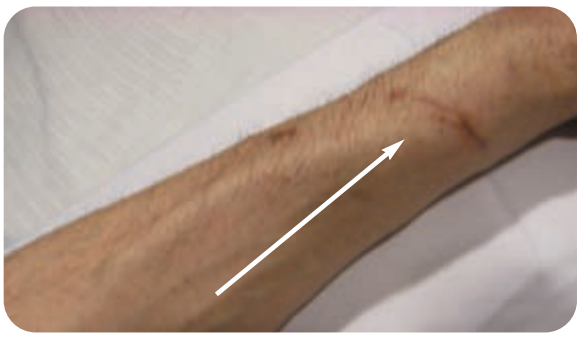
A ***vascular access*** is a way for the health care team to access your bloodstream over and over again. Each time you have a hemodialysis treatment this access is used and is connected by a tube to a dialysis machine. One tube takes the blood to the dialysis machine to be cleaned. Another tube returns the clean blood to your body. This process of taking blood to and from your body to the dialysis machine is repeated many times during a dialysis run.

There are three types of vascular access:

- A fistula
- A graft
- A catheter

Understanding, and knowing how to look after your vascular access is important to the long-term success of your hemodialysis treatments and overall health.

Fistula



What is a fistula?

A ***fistula*** is a type of vascular access that uses your own arteries and veins. A surgeon makes small incisions and then works

underneath the skin to join an artery to a vein. The blood flow in your arteries is strong, and joining the artery and vein together causes a strong blood flow. You can picture it like two rivers merging together. This new vein/artery is called a fistula. Because of the strong turbulent blood flow the fistula gets larger. Once your fistula has healed, two needles will be inserted into the large area for dialysis — your fistula.

What can I expect from my surgery?

In many situations the surgery required for creating a fistula is done as a day procedure. This means you don't spend a night in the hospital.

Usually the surgeon will create the fistula in the forearm of your non-dominant arm. This is the arm that you use the least, so if you are right-handed the fistula is usually created in your left arm. However everyone is different, there are times when the location of a fistula will be in a different place than described here.

Why is a fistula the best access?

A fistula is the preferred vascular access for dialysis. Fistulas are made of your own tissue, so they have lower rates of infection, and they do not clot as easily as other types of vascular access.

How long does it take before I can use my fistula?

It takes at least 6–8 weeks for a fistula to heal and grow in size before it can be used for dialysis. You may be asked to do some simple exercises like squeezing a ball to help your fistula mature as quickly as possible. Ensure ***sutures*** and/or staples are kept intact for 10-14 days. After this time a nurse will remove them for you.

Graft

What is a graft?

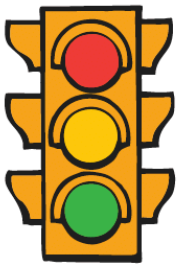
A ***graft*** is a type of vascular access that is a piece of flexible tubing that is placed under your skin and stitched to your artery to connect it to a vein. The two needles used for dialysis are inserted through your skin and into this tubing.

This type of surgery can be done as a day procedure, which means you don't have to spend a night in hospital. The decision whether you should have a graft, instead of a fistula, is made by your surgeon and your nephrologist.

Grafts are usually placed in the forearm of your non-dominant arm. This is the arm that you use the least, so if you are right-handed the graft is usually in your left arm. Because every patient is different, there are times when a graft will be located in a different place than described here. Grafts can either be straight or looped. Your surgeon makes this decision.

Unlike a fistula, grafts do not need extra time to mature and can be used very quickly after surgery — often within two or three weeks. Ensure ***sutures*** and/or staples are kept intact for 10–14 days. After this time a nurse will remove them for you.

Taking Care of your Vascular Access



Care of Your Fistula or Graft

GO!

Check for a thrill at least once every day.

Before dialysis:

- Wash your hands and your access with warm water and antibacterial soap.

After dialysis:

- Hold your own needle sites wearing gloves for 10 – 15 minutes.
- Avoid wrapping tape all around your access arm.
- Take the gauze off 4 – 6 hours after your dialysis treatment.
- If your fistula or graft starts to bleed after dialysis, apply pressure. If the bleeding does not stop, keep applying pressure and go to emergency.

CAUTION!

Do NOT allow anyone to take a blood pressure, put an IV, or draw blood on your access arm.

Avoid scratching or picking scabs on your access arm.

Avoid things that might reduce the blood flow or damage your access.

STOP!

Call your kidney doctor (nephrologist) or dialysis unit if…

- You can't feel a thrill.
- There is new redness, warmth, swelling, or pain in your access arm or oozing from your access.
- You are feverish, and have any of the above symptoms.

BCRenal
Provincial Health Services Authority

For more information, including a series of patient teaching pamphlets on vascular access, go to the BC Renal website:
bcrenalagency.ca

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What is a hemodialysis catheter?

A ***hemodialysis catheter*** is a soft hollow tube that can be placed within a large vein inside your neck or in your chest. To insert the catheter, a doctor uses a local anesthetic and makes a small incision, or opening, in your skin over the vein. The catheter is then threaded into the vein, and the doctor attaches the catheter to your skin with stitches, to hold it in place. The two short arms of the catheter sit outside the chest.

The outside catheter arms (lumens) connect to the dialysis tubing —red for the ***arterial blood line*** that takes the blood out and blue for the ***venous blood line*** that returns the clean blood back to you.

After about 6-8 weeks your skin will grow around the catheter at the ***exit site*** and the sutures can be removed by a nurse.

How do I keep my catheter healthy?

1. Keep your catheter dressing dry. For bathing, take a sponge bath rather than a shower. If your dressing gets wet, take the wet covering off and apply a new dressing. Do not soak in a hot tub or go swimming.
2. Check your catheter exit site for any signs of infection. If you notice any redness, pain, swelling or drainage OR if you have a fever or chills, go straight to your nearest hospital emergency department.
3. Do not remove the sutures that keep the catheter in place. If you notice that the ***sutures*** are wearing thin, contact your

nurse, tape the catheter in place and go to the nearest hospital. If your catheter falls out, apply firm pressure to it with clean gauze, call 911 and go to your nearest hospital emergency department.

4. Your catheter should never be used for anything other than hemodialysis.

5. Do not allow any health professionals, other than a trained dialysis nurse, to access this line.

6. Avoid tugging on the outside lumens of the catheter as this can cause skin irritation that may lead to infection. The dressing will help to reduce accidental tugging on the catheter.

7. When you no longer need your hemodialysis catheter, it will be removed by a doctor. A dressing is then applied and should be left on for 48 hours so the opening in your skin will heal.

When should I call my home dialysis team?

There is any redness, warmth or pain along the catheter.

- There is any oozing or drainage from your exit site.
- You have noticeable swelling or itching around your catheter or neck.
- You are feverish, and have any of the above symptoms.
- You notice the part of your catheter outside your skin seems to be getting longer.
- Your catheter is accidentally pulled and there is bleeding around the exit site.

Notes- Your Vascular Access