

Central Venous Catheter (Central Line) Care

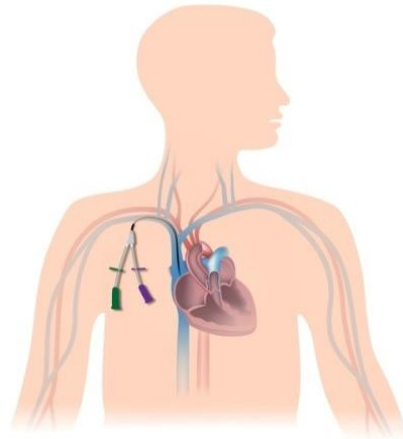


Table of Contents

Overview of your central venous catheter (central line)	2
Parts of your central line	3
Central line care tasks.....	3
Supplies to care for your central line.....	4
Important notes on central line care.....	4
Cleaning your central line	6
Flushing your central line.....	7
Protecting your central line when bathing or showering	11
Troubleshooting your central line	14
Instructions for infusing antibiotics.....	15

Overview of your central venous catheter (central line)

What is a central venous catheter?

A central venous catheter is a small flexible tube inserted into a large vein in your chest. It is used to give you fluid, nutrients, medicine, and blood products. It may also be used to get blood samples. A central venous catheter is also called a central line, tunneled catheter, central venous line, or Hickman line. In this document, we will refer to it as a “central line”. There are many types of central lines.

How is the central line placed?

Inserting the central line is a minor surgical procedure. It is done in a procedure suite or an operating room and takes about 1 hour. Your doctor will use local anesthesia to numb your neck and chest. You may also be sedated.

During the surgery, your doctor will make 2 small incisions. You will have 1 small incision at the bottom of your neck by your collar bone. This is where the central line enters your vein. The other incision will be in your upper chest. This is where the central line exits your body. The central line is threaded through a “tunnel” under your skin between these 2 sites. You will likely have a few stitches placed to help secure the central line. You will have a dressing (bandage) placed on top of each incision site.

A small cuff on the central line helps hold it in place in the tunnel underneath your skin. This cuff also acts as a barrier to help prevent bacteria on your skin from traveling up the central line tunnel and into your bloodstream.

Will it hurt?

Your shoulder and chest area may be sore for a few days after the central line is placed. You may be prescribed a mild pain reliever. It helps to move your shoulder and neck right after surgery to keep the area from getting stiff.

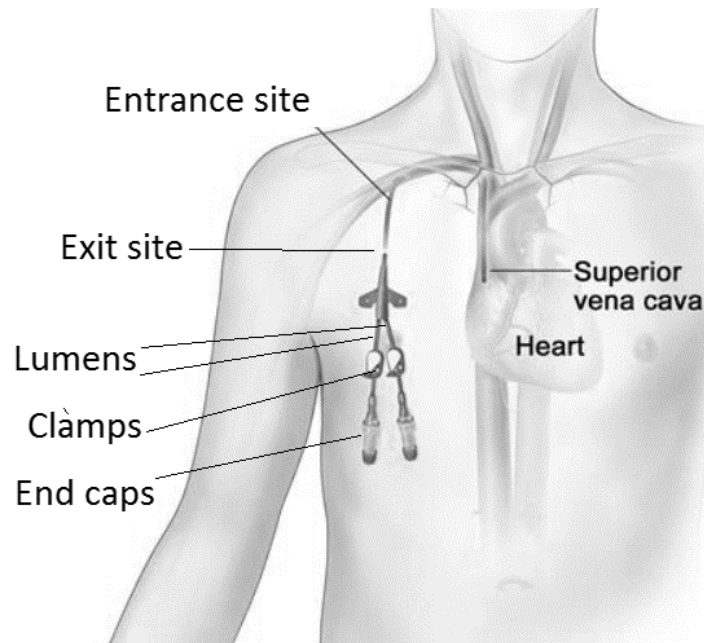
What instructions should I follow after my procedure?

- Do not take over-the-counter (non-prescription) pain medications such as acetaminophen (Tylenol®) and ibuprofen (Advil®) without checking with your care team first.
- Secure the line by wearing a tight-fitting tank top/undershirt or sports bra for at least 1 night after placement.
- Do not lift anything heavier than 5 pounds for 3 days after your surgery. Do not participate in activities that strain your chest muscles such as vacuuming, bowling, weight lifting, tennis or golf while you have the central line. You may have sex, but do not pull on the catheter. If you have any questions about your activities, please ask your care team.

How do I care for my central line?

The day after your surgery, you will have an appointment to get your dressing changed for the first time. The dressing over the central line exit site will need ongoing care as long as you have the central line in place. This care is described in the rest of this packet.

Parts of your central line



Central line care tasks

You will need to care for your central line daily to prevent infection. Care involves cleaning your central line, flushing your lumens (lines), protecting your central line from water, and changing your dressing. The chart below gives an overview of this care.

Central line care	How often
Clean central line <ul style="list-style-type: none">• Use alcohol wipes• Change tape tabs, if using	Daily
Flush lumens	Daily or with each use
Protect line from water: <ul style="list-style-type: none">• Put Parafilm® on end caps• Put AquaGuard® or Press'n Seal® over dressing	When bathing/showering
Change dressing	Every 7 days for Tegaderm® CHG or other clear dressing Every 1-2 days for gauze and tape dressing

Supplies to care for your central line

Below are the supplies used to care for your central line. You may receive some of them from a home infusion company or SCCA. If not, all of them are available online, but Press'n Seal, alcohol wipes, plastic tape, and gloves can usually be found at a grocery or drug store. If you have any questions about which supplies you should buy, please contact your care team nurse.

Supplies

- Parafilm
- AquaGuard or Press'n Seal; you do not need both
- Alcohol prep pads
- Plastic tape—do not use paper, cloth, scotch, or masking tape
- Medical gloves
- Bulldog clamp
- 2 lanyards
- Cloth pouches



Parafilm



AquaGuard



Press'n Seal



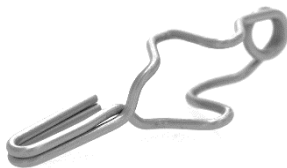
Alcohol prep pads



Plastic tape



Clean medical gloves



*Cannula "Bulldog" clamp
(SCCA will provide this)*



*Lanyard
(SCCA will provide this)*



*Cloth pouch
(SCCA will provide this)*

Important notes on central line care

Keep your line safe

- Keep your bulldog clamp with you at all times. The bulldog clamp is a safety clamp. If the central line leaks, gets cut, or breaks, clamp the central line close to your chest and call the clinic immediately.
- Secure your central line **one** of the below ways to prevent accidental removal of the line:
 - Place central line ends in a clean cloth pouch and secure the pouch with a bulldog clamp to clothing or a lanyard. Pouches are for one-day use and should be washed daily; OR
 - Place plastic tape tabs between clamp and cap on the central line and change daily. Use the plastic tape tabs and bulldog clamp to secure the central line to clothing or a lanyard.
- Always place central line clamp on the thick reinforced area of the line.

Protect your line from water

- Always cover your central line dressing with a plastic covering such as AquaGuard or Press'n Seal to prevent water from entering the dressing and exit site. The uncovered dressing and exit site should never come in contact with water.
- Always securely wrap your central line end caps with Parafilm to prevent water from entering the cap top or into the connection to the central line. If you notice moisture under the Parafilm, ask to have your end caps changed in the clinic.

Clean your line

- Clean your lumens once a day with alcohol wipes after your bath or shower. If using plastic tape tabs to secure your line, replace tape tabs each day.
- Your care team will tell you how often to change your dressing and if you will change it yourself or have it changed in the clinic.
- If your dressing starts to come off, gets wet, or if there is moisture underneath it, it needs to be changed. Ask to have your dressing changed in the clinic. You may change it yourself if you have been taught how to do this and have the correct supplies at home.

Do not

- Do not remove the end caps off your central line.
- Do not let end caps, central line or dressing go under your bath water.
- Do not go into swimming pools and hot tubs.
- Do not store central line supplies in a moist (humid) area, such as the bathroom or kitchen.
- **Do not use scissors near your central line.**

Cleaning your central line

It is important to clean your central line daily. This helps prevent infection. See instructions below for how to do this.

Supplies

- 4 or more alcohol wipes (use 2 per lumen)
- Plastic tape, if using

Instructions

1. If using tape tabs, remove plastic tape tabs. If not using tape tabs, go to step 2.
2. Use 2 alcohol wipes, 1 to hold the line and 1 to clean it. Start where the line exits the dressing and wipe towards the end cap. Using the same alcohol wipes, clean the clamps.
3. If using plastic tape tabs, replace them. Fold about ½ inch of tape over at each end to make the tab easier to remove.
4. Repeat this for each lumen.

Flushing your central line

Flush your central line with saline and heparin at least once a day or at the end of an infusion. Heparin helps prevent a clot within the central line. The daily heparin flush is still required even if you are on any oral or injectable blood thinners to prevent or treat a blood clot.

When to flush your central line

- Flush each lumen with saline followed by heparin at least once each day and after each use.
- If you have a blood draw or infusion at the clinic, the central line will be flushed there. You do not need to flush it again at home.
- If you are doing an infusion at home:
 - Flush the central line at the beginning of the infusion with saline only.
 - Flush the central line at the end of the infusion with saline followed by heparin.

How to flush your central line

Gather your supplies and then follow steps 1 through 16 below.

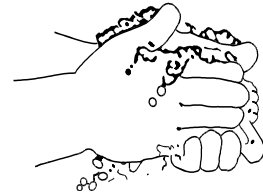
Supplies

- 2, 10 ml saline syringes*
- 2, 5 ml heparin syringes*
- 2 alcohol wipes
- 1 pair of gloves

*You need a prescription for saline and heparin syringes.

Instructions

1. **Wash your hands.**

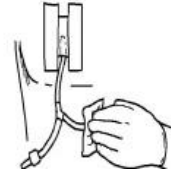


2. **Place all supplies on a clean surface.** Remove syringes from their packages by peeling the plastic downward.



How to flush your central line, continued

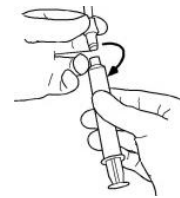
- Put on gloves. Vigorously scrub the central line end cap with an alcohol wipe for 15 seconds (count one one-thousand, two one thousand, etc.) using a twisting motion as if you were juicing an orange. **Take special care to clean the tip of the cap.** Allow the cap to dry completely (at least 5 seconds).



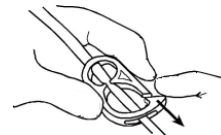
- Start with the saline syringe.** Hold the syringe with the cap on, pointed towards the ceiling, and remove the cap of the syringe. Carefully remove the air bubble by gently pulling down and then pushing up on the plunger. **Do not touch the end of the syringe because it is sterile. If you touch it, throw it out.**



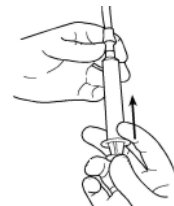
- Do not touch the tip of the end cap or the end of the saline syringe with your hand.** Insert the saline syringe into the center of the end cap by pushing in and turning clockwise. Suggestion: A flushing routine that starts with the same color lumen is helpful for remembering which lumen has been flushed.



- Unclamp the central line.



- Push the plunger on the saline syringe with **alternating pressure and release** (starting and stopping to create turbulence) to inject the fluid into the central line. This keeps clots from forming in the central line. Leave ½ ml of saline in the syringe.

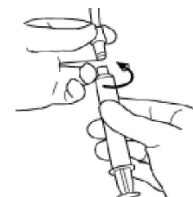


- Clamp the central line (leaving ½ ml of saline in the syringe) while keeping your thumb on end of the plunger of the syringe.

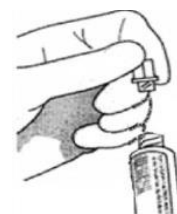


How to flush your central line, continued

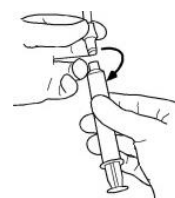
9. Remove the syringe. **Hold the end cap**, not the central line, when disconnecting from your line. Throw syringe away in regular garbage can.



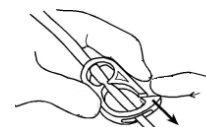
10. **Next, use the heparin syringe.** Hold the syringe with the cap on, pointed towards the ceiling, and remove the cap of the syringe. Carefully remove the air bubble by gently pulling down and then pushing up on the plunger. **Do not touch the end of the syringe because it is sterile. If you touch it, throw it out.**



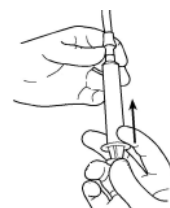
11. **Do not touch the tip of the end cap or the end of the heparin syringe with your hand.** Insert the heparin syringe into the center of the end cap by pushing in and turning clockwise. Suggestion: A flushing routine that starts with the same color lumen is helpful for remembering which lumen has been flushed.



12. Unclamp the central line.



13. Push the plunger on the heparin syringe with **alternating pressure and release** (starting and stopping to create turbulence) to inject the fluid into the central line. This keeps clots from forming in the central line. Leave 2 ml of heparin in the syringe.

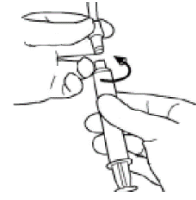


14. Clamp the catheter (leaving 2 ml of heparin in the syringe) while keeping your thumb on end of the plunger of the syringe.



How to flush your central line, continued

15. Remove the syringe. **Hold the end cap**, not the central line, when disconnecting from your line. Throw syringe away in regular garbage can.



16. Repeat steps for each lumen.

Protecting your central line when bathing or showering

It is important to protect your central line from water. You will do this by covering your central line end caps with Parafilm and covering your dressing with AquaGuard or Press'n Seal. Repeat the instructions below for each end cap.

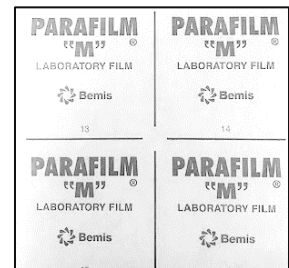
Supplies

Gather your supplies and then follow steps 1 through 9 below.

- Parafilm
- AquaGuard or Press'n Seal
- Clean cloth pouch or tape tabs
- Alcohol wipes
- Bulldog clamp
- Lanyard

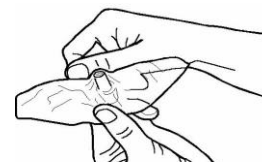
Instructions

1. Wash your hands.
2. Place Parafilm on central line end cap and tubing connection. Use 4 squares for each side of your central line.



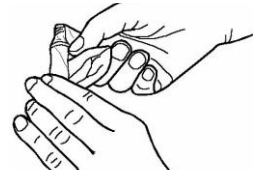
Picture of 4 squares of Parafilm.

- a) Peel Parafilm from adhesive cover backing.
- b) Stretch the Parafilm. This makes it stick to itself.
- c) Place it over the end cap of the central line.

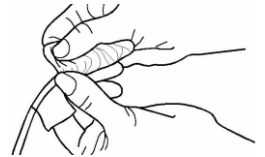


How to protect your central line when bathing or showering, continued

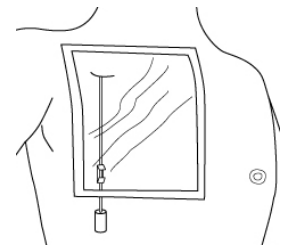
- Fold Parafilm over the top of the end cap (like you would seal the top of an envelope). Make sure it covers the connection point between the end cap and the central line. This will make it waterproof.



3. Wrap only around the thicker part of the end of the central line. The Parafilm will fit closely around the end cap and will stick to itself. Make a tab on the end so it will be easier to remove. Use the heat of your hand and grip onto the wrapped end cap to mold the Parafilm around the central line.



4. Cover the entire dressing with a square of AquaGuard or Press'n Seal. The central line lumens should hang out of the bottom edge of AquaGuard or Press'n Seal. Reinforce the edges with medical tape if it does not stay secure.



5. **Place the Parafilm-covered central line ends in a pouch** and secure with a bulldog clamp to the lanyard. You may also secure with a lanyard with the bulldog clamp applied to the central line plastic tape tabs.
6. **If you take a bath, the central line should be kept above the water level at all times. If you shower, the dressing should be kept out of the direct stream of water.**
7. After bathing, dry the AquaGuard or Press'n Seal with a towel, then remove and throw it away.
8. Dry the Parafilm with a towel, then remove from central line end caps – **DO NOT USE SCISSORS. After removing, check end cap connections to make sure they are secure.**

How to protect your central line when bathing or showering, continued

9. If there is moisture underneath the dressing or if it has come loose, the dressing should be changed.

10. Clean both lumens of your line once a day with alcohol wipes and replace plastic tape tabs, if using. Secure your central line **one** of the below ways to prevent accidental removal of the line:
 - Place central line in a clean cloth pouch and secure the pouch with a bulldog clamp to clothing or a lanyard. Pouches are for one-day use and should be washed daily; OR
 - Place plastic tape tabs between clamp and cap on the central line and change daily. Use the plastic tape tabs and bulldog clamp to secure the central line to clothing or a lanyard.

Troubleshooting your central line

Problem	Solutions
Line does not flush.	<ol style="list-style-type: none"> 1. Check to see if central line is clamped or kinked. 2. Call the SCCA clinic or after-hours numbers for instructions.
Fluid is leaking from the central line. Central line may be cut accidentally if dressing is removed with scissors.	<ol style="list-style-type: none"> 1. Immediately place a bulldog clamp on the central line as close to the chest as possible. 2. Wash hands and put on gloves 3. Check the central line to find the break. It can be as small as a pinhole. 4. Clean the break with an alcohol wipe. 5. Wrap a sterile 2x2 gauze or an alcohol wipe around the break in the central line and tape it in place. 6. Call the SCCA clinic or after-hours numbers for instructions.
Central line end cap comes off.	<ol style="list-style-type: none"> 1. Immediately clamp central line – DO NOT REPLACE CAP. 2. Wash hands and put on gloves 3. Scrub central line end with alcohol for 15 seconds and let dry 5 seconds. 4. Place sterile saline syringe on end of central line – DO NOT FLUSH. 5. Call the SCCA clinic or after-hours numbers for instructions.
Swelling around the exit site or fluid leaking from exit site. Swelling of the exit site, or bloody drainage or fluid leaking from the exit site can be a sign that the central line is out of place.	<ol style="list-style-type: none"> 1. Stop any fluids running into the central line. 2. Place an ice pack on the swollen area; do not apply directly to bare skin. 3. Call the SCCA clinic or after-hours numbers for instructions.
Swelling of the neck and face. Swelling of the neck and face can be a sign that the central line is out of place or that the vein is obstructed.	<ol style="list-style-type: none"> 1. Stop any fluids running into the central line. 2. Call the SCCA clinic or after-hours numbers for instructions.
Air in the central line, you ARE NOT short of breath. This could be caused by air being accidentally injected into the central line or the end cap falling off when the line is not clamped.	<ol style="list-style-type: none"> 1. Check the clamp to make sure that it is closed. 2. Wash hands and put on gloves. 3. Open 2 saline syringes and 1 heparin flush syringe. 4. Scrub the end of the central line cap with alcohol wipe for 15 seconds and let dry 5 seconds. 5. Attach one of the saline syringes. 6. Unclamp the line. 7. Pull back on the syringe until blood appears. 8. Clamp the line and discard the syringe. 9. Scrub the end of the central line cap with alcohol for 15 seconds and let dry for 5 seconds. 10. Flush the central line as usual, making sure to close the clamp at the end of the flush. 11. Call clinic if central line end cap is off. 12. If you become short of breath, call 911.
Air in the central line and you SUDDENLY become SHORT OF BREATH, DIZZY, OR CONFUSED.	<ol style="list-style-type: none"> 1. Lie down on your left side so that your right hip is lifted above the level of the heart while checking the clamps on the central line to be sure they are closed. 2. Call 911 for emergency assistance. 3. Tell the medics to take you to University of Washington Medical Center emergency room (or Seattle Children’s, if pediatrics).

Instructions for infusing antibiotics

If you are receiving antibiotics (and not undergoing a transplant), check with your care team to see if they recommend that you alternate between the lines of your catheter when infusing your antibiotic doses.

If you are undergoing a transplant and receiving antibiotics, your care team will instruct you to alternate your infusions of antibiotics between the lines of your catheter.