UW Medicine
UNIVERSITY OF WASHINGTON MEDICAL CENTER

# PICCs and Midline Catheters

*What they are and what to expect*

*This handout explains Peripherally Inserted Central Catheters and Midline Catheters, why they are used, and what to expect when going home with one of these catheters.*

## What is a PICC?

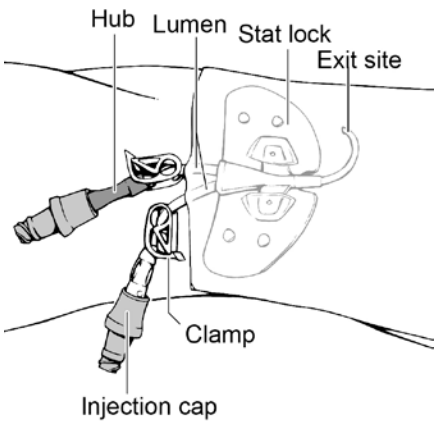
A *Peripherally Inserted Central Catheter* (PICC) is a small flexible tube that is inserted into a vein on the inside of your upper arm. A PICC extends into the large central vein that returns blood to your heart. The catheter does not go into your heart.

With a PICC, medicines, fluids, and nutrients can be given directly into your vein. This is called *intravenous* (IV) therapy. The PICC may stay in place for as long as you need it.

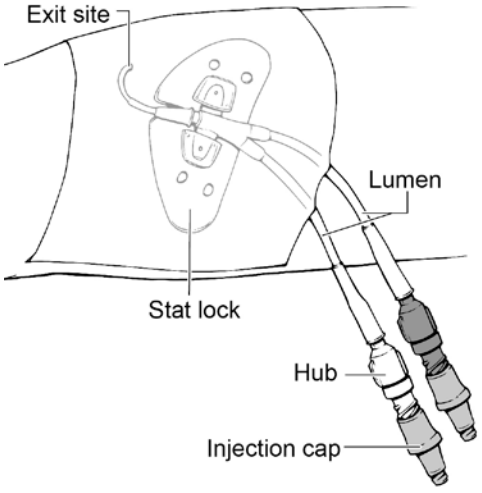
PICCs may be used for *inpatients* during their hospital stay and for *outpatients* in a clinic or at home. Some patients keep their PICC for up to 1 year.

PICCs are used for patients who need:

- Long-term IV access to veins, whose *peripheral veins* (veins in the arms, hands, and feet) cannot handle repeated needle sticks
- Medicine given over several days, weeks, or months
- Long-term IV nutrition
- Blood draws done often




*PICC with clamps*




*PICC without clamps*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## What is a Midline Catheter?

A Midline Catheter is a small flexible tube that is shorter than a PICC. It is inserted in the same vein location as a PICC, but it only extends to a point just below the level of your armpit. It is *not* a *central venous catheter* (CVC).

A Midline Catheter does not provide ongoing blood access. It cannot be used for some medicines. It may be used for both inpatients and outpatients.

Midline Catheters are used for patients who need:

- Short-term IV access to a vein, whose peripheral veins cannot handle repeated needle sticks
- Some types of medicines given over several days to a couple of weeks
- Short-term IV fluids

## Caring for Your Catheter at Home

You are going home with a PICC or Midline Catheter. At home, you need to take care of your catheter to keep it working.

Before you leave the hospital, we will create a plan for your catheter care. The plan will include:

- What you need to do to care for and protect the catheter
- When and where your dressings will be changed
- How long you may need this catheter
- When to have a follow-up visit
- Who to call when you have questions

## Aseptic Technique

Germs can enter your body through the catheter. This means that you will need to keep your hands and work surfaces clean when you handle your medicines, catheter, and IV tubing.

The process you will use to clean your hands and work surface is called *aseptic technique*. Aseptic technique means to disinfect or clean each part used and to avoid touching sterile surfaces with your hands.

Follow these steps every time you do your treatment:

### Wash Your Hands

Hands carry germs. Scrub your hands well before starting your infusion.

- Apply enough antibacterial soap to cover the entire surface of your hands. Be sure to wash well under your fingernails and between your fingers.
- After washing, use warm running water to rinse your hands for at least 15 seconds.


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- Dry your hands well with a new, unused paper towel. Do **not** use a cloth or other towel that can be reused.
- Use a paper towel to turn off the faucet.

### Prepare Your Work Area

Your work area should be away from family activity, small children, and pets. Do **not** use the bathroom as a workspace because it is full of germs.

A sturdy and washable surface makes the best work area. Your work area should be free of drafts. Close all windows and doors, and turn off fans before you begin to clean your workspace.

- Clear your workspace of objects and papers.
- Wash your work surface with soap and water, or wipe it off with disinfectant or alcohol.
- Place a new clean paper towel on your workplace. Change the towel every day.
- **Rewash your hands.**

## Inspect Your PICC or Midline Catheter Every Day

Follow these steps to find any infection or vein inflammation and irritation (*phlebitis*). Finding these problems early means they can likely be resolved.

- Wash your hands.
- Check the area under the clear dressing for any redness, swelling, drainage, or moisture.
- Gently feel for any:
  - Swelling
  - Tenderness
  - *Cording* (the vein feels hard or rope-like).

  Start at the insertion site and move up your arm, into the armpit area. You should not feel pain as you touch your arm.

  If you have any of these signs, call your primary care provider **right away** for instructions.
- Check the dressing over the catheter. It should not be torn, and it should not be damp underneath. You may need to put tape on the edges to keep the dressing from tearing.
- Do not let the catheter and dressing get wet. When showering:
  - Place a clean, dry washcloth around your arm over the PICC dressing.
  - Wrap your arm with plastic wrap, making sure to cover the entire washcloth and dressing area.

- Place tape on the top and bottom of the plastic wrap so that water does not get underneath.
- You may also use special shower gloves or shower guards supplied by your home infusion service or infusion clinic.
- Dry thoroughly after showering.

- Do not take a bath unless you are able to keep your arm dry.
- Do not go swimming or sit in a hot tub while you have a PICC or Midline Catheter in your arm.
- Your dressing will be changed by the home infusion service or infusion clinic once a week, or as needed if you have a problem. **Never** remove the dressing yourself. This may pull your catheter out or allow germs to reach the area.
- Your dressing will be changed by _____

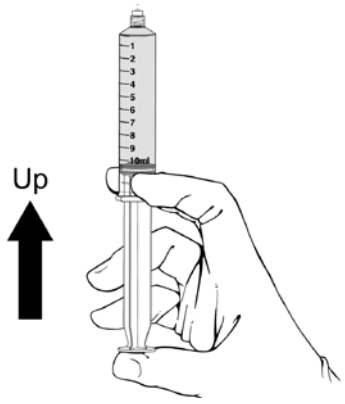
## Flushing Your Catheter

Flush your PICC or Midline Catheter every _____

### Getting Ready

- Wash your hands.
- Prepare your work area.
- Gather your supplies:
  - Pre-filled normal saline syringe (one for each *lumen* being flushed)
  - Pre-filled *Heparin* syringe (if needed)
  - Alcohol pads
  - Gloves
- Prepare your syringes:
  - Peel open the syringe package.
  - Remove the protective cap and hold the syringe upright. Gently pull on the plunger to break the suction or seal. Then push the plunger to remove any air from the syringe (see Figure 1).
  - Put the cap back on the syringe.
  - Place the syringe on a clean work surface.
  - Repeat these steps for each flush needed for your infusion.

***Flushing Steps***




*1. Push the plunger to remove all air from the syringe.*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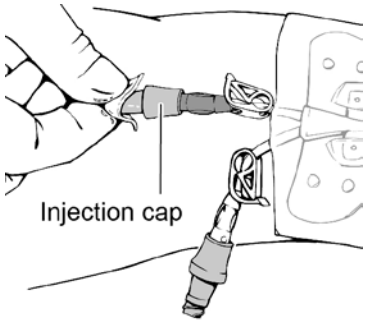
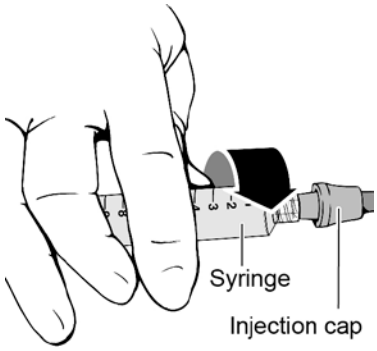
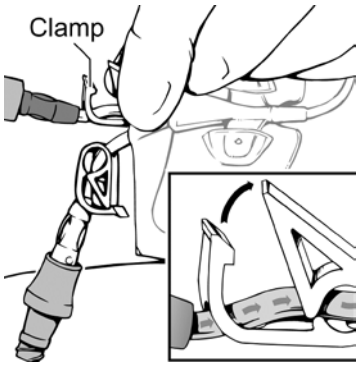


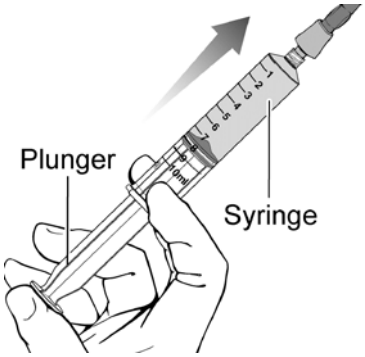

*2. Clean the cap*




*3. Screw on the syringe*




*4. Open clamp (if present)*




*5. Gently push in the plunger to inject the normal saline*

***Remember:***

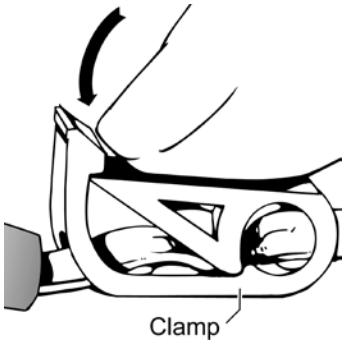
- **Use each syringe only once and then throw it away.**
- **If you touch the end of the syringe, or drop a cap on the floor, throw it away and start over.**

## How to Flush Your Catheter

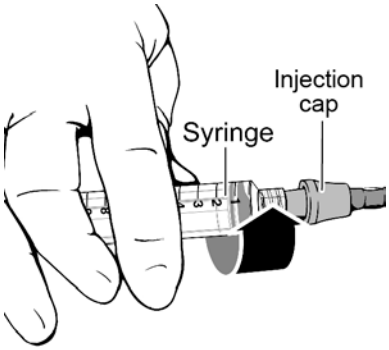
- Put your gloves on.
- Before flushing, clean the injection cap at the end of the catheter with alcohol. Scrub the top and threaded edges for 15 seconds, then let it dry fully (see Figure 2).
- Remove the disinfecting port protectors (such as Curos) if present.
- Attach the normal saline syringe by screwing it on to the injection cap in a clockwise direction (see Figure 3).
- If the catheter has clamps, open them (see Figure 4).
- Flush each lumen with 10 ml of normal saline (see Figure 5):
  - If you feel resistance, do not force. Force could damage the catheter.
  - If you have any pain with flushing, stop.
  - If you see any leaks anywhere on your catheter or under the dressing, stop flushing.
  - Call _____ if any of these problems occur.
- If your catheter has clamps, close clamps before removing syringe (see Figure 6). Then unscrew and remove the syringe (see Figure 7).

  If needed, flush your catheter with Heparin. This will keep your catheter from getting blocked or plugged between infusions. Follow the same steps for flushing as with normal saline.

  **Amount of Heparin to use**: _____




*6. Close clamp (if present)*




*7. Unscrew and remove the syringe*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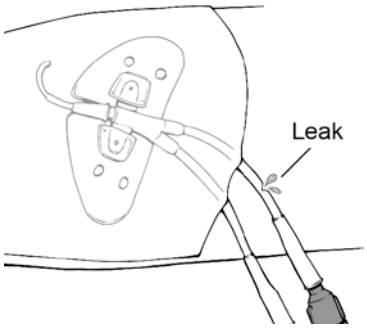
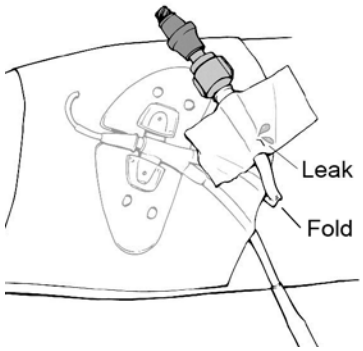
### *Stopping a Leak*




*Leak in the catheter*




*Fold catheter above the leak and tape it to your skin*

## Problems and What to Do

### Urgent Problems

- **Catheter breaks or separates**
  - *Signs:* Fluid leaks when the catheter is flushed. Break may be visible. Blood may leak out.
  - *What to do:* Clean the catheter over the break with an alcohol wipe. Fold the catheter in half over itself between the insertion point and the break. Tape the folded segment to your skin. Call your primary care provider or go to an emergency room. Your catheter will need to be repaired, removed, or replaced.
  - *How to avoid this problem:* Do not use needles or scissors around or near your catheter. Do not tug or pull on it. Do not over-tighten syringes, IV tubing, or disinfecting port protectors.
- **Infection**
  - *Signs:* Fever of 100.4°F (38.0°C) or higher, chills, pain, swelling, drainage, or increased redness at the insertion site.
  - *What to do:* Call your primary care provider. You will probably need treatment.
  - *How to avoid this problem:* Wash your hands when handling your catheter. Wear a mask if you have a cold. Do not be around people who are sick. Make sure the dressing is not torn and is kept dry.
- **Blocked (*clotted*) catheter**
  - *Signs:* Unable to flush the catheter using normal pressure.
  - *What to do:* Do **not** use extra pressure. Check to see if the tubing is kinked. If it is, straighten and try the flush again. If the catheter is blocked because of a kink under the dressing or you think there might be an internal blockage, call your infusion service or primary care provider. The dressing will need to be changed and the catheter unkinked, or the catheter will need to be unplugged using a special medicine.
- **Severe pain**
  - *Possible causes:* Your catheter may have slipped out of the vein or a blockage may be forming.
  - *What to do:* Severe pain is never normal. Call your primary care provider **right away**. You may be advised to stop using your catheter.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## Problems to Report, But Are Not Urgent

- **Swelling of your neck or arm on the side of catheter**
  - *Signs:* Swelling of your hand, arm, or neck on the side of your body where you have your catheter.
  - *What to do:* Call your primary care provider. You will need to be seen soon.
  - *How to avoid this problem:* This may happen for no clear reason. Your provider may order an ultrasound to assess the problem, treat you with medicine, or remove the catheter.
- **Movement of the catheter**

  My catheter's external length: _____
  - *Signs:* Catheter has moved in too far, or pulled out from its original position. When flushing the catheter, you hear a squirting sound in your ear on the same side as the catheter.
  - *What to do:* Never push the catheter back into your arm. If you hear the flush, it could mean that your PICC is now pointing in the opposite direction. Call your primary care provider. You may need a chest X-ray to confirm proper placement.
  - *How to avoid this problem:* Protect catheter extensions from being caught in your clothing. Keep your arm very still when your dressing is changed. Be aware that sometimes a lot of coughing or vomiting can cause the PICC tip to flip into the vein in your neck. This can usually be flushed back into place by your primary care provider.
- **Blood under the dressing**
  - *Signs:* Oozing blood under the dressing.
  - *What to do:* A small amount of blood is common. A lot of bleeding is rare and means you need a new dressing. Call your infusion service or primary care provider. Apply pressure to the bleeding site until the dressing can be changed.
  - *How to avoid this problem:* A small amount of bleeding can be minimized by limiting how much you move your elbow and arm for the first 6 hours after the catheter is placed. Most times, extra bleeding is caused by blood disorders.
- **Catheter arm aches**
  - *Possible causes:* Some patients have arm discomfort for the first 1 to 2 days after insertion. Pain that does not go away may mean that your vein is not tolerating the PICC.
  - *What to do:* Talk with your infusion service or primary care provider. You may need mild pain relievers, anti-inflammatory medicine, and/or a warm heating pad to ease the symptoms.


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## Protecting Your Arm

- As much as possible, use your arm with the catheter in it for normal daily activities. This will help prevent blood clots that can form if you do not move your arm enough.
- Avoid sports activities or exercises that require you to use your arms a lot, or to do the same motion over and over, unless your primary care provider says it is OK.
- Avoid any activities that cause discomfort in your arm. Talk to your primary care provider if you have concerns about pain or range of motion.
- Do not lift anything heavier than 10 pounds with your arm with the catheter (a gallon of milk weighs almost 9 pounds).
- Drink plenty of water. Staying hydrated helps prevent blood clots from forming.

## Questions?

Call your primary care provider, clinic nurse, or home infusion service if you have any questions or concerns. You may be referred to the UWMC Vascular Access Team for consultation.


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