

Vascular Access for Hemodialysis





What is a Hemodialysis Access?

Hemodialysis is a treatment for kidney failure which removes wastes and extra fluid from your blood periodically. For hemodialysis to be done, an access to the blood inside your blood vessels has to be established. Your hemodialysis access, or vascular access, is the gate through which the dialysis machine connects with

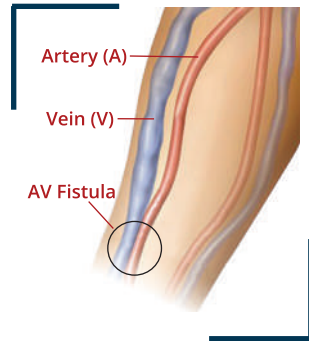
the blood in your body. The access allows your blood to travel through soft tubes to the dialysis machine where it is cleaned as it passes through a special filter, called the dialyzer. Three different types of access can be placed for hemodialysis. They are called an **AV fistula, AV graft and a Temporary or Tunneled Catheter.**

Once your doctor tells you that you will need dialysis, you should promptly protect the arm where the access is going to be created

Don't allow anyone to draw blood or give you an injection in this arm. Also, never let anyone use a cuff to take your blood pressure from this arm.

1. An Arterio-venous Fistula (AV Fistula)

AV Fistula is by far the best vascular access option for hemodialysis. It is preferred because it usually lasts longer and has fewer problems like clotting and infections. Ideally, a fistula should be placed several months before your date of dialysis. This allows the fistula enough time to "mature" and ready when you need to initiate dialysis. It is made by connecting a vein to a nearby artery, by a simple surgical procedure. This is done on your arm under local anesthesia, as a day care



procedure. This leads to the development of your outflow vein into a wider diameter blood vessel that has a rapid blood flow. Your wrist or elbow is the preferred location for your fistula. This fistula usually takes one to two months to mature.

Pros

- Lasts longer
- Generally not prone to infection
- Generally provides excellent blood flow once it is ready to use
- Less likely to develop blood clots and become blocked
- You can take showers once the access heals after surgery

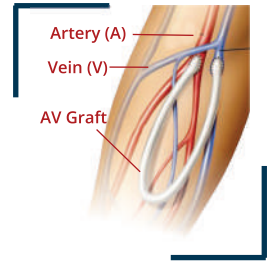
Cons

- Needs to mature before use, which can take one to two months
- Needles need to be inserted through your skin into the blood vessel to connect to the dialysis machine.

2. An Arterio-venous Graft (AV Graft)

This is an alternative choice for the access. This is an artificial tube placed between a vein and a nearby artery.

An AV graft is usually placed on your forearm or upper arm.



Pros

- Provides excellent blood flow once it is ready to use
- You can take showers once the access heals after surgery.
- It can be used much earlier than it takes to use an AVF

Cons

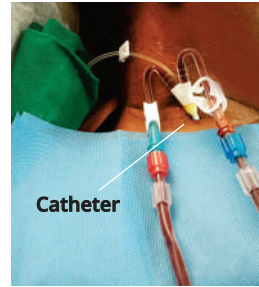
- Has a shorter life span than an AV fistula
- More prone to infection than an AV fistula
- Clotting can be a problem that may require surgery or other treatments to correct.
- Needles are inserted into the graft to connect to the dialysis machine.



3a. Temporary Catheter

A temporary catheter is most often used as a temporary, immediate access to initiate hemodialysis. It is generally used for a short time until the AV fistula is made and becomes mature. It is thus used when dialysis needs to start before the fistula is ready. Once the fistula is mature, the catheter is removed.

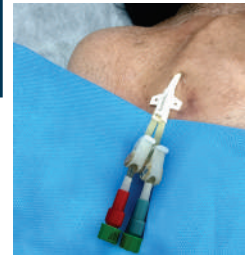
These catheters are made of soft synthetic material. They can have problems like clotting and infections if they remain in your body beyond a few weeks.



3b. Tunneled Catheter

This is also a tube made of synthetic material which is inserted into a neck vein and originating from a site on the upper chest, via a tunnel created below the skin.

It has a longer life span than a temporary catheter and when properly handled, can last several months and sometimes more than a year.



Pros

- Can be used immediately
- Easy to insert

Cons

- More prone to infection
- Blood clots can form that block the flow of blood through your catheter.
- You need to wear a protective dressing for your catheter when you take a shower.
- Can cause narrowing of the blood vessels in which it is inserted in the longer term.

Everyday tips for your vascular access care



Do not let anyone measure your BP on your access arm. Your other arm should be used instead



Do not let anyone take blood from your access arm when you are not on dialysis.



Keep a check on the vibration (thrill) of your AV fistula. If it is absent or feels different, intimate your dialysis care team urgently



Use the catheter safety kit for each dialysis session to prevent catheter related infections.



Be sure your catheter has a clean, dry dressing during and after every dialysis. Make sure your dialysis care team checks your catheter for signs of infection at every dialysis session.



Make sure you wear a surgical mask when you are being connected to or disconnected from the dialysis machine.



Make sure your nurse or technician wears a surgical mask, and clean gloves when working with your access.



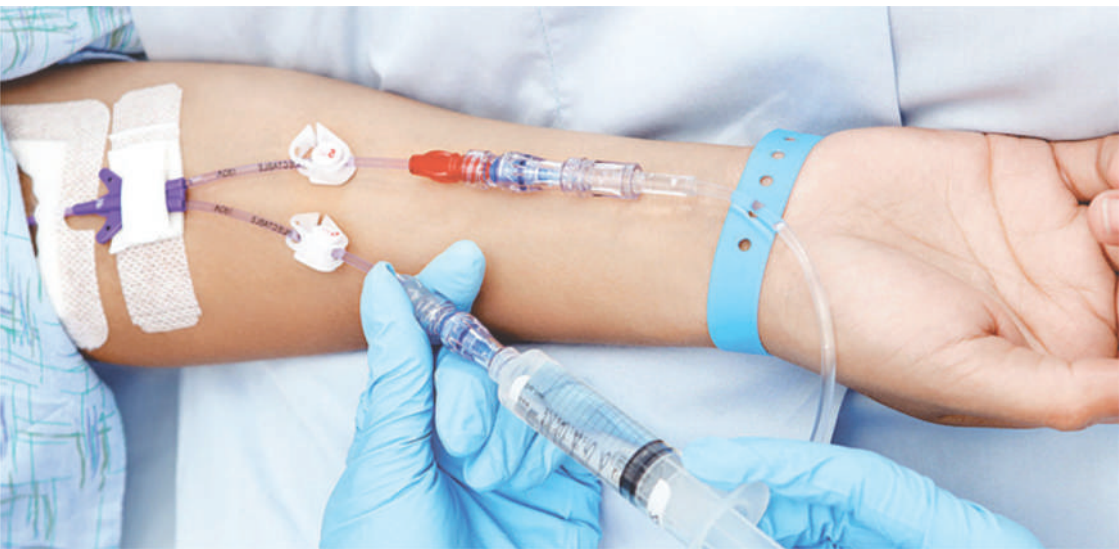
Use a protective dressing for your catheter to take a shower. Ask your dialysis care team how to get one of these covers.



Ask your nurse or technician to teach you or your family how to change the dressing.



Keep extra dressing supplies at home in case you need to replace your dressing.





Clotting or Poor Blood Flow in Your Access:

Absence of vibration (thrill) at your fistula or graft site; swelling of your arm; lower skin temperature in the arm downstream to your access, bluish discoloration of the arm downstream to the access site; a decrease in your delivered dose of dialysis (Kt/V or URR); or changes in other lab values, call your doctor or your dialysis care team. Keep a record of your Kt/V or URR and other labs. Speak to your dialysis care team when there are changes.



Bleeding From Your Access

Bleeding from the fistula/graft/catheter that persists after your dialysis treatment is over, is abnormal. For such bleeding, gently press your access site with a clean gauze pad to stop the blood and call your doctor or dialysis care team at once. Patients with an AV fistula should always keep a simple bottle cap handy in the eventuality of sudden bleeding from the fistula puncture site. Place the hollow part of the bottle cap on the bleeding point and compress it in place to enable a quick clot formation. This will control the bleeding until you reach the emergency department of a nearby hospital.





Infection:

Redness, swelling, soreness, or a feeling of warmth around your access site; fever, chills, or achy feeling are signals of access infection. Call your doctor or dialysis care team at once. You may need to take antibiotic medicines prescribed by your doctor.



Decreased Blood Circulation in Your Access Arm

A feeling of numbness, tingling, cold sensation in your access arm or blue fingers or sores at the finger tips, call your doctor or dialysis care team right away

Key guidelines

- Your Vascular access is your lifeline. Please safeguard it.
- Always try and ensure that your access for dialysis is preferably always an AV Fistula for whatever time you stay on dialysis.
- Even if you currently have a catheter (temporary or tunneled) for any reason, use it only as a temporary bridge to a subsequent AV Fistula.
- You should plan to have an AV Fistula made at the earliest possible time much before the anticipated start day of dialysis. This approach avoids a catheter completely. This is recommend worldwide as the 'Fistula First' initiative.

An AV fistula is the best long term option for all patients on hemodialysis.



Apex Kidney Care - Vascular Access Centre
Raikar Dialysis Centre, 601 B, Pearl Belezza,
19th Road, Chembur (East), Mumbai - 400071
www.apexkidneycare.com/access

For more details please contact
Dr. Ganesh Sanap: 86552 94212