

# HOME INFUSION TROUBLESHOOTING



People take medications in many forms: pills, liquids, ointments, and injections. They can also take them by *infusion*, which means the medications are given directly into a vein through an intravenous (IV) line. Extra fluids and nutrition can also be delivered by this method. IV infusion may be given to people with cancer, congestive heart failure, severe infections, or other conditions when oral medication (medicine given by mouth) is not fully effective.

Home infusion is being used more often because it allows a person to receive the needed medication in a more comfortable and convenient setting than a hospital, skilled nursing facility, or clinic. For home infusions to be given safely and effectively, a family caregiver needs proper instruction and ongoing support. As shown in the video, this instruction is typically provided by an infusion nurse, who may be employed by a home health agency or infusion pharmacy. The IV medications are dispensed by a special infusion pharmacy, not a regular pharmacy. Make sure you have contact information for both the infusion nurse and infusion pharmacy.

This video covers an important aspect of home infusion: troubleshooting when problems arise.

The video covers four main areas:

- > How to care for a PICC infusion site (commonly used for home infusions)
- > How to care for the infusion device or pump
- > How to safely store, use, and dispose of the medicines and supplies
- > When to contact a health care provider

This resource guide reviews the key points in the video and adds some information about insurance coverage and additional resources.

## Caring for the PICC Site

PICC (pronounced “pick”) stands for “peripherally inserted central catheter.” That means the IV catheter is inserted into a vein in the arm (peripherally inserted) and carries the medication to the superior vena cava (a large “central” vein that carries deoxygenated blood to the right atrium of the heart).

The PICC line ends with one, two, or three short lines or tubing, called *lumens*, that are used to deliver the medications. Each lumen has a cap attached to the end,

which keeps the tubing clean, stops germs from getting in, and keeps blood from leaking out. Some caps, called *claves*, allow medications to be placed into the IV without using a needle or removing the cap.

The caps are changed when the dressing is changed, usually once a week. There may also be a clamp on the tubing itself. If a cap comes off, or if you see blood or fluid flowing out of the tubing, or long “bubbles” or a gap in the liquid which is air going in, immediately close the clamp by squeezing it shut, putting pressure on the site, and calling the infusion nurse or infusion pharmacy for help.

## Safety Precautions for Home Infusion

Family caregivers have a lot of responsibility when managing a PICC line. A nurse will visit the home to instruct the family caregiver and person receiving the infusions on how to give the infusion medications, what to expect from the treatment, and any side effects or problems to watch out for. The nurse will visit periodically and will usually assess the infusion site, take blood for laboratory tests, and change the dressing, but the nurse will not be present for each infusion—this will be the family caregivers’ responsibility.

Now for some Dos and Don'ts for you and your family member or friend with the PICC line.

- > **DO** wash your hands thoroughly before touching any part of the IV setup. Wash with running water and soap, rinse thoroughly, and pat dry with a clean paper towel. Hands should be washed:
  - Before (and after) touching the IV line
  - After using the toilet
  - After coughing, sneezing, or blowing your nose
  - Before and after eating or preparing food
- > **DO** cover the PICC site when your family member or friend is showering or bathing. Use plastic wrap or a waterproof sleeve to cover the site and dressing and keep it dry.
- > **DO** use a stockinette (a soft flexible fabric used for bandages) or light wrap bandage over the PICC site and connectors when not giving the infusion, to keep it safe from accidental pulls.
- > **DO** check the PICC site, dressing, and connections regularly for signs of a problem.

And for the DON'Ts:

- > **DON'T** get the dressing wet; if it does get wet, call the nurse to get it changed right away.
- > **DON'T** allow your family member or friend to exercise enough to sweat, which can loosen the dressing.
- > **DON'T** let the line get pulled, kinked, or tangled. If the PICC line is accidentally pulled out or falls out, put pressure on the site to stop any bleeding and call the infusion nurse or infusion pharmacy right away.
- > **DON'T** wrap the tubing around the arm or fold the tubing in half as this can block the flow of medication.
- > **DON'T** allow your family member or friend to do heavy exercises or other activities, such as vacuuming, tennis, or bowling, that use the muscles of the arm where the PICC is located, as this might cause the line to move or be dislodged. Also, don't allow them to sleep on the arm.
- > **DON'T** use scissors, knives, or safety pins around the PICC site or dressing, as these could damage the line.

## Signs of a Problem

As you inspect the PICC site and dressing, watch for the following:

- > Redness, heat, bruising, or swelling in the skin around the PICC site
- > A bad smell, yellow discharge, or pus
- > Pain at the PICC site or when the medication is infused
- > Fever over 100.4 degrees Fahrenheit (38 degrees Celsius)
- > Leaking of blood or fluid from around the line
- > Loosening of the line or if it looks like it is falling out

If you see any of these troubling signs, call the infusion nurse, infusion pharmacy, or health care provider immediately.

## Storing Infusion Equipment Safely

Some medications must be stored in the refrigerator, while others can be kept at room temperature. For medications that must be kept cold, clear a special place in the refrigerator for them, and keep the space clean. Nonrefrigerated medications should not be kept in a place that gets hot, such as a garage or a car. As for all medications, keep these stored in a clean, dry place where children and pets cannot get to them.

Check the medications and equipment regularly to make sure you have everything you need. If you are running low on anything, call the infusion nurse or infusion pharmacy. When the new supplies arrive, check the labels to ensure they are correctly labeled with your family member or friend's name and the name of the infusion medication.

Disposing of used supplies safely is an important responsibility that protects you, family members, or visitors from accidental injury. Place any used needles (called *sharps*) in a special biohazard container, which may be one that the infusion pharmacy supplies or an empty, strong, plastic laundry detergent bottle. Don't put other used supplies in the container, and fill it only two-thirds full before changing to a new container. Follow the infusion pharmacy's instructions on returning the container once it is full. The infusion nurse may remove it, or you may have to mail it back to the infusion pharmacy in a special box.

## Administering the Medication

Infusion medications must be given as prescribed—at the right time, in the right dose, and over the right amount of time. Some medications can be infused quickly; others need to be infused slowly. The infusion nurse will teach you about the infusion medication schedule and show you how to adjust the equipment to give the infusion over the right amount of time.

Sometimes gravity or pressure is used to control how fast the medicine is infused. Sometimes a small battery-powered pump, or one that is plugged into a wall outlet, is used to control the flow of medicine. If you have this equipment, ask the infusion nurse to show you how to use it.

If you are using a pump, an alarm will beep when the infusion is finished or if there is a problem. Some pumps have a screen that tells you what the problem is. If you are not using a pump, you might notice that the infusion is taking longer than usual. If this happens, or if you hear the alarm, these are steps you can take:

- > Check the IV site for swelling, leakage, or pain.
- > Reposition the arm, making sure your family member or friend's elbow and shoulder are relaxed.
- > Check the connection between the medicine and the IV line.
- > Check the tubing for kinks or clamps that might be blocking the flow.
- > Check the batteries in the pump and replace them if needed.

If you can't find the problem and fix it, call the infusion nurse or infusion pharmacy promptly for advice. Someone should be available 24 hours a day, even on weekends.

Watch out for these rare but possibly serious problems. If any of these happen, call 911 immediately:

- > Problems breathing, such as sudden shortness of breath
- > Very fast heart rate (according to the American Heart Association, more than 100 beats per minute)
- > Chest pain

Successful home infusion therapy requires coordinating supplies and services, often from several different agencies. This is part of your role as a family caregiver. Be sure to ask for the help you need and get answers to all your questions, including the ones that you might think are not important.

## Insurance Coverage for Home Infusion Therapy

Does insurance pay for home infusion therapy? The broad answer is “Yes,” but there are many details and differences between insurance carriers. It is important to check with your family member or friend's insurance carrier to find out what is covered, to what extent, and, equally important, what is not covered. Medicare, for example, currently covers home infusion equipment under Part B (Durable Medical Equipment), for which the beneficiary pays 20 percent after the deductible is reached. But not all medications are included (antibiotics, for example, are not) and nurse visits are covered only if the person is eligible for home health care (which has its own requirements).

As part of the 21st Century Cures Act, passed in 2016, Congress established a new Medicare home infusion therapy benefit. The new benefit covers professional services (including nurse visits), remote monitoring, training and education (not otherwise included in the payment for the Durable Medical Equipment, and other home-based services. This is a temporary benefit, due to expire in January 2021. For suppliers to bill for the benefit, the Centers for Medicare & Medicaid Services interpreted the law to require a health care professional to be present in the home for every infusion. This provision is now being challenged by new legislation called the “Preserving Patient Access to Home Infusion Act.” Until this issue is resolved, check with Medicare or other insurance carrier your family member or friend may have for explanations about the benefit and out-of-pocket charges.

## Additional Resources

A comprehensive six-page guide to PICC care is available from Dana Farber/Brigham and Women's Hospital. Go to <https://www.dana-farber.org/legacy/uploadedFiles/Library/health-library/articles/picc-catheter.pdf>.

Another comprehensive guide, “Caring for Your Peripherally Inserted Central Catheter (PICC): A Guide for Patients and Family Caregivers,” prepared by Montefiore Health System and Northwell Health in New York, is available on the United Hospital Fund website. Go to [https://uhfnyc.org/media/file\\_public/76/77/7677d589-4553-403e-a11b-ead6c5d55a67/picc\\_patientguide\\_final\\_1.pdf](https://uhfnyc.org/media/file_public/76/77/7677d589-4553-403e-a11b-ead6c5d55a67/picc_patientguide_final_1.pdf).

MedlinePlus, produced by the National Library of Medicine, has helpful web pages at <https://medlineplus.gov/ency/patientinstructions/000496.htm> and <https://medlineplus.gov/ency/patientinstructions/000159.htm>.

Safe Needle Disposal, a nonprofit organization, has state-by-state information about safe disposal requirements. Go to <https://safeneedledisposal.org/state-search/>.

Also see the Food and Drug Administration's brochure on sharps disposal at <https://www.fda.gov/media/87634/download>.

To follow legislative developments on home infusion therapy benefits, go to the Center for Medicare Advocacy at <https://medicareadvocacy.org/>.

There are many other videos and resource guides in this Operating Specialized Medical Equipment series. Go to [www.aarp.org/nolongeralone](http://www.aarp.org/nolongeralone) for a complete listing.

*AARP Public Policy Institute  
Prepared by Carol Levine, United Hospital Fund*