



Pediatric Hickman Catheter Care



Teaching Booklet

Prepared by the Nursing Staff of the
Center for Children's Cancer and Blood Disorders

Department of Pediatrics

**The Central New York
Children's Miracle Network Hospital**

Syracuse, New York

Important Phone Numbers

5C Clinic: 315-464-5294

7H Inpatient: 315-464-3660

University Hospital: 315-464-5540

Local Hospital: _____

Ambulance: 911 or _____



750 East Adams Street • Syracuse, NY 13210
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Department of Pediatrics
Syracuse, New York

Dear Patient and Family:

The doctor will be giving your child a Hickman catheter. The catheter is made of flexible rubber. The doctor will put this catheter in a large blood vessel in your child's chest. This catheter is like an IV, but is more secure and can stay in place for a long time. The catheter can be used for giving fluids, medications, chemotherapy, blood products, and nutrition. It is also used for taking blood samples for testing. The catheter can help avoid most of the needle sticks that would otherwise be necessary during treatment.

We will teach you how to care for the catheter. This will include changing the dressing, inserting fluid into the catheter with syringes, and if it will be necessary, how to draw blood from the catheter.

We will work with you until you are confident and comfortable about your ability to care for your child's catheter.

Pediatric Nursing Staff

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What You Can Expect From Us

- Before the catheter is inserted, we will begin to teach you how to take care of it.
- We will answer all your questions. We have a doll with a catheter for you to practice on.
- When the catheter is in place, you will watch us change the dressing and flush the catheter.
- After the first teaching session, we will have you take part in your child's daily catheter care along with the nurse.
- Before discharge, you will be able to care for your child's catheter. You will also be told what to do if a problem with the catheter occurs.

Preparing for Catheter Care

The prevention of infection is very important when caring for the catheter. Here are some tips to prepare for care of the catheter.

1. Follow a routine for catheter care.
2. If needed, make sure you have help available when doing catheter care.

3. Collect your supplies ahead of time. Choose an area for storing all supplies in one place.



4. Remove excessive jewelry. Wash your hands for at least three minutes using warm water and an antibacterial soap. Briskly rub hands together cleaning well around your fingernails.
5. Clean your work area with soap and water.
6. Do not smoke, eat, or drink around your work area or when taking care of the catheter.
7. Avoid distractions.
8. Wear a mask if you are feeling ill.
9. Avoid drafts from open windows, doors, or fans.

Types of Dressings You May Use

The type of dressing to be used will depend on the child's age, individual needs and the length of time the catheter has been in place. The first dressing is a clear dressing with a piece of 2 x 2 gauze in the middle. The surgeon will put this on in the operating room after surgery. This dressing will be left on for at least 24 hours.

Dressing Type	Description	Procedure	Can be Used	When to Change	Important Points
Covaderm	Has a small non-stick gauze in center with adhesive on outer edges.	Loop catheter; secure with Covaderm dressing, sealing all edges.	After 24 hours.	At least every other day and whenever dressing is dirty or wet.	This dressing should be used until the catheter site is well healed.
2 x 2 / 4 x 4 Gauze	Non-stick gauze placed over the site and held in place with tape or netting.	Place tape on looped catheter close to exit site. Place gauze over site and secure with tape or netting.	After 2-4 weeks when site is well healed.	Every day and when it gets dirty or wet.	May be used when site is well healed. Secure catheter to chest with tape.
No Dressing	Catheter site is kept clean and dry under clothing without a bandage.	Place tape on looped catheter close to exit site. Cover with a shirt.	After 2-4 weeks when site is well healed.	Every day and when dirty or wet.	Used on older children who have catheters secured to the chest with tape.

Changing the Hickman Dressing

Supplies needed

- One Covaderm dressing kit OR other appropriate dressing
- Three (3) betadine swab sticks
- One (1) sterile 4 x 4 gauze
- Tape

Procedure

1. Find a clear clean space before you begin.



2. Wash hands.



3. Open dressing supplies by keeping them on the sterile wrappers.



4. Remove old dressing.
5. Look carefully at the catheter site; look for redness and drainage.
6. Wash hands again
(apply gloves if using them).



7. Take one betadine swab stick and gently clean catheter insertion area from around the catheter forming a circle outward. Repeat this step with the two other swab sticks (three total).



8. Let site air dry for about two minutes and then blot away any extra betadine with sterile 4 x 4 gauze.
9. Position the catheter comfortably on the child's chest trying not to touch the cleaned skin. Loop the catheter and secure with Covaderm dressing or tape for other dressings.

Drawing up Heparin in the Syringe for Flushing

Heparin is a medication that helps keep blood from clotting. This fluid is put inside the catheter by syringe. Clotting can block off the catheter, making the catheter not work.

Read all bottle labels carefully.

Date Heparin bottles at time of first use. Do not refrigerate. Throw away after 1 month.

Procedure

1. Flip the cap off the bottle with your thumb.
2. Cleanse the top of the Heparin bottle with alcohol.
3. Remove the syringe with needle from package and pull back the plunger to the 3 – 5 cc mark (volume depends on size of catheter).
4. Place needle in the bottle through the center of the rubber top and inject all the air in the syringe into the bottle.



5. Leave needle in bottle and turn the bottle upside down. With the needle in the fluid, draw back the plunger until it is filled with fluid to the 3 cc line.
6. Tap the syringe with your finger until the air bubbles rise to the top, push the plunger slightly to move the air into the bottle.



7. Then again, pull the plunger down until 3 cc of Heparin solution fills the syringe.
8. Remove the syringe with needle from the Heparin and carefully place the cap over the needle without letting it touch anything.

How to Flush The Catheter with Heparin

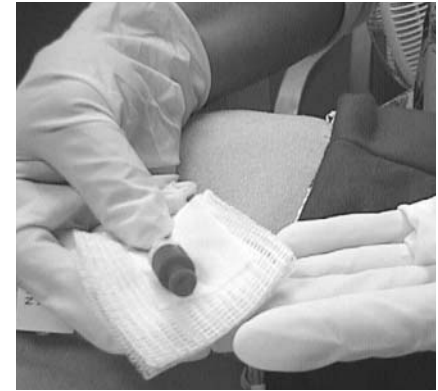
Supplies needed: (for each lumen)

- (3) alcohol wipes
- (1) 2 x 2 gauze
- (1) Dead end cap
- (1) 3 – 5 cc syringe with needle
- (1) vial of Heparin (10 units/cc)
- 1 inch tape
- 1 pair clean gloves (if being used)

When: Flush each lumen of the catheter twice a week and after each use.

Procedure:

1. Wash hands and put on gloves (if using).
2. Open dead end cap, syringe, 2 x 2 gauze, alcohol wipes.
3. Check the catheter to make sure it is clamped.
4. Hold the catheter by placing 2 x 2 gauze under the end of the catheter to keep the line clean.
5. Remove the dead end cap and discard.
6. Wash the end of the catheter with alcohol and discard.
7. Attach a syringe with Heparin to the catheter.



8. Unclamp the catheter and move the clamp to a new site on the thick part of the catheter.
9. Gently push the plunger with a push-pause technique, injecting Heparin into the catheter.
10. When syringe is almost empty of fluid, clamp line and stop pushing the plunger.
11. Remove syringe and apply a clean dead end cap. Secure the cap with tape.
12. Double check to make sure the catheter is clamped and the dead end cap is on tightly.
13. If there is a second lumen, repeat procedure to second lumen.



Catheter Problems, Causes, Corrections and Prevention

Sign of Problem	Possible Causes	What to Do	Prevention
Unable to flush catheter	<ul style="list-style-type: none"> • Bend in catheter • Clamps closed • Catheter pinched closed at clamp site • Clot inside catheter 	<ul style="list-style-type: none"> • Check for bends or kinks in catheter and correct • Make sure clamp is open • Massage catheter to open • If still unable to flush, call MD/NP 	<ul style="list-style-type: none"> • Heparin flush catheter twice a week when not in use • Always Heparin flush catheter after each use
Swelling of skin around catheter site, sensation of pain, burning or cold when flushing catheter	Leak in the catheter under the skin	<ul style="list-style-type: none"> • Do not put any solution into the catheter • Call MD/NP 	<ul style="list-style-type: none"> • Avoid rough contact sports that could damage catheter • Avoid twisting or bending of catheter • Secure catheter close to chest with tape to prevent pulling
Leaking of blood around the end of cap	<ul style="list-style-type: none"> • Loose clamp • Loose dead end cap 	<ul style="list-style-type: none"> • Make sure catheter is clamped • Heparin flush catheter according to instructions • Place new clamp on tightly 	<ul style="list-style-type: none"> • Make sure catheter is clamped when not in use • Tape catheter closed, if necessary • Make sure dead end caps are on tightly; apply tape if needed.
Catheter leaking blood or fluid	Tear or hole in catheter	<ul style="list-style-type: none"> • Place the clamp on catheter between the child and the leak • If unable to clamp near the leak, place a piece of tape tightly over leaking area. • Call MD/NP 	<ul style="list-style-type: none"> • Always move clamp to a new area on catheter after each time it is used • Keep sharp objects away from catheter • Avoid twisting or pulling of catheter

Catheter Problems, Causes, Corrections and Prevention

Sign of Problem	Possible Causes	What to Do	Prevention
Catheter pulls out of the skin	Accidental	<ul style="list-style-type: none"> • Immediately apply pressure to the exit site • When bleeding has stopped, clean skin with betadine and apply a sterile gauze with tape • Call MD/NP 	<ul style="list-style-type: none"> • Always secure catheter to chest with tape • In infants and toddlers, keep catheter hidden under child's clothing • Do not let small children play with catheter • If possible, pin catheter to child's shirt
Redness, tenderness, swelling or drainage at exit site	Skin infection or infection under the skin at the catheter site (tunnel infection)	<ul style="list-style-type: none"> • Note color, odor and amount of drainage • Call MD/NP 	<ul style="list-style-type: none"> • Follow all instructions for catheter care • Change dressing more often if needed, whenever it is wet or dirty
Chills, temperature higher than 100.4° F, muscle aches or child more tired than usual	Infection	<ul style="list-style-type: none"> • Call MD/NP • Before leaving home you may place EMLA cream on child's arm or hand for a blood test that may have to be done 	Same as above

Speak up if you have any questions or concerns