

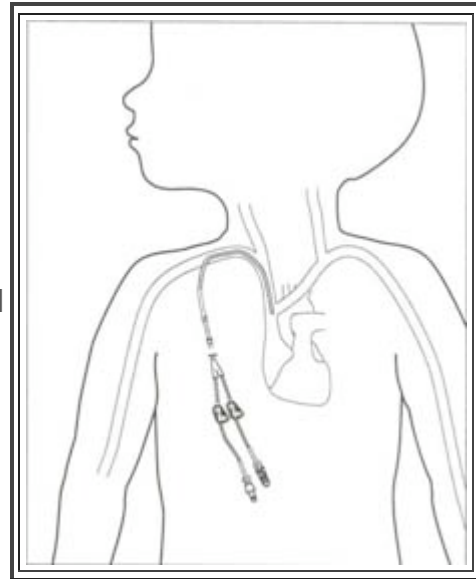
Patient Care > Central Venous Catheter Care (Hickman or Broviac)

What is a Hickman or Broviac Catheter?

The Hickman and Broviac Catheters are two different types of central venous catheters. A central venous catheter is an IV line placed into a vein in your child's chest. It is designed for long-time use so that many painful needle sticks can be avoided. It is used to give your child medicines, blood transfusions, fluids or nutrients. In most cases, blood tests may also be drawn through the catheter.

The catheter is made of a special type of rubber and has a hard plastic cap on the end. The catheter is placed through an

incision in the chest wall about ½" to 1" long. It is tunneled under the skin until the tip sits in the large vein that empties into the heart. The catheter has a dacron cuff on the part of the catheter that is under the skin. The skin grows into the cuff to protect it from being pulled out and to prevent bacteria from growing. The catheter comes out of your child's body at the exit site near the middle of his or her chest. There will be nylon stitches at the exit site to help hold the catheter in place.



In this handout, you will learn how to care for the Central Venous Catheter including dressing changes, daily flushes, general care, and troubleshooting.

Dressing Change

Dressing changes should be done every day for the first seven days, then on Mondays, Wednesdays, and Fridays, or as needed. If the dressing becomes loose, dirty, or wet, it must be changed immediately.

Equipment:

- 3 - Alcohol swab sticks
- 3 - Betadine swab sticks
- 1 - 2"x 2" gauze pads
- 1 - Packet Betadine ointment
- 1 - Protective dressing prep pad
- 1 - Roll of 2" tape

Procedure:

1. Wash your hands thoroughly with soap and water.
2. Gather equipment and open packages.
3. Put a small amount of betadine ointment in the center of the 2"x2" gauze pad (without your hands touching the gauze).
4. Remove the old dressing.
5. Check site for infection (i.e. redness, swelling or drainage). A small area of slight redness where the catheter exits the skin is normal due to simple irritation. If the skin becomes irritated or rash develops under the tape, notify our office for alternatives to your routine. If you notice signs of infection, see "Trouble-shooting".
6. Wipe the exit site with an alcohol swabstick; start at site and work in a circular motion approximately 2" outward. Be careful not to pull on the catheter. Repeat with remaining 2 swab sticks.
7. Clean same skin area with Betadine swab sticks.
8. Cover the catheter with the gauze so the ointment is directly over the exit site.
9. Apply protective dressing prep pad to skin around 2"x2" gauze pad.
10. Apply the tape over the 2"x2" gauze pad, loop the catheter and tape it to the chest.

It is very important that the catheter be secured at all times.

Flush

When the catheter is not in use, each line must be flushed through the cap every day with medication called Heparin. Heparin is used to prevent blood from clotting in the catheter. If your catheter is being used at home, it must be flushed after every use.

Equipment:

- 2 - Alcohol pads
 - 3 - Betadine prep pads
 - 1 - 3cc syringe
 - 1 - vial Heparin 100 units/ml *
- * For children 1 year or less, use 2cc Heparin (100 units/cc). For children 1 year or older, use 3cc Heparin (100 units/cc). For newborns, use 1 cc Heparin (10 units/cc) of preservative free Heparin.

(Double these supplies for a double-lumen catheter)

Procedure:

1. Wash your hands thoroughly with soap and water.
2. Gather equipment and open packages.
3. Wipe off top of Heparin vial with alcohol pad.
4. Draw up Heparin as instructed and recap syringe.
5. Scrub cap with one alcohol pad.
6. Scrub cap with Betadine pad for 30 seconds, scrub with second pad for 30 seconds, and third pad for 60 seconds.
7. With catheter still clamped, insert needle into center of cap.
8. Release clamp and inject with gentle pressure. Do NOT force flushing. If you can't flush easily, see "Trouble-shooting".
9. Reclamp catheter then remove syringe and dispose in appropriate container (make sure you do not clamp repeatedly in the same spot).
10. Tape end of cap and secure catheter to the chest.

General Care

Baths and showers:

Baths and showers may be resumed after the catheter site is healed, usually two weeks after surgical placement. While bathing, cover the dressing with plastic wrap taped to the chest. It is necessary to change the dressing every time it becomes wet.

Swimming:

After the site is healed, children may swim if their catheters are well secured and covered. Try to avoid non-chlorinated water such as ponds, lakes or rivers due to potential infection risks.

Activity:

Children may resume most usual activities although rough-housing and contact sports must be avoided. Talk with your surgeon for more specific instructions.

Clothing:

To help hold the catheter in place, your child should wear clothing that fits snugly such as "onesies", T-shirts, or sports bras.

Trouble-shooting

Break or accidental cut in the catheter

Signs to look for: Leaking of fluids, visible hole or break in the catheter.

What to do: Clamp the catheter immediately above the hole or break (closer to the child's chest). Cover the break with sterile 2"x2" gauze and tape to the chest. Notify the surgeon's office immediately at 303-839-6001.

How to avoid: Remember to clamp the area that states "clamp here". Do not clamp in the same spot to avoid wearing down the catheter. Never have scissors or sharp objects near the catheter. Never use excessive force to flush the catheter.

Unable to Flush the catheter

Signs to look for: Catheter will not flush using normal pressure.

What to do: Do not force fluid into the catheter. Make sure the catheter is unclamped. Make sure there are no kinks along the catheter and under the dressing. Pull back on the syringe in attempt to draw back blood. If blood is visible, attempt to flush again. If you are still unable to flush the catheter, call the surgeon's office immediately.

How to avoid: Routinely flush the catheter with Heparin (see procedure above) every day if it is not being used daily at home, or after each use.

Infection

Signs to look for: Fever, chills, fatigue or a decrease in activity. Swelling, tenderness, redness, oozing, or drainage at the exit site. Pain or swelling along the catheter tract or pain while flushing the catheter.

What to do: Call your surgeon's office immediately.

How to avoid: Wash hands before beginning any care with the catheter. Inspect the site with every dressing change. Avoid contact with people who are ill.

Swelling of the neck, face, and/or shoulder

Signs to look for: Swelling near or along the catheter under the skin.

What to do: Stop infusion into the catheter and call your surgeon's office immediately.

How to avoid: Inspect the catheter during each flush and dressing change.

Accidental removal of the catheter

Signs to look for: Catheter is no longer inserted into the chest or blood on the dressing.

What to do: Don't Panic! Apply pressure to the exit site and entrance site with sterile dressing. Place child in the sitting position. Notify your surgeon immediately. Save all parts of the catheter for examination.

Air in the catheter

Signs to look for: Shortness of breath or complaints of chest pain.

What to do: This is an EMERGENCY! Clamp the catheter immediately, lay the child down on his/her left side and keep calm. CALL 9-1-1.

How to avoid: Never remove the cap without first clamping the catheter. Always clamp the catheter before and after syringe insertion. Keep cap securely taped to the catheter.

If you have any questions about the care of your child's catheter, please call 303-839-6001.

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***Disclaimer:** Your child's condition is unique. The information contained on this web site is not intended to substitute for advice from a doctor or nurse. If you are unsure about any aspect of your patient's care, please contact us at 303-839-6001, or talk to your pediatrician.*

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