

Intravenous (IV) Central Line

What is an intravenous central line?

An intravenous central line is a kind of intravenous (IV) line used to give medicines and fluids. It is a thin, soft, plastic tube called a catheter that is inserted through the skin and into a vein. It is usually put in the neck or chest just below the collarbone. Sometimes it is put in the arm. Your healthcare provider gently pushes the tube through the vein until the tip is in one of the large “central” veins near the heart. This is why it is called a central line or central venous catheter.

When is it used?

A central line may be used to give medicine, fluids, or nutrition for many days, weeks, or months. It is most often used when you need to receive fluids and medicine (such as antibiotics) for more than a few days—for example, after major surgery or for cancer treatment. IVs that are put into smaller veins need to be changed every few days to prevent infection. Central lines are put into larger veins and don’t need to be changed as often. Using larger veins may also help prevent irritation and collapse of the veins from some medicines. You may be able to go home with a central line and give yourself medicines at home.

A central line may also be used to draw blood. Then you don’t have to be poked with a needle each time a blood test needs to be done.

What are the different types of central lines?

The 3 main types of central lines are:

- **PICC line** (pronounced “pick line”): The PICC line (peripherally inserted central catheter) is a long flexible tubing that is inserted into a vein in the arm and then guided into a larger vein in the central part of the body just above the heart. The end of the catheter sticks out of the skin of the arm and has a special cap covered by a small bandage.
- **Tunneled catheter**: The tunneled catheter is put in through the skin in the chest just below the collarbone. One end of the tubing is threaded through a vein under the skin into a large vein near the heart. The other end of the catheter stays on top of the skin. To prevent infection, a bandage will be placed over the area where the catheter goes into the skin.
- **Implanted port**: The implanted port has an opening with a soft cap (port) on the end. The chamber is placed under the skin through a small cut made by your healthcare provider. Medicines or fluids are given with a needle through the skin and into the port. No tubes come through the skin. Each time you get medicine or fluids through the port, you may be given medicine to numb the skin so that you don’t feel pain from the needle. However, usually medicine can be given through the port without numbing.

How do I prepare for insertion of the central line?

- If you are going home after the procedure, find someone to give you a ride.
- Follow your provider's instructions about not smoking before and after the procedure. Smokers may have more breathing problems during the procedure and heal more slowly. It is best to quit 6 to 8 weeks before surgery.
- Some medicines (like aspirin) may increase your risk of bleeding during or after the procedure. Ask your healthcare provider if you need to avoid taking any medicine or supplements before the procedure.

- You may or may not need to take your regular medicines the day of the procedure, depending on what they are and when you need to take them. Tell your healthcare provider about all medicines and supplements that you take.
- Follow any other instructions your provider gives you. You may need to stop eating and drinking for several hours before the procedure to keep you from vomiting during the procedure.
- Ask any questions you have before the procedure. You should understand what your healthcare provider is going to do.
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What happens during the procedure?

Before the catheter is inserted, your healthcare provider will clean your skin and follow steps to prevent an infection. You will be given a local anesthetic to numb the area or medicine to help you relax.

The catheter will be threaded through a needle into the vein. Your provider may use ultrasound and X-rays to watch the catheter as it is moved through the vein. X-rays may also be taken after the procedure to make sure the line is in the right position. When the catheter is in the right position, it may be stitched into place and covered with a clear bandage to prevent infections. If you have an implanted port, your provider will make a small cut in your skin so the port can be placed under the skin. The cut will be stitched closed and covered with a bandage.

The procedure takes about 30 minutes not counting the time to prepare your skin and place the sterile drapes.

What happens after the procedure?

Whether you are in the hospital or at home, there are 2 important steps to caring for a central line:

- It is important to prevent infections. Keep the skin around the central line clean and dry at all times. Wash your hands before and after touching the catheter area. Your healthcare provider will tell you how to keep it dry during baths or showers. You also have to take care not to catch a PICC line on clothing. Ask your provider what is recommended for wrapping the area to protect it.
- Fluid must be pushed through the line to keep it from clogging up. This is called flushing. An implanted port needs to be flushed every 4 to 6 weeks. PICC lines need to be flushed a couple of times a week. Your nurse or healthcare provider may flush the line while you are in the hospital or healthcare provider's office. They may show you how to do it yourself at home. Be especially careful to follow your instructions for keeping all fluids and syringes sterile.

When the central line is no longer needed, your healthcare provider will pull the catheter out of the vein and then put pressure on the spot where it entered the skin to stop bleeding. If you have an implanted port, a small cut will have to be made to remove it. You will be given a local anesthetic before the cut is made. Your healthcare provider will close the cut after the port is removed.

Ask your healthcare provider how to take care of yourself at home and when you can return to your normal activities. Ask what symptoms you should watch for and what precautions you should take. Make sure you know when you should come back for a checkup.

What are the risks of this procedure?

Your healthcare provider will explain the procedure and any risks. Some possible risks include:

- Anesthesia has some risks. Discuss these risks with your healthcare provider.
- If the catheter is inserted into a vein in the chest, the lining of the lung could be punctured. This could cause the lung to collapse. A collapsed lung would require another procedure to inflate the lung.
- You may have infection or bleeding.
- A clot may form around the tip of the catheter in the vein and block the catheter or block the vein and make the arm swell.
- Your blood can be infected by the catheter if bacteria or other germs travel down the catheter and into the blood. To help prevent infection:
 - Your healthcare provider will follow special steps to clean the skin or the port before giving medicines or drawing blood.
 - You and your healthcare providers will keep the area around the catheter clean and check it often for infection.
 - You or your provider will change the bandage around the insertion site when it gets dirty.

You can get more information about catheter-associated infections from the Centers for Disease Control (CDC) Web site: http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/BSI_tagged.pdf.

There is risk with every treatment or procedure. Ask your healthcare provider how these risks apply to you. Be sure to discuss any other questions or concerns that you may have.

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This content is reviewed periodically and is subject to change as new health information becomes available. The information is intended to inform and educate and is not a replacement for medical evaluation, advice, diagnosis or treatment by a healthcare professional.

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