PIC Catheter Care

Your doctor has suggested a peripherally inserted central catheter (PICC) line so you can receive medicines and fluids while in the hospital or at home. The PICC can be used for IV (into the vein) antibiotics, pain medicine, chemotherapy, nutrition or for the drawing of blood samples.

Description

The PICC is made from a rubber-like material. This makes the catheter soft and flexible. The catheter is long and narrow and is inserted into a vein above the bend of your arm (See Figure 1). The PICC has a plastic adapter or hub, a plastic clamp and a winged portion that is attached to your skin so that the catheter does not fall out. An injection cap is attached to the hub or end of the catheter. This allows fluids or medicines to flow into the catheter and prevents blood from coming out. The PICC can have either 1 or 2 openings (lumens). This depends on how many medicines you will be receiving at home. This catheter can be left in your arm for several weeks or months, depending on your therapy needs. When your therapy is complete, the PICC is removed.

Figure 1

If you have questions about caring for your PIC catheter, ask your doctor or nurse.
Placement

The PICC placement can be done in the Interventional Radiology (IR) department of the hospital or at the bedside by a trained (certified) registered nurse. A local anesthetic numbs the skin so that the actual insertion of the catheter is painless. The tip of the catheter will be positioned into a vein (superior vena cava) near your heart (see Figure 2). The catheter will be held in place by a suture or a “securing” device. The site is covered by a clear dressing. An X-ray is taken to check for correct PICC placement. There may be a small amount of bleeding at the site. A nurse will change the dressing as needed. This is normal and should not restrict your activity. You may have some discomfort at the catheter site for a day or two.

Aseptic Technique

Aseptic technique prevents bacteria from invading your supplies and catheter. If bacteria enter your catheter or the catheter insertion site, a blood infection can result and you can become very ill. To prevent this, never cover or soak the catheter in water. Do not swim. Take extra care while showering or taking a tub bath. Cover the entire dressing and catheter with an added waterproof covering such as plastic wrap while showering or bathing. Secure all edges with tape. Before any catheter care, it also is important to clean the work area very carefully and wash your hands. Keep your supplies in their packages until you are ready to use them. The supplies should be stored in a clean, dry place away from children and pets.

Preparing the Work Area

Tables and surfaces in your home normally have dust and some germs. The table top or surface you will use to set up your IV fluids or medicines should be clean and dry. It is best to choose a work area away from household traffic and distractions.

- Choose a work surface such as a tray, TV tray table, countertop or table.
- If the surface is washable, clean it with soap and water and dry it with a clean towel or paper towel.
- If the surface is not washable, wipe it free of dust and spread a clean towel or paper towels over the surface.
- Avoid coughing or sneezing on the clean surface.
- Keep pets out of the room.
**Handwashing**

Before touching the catheter or your sterile supplies, wash your hands carefully to remove bacteria. This will help prevent infection of the catheter.

- Use any brand of antibacterial liquid soap.
  1. Turn on the water.
  2. Wet your hands and wrists.
  3. Squirt the soap into your hands and raise a good lather.
  4. Rub your hands on all surfaces: palms, backs of your hands, fingers and between your fingers.
  5. Scrub your hands for **at least 2 minutes**.
  6. Rinse your hands by holding them with your fingers pointing down with the water running down from your wrists to your fingers, so the dirty water flows downward.
  7. Dry your hands with a clean towel or paper towel. Turn off the water using the paper towel.

Once you have washed your hands, do not touch anything except your catheter and supplies. If you touch anything, such as the telephone or furniture, you should wash your hands again.

**Preparing the Supplies**

The IV supplies have been sterilized and packaged to keep out bacteria. It is important to keep germs and dirt off these sterile supplies.

- Inspect all the supply packages. Make sure they all are sealed and dry.
- Inspect all IV fluid bags for leaks or damage.
- Inspect the bags, sterile packages, and bottles for expiration dates. Do not use the item if the expiration date has passed. Call the supply company and reorder the item. Any expired supplies should be thrown away.
- Do not allow the sterile items to touch a non-sterile or “dirty” surface. An example is an uncapped syringe touching the table or work surface. Even if the table surface is clean, it is not sterile.

If an unpackaged item has touched a non-sterile surface, throw it away and get a new item. The extra time and money spent is a small price to pay to prevent the risk of catheter infection.

**Flushing the Catheter**

**Purpose**

To keep the catheter free from blood clotting.
**Frequency**
Once every day or after each infusion of medicine or fluid into the catheter.

**Supplies**
- Chlorhexidine wipes.
- One pre-filled saline syringe.

**Procedure**
Read the label for the flush syringe, making sure it has not expired.

1. Clean the table or work area.
2. Assemble supplies.
3. Wash your hands carefully.
4. Clean the injection cap of your PICC with a chlorhexidine wipe.
5. Allow to dry for 30 seconds.
6. Insert tip of saline syringe into injection cap.
7. Unclamp the PICC.
8. Slowly inject the saline into your PICC.
9. Remove the syringe.
10. Clamp the catheter.
11. Discard the syringe into the “sharps” container.

If you will be given medicines or fluids at home, follow your doctor’s orders or home care guidelines on flushing the catheter.

**Changing the Injection Cap**

**Purpose**
To decrease the chance of infection. When removing the cap, you will need to wear a mask in case you cough or sneeze while catheter tip is open.

**Frequency**
Change the injection cap once a week. If you ever suspect a problem with your injection cap, change it.

**Supplies**
- ChloraPrep® FREPP (sponge).
- Mask.
- One sterile injection cap.
- One package sterile gauze.
Procedure
1. Clean the table or work area.
2. Assemble supplies.
3. Wash your hands.
4. Open the gauze package and the ChloraPrep® FREPP (sponge).
5. Open the package with the new cap, being careful not to touch the sterile end of the new cap.
6. Use the ChloraPrep® FREPP to clean the old injection cap where it connects to the catheter for 15 seconds.
7. Lay the catheter and cap on the gauze pad and let dry for 30 seconds.
8. Make sure that the PICC clamp is closed.
10. Remove the old cap by turning in a counterclockwise direction using the gauze, not your bare fingers.
11. Place new “cap” on the catheter and tighten securely by turning cap in a clockwise direction. Do not over tighten.
12. Remove the mask.

Never force unscrewing of the cap if you are having trouble.
Never use sharp items such as scissors, knives or pliers near your catheter.
Call your home care agency if you are having any type of trouble.

Flushing the Catheter After Medicines

Supplies
- Chlorhexidine wipes.
- Two pre-filled saline syringes.
- Antibiotic/medicine, tubing.

Saline
To flush your catheter before giving medicine:
1. Clean table or work area
2. Assemble your supplies.
3. Wash your hands.
4. Swab the top of the injection cap with a chlorhexidine wipe.
5. Let dry for 30 seconds.
6. Insert the syringe of saline into the injection cap of PICC.
7. Unclamp the PICC.
8. Slowly inject the saline to flush the catheter.
9. Remove the syringe.
10. Clamp the PICC and discard syringe.

**Giving Medicines**

*IV Infusions*
1. Remove the IV tubing from their packages.
2. Take the seal off the medication bag without touching the tip. Insert the spike of tubing into the bag.
3. Close the clamp on the tubing.
4. Squeeze and release drip chamber until it is half full.
5. Open the clamp on the tubing to allow fluid to run to the end of the tubing so that air is forced out of the tubing.
6. Close the clamp on the tubing.
7. Chlorhexidine wipe the injection cap of the PICC. Let dry for 30 seconds.
8. Attach the tubing.
9. Unclamp the PICC.
10. Open clamp of the IV tubing.
11. Infuse the medicine over ________ minutes.
12. When bag is empty, clamp the PICC and close clamp of the medicine tubing.
13. Disconnect the tubing from the PICC.

Some medicines are given using an infusion pump. Your home care nurse will teach you how to do this.

*Saline*
To flush antibiotic out of the PICC:
- Repeat steps listed under “Saline” at top of page.

*Always make sure your PICC is clamped when you are finished.*

**Possible Catheter-Related Problems**

*Infection of the Skin*
An infection of the skin around the catheter can develop.

*Sign/Symptom:* The skin may become red or swollen, and pus or drainage may be seen around the catheter insertion site. You may have pain or tenderness at the catheter site.
Action: Take your temperature. Call your nurse or doctor right away, even if your temperature is normal (98.6 °F).

**Blood Infection**

You also can develop a blood infection. A blood infection may result from bacteria entering the catheter due to improper hand washing and aseptic technique. That is why careful hand washing and proper care of your catheter is very important.

**Sign/Symptom:**
- Fever and chills.
- Temperature higher than 100.4 °F.

**Action:** Call your doctor right away.

**To Avoid Infection**

**Always** wash your hands before handling the catheter. **Always** follow the suggested instructions. If in doubt about whether any of your supplies are still sterile, discard the item and use a new one.

**Always** check the expiration dates of your supplies. Keep your dressing dry with a tight seal.

It is important to tell all of your doctors who care for you that you have a PICC.

**Occluded (Blocked) Catheter**

**Sign/Symptom:** You are unable to flush saline through the catheter.

**Action:** **Never** force the fluid, as you may damage the catheter. Clamp the catheter. Call your nurse or doctor.

**To Avoid Occlusion**

**Always** flush your catheter with saline after each use or daily if the catheter hasn’t been used.

**Air in the Catheter**

Air may enter the catheter from:
- A loose connection.
- A hole in the catheter.
- The injection cap falling off.
- Incorrect clamping of the catheter when changing the cap.

**Sign/Symptom:** You begin having shortness of breath, dizziness, light-headedness or chest pain.

**Action:** Clamp the catheter. Lie down flat on your left side. **This is an emergency, call 911.** You may need to have paramedics bring you to the hospital.
To Avoid Air in the Catheter

Never use sharp items such as scissors, knives or pliers near your catheter.

Leakage of Fluid from the Injection Cap

Sign/Symptom: You notice fluid or blood inside the injection cap or some fluid or blood is dripping from the injection cap.
Action: Tighten the injection cap securely or change the cap right away. Flush the catheter with saline.

Accidental Tearing of the Catheter

Sign/Symptom: Blood or fluid is leaking from the catheter. The catheter is damaged.
Action: Immediately clamp or pinch the tubing above the hole or tear close to point where the catheter enters your arm.
Go to the nearest emergency room.

To Avoid Tearing of the Catheter

Never use sharp items such as scissors, knives or pliers near your catheter.

Central Vein Thrombosis

Blockage in a vein leading to the heart by a blood clot around the catheter.
Sign/Symptom: Pain or swelling of the neck, arm, shoulder or face on the same side as your catheter.
Action: Call your doctor right away.

If you have any questions, please ask your doctor or nurse.

Resource People and Telephone Numbers

Northwestern Memorial Hospital
General Information: 312-926-2000

Your Hospital (attending) Doctor: ________________________________

Doctor who placed the PICC: ________________________________

Home Care Nurses: ________________________________

Supply Company: ________________________________
Health Information Resources

For more information, visit one of Northwestern Memorial Hospital’s Health Learning Centers. These state-of-the-art health libraries are located on the 3rd floor of the Galter Pavilion and on the 1st floor of the Prentice Women’s Hospital. Health information professionals are available to help you find the information you need and provide you with personalized support at no charge. You may contact the Health Learning Centers by calling 312-926-LINK (5465) or by sending an e-mail to hlc@nmh.org.

For additional information about Northwestern Memorial Hospital, please visit our Web site at www.nmh.org.