

Inserting a PICC Line

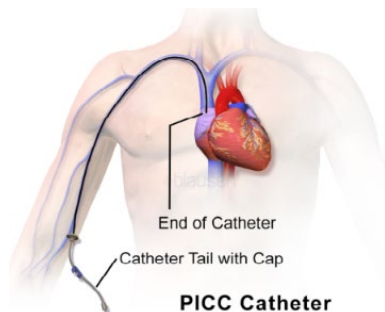
What is a PICC line?

PICC is an acronym for Peripherally Inserted Central Catheter. A PICC line is a long, soft, thin, and flexible tube that is inserted into a peripheral vein, typically in the upper arm (above the bend of the elbow).

The catheter is advanced until the tip is positioned in the middle of the chest, in a large vein named the superior vena cava, which empties blood into the heart.

Why is a PICC line needed?

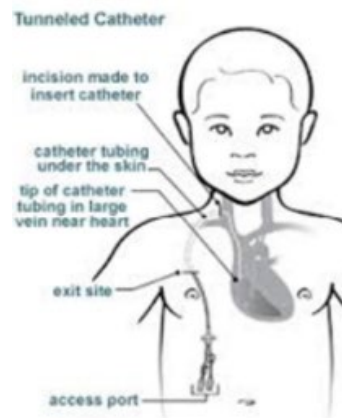
PICC lines are used to administer intravenous (IV) treatments such as chemotherapy, total parenteral nutrition (TPN), blood transfusions, and antibiotics. It is also used to obtain blood samples for testing. A PICC is placed if patients require IV medications for a prolonged time (usually longer than one week), if IV medications cannot be given through a peripheral IV (PIV), or if nurses are unable to place a PIV. A PICC line can be used for the duration of your child's IV treatment as long as it remains in the appropriate position and is functioning without complications.



What to expect

At Texas Children's Hospital, PICC lines are inserted by doctors and APPs using ultrasound, fluoroscopy (live X-ray) and/or chest radiographs for imaging guidance. PICC line insertion is a sterile procedure and is usually done in the Interventional Radiology (IR) suites, but sometimes is done in the operating room or at the bedside of critically ill patients. Visitors are not allowed to be present during sterile procedures, including PICC line placement, due to the increased risk of infection and unnecessary radiation exposure.

The provider will use an ultrasound machine to assess which vein to use for the PICC line placement. Once a suitable vein is identified, the skin around the area is cleaned and prepared. Numbing medicine is injected into the skin to minimize pain. Then, ultrasound and fluoroscopy will be used to place the PICC line. The PICC will be secured to the skin using sutures, and/or a securement device, and sterile dressing will be placed over the PICC insertion site.



Some children may require the use of sedation or general anesthesia for PICC line placement. Older patients can have the PICC line placed without sedation, using only local anesthetic (lidocaine) to numb the area. A TCH Child Life Specialist (CLS) can also accompany the patient to IR for support during the non-sedate procedure.

CLS are very helpful in providing education, preparation, and support for procedures (both with and without sedation), and help in easing patient fear and anxiety. Please let a staff member know if you are interested.

For those children requiring medication to sleep for the test, you will be able to stay with your child until they go back for the procedure.

Sedation considerations:

- Eat food up to 8 hours before to your arrival time.
- Consume milk, formula, and food thickener up to 6 hours before your arrival time.
- Give breast milk up to 4 hours prior to your arrival time.

- Drink clear liquids up to 1 hour prior to your arrival time (water, Pedialyte, Sprite, 7-up, or apple juice). Orange juice is not permitted.
- Take prescribed medications with a small sip of water (if needed) prior to arrival time unless otherwise specified.
- An intravenous line, also known as an IV, will be placed and is required to administer medications while undergoing anesthesia during the PICC line placement. An IV is a tiny tube that is used to give the body medicine. Your child might feel a pinch or a poke when it goes in the vein, however, we have ways to manage the pain associated with it.
- **If these instructions are not followed, the exam may be rescheduled or cancelled due to the risk posed to your child.**

You will meet with the IR Physician Associate, Nurse Practitioner, and/or the Physician who will perform the procedure. The provider will ask why the study is being done and explain it to your child. You may ask questions, discuss risks, and will be asked to sign a consent.

Your child and the accompanying adult will be taken to a prep room by a technologist or nurse and asked to change in to a gown.

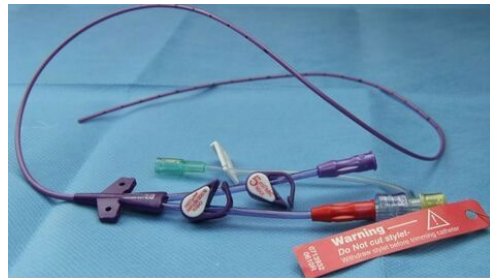
If your child received anesthesia

- For the preparation, sedation, and procedure, you should expect to be in the department approximately 2-3 hours.
- In certain situations, your child may be admitted for a 24-hour observation period following the procedure.
- When the procedure is over, you will be given discharge instructions.
- Your child may be sleepy and unsteady from the anesthetic for several hours. Your child may wake up feeling hungry. When they are wide awake, the recovery nurse will give clear liquids such as Pedialyte, apple juice, Sprite or water. If your child does not throw up during the next 30 minutes, they can eat normally.

- To prevent accidents, closely monitor them for the next 24-48 hours. Walk with your child, holding hands even if they seem to walk without trouble. Help your child in the bathroom.

Care of the PICC Line

The PICC may have one or two lumens to administer IV medications, referred to as a single lumen or double lumen catheter, respectively. A double lumen PICC line allows different intravenous treatments to be given at the same time.



It is important to take care of your PICC to keep it working properly and prevent problems from happening. Keep your PICC line clean and dry; cover your PICC's bandage with plastic wrap tape when you shower to prevent it from getting wet.

When the PICC line is not being used, it may become blocked or clogged. To prevent this, it is VERY IMPORTANT to flush a small amount of heparin (a blood thinner) into the line using a syringe (this may be done by your home health provider/nurse or trained parent/caregiver). This is done regularly, usually after completing an IV infusion. The dressing needs to remain clean and dry, and is typically changed weekly, or sooner, to minimize the risk of infection. Take very special precautions when handling the PICC line to prevent infection (when performing weekly dressing changes and when administering medications). Nurses have received special training to care for the PICC, and sometimes a family member is trained to use the PICC at home.

What problems can happen with my PICC line?

After PICC line placement, your child will be able to resume most activities, including day care or school. Your child should be discouraged from contact activities or sports, such as football and rough playing, that may result in accidentally pulling the PICC line, and/or damage the catheter. For this reason, also don't cut things near your PICC line. If you have questions about which activities are OK, please ask your doctor.

Rare problems that can happen with your PICC line include:

- Infection: can happen if the area where the PICC line is placed is not kept clean and dry
- Irregular heartbeat: hearts beat faster if the PICC is placed too far in your body
- Contrast reaction: allergic reaction to the IV dye used to see the veins on X-ray
- Air in the blood: air can get into the blood while the PICC is being placed in your body or if the PICC is not closed.
- Blood clot: the blood in your vein can thicken and form into a clot around the PICC
- PICC is blocked: the PICC can become blocked if it is not flushed at the right times.

Some complications can be treated so that your PICC line can remain in place. Other complications might require removing the PICC line. Depending on your situation, your doctor might recommend placing another PICC line or using a different type of central venous catheter.

A special team of nurses removes the PICC; which is typically painless and done without sedation or numbing. The site is covered with a Band-Aid after removal.

When to seek help

Call 911 if your child has difficulty breathing, is pale, has blue lips or nails, or a very high fever (greater than 103°F).

Call your child's doctor if your child has any of the following:

- Fever over 100.3°F
- The PICC site is red, bleeding, or there is discharge seen near the catheter insertion site
- Throws up more than three times
- Seems confused or dizzy; harder to wake up than usual
- Worsening sore throat longer than 2 days
- Develops any allergies such as hives, itching or a rash
- Swelling of the arm, redness or tenderness of the arm, chest area or up into the neck, discoloration/mottling of the arm where the PICC is located
- Tingling or cool to the touch where the PICC is located
- Difficulty breathing, which may indicate pulmonary emboli (PE)
- Chest pain
- Accidental/intentional dislodgement of the PICC line –
 - DO NOT push the PICC line back into the skin
 - Secure with tape dressing and seek medical attention immediately.
 - STOP using the PICC line, do not keep continuous medications infusing
 - Call your provider immediately and/or come to the Emergency Center for immediate evaluation

Receiving your PICC Line results

Call your doctor for a follow up appointment as instructed. You can also call the doctor who ordered the study for the results 24 to 48 hours after the test. If you have any additional questions or concerns, please do not hesitate to call Radiology Nursing at 832-826-5371.

If you would like a CD of your child's study, please call the film library at 832-822-1202. The Radiologist's report will also be included on the CD.