

What You Need to Know About Hemodialysis Vascular Access

What is Hemodialysis?

Hemodialysis (also called dialysis) is a treatment that uses a machine to clean your blood outside your body.

What is Vascular Access?

The hemodialysis machine needs a way to get your blood out of your body and then send it back after your blood is cleaned. This is called **vascular access** (connection to your blood vessels). There are three ways for a dialysis machine to connect to your blood vessels: a **fistula**, a **graft**, and a **catheter**.

Talk with your doctor about the kind of vascular access that is best for you.

What is a Fistula?

A fistula is a vein that has been made larger with surgery so needles can be put in easily. To make a fistula, a surgeon connects one of your arteries with one of your veins. Arteries carry blood from your heart to the rest of your body, and veins carry blood from your body back to your heart. A few weeks after the surgery, the vein gets bigger. Fistulas are the best type of vascular access, but they are not right for everyone.

What are the Benefits of a Fistula?

- It lasts a long time (up to 20 years).
- It is under your skin (so there is a low risk of infection and damage).
- It gives the dialysis machine good blood flow for better treatment.
- There is less risk of more hospital stays.
- It has a lower risk of death than a catheter.

What are the Risks of a Fistula?

- Once it is placed, the vein may not get bigger as expected.
- It cannot be used for at least 6-8 weeks after it is placed.
- A fistula may not be possible if your veins are small, weak, or blocked.



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What is a Graft?

A graft is a tube that is put in your arm with surgery. Like a fistula, a graft connects an artery to a vein. During hemodialysis, needles are put into the graft. Grafts are the second best kind of tube for vascular access.

What are the Benefits of a Graft?

- It is under your skin (so there is a relatively low risk of infection and damage).
- It may be used as soon as 2 weeks after it is put in.
- It may work in patients with small, weak, or blocked veins.

What are the Risks of a Graft?

- It does not last as long as a fistula.
- There is a higher chance of blood clots with a graft than with a fistula.
- There is a risk of more hospital stays.
- There is a risk of serious infection.
- The graft may need to be repaired with surgery.

What is a Catheter?

A catheter is a tube that is put into a vein in your neck or chest. The catheter's tip sits in your heart, and the end of the tube is outside your body. Needles are inserted into the tube and not your skin. It is the third best kind of tube for vascular access. A catheter is most often **temporary**. But for some patients, it is the only choice, and it will be permanent.

What are the Benefits of a Catheter?

- It can be used right after it is put in.
- It can be put in or removed quickly.

What are the Risks of a Catheter?

- It is temporary (usually less than a year).
- Dialysis with a catheter often takes longer than with a fistula or graft.
- It can increase infections that can be serious or fatal.
- There is a risk of more hospital stays.
- With long-term use, dialysis may not clean your blood well.
- You will need a special cover to protect the catheter during baths.
- There is a high chance of blood clots.
- There is a risk of permanent damage to important veins.