

# Tunneled Central Line Catheter Placement

## What is a tunneled central line catheter?

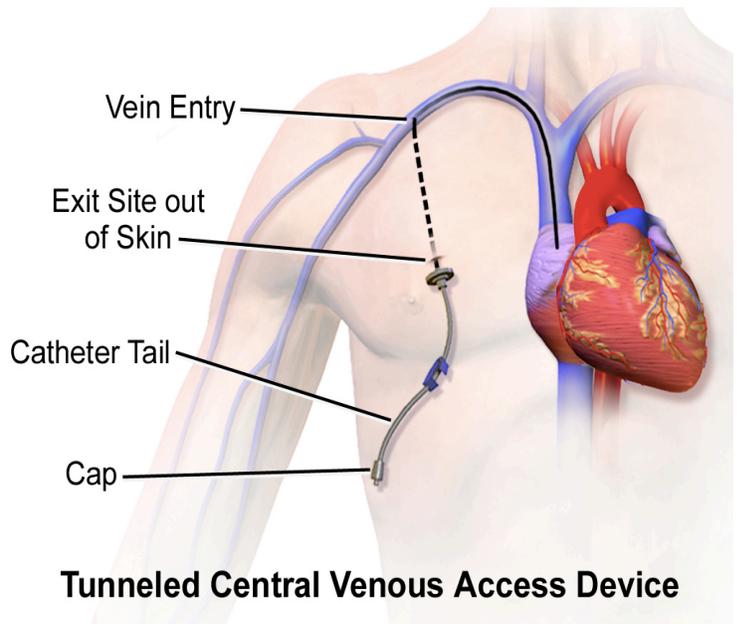
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A tunneled central line is a thin flexible hollow tube (catheter) that is tunneled under the skin before entering a large vein. It is most commonly placed in the neck into the internal jugular vein and extends down to a larger vein just above the heart (cavoatrial junction). The catheter is tunneled underneath the skin a few inches above the nipple line, and it has a small cuff that helps to secure it in place and also creates a barrier to prevent infection. The catheter can have one, two or three lumens (single, double, triple lumen). It can be called several different names including: Hickman, Broviac, Groshong, or TDC (tunneled dialysis catheter).

## How is it placed?

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The catheter is placed by a doctor in the interventional radiology suite. You will have an IV placed and be given medicine to help you relax. The skin on your neck and chest is cleaned with a special soap and a sterile drape is placed over your body. You will be given a numbing medicine to help decrease any discomfort. You should not feel any pain but will still be able to feel a pressure sensation when the catheter is placed. Using ultrasound, the correct vein is identified. During the procedure pictures are taken using x-ray to make sure the catheter is placed in the proper location. There will be two small incisions made during the procedure. One at the insertion site near your collar bone and another at the tunnel exit site which is usually a few inches above your nipple. The incisions are then closed with stitches, small tape or special glue. The catheter will be sutured in place and taped to your chest.



## Why am I getting this procedure?

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There are several reasons you may need to get a tunneled central line catheter. These include:

- Chemotherapy
- Hemodialysis (filtering blood)
- Total Parental Nutrition (TPN)
- Blood transfusions
- Plasmapheresis (exchanging or removing blood elements)
- Administration of fluids and medications

## Who should not get this procedure?

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You should not have this procedure if you have any of the following:

- A severe infection in your bloodstream
- A skin infection over the possible catheter insertion site
- A known allergy to the catheter material
- A bleeding disorder that is not correctable
- An occlusion in the vein (thrombosis)

## Benefits

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The catheter can be used for weeks, months or even years allowing you to avoid repeated needle sticks. There are also some medications that can only be given through this type of catheter. The catheter can also be removed at any time after your treatment is finished.

## Risks

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As with all medical procedures there are risks. The risks for this procedure are very low. The most common risks of the procedure are as follows:

- **Infection:** We use sterile technique and special antibacterial soap to reduce this risk.
- **Bleeding:** Usually minimal and stops right after the procedure.
- **The catheter does not work:** This can happen if the catheter forms a clot at the tip or if the catheter moves. We suture and tape the catheter in place to avoid any movement. Depending on the type of catheter we also use a small amount of a blood thinner (Heparin) to avoid clot formation. We also test the catheter immediately after placement to make sure it works.
- **Injury to surrounding structures (lung, artery):** We use ultrasound and x-ray to identify the correct location for entry into the vein and ensure proper placement at the cavoatrial junction.

## What to Expect

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### BEFORE

#### Do I need to fast for the procedure?

Yes. You must stop eating and drinking 6 hours before the procedure.

#### Do I need to stop any medications?

Yes. If you are on any blood thinning medications (Coumadin, Lovenox, Plavix) these are usually withheld before the procedure. You will receive instructions depending on which blood thinner you are taking. You can continue to take aspirin.

#### How else can I prepare?

You can prepare by bringing in a list of all your medications. You should also make sure you have someone to drive you home after the procedure.

## DURING

**Duration of procedure:** 30 – 60 minutes

**Level of anesthesia:** Conscious sedation, which means you will still be able to talk to the nurse and doctor in the room but will feel very relaxed and may not remember everything related to the procedure.

### **How is the procedure done?**

- After arriving into the procedure room, you will be asked to lay flat on the procedure table.
- Your skin around your neck and chest will be cleaned with a special soap.
- A blue drape will be placed next to your head and across your chest to keep the procedure sterile.
- The doctor will use ultrasound to find the jugular vein in your neck.
- Next, you will be given some numbing medication.
- A small incision will be made above your collar bone for access to the vein.
- Once venous access is achieved, an x-ray will be taken to verify proper positioning.
- More numbing medication will be injected on your chest around the site where the catheter will be tunneled.
- An incision will then be made at the exit site usually a few inches above the nipple.
- The catheter will then be tunneled underneath your skin.
- You will then be asked to hold your breath while the tunneled catheter is placed into your vein.
- During this time, continuous x-ray pictures will be taken to ensure proper placement.
- Once placement is verified, your chest and neck will be cleaned and stitches, special tape and/or glue will be used to close your incisions and attach the catheter to your skin.
- Lastly, sterile gauze and clear tape will be placed over the catheter and incisions until they fully heal.
- For additional information, visit our webpage at <http://www.ohsu.edu/xd/research/centers-institutes/dotter-interventional-institute/patient-care/patient-education-project.cfm> for videos detailing the procedure.

## AFTER

**Expected time of discharge:** up to 4 hours after the procedure

### **Post-procedural care:**

- You may have some mild tenderness, bruising and swelling where the catheter was placed but the symptoms should go away in a couple of days.
- You may use OTC pain medications such as acetaminophen (Tylenol) or ibuprofen (Advil) for minor discomfort unless restricted by your provider.
- **You should not get the catheter area wet, dirty or submerge it in water.**
- **You may take a shower 24 hours after placement. The site should be covered with plastic wrap with edges taped down to keep the dressing and catheter dry.**
- You should also avoid any strenuous exercise or activity that puts pressure on or stretches your neck and chest for the next 3 – 5 days to allow your incisions to heal.
- If the dressing becomes wet or falls off, put on a clean dressing and tape it in place.
- Do not use sharp objects near your catheter.
- When not in use, your catheter needs to be flushed once a month by your physician or nurse.
- Call your physician for any unusual symptoms such as fever, chills, pain or swelling.