

Hemodialysis Catheters: Preventing Infection

A hemodialysis catheter is a thin tube that is put in a large vein in your neck, chest or groin to access your blood for hemodialysis. It is also known as a central line or central venous catheter because the catheter passes through the vein directly into the heart.

If you have any questions,
please talk with your
physician.

Some may be temporary and only used for a short time. Others may be kept in place for weeks or even months.

A hemodialysis catheter has 2 internal openings in the vein.

- › The red (arterial) port draws blood from your vein and sends it to the dialysis machine.
- › The blue (venous) port sends clean blood from the machine back to your body.

Long-term catheters are tunneled under the skin (Figure 1). This keeps the catheter more secure and is at less risk of an infection. However, no matter where it is inserted, it always ends up in a large vein close to the heart. A bandage covers the insertion site (where the catheter enters the skin). Figure 1 also shows how the catheter above the bandage is tunneled under the skin until it enters the vein that leads directly to the heart.

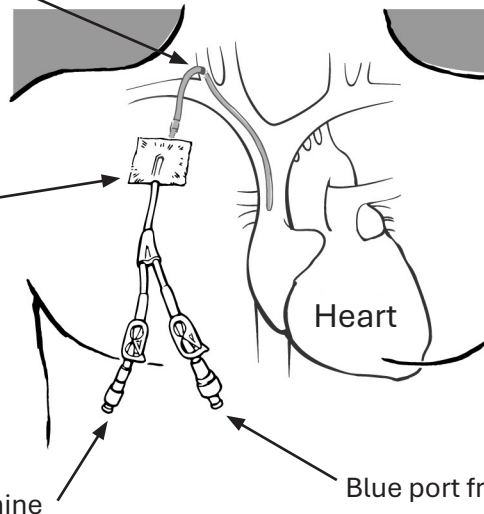
Figure 1. Tunneled hemodialysis catheter

The tunneled catheter enters the vein

Bandage over the insertion site
Always keep the site covered!

Red port to the dialysis machine

Blue port from the dialysis machine



Your catheter should not be used to draw blood, or to give medications or fluids. Unless it is an emergency, your dialysis catheter should only be used for dialysis.

Please let any other physicians or healthcare providers know this, especially if they are new to your care.

Ask your care team how long you need to have this catheter. For long-term dialysis, it is better to have an arteriovenous (AV) fistula or graft to avoid the type of infection that may happen with a catheter. Or, you may wish to consider another type of dialysis. Ask your physician or healthcare provider for more information about your options.

Central line blood infection

There is a risk of infection with any type of central line. An infection in the blood is serious and can cause severe medical problems.

A blood infection can happen when germs enter the blood through the catheter. The physician follows careful procedures to prevent infection when they put it in. Staff also use sterile techniques each time they use the catheter or change the bandage.

A central line blood infection can be life-threatening. Therefore, it is important to take care to prevent infection.

How to prevent an infection


Follow these guidelines to help protect yourself from an infection.

- › Always keep the catheter bandage clean, dry and intact. The dialysis nurse will change the bandage.
- › Do not let the dialysis catheter, bandage or insertion site get wet.
 - Never cover or soak the catheter or bandage in water.
 - Take extra care to keep the bandage dry when showering or taking a tub bath.
- › Never remove the cap at the end of your catheter. The catheter caps and clamps should be tightly closed when not in use. Air should not enter the catheter.
- › Avoid touching the catheter if possible. Harmful germs can cause infection if they enter your body through the catheter.
- › Tell your physician or clinician if you have the following symptoms at the catheter site:
 - Redness or tenderness (painful to touch)
 - Swelling
 - Pain, discomfort, stinging or burning feeling
 - Bleeding or draining any fluid
- › Check the bandage that covers the catheter every day. **If it gets dirty, wet or loose, or if it comes off, contact your care team right away for a sterile bandage change.**

What to do if the bandage comes off

Keep an emergency dressing kit at home. If the bandage comes off at home, you or your caregiver must take care of the catheter until the care team can do a sterile bandage change. Good hand cleansing is the most important way to reduce the risk of an infection before handling the catheter or bandage. Follow these steps to put on a new bandage:

1. Put on a face mask.
2. Wash your hands very well with soap and water or use an alcohol-based hand sanitizer.
3. Once your hands are clean, do not touch anything, such as devices or surfaces.

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4. Put on the gloves that came with the emergency kit.
 5. Apply the bandage as you were instructed by your care team.

What to do if the catheter comes out

If the catheter comes out, follow these steps:

1. Put pressure over the site to stop any bleeding.
2. Cover the site with sterile or clean gauze.
3. **Contact your physician or clinician right away for further instructions.**

When to seek medical attention

Please contact your care team **right away** if you have:

- › Tenderness or pain around the catheter site
- › Signs of infection around the catheter site (redness, drainage, burning or stinging)
- › A temperature of 100.4 degrees F or more
- › Chills
- › A catheter that falls out, breaks, cracks, leaks or has other damage. Do not use any sharp objects such as scissors or knives near your catheter.

Call 911 if you have heavy bleeding or trouble breathing.

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