

Central Venous Catheterization Information Sheet

General indications for the procedure:

Central venous catheterization (central line), is a procedure where a small, plastic tube (catheter) is placed into a large blood vessel so that treatments can be given to seriously ill patients. This allows intravenous fluids, medications, blood products, and intravenous nutrition to be given and blood samples to be withdrawn painlessly. It can also be used for patients that need critical monitoring of their heart or when more than one medication is needed simultaneously. Some catheters can be left in place for many weeks or months. Your doctor will tell you the reason that you need the catheter and the probable length of time that it will be left in.

Description of procedure:

The vein to be used will be located by landmarks or with the use of a small ultrasound device. Once the best vein is identified the skin will be cleansed with an antiseptic cleanser to prevent infection. If needed, a local numbing medicine will be injected into the skin. A small needle will be inserted into the chosen vein. A thin guide wire will be inserted through the needle into the vein and the needle will be removed. The tissue along the wire may be dilated (stretched) with a dilating device before the catheter is placed over the guide wire into the vein. Once the catheter is in place the guide wire is removed. The catheter is checked to ensure that it is properly placed inside the vein and is flushed with a sterile solution to keep the line clear.

Risks of the procedure:

The most common complication is failure to place the line, which occurs 10% of the time. Less common complications are pneumothorax (air leak from the lung causing the lung to collapse), and infection*. Rare complications include hemothorax (blood leaking into the chest cavity), irregular heart rhythms and cardiac arrest.

**Please read the sections at the end of this information sheet about what healthcare workers, you and your family can do to prevent central line infections.*

Alternatives to the procedure:

Placement of smaller catheters into blood vessels in the arms.

Probable consequences of refusing the procedure:

Inadequate ability to deliver life sustaining medications.

Person(s) performing the procedure:

The key portions of the procedure will be performed by a physician who is a member of the medical staff of Rush University Medical Center and/or resident/fellow who is observed by a physician who is a member of the medical staff. Residents/fellows are licensed physicians in approved residency training or post residency training programs. Part of the procedure which they perform will be based on their level of competency.

Central Line Infections – FAQs

What Causes Central Line Infections?

A central line is needed for your treatment. But a central line can also act as a pathway for germs into your body. Often, the germs that cause a central line infection come from your own skin.

How Are Central Line Infections Treated?

Treatment depends on the type of catheter, how severe the infection is, and your overall health. Your doctor will prescribe antibiotics to fight the infection. The line may also need to be removed. In some cases, the line is flushed with high doses of antibiotics. This may kill the germs causing the infection so that the line doesn't have to be removed.

What Are Hospitals Doing To Prevent Central Line Infections?

Hospitals have a plan to reduce line infections. The plan includes these five steps:

1. **Handwashing:** Hospital staff wash their hands before and after touching the line. They use soap and water or an alcohol-based hand cleaner containing at least 60 percent alcohol.
2. **Sterile clothing and drapes:** The physician who places the line wears sterile clothing. This includes a long-sleeved gown, mask, gloves, and hair covering. The patient is fully covered with a sterile drape (a large, sterile sheet) except for the spot where the line is placed.
3. **Sterile skin:** Before the line is placed, the patient's skin is cleaned with an antiseptic cleanser.
4. **Vein choice:** Whenever possible, the line is placed in a vein that has a lower risk of infection. The site where the line enters the body is covered with a sterile dressing.
5. **Checking for infection:** The line is checked every day for infection. It is removed as soon as it is no longer needed.

What Can Patients Do To Prevent Central Line Infections?

- Ask lots of questions. Find out why you need the line, how long you will have it, and where it will be placed. Learn what steps the hospital is taking to reduce the danger of infection.
- Wash your own hands often. Use soap and water or an alcohol-based hand gel containing at least 60 percent alcohol.
- Be sure doctors and nurses clean their hands with soap and water or an alcohol-based hand cleaner before and after checking your line. **Don't be afraid to remind them.**
- Try not to touch your line or dressing.

How Can Family and Friends Help?

- Wash your hands well before and after visiting the patient.
- Be sure doctors and nurses wash their hands before and after checking the patient's line. They should use soap and water or an alcohol-based hand cleaner. Don't be afraid to speak up if you don't see proper hand washing.
- Try not to touch the line or dressing.
- Learn sterile dressing technique if you will be caring for the line at home. The doctor or nurse can show you how.
- Notify your physician or nurse immediately if you notice the insertion site is swelling, develops drainage, becomes reddened or looks infected.