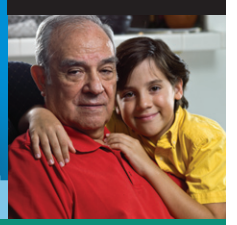




# CATHETER

for Hemodialysis



## What You Need to Know to Stay Healthy with a Catheter

One treatment choice for kidney failure is hemodialysis (HD). HD removes wastes and excess fluid from your blood. Your lifeline in HD is a *vascular access*—a way to reach your blood. There are three types of access: fistula, graft, and catheter. This booklet is about catheters.

In the long term, a catheter is not a good choice for dialysis access, if there is any way to avoid it. Most fistulas, or even grafts, cause fewer problems and last longer. Needles might be a small price to pay for a good life!

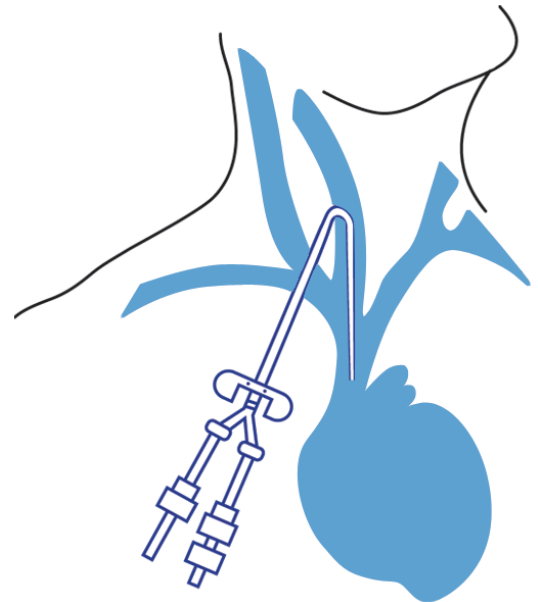
### About Catheters

A **central venous catheter** is a plastic tube placed in a large, central vein in the neck, chest, or groin. Most catheters are *tunneled*—they go under the skin of the chest and into a vein in the neck. The part used for HD comes out through the skin of the chest. It has two pieces of tubing in a Y-shape with a cap on each end.

A catheter can be held in place by a couple of stitches if it will be used for a very short time. In most cases, the catheter will have a cuff around the tubing that goes under your skin. Your tissue will grow around the cuff and hold it in place. Once a catheter is in, only a doctor should take it out.

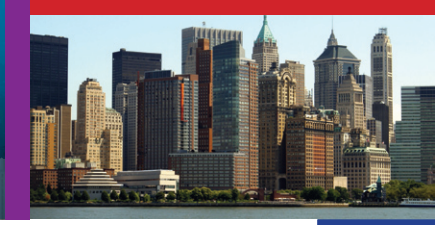
Most catheters are temporary, for weeks or months, until a *graft*<sup>★</sup> or *fistula*<sup>†</sup> is ready. Some people on HD have no other options and must use a catheter all the time.

The vein used for a catheter can affect your future access options. In some sites, catheters can harm other veins so they can't be used for HD.

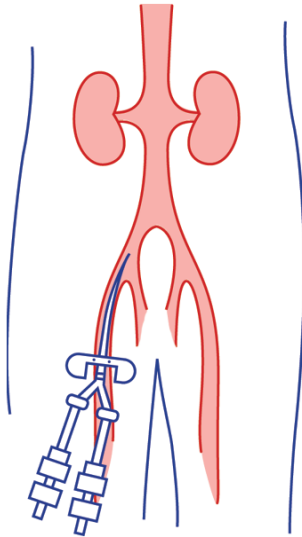


<sup>†</sup> A **fistula** is made by sewing an artery to a vein, most often in your arm. It is the best kind of access for HD, because it is least likely to get infections or blood clots.

<sup>★</sup> A **graft** is made by using a piece of synthetic vein to connect an artery and vein. It is the second best kind of access for HD.



A **femoral catheter** may be used for a short time. It is placed in the femoral vein in the groin and taken out after each treatment. Since it is in the groin, a femoral catheter is hard to keep germ-free. If your doctor suggests that you have one, ask if there are other options that would work for you.



Femoral Catheter

## Pros & Cons of Catheters

Of the three types of vascular access (fistula, graft, catheter), the catheter is the third place option:

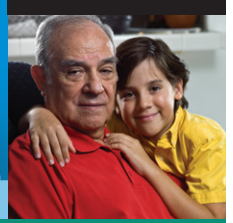
- Blood flow rates are often slow; it is hard to get enough HD to feel your best
- Since the catheter comes out of your body, it is at high risk for infections. This can be life threatening.
- Catheters may irritate the vein and cause a clot
- Having a catheter too long may ruin the chance of having a fistula or graft
- The biggest plus of a catheter is that it can be used right away

The biggest plus of a catheter is that it can be put in and used the same day. Most people who need HD *right away* will have one. Any person on HD may need a catheter at some point if a fistula or graft needs repair.

## Catheters: Helpful Tips for Women

If you are a woman who will need a catheter for HD, these tips can make your life easier:

- » Bring your bra (or draw an outline of it on your chest with a surgical marker). You can't wear a bra when a catheter is placed. But having it handy will help the doctor avoid putting the catheter in an awkward spot.
- » If the catheter will be tunneled under the skin, find out where the exit site will be. Ask the doctor not to have the catheter come out near your nipple. This can be uncomfortable and hard to keep a dressing on.
- » The weight of large breasts can pull a catheter out. Since you will lie down when the catheter is put in, if you have large breasts, remind the doctor so he or she will take care with placement and taping.



## Catheter Placement

A catheter can be placed in an operating room or a radiology suite. Some drugs may be given to relax you and reduce pain. Catheter placement most often takes about 15 to 30 minutes. You will need an X-ray to be sure it is in the right spot.



### What Catheter Placement Feels Like

Here's what people with catheters say about having a catheter put in:

» *“The vascular surgeon gave me a catheter—the one that hangs out at my chest, tunneled up and stitched in under my skin at my neck. It was done under Versed® and was mildly sore the first day, and after that it didn't bother me at all. It was easily hidden by my shirt and I could even sleep on my stomach with it. I eventually got a systemic infection from it and spent a week in the hospital.”*

» *“My catheter, which is a tunneled, cuffed catheter in the chest area, only required one incision. I was given some Versed®, which just puts you down a little bit and relaxes you. The sensation was like someone pressing on the chest area as the catheter is moved toward the neck. It lasted a few months and never gave me any problem.”*

Once your catheter is in, your care team will show you how to care for it safely. It is vital to keep it clean and dry all the time. You may need to take baths, not showers. Ask the nurse about:

- How to change the dressing if you need to
- How to clamp the catheter if it starts to bleed
- What to do if the catheter falls out or is pulled out by mistake
- Who to call if you have a catheter problem

Keeping your catheter clean and free of germs will help it last longer. If the catheter becomes infected or clogged, it can be replaced.

### Using Your Catheter for Dialysis



#### Step 1: Hand washing

The first step in using a catheter is for the staff person to wash his or her hands and put on clean gloves *and* a mask or face shield. You need to put on a mask, too. If there is a dressing over your catheter, the nurse will take it off. (Be sure scissors are never used! They could cut the tubing and cause bleeding or let air into your bloodstream.)



## Step 2: Look for infection

At each HD treatment, the nurse will remove the dressing over your catheter and look for signs of infection:

- Redness, warmth, or swelling
- Tenderness
- Drainage

Then, the nurse will feel along the length of the catheter to be sure it is still where it belongs under your skin. With kidney failure, you can have an infection with no redness or swelling. If you have a fever or feel run-down, tell your care team.

## Step 3: Clean the Catheter

If the catheter is okay, the nurse will clamp both tubes shut, then take the caps off of the ends. The ports (tube ends) will be cleaned off. Then they will be soaked with a germ killing fluid for a few minutes and dried.

The nurse will use a syringe to pull heparin (a blood thinning drug) out of the catheter. Then the nurse will flush the catheter with saline (salt water).

## Step 4: Connect to the Dialysis Tubing

The nurse will twist the HD tubing ends onto the catheter ends. The red end (arterial) will take your blood to the dialyzer. The blue end (venous) will bring your blood back to you. Once the tubing is connected, the nurse will open the clamps and start your treatment.

## Step 5: Disconnect the Tubing

At the end of a treatment, the nurse will clamp the catheter ends, put in heparin (a blood thinner) and remove the dialysis tubing. Your catheter and skin will be cleaned off, and a fresh dressing will be put on.

## How to Keep Your Catheter Working

No HD access is perfect. Catheters tend to run into some common challenges. The good news is, there is a lot you and your care team can do to help keep your lifeline working.

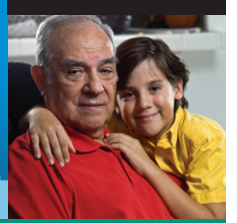
### Infection: A common problem

Infection can occur in *any* kind of access. Bacteria are all over—on skin, in your nose, on surfaces.... If bacteria get into your blood, they can cause blood poisoning, or *sepsis*. Sepsis can be deadly.



## Keep Your Catheter Visible at Dialysis

» When you are at dialysis, keep your catheter uncovered all the time so the staff can see it. This way, if a line comes apart, the staff will know right away.



## What People Say About Dialysis with a Catheter

People who have used catheters for dialysis can tell you what it's like:

» *“Catheters are very temperamental—you can't move around much during treatment or alarms go off. Also, you can't shower. I was told I could shower with my permanent catheter after a certain amount of time, but every time I showered, that's when I'd get an infection and end up in the hospital for a week. I am really much happier with my graft, even though I have to have the needle sticks.”*

» *“I blew the fistula in my arm 2 years ago, and I said ‘the catheter won't be so bad—no needles in my arm.’ That isn't the case. We were only able to get a blood flow of 200 from the neck catheter, when normally it's 400—higher blood flows allow for better dialysis. I couldn't wait to get that catheter out!”*

» *“I have had my tunneled, cuffed catheter in the same shoulder for almost a year and a half. I feel no pain with it now nor did I when it was put in. My arms are free during dialysis and having the catheter makes dialysis tolerable. I can turn around when I'm uncomfortable, and my machine runs at 450, which is generally unheard of with a tunneled-cuffed catheter. I count my blessings since I never had a problem with it.”*

Catheters are a direct route for bacteria to get to your blood. Your best defense is to keep your catheter clean. Be sure your care team never leaves the catheter ends open to the air. Each end should have a cap or syringe on at all times if it isn't in use for HD. This will reduce your risk of infection. If you notice signs of infection—redness, warmth, tenderness, pus, or a fever—tell the nurse right away.

### **Stenosis: Narrowing of blood vessels**

Stenosis can slow blood flow until you can't get enough HD to feel your best. A catheter can cause *central venous stenosis*. This permanently reduces blood flow to the catheter-side arm. There is enough blood for your arm—but not enough left for HD. This is how stenosis can ruin other possible access sites.

If you have stenosis from a catheter, you may have some of these signs:

- Your hand on the catheter side may be cold and painful.
- Your arm may swell up so much that it can be hard to move it.
- Your neck, face, and chest or breast on the catheter side may swell.
- New veins may grow on your upper arm or chest.

If you see any signs of stenosis, call your care team right away.



### Thrombosis: Blood clots

Catheters are quite prone to blood clots, called *thrombosis*, that can block blood flow. Clotting cells in the blood (called *platelets*) stick together. They seal off damaged blood vessels, like a cork seals up a bottle. Platelets will stick to any rough spot, and catheters are not as smooth as veins and arteries. To fix this, an enzyme drug is put into the catheter with a syringe to dissolve the clot. In some cases, a catheter may need to be replaced.

Finally, don't be afraid to ask questions. And with something as important as keeping your access working, there are plenty of questions. Check off the questions you don't know the answers to, and add your own:

- ❑ Who should you contact after hours if you need to? How?
- ❑ What precautions should you take for bathing, showers, swimming, etc.?
- ❑ What should you do if the catheter comes out by itself?
- ❑ Add questions you want to ask here:

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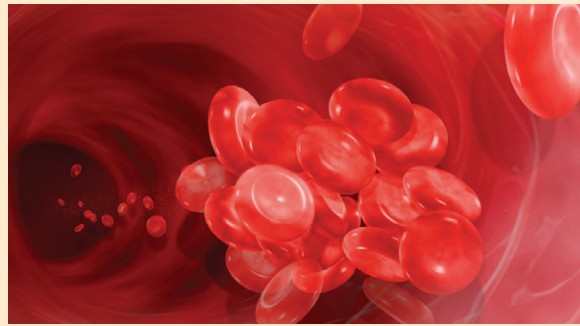
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### Look Out for Traveling Clots!

» A blood clot in your catheter may not stay put. Blood clots can break loose and travel through your body. If you recently had a blood clot and you have back pain or trouble breathing, seek emergency care.

### Conclusion

The goal of good access care is to keep your lifeline healthy so you can get good dialysis. Your chances of keeping your catheter working are best when you are an active partner with your care team.



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