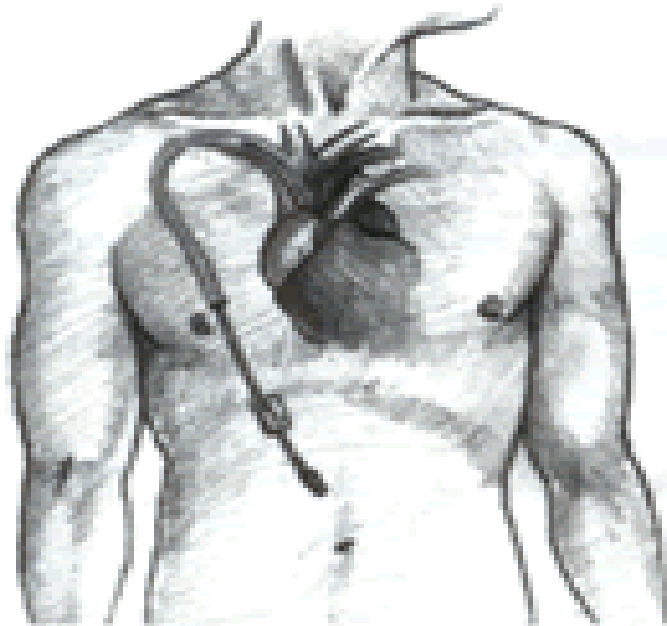




Central Venous Catheter Care and Maintenance

(includes catheter troubleshooting guide)

A Guide for Patients in the Home



Phone Number: _____

Nurse/Contact: _____

Central Venous Catheters

This manual is a guide for caring for your central venous catheter. Your nurse will teach you the steps in this manual in order for you to take care of your central venous catheter. Use this manual as a guide and as a resource tool to answer questions you may have after your training sessions.

Table of Contents

***Section One:* Types of Central Venous Catheters**

***Section Two:* Clean and Sterile Technique**

***Section Three:* Changing Your Catheter Dressing**

***Section Four:* Catheter Flushing**

***Section Five:* Changing Your Catheter End Cap**

***Section Six:* Catheter Troubleshooting Guide**

Section One: Types of Central Venous Catheters

Central venous catheters are a group of catheters that may be inserted in the arm, chest, neck or groin. The catheter tip (end) is placed into a large vein that leads to the heart. The catheter does not go into the heart, but ends just before the first right chamber. There are many different types of central venous catheters. Your nurse will direct you to the information in this manual for your specific type of catheter.

The benefits for having a central venous catheter include:

- Stronger fluids can be infused through them.
- Reduced or elimination of further needle sticks for IV catheters or blood work.
- Less chances of the catheter being dislodged or pulled out.
- Central venous catheters can stay in place for a longer period of time.

This catheter can be used for drawing blood, giving IV fluids, medications, and blood products. If you do not have a problem with your catheter, it can stay in place until your treatment is finished.

Guidelines for caring for your central venous catheter

(Your physician may order different guidelines for care of your catheter.)

- Change the dressing and catheter cap each week. (This will be done by the nurse until you or a caregiver are trained.)
- Flush the catheter with **saline *before and after*** each dose of medication.
- Flush with saline **or** heparin after the final saline flush, as instructed by your nurse.
- If your catheter is not being used for medication or if one lumen is not being used, flush with **heparin *or saline daily as ordered by your physician***. ***The exception is the **PASV PICC** and **Groshong** catheters which are only flushed **weekly with saline** when not used for medication administration.***

*****Remember to always check your catheter site daily for the following:**

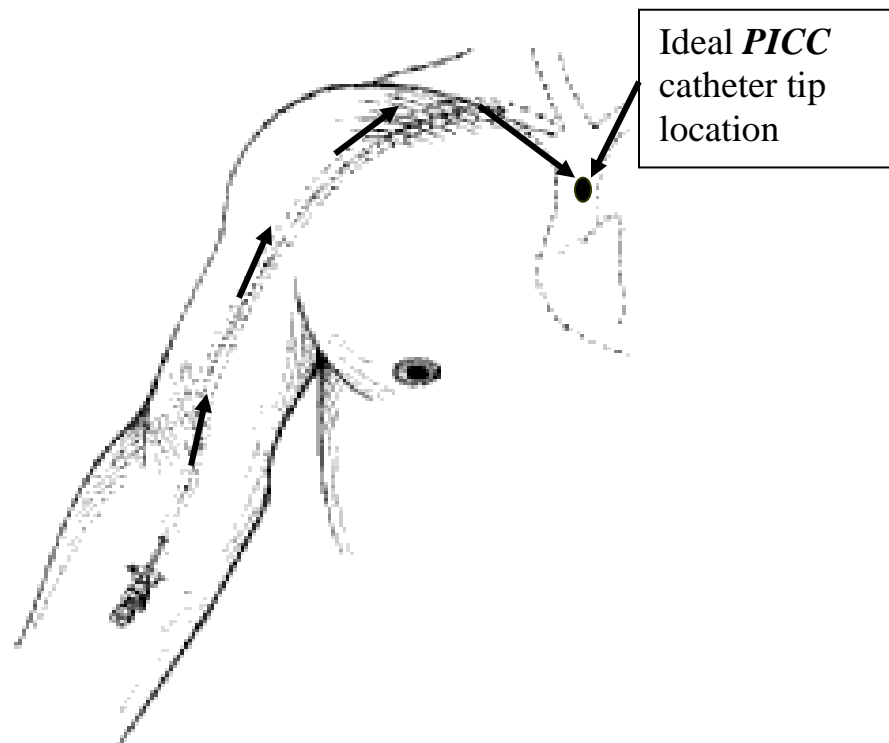
- Redness or pinkness (this may be at the site or up the arm with a PICC)
- Warmth
- Pain or tenderness
- Swelling (this may be at the site or the neck, chest or same arm on the side of the catheter insertion.
- Intact catheter dressing (all edges of the dressing should be secured to the skin around the catheter site.)

If you notice any of these symptoms, contact your nurse or physician.

PICC (Peripherally Inserted Central Catheter)

What is a PICC?

PICC stands for Peripherally Inserted Central Catheter. A PICC is placed into a vein in the arm below or above the elbow and is threaded up to the vein that leads to the heart. A PICC tip does not enter the heart. A PICC may have 1, 2 or 3 lumens. The extra lumens can be used to give medications if your physician orders more than one medication or for drawing blood.

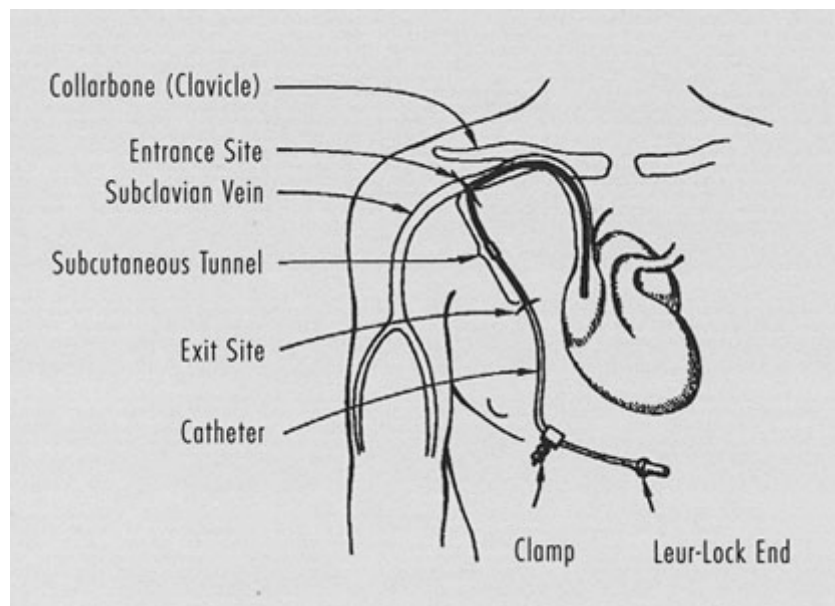


A Peripherally Inserted Central Catheter

The point where the catheter enters your vein is known as the entrance site. The catheter will be held in place by either stitches or a special padded locking device that sticks to your skin. The skin around this entrance site should be kept clean and covered with a dressing at all times.

Tunneled Central Venous Catheters

(Broviac, Hickman, Groshong,)

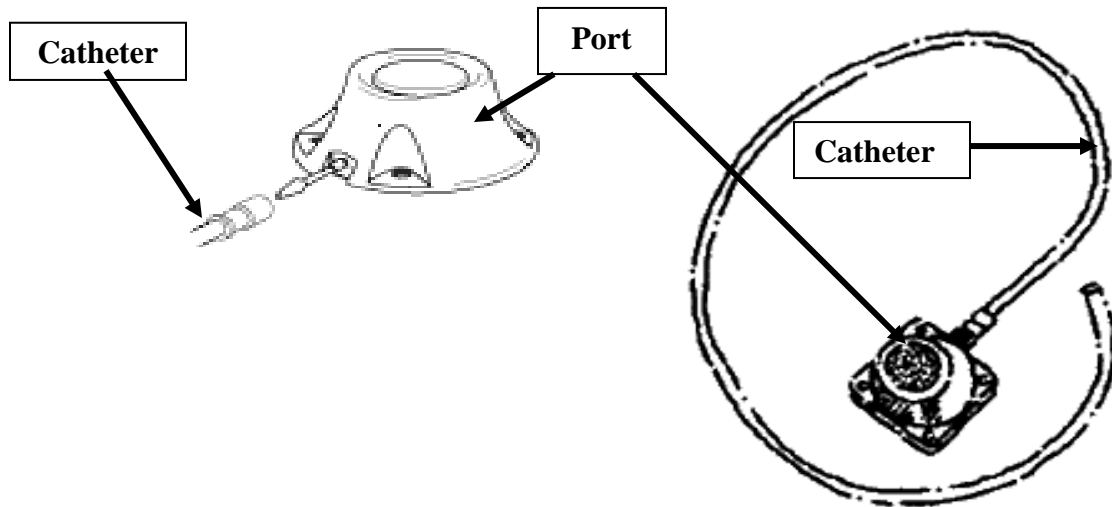


A tunneled catheter is a tube made of a special rubber-like material tunneled under the skin. The catheter is inserted into a large vein in your chest that leads to your heart. You may be able to see or feel the catheter along the tunneled path under the skin as it leads to the vein. The point where the catheter leaves your body is known as the exit site. A tunneled catheter may have up to 3 lumens or tails. The extra lumens can be used to give medications if your physician orders more than one medication or for drawing blood.

The skin around this exit site should be kept clean and covered with a dressing at all times.

The part of the catheter that is outside your body ends in a plastic or rubber screw-on device called a catheter cap. The catheter is held in place by stitches and a cuff under the skin. The cuff also helps block against germs entering into the site.

Central Venous Ports



A central venous port is made up of 2 parts. The catheter portion is tunneled under the skin until it reaches a large vein in the upper chest. The port, which is a small disk, is attached to the end of catheter and is placed just under your skin. The port may be placed in the chest area or in the arm. The port is completely covered by the skin and fatty tissue. You can not see any part of the port outside of the body.

A special needle called a “huber needle” is used to stick through your skin and into the port when you are receiving medication. The needle will be changed **every 7 days** if you are receiving IV medications. Though patients and families can be taught how to insert the huber needle, this procedure is generally done by the nurse. The needle is kept in place with a sterile dressing that should stay on at all times.

The needle will be removed when the port is not being used. You will only be able to feel a small bump under your skin at the site of the port. A dressing is not needed if the port is not being used.

Section Two: Clean and Sterile Technique

What does it mean to use clean technique?

Clean technique is used when you are giving your medication, handling your supplies, except for the supplies in your central line dressing kit, flushing your catheter and changing your catheter end cap. Clean technique does not mean your hands are sterile. Clean technique means your hand have been washed and are free of any obvious or visible soiling. Hand washing is the first step in ensuring clean technique.

What does it mean to use sterile technique?

Sterile technique is used when you clean around your catheter. The supplies inside of the central line dressing kit are sterile. When something is sterile, it is considered to be free from germs. You will be need to follow the steps the nurse has taught you in order to use sterile technique with you catheter. **Never shorten or leave out a step that you are taught.**

Here are a few tips about clean and sterile technique:

- ***Always*** wash your hands with an anti-bacterial soap such as Dial before touching your catheter or any of your supplies.
- ***Always*** use sterile gloves, not your bare hands, when touching the supplies in sterile packs or the skin around your catheter site when changing the dressing.
- ***Always*** look at your medication for leaks, cloudy fluids, or particles in the fluids. ***Do not use supplies with any of these problems.***
- ***Always*** keep your supplies in a dry, clean place away from children and pets.
- ***Always*** have your medication administered by a person trained by the nurse.
- ***Always*** throw away any item you think may not be sterile. If you throw away any items, **please call the pharmacy so we can send you a new one.**



Section Three: Changing the Dressing

It is very important to use proper technique when changing your dressing to prevent infection. If the catheter becomes infected, it may have to be removed. **Look at your exit/entrance site daily.** Look for redness, swelling, and drainage. Feel the site through the dressing for warmth or tenderness. *If you notice any of these, call your doctor or nurse.*

Your catheter dressing should be changed every **seven (7) days** or if the dressing becomes loose or soiled.

Dressing Change Steps:

1. **Wash** your hands with warm water and liquid antibacterial soap.

2. **Gather Your supplies:**

The dressing change kit includes:

- Mask
- Sterile gloves
- (1) chlorhexadine swab
- Skin prep pad
- Clear dressing
- Sterile tape
- 4x4 gauze
- 2x2 gauze
- Drape

3. **Put** on a pair of non-sterile gloves.

4. **Put** on a mask.

5. **Remove** the old dressing and look at the site for redness, swelling or drainage, as well as any pain or tenderness at or around the site. Remove non-sterile gloves and discard.

6. **Wash** your hands again.



7. **Put** on the sterile gloves being careful not to touch the outside of the gloves with your hands.
8. **Do not touch** anything outside of the package with your sterile gloves.
9. **Open** the chloraprep swabsticks and remove one (1) from the packet.
10. **Scrub** back and forth; up and down working from the center outward for **30 seconds** with 1 swabstick. Do not go back to the center with the same swabstick once you have cleaned to the outer area.
11. **Repeat** step 10 with each of the other 2 swabsticks.
12. **Allow** the skin to dry for **1-2 minutes or until the skin is completely dry**. Do not fan, blow or rub the site to make it dry faster.
13. **Apply** the skin prep around the catheter site, staying 1inch away from catheter entrance site. Allow to dry.
14. **Place** the clear dressing over the catheter and press to make sure it fits securely to the skin.
15. **Tape/secure** the catheter to your arm or chest as instructed by your nurse.

Section Four: Catheter Flushing

(See your medication administration manual for pre and post medication flushing)

Below is the standard flushing protocol for your catheter.

PICC (includes Hickman, Raaf and Broviac)

- Saline:** 10 ml pre/post medication administration, 20 ml post blood draws.
- Heparin:** 5 ml, 10 units/ml, post medication administration and once daily to each unused lumen.

PASV PICC and Groshong Catheters

- Saline:** 10 ml pre/post medication administration, and weekly for maintenance when not used for an infusion. 20 ml post blood draws.
- Heparin:** Not required for these catheters

IVAD (port)

- Saline:** 10 ml pre/post medication administration. 20 ml monthly for maintenance when not used for an infusion prior to final heparin flush. 20 ml post blood draws.
- Heparin:** 5 ml, 100 u/ml, post medication administration and monthly following 20 ml saline flush when not used for an infusion.

Other Catheter Types: _____

- Saline:** _____

- Heparin:** _____

Handwashing

1. **Wash** your hands using warm water and antibacterial soap.



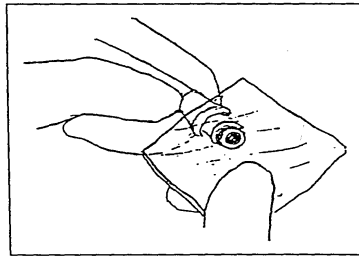
2. **Clean Your Work Area**

Use a paper towel or a clean hand towel to lay on a table for your work area.

3. **Gather your supplies**

- Alcohol prep pad
- Heparin or saline syringe (1 heparin or saline syringe for each catheter lumen)

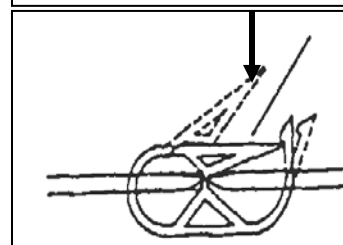
4. **Scrub** the catheter end cap with an alcohol prep pad.



5. **Flush** with heparin or saline using a pumping action as instructed by your nurse. * If your catheter has more than one lumen, repeat step 4 and 5 for each lumen daily or as instructed by your nurse.

6. **Remove** the syringe and close the clamp **if** instructed to clamp by your nurse. The Groshong and PASV catheters should not require clamping.**

Press clamp down
and back to open.



7. **Discard** the syringe in the trash.

8. **Tape/secure** the catheter to your arm or chest as instructed by your nurse.

Section Five: Changing the Caps

Your catheter end cap is changed every week. Change the catheter end cap after you change your dressing.

1. Handwashing

Wash your hands with warm water using liquid antibacterial soap.



2. Clean Your Work Area

Use a paper towel or a clean hand towel to lay on a table for your work area.

3. Gather Your Supplies

- Alcohol prep pad
- Catheter end cap
- Heparin or saline syringe (1 heparin or saline syringe for each lumen)
- Extension set (if applicable)

4. **Remove** the new catheter end cap from the package. Do not touch the end with the threads.

5. **Insert** and twist the flush syringe into the cap on the threaded end. (If you are using an extension, remove the protective cover from the cap and the extension and attach the cap and extension together.)

6. **Flush** the catheter end cap, and extension if attached, with the flush syringe to clear the air. Leave the cap and syringe attached and lay aside on a clean paper towel.

7. **Scrub** the space between the “old” catheter cap and the catheter with an alcohol pad.

8. **Check** to make sure the catheter is clamped if your catheter should be clamped. **Unscrew** and remove the old cap, and extension if used, from the catheter and lay it aside.

9. **Screw** the new cap (and extension if attached) onto the catheter.

10. **Flush** the catheter with the flush syringe using a pumping action. Remove the syringe. ***Close the clamp **if** instructed by your nurse.***Some catheters do not require clamping.***

11. **Discard** used supplies in the trash.

Section Six: Catheter Troubleshooting

Catheter problems do not happen very often, but use this helpful guide prevent as well as be prepared should you have any problems. You will better able to handle a problem if you have reviewed this information.

Problem	Symptoms	What do I do?	Prevention
Air in the Line	You may have shortness of breath or chest pain.	Clamp the catheter near the exit site and call your doctor or nurse right away. Lie down on your left side and remain still and quiet.	Never take the catheter end cap off before the closing the clamp. Carry an extra clamp with you in case the catheter is damaged.
Blocked Line	Cannot flush the line using normal pressure	Do not use extra pressure! Make sure all the clamps are open and that the tubing is not kinked. Call your doctor or nurse. The catheter may need to be opened using a special medication	Flush your catheter on the schedule given to you by your nurse. Always use a pumping action. Always flush your catheter after you use it. Keep the catheter clamped when you are not using it to prevent blood from backing up in it.
Blood backing up in the catheter	You are able to see blood in the catheter or IV tubing.	Tighten all connections. Flush the catheter as ordered using a pumping action.	Always make sure your connections are tight. Always keep the catheter clamped when it is not being used.

Problem	Signals	What to Do	How to Avoid It
Break or cut in the catheter	Leaking of fluid from the line. Dampness under the dressing.	Clamp the catheter between the break and the exit site. Call your doctor or nurse. The catheter may need to be repaired.	If catheter has a section that says “clamp here” – only clamp over that area Never use scissors near the catheter. Do not use force to flush the catheter.
Loose or removed catheter end cap	The cap will be loose or absent.	Make sure the catheter is clamped. Clean the end of the line with alcohol and put a new, clean cap on it.	Make sure the cap is secure at all times. You can tape between the cap and the catheter to make it more secure.
Infection	Fever, chills, swelling or oozing at the site. A foul odor, pain or heat at the site.	Call your doctor or nurse. You will need treatment.	Wash your hands before you do anything with your line. Wear your mask when the dressing is off. Avoid people who are sick.

