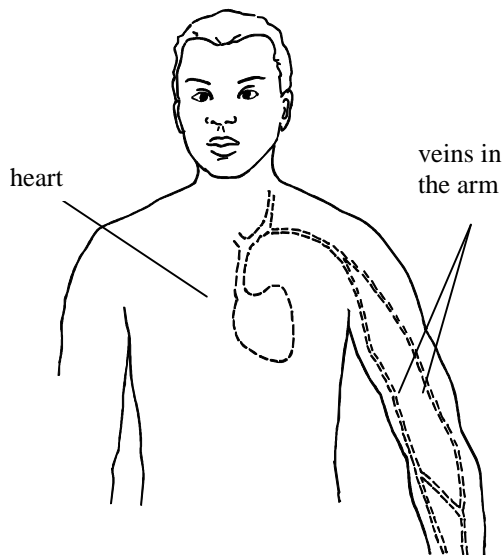


Peripherally inserted central catheter: Care at home

What is a peripherally inserted central catheter?

A peripherally inserted central catheter is often called a “PICC line”. It is a long, very thin, flexible tube that is inserted into one of the large veins above the elbow. This tube is threaded into a large vein that is located near the heart.



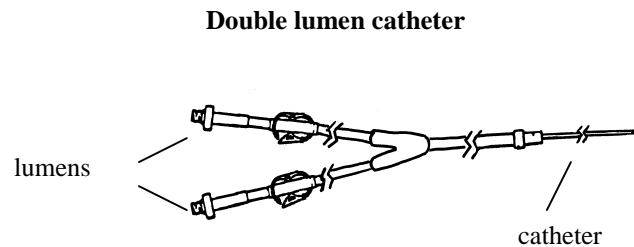
The PICC line will be used to give your child IV medicines or fluids. It can also be sometimes used for blood samples. Because the tube is so small and flexible, the line usually lasts several weeks to months, which means fewer needle pokes and less pain.

The part of the catheter outside the skin has a plastic end with screw-like threads. An injection cap is on the end of the catheter so that it does not leak or allow air or bacteria in. It also allows you to inject medicines or

flush solution into the catheter without removing the cap.

The PICC line can be capped off when not in use, so that your child is free to move around.

There are different kinds of PICC lines. Some have just one tube (single lumen), while others have two separate tubes within the same catheter (double lumen). If your child has a double lumen catheter, each tube must be treated separately.



Your child's catheter:

Type: _____

Size and Manufacturer: _____

May be used for x-ray contrast studies: yes or no _____

Blood samples **can** be taken from the catheter.

Blood samples **cannot** be taken from the catheter.

How should I prepare my child?

Use simple words to explain why the catheter is needed and what to expect. Remind your child that the tube means less pain. How much detail you give will depend on the age of your child, and the degree of anxiety about the procedure. If you need help, ask a nurse or Child Life staff member.

Explain procedures before they are done, especially what your child will see, hear, and feel. Tell your child what is expected ahead of time, such as, “Your job is to hold still while I give you your medicine.” This will help make care at home easier for both of you.

How is the PICC line put in?

The PICC line is inserted in a hospital procedure room using a sterile method. Your child’s nurse will show you where you can wait while the procedure takes place. Your child may be sedated during the procedure. A numbing medicine is given to ease discomfort where the PICC line is inserted.

Using ultra-sound, a special needle is put in the vein, and the PICC line is threaded through it, up into the big vein that goes to the heart. A tracking shield may be placed on your child’s chest to help confirm location for the PICC line. Once the line is in place, the needle is removed.

A chest X-ray will be taken to make sure the tip of the PICC line is in the correct position.

Your child may have soreness or discomfort where the catheter was put in. Pain medicine will be given as needed. Warm packs may also be applied for comfort.

How should I care for my child?

Caring for a child with a PICC line may be a little scary at first. The nurses will take care of the line and give the medicines while your child is in the hospital. As your child improves and is able to be at home, you may be taught how to give medicine through the PICC line. Home care nurses will teach you and help you become comfortable with the procedures before you do them yourself. These are the special things that need to be done:

- preventing infection
- flushing the PICC line
- giving the medicine
- solving problems
- knowing when and who to call for help

The home care nurse will come to your home twice a week to make sure there is no sign of infection. The nurse will change the injection cap twice a week and the dressing (bandage) once a week and as needed.

Preventing infection

It is very important to prevent infection, which might require removal of the PICC line. The nurse will show you how to keep your supplies sterile, so no germs will enter the catheter and cause an infection.

Cleanliness is a must! Each time you do a procedure with the PICC line, follow these steps:

1. Prepare a clean work area by cleaning a solid surface with household cleanser (such as Lysol® or another brand) and lay a clean towel on it.
2. Clean your hands well, using one of the following methods:

- Use an alcohol hand sanitizer (Purell® or another brand) according to directions.
 - If hands are dirty or sanitizer is not available, wash your hands with antibacterial soap for **at least 15 seconds**, rubbing all surfaces briskly, including under fingernails. Use a paper towel or clean hand towel to dry your hands, and then use the towel to turn off the faucet.
3. Before **each time** you flush or put any medicine into the IV tubing, scrub the injection cap for 30 seconds with a fresh chlorhexidine wipe, using friction. Let it dry. Do not fan or blow on it.

Flushing the PICC line

The PICC line must be flushed each time with normal saline to help prevent blood from clotting and blocking it. If the line becomes blocked, it may have to be removed.

When IV fluids are running through your child’s PICC line, it is being flushed continuously. When the PICC is capped off between uses, it must be flushed at these times:

- before **and** after giving medicines or fluids.
- after drawing blood.
- at least every 12 hours.

For example, if your child needs medicine once every 24 hours, the line should be flushed before **and** after the medicine is given, **and** 12 hours later.

Heparin is a medicine that prevents clotting and helps keep the PICC line open. **Before** giving medicine or fluid, flush the line with

normal saline. **After** the dose, flush it twice: once with normal saline and once with heparin. Follow the instructions under “Giving the medicine and flushing the line,” below.

You must use 10-ml or larger syringes. A smaller syringe may push too much pressure into the catheter and cause it to burst.

Filled syringes have an air bubble in them. Before using, squirt the air bubble out.

If at any time you meet resistance when flushing the PICC line or giving the medicine, **do not** force it. Call your doctor or home care nurse for help.

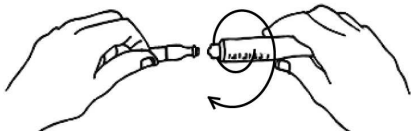
Giving medicine and flushing the PICC line

Note: Every time you flush the PICC line with normal saline or heparin, use the “push-and-pause” method: push a little solution, then pause for 1 to 2 seconds, then push a little more, pause, and so on. This method cleans the inside of the catheter. Your home care nurse will show you how to do it.

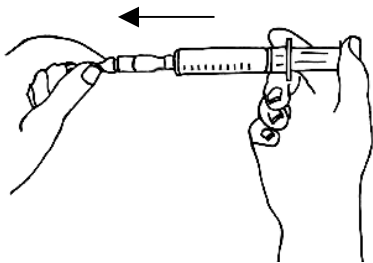
1. Prepare the work surface (see page 2).
2. Clean your hands well (see page 2).
3. Gather supplies:
 - chlorhexidine wipes
 - pre-filled normal saline syringes (2)
 - IV medicine
 - Pre-filled heparin syringe (1)
4. Put supplies in order of use on the work surface.
5. Check the labels of the normal saline and heparin syringes, and any other medicines or fluids before giving them.

Make sure they are the right medicines and the heparin is in the right strength.

- A medicine is good until the expiration date. Throw it away sooner if you see sediment in it. If you do throw a medicine away, be sure to call the home care pharmacy for a replacement dose.
 - If you don't have pre-filled syringes, draw up the correct amount into separate syringes. See education sheet, "IV medicines: Preparing at home."
6. Scrub the injection cap with a chlorhexidine wipe and let it dry.
 7. Remove the tip cover from the normal saline syringe.
 8. Twist the syringe tip into the injection cap.



9. Unclamp the catheter and flush it with normal saline, using the push-and-pause method.



10. When the syringe is empty, remove it from the injection cap.
11. If you are not giving a medicine at this time, go to step 16.

12. Scrub the injection cap with a chlorhexidine wipe and let it dry.
13. Connect and give the medicine as instructed by your home care nurse.
14. After the medicine is given, disconnect it from the PICC line.
15. Scrub the injection cap with a chlorhexidine wipe and let it dry.
16. Flush with normal saline, using the push-and-pause method. Remove the syringe.
17. Scrub the injection cap with a chlorhexidine wipe and let it dry.
18. Flush with a heparin syringe, using the push-and-pause method. Remove the syringe.
19. Clamp the PICC line.
20. If the catheter is a double lumen, repeat the flushing procedure for the second lumen. Use a new syringe for each lumen.

Quick reference:

1. Flush with normal saline.
2. Give the medicine or fluid.
3. Flush with normal saline.
4. Flush with heparin.

Changing the injection cap

To prevent infections, the cap should be changed at least twice a week. The home care nurse usually does this, but you may have to change the cap if it starts leaking.

1. Prepare the work surface (see page 2).
2. Clean your hands well (see page 2).
3. Gather supplies:
 - chlorhexidine wipes
 - heparin flush supplies (see page 3)
 - injection cap

4. Put packages in order of use on the work surface. Open packages without touching anything inside.
5. Flush the new injection cap with heparin if you have been taught to do so.
6. Scrub the connection site (where the old cap joins the catheter) with a chlorhexidine wipe for 30 seconds, using friction. Let it dry.
7. Clamp the catheter.
8. Unscrew the old cap and remove.
9. Scrub the catheter hub threads (grooves) with a chlorhexidine wipe for 30 seconds, using friction. Let it dry. **Do not** touch the end of the hub with your fingers.
10. Screw on the new cap. **Do not** touch the end that screws into the catheter. If you do, throw the cap away and use a new one.
11. Unclamp the catheter (if clamp is present).
12. Flush the catheter and remove the syringe. See "Giving medicine and flushing the PICC line," page 3.
13. Clamp the catheter (if clamp is present).

Covering PICC catheter

1. PICC catheter site may be covered with clean gauze. **DO NOT** apply Coban or other elastic bandages to site!
2. A clean, laundered sock with toe and leg parts cut off may also be used to cover PICC site.
3. Cover PICC site with plastic wrap while child bathes. PICC site should not get wet!

Cleaning up

Put used syringes into your regular trash, unless blood is in them. If they are soiled

with blood, use a sharps container for needles:

- a special container for this purpose
- a hard plastic bottle (such as bleach, or detergent) with a screw-on lid. Label it, "Do Not Recycle - Household Sharps."

Do not overfill the sharps container. Disposal varies depending on the area you live in. Some communities have a household sharps collection program. To find out what you should do, check with your garbage collection company, pharmacy, or clinic.

Emergency kit

Take an emergency kit with you everywhere you take your child. Be sure to check the kit before you leave home and replace any used supplies when you return home so it is always ready to go. Supplies include:

- disposable clamp
- adhesive bandages
- chlorhexidine wipes
- gauze (sterile) and tape
- injection cap
- pre-filled heparin syringes
- pre-filled normal saline syringes

What happens when the PICC line is removed?

The PICC will be removed by a home care nurse or at the clinic. It is not painful. A bandage will be applied.

- Keep the bandage on and dry for 24 hours.
- Watch for signs of infection (see problem solving chart).
- When bathing do not put the site under water until the wound scabs over.

Solving problems

Problem	Possible cause	What to do
<ul style="list-style-type: none"> • Fever, chills • Tenderness, redness, or pus at the catheter site • Swollen arm 	<ul style="list-style-type: none"> • Infection 	<ul style="list-style-type: none"> • Check your child's temperature. • Call the doctor right away.
<ul style="list-style-type: none"> • Trouble flushing the PICC • Unable to give medicines or fluid into catheter 	<ul style="list-style-type: none"> • Catheter may be clamped • Catheter or tubing may be kinked 	<ul style="list-style-type: none"> • Unclamp it (if clamp is present). • Remove the kink. • If the catheter is not kinked or clamped, do not force the solution into the tube. Call the home care nurse to report the problem.
<ul style="list-style-type: none"> • Fluid leaking from the catheter 	<ul style="list-style-type: none"> • Injection cap not screwed on securely • A hole in the catheter 	<ul style="list-style-type: none"> • Tighten the injection cap. • If you see a leak in the line, (fold the catheter over and pinch, apply disposable clamp) between the damaged area and the skin and call your home care nurse, clinic, or doctor..
<ul style="list-style-type: none"> • Skin redness where the tape was 	<ul style="list-style-type: none"> • Sensitivity to tape 	<ul style="list-style-type: none"> • The nurse may need to change the dressing size or the type of tape used.
<ul style="list-style-type: none"> • PICC line accidentally comes out 		<ul style="list-style-type: none"> • Place a sterile gauze pad on the site and press firmly until the bleeding has stopped (2 to 5 minutes). • After the bleeding stops, apply antibiotic ointment and a bandage snugly. • Save the PICC line and call your doctor or home care nurse.

Questions?

If you have any questions, please call:

Home care nurse _____

Supply company _____

Home care pharmacy _____

Doctor _____

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