

# Care for your child's Central Venous Catheter (CVC)

This booklet is intended for general informational purposes only. You should consult your doctor for medical advice. Please call the clinic or your home health nurse if you have any questions or concerns

## Caring for Your Child's Central Venous Catheter

A central venous catheter is a small, hollow, flexible tube that is surgically placed into a large blood vessel, usually above the heart. It is used for taking blood samples or for giving blood, chemotherapy or medications. You may also hear this catheter referred to as a Hickman catheter (a name brand) or CVC.

Where the catheter comes out of the skin is called the exit site. This is usually in the chest. The catheter may separate into one, two or three tubes called lumens (for example a double lumen has two and a triple lumen has three).

This booklet is designed to help you take care of the catheter. Before your child is discharged from the hospital, the nurses will help teach you and explain the procedures needed. You will be able to demonstrate all of the steps needed to take care of your child's catheter.

- The Hematology/Oncology clinic number is (682)885-4007.
- The 3-North Hospital Nurses' Station number is (682)885-4410.
- The 3-South Hospital Nurses' Station number is (682)885-4247.
- After hours and on weekends, please contact the hospital operator at (682) 885-4000 and ask for the hematology/oncology doctor on call.
- Where to get your supplies: \_\_\_\_\_

**Always ask questions!** We want you to feel as comfortable as possible taking care of your child's catheter.

### **Before you start:**

- Find a clean, safe place at home to do the dressing change.
- Turn off fans and keep pets away.
- Clean the area with antibacterial spray.
- We suggest you place the supplies on a clean cookie sheet.

Keep your supplies away from other children and in a clean, dry place. You may want to store them together in zip lock bags to keep them unopened and clean. Store them in a safe place where other children cannot reach.

**Tools Needed for Dressing Changes:**

- 1- Mask**
- 1 - Chloraprep stick**
- 1 - Biopatch (antibiotic disc)**
- 1 - clear, transparent waterproof (occlusive) dressing**
- 1- Hand Antiseptic Gel or Sanitizer**
- Adhesive tape remover (optional)**

## **CHANGING THE DRESSING**

### **WEEKLY**

Your child's dressing needs to be changed every 7 days, or if it gets wet or soiled

1. Gather your supplies.
2. Remove your jewelry if possible.
3. Wash your hands with liquid antibacterial soap for at least 1 minute. Rinse and dry with a paper towel. Turn the water off using a paper towel rather than your clean hand.
4. Put on mask.
5. Open the dressing package without touching the dressing, and open the Biopatch package without touching the Biopatch.
6. Open the Chloraprep stick. Do not place it on the opened dressing.
7. Remove the old dressing.
8. Wash your hands again (if hands are visibly dirty), or you may use a hand sanitizer.
9. Observe the site around the catheter for signs of infection or damage
  - **redness**
  - **swelling**
  - **drainage**
  - **torn or broken skin**
  - **tenderness above the opening**
  - **fluid leaking around or through the side of the catheter**

**If you see any of these changes, call your clinic nurse or doctor**

10. Activate the Chloraprep by squeezing the wings. Clean around the catheter exit site with a vigorous scrub for 30 seconds. Make sure to clean about 3 inches out in order to cover the entire area that the dressing will cover.
11. With the same Chloraprep stick, gently clean the line itself approximately 3 to 6 inches out from the exit site.

12. Allow the skin to dry for about 30 seconds. Resist the urge to blow on the skin or fan with anything to make it dry faster!
13. Place the Biopatch around the catheter, with the smooth foam side next to the skin. (The shiny side is up).
14. Loop the catheter around the exit site.
15. Place the transparent dressing over the site, making sure you can still clearly see the exit site, and keeping the loop under the dressing.
16. Press around the edges and around the loop to make sure the dressing is sticking to the skin.

**If you are using a NON-TRANSPARENT dressing**

(one that you can not see the exit site through)

- Change DAILY
- Clean the site as instructed above
- Cover the site with the Biopatch, a split 2X2 pad and a 2X2 gauze
- Place the dressing over the gauze
- Loop the line on the outside of the dressing and secure it with tape

## Flushing the Catheter

**Each lumen of your child's catheter should be flushed with heparin every day to prevent blood from clotting in the CVC.**

**You will need the following tools for each lumen:**

- 1 – alcohol
- 1 – prefilled 3cc Heparin syringe (100 units/ml)

1. Wash your hands with liquid antibacterial soap for at least 1 minute. Rinse and dry with a paper towel. Turn the water off using a paper towel rather than your clean hand.
2. If there are any air bubbles in the syringe, gently tap the syringe so that the air goes to the top (toward the needle) and push the plunger until a drop of liquid comes out.
3. Clean the cap on one end of the CVC lumen with a new alcohol swab (about 15 seconds).

4. Holding the syringe like a pencil, screw the syringe into the center of the cap. Slowly and easily inject the Heparin.  
**Clamp the catheter at the same time you are injecting the last ½ ml. of Heparin. Clamp the line on the “thickest” part of the line and in a different spot each day to prevent wear on the line.**
5. Repeat this flushing procedure for each lumen of the catheter.

**Some things to remember:**

- Flush EACH lumen every day
- Try to flush at the same time every day
- If you forget, flush as soon as you can
- NEVER force the Heparin into the line
- IF you can not flush the Heparin into the line, check to make sure the line is unclamped
- IF you still can not easily flush the Heparin, call your clinic or home health nurse
- If your home health supplies are different, please have them instruct you on their use

## CHANGING THE CAP

Supplies needed to change the cap:

- 1 – alcohol swab
- 1 – Sterile cap
- 1 – Mask

### WEEKLY and with Lab Draws

Your child's cap needs to be changed every 7 days.

1. After flushing the line with Heparin, leave the line clamped.
2. Put on mask.
3. Open the package with the new cap in it.
4. Open the alcohol swab and clean around the cap and the connection for 30 to 60 seconds.
5. Remove the old cap and replace it with the new cap.

It may be helpful to carry an **EMERGENCY KIT** with you in a zip lock bag containing:

- Unopened catheter cap
- Clamps (one for each lumen)
- Chloraprep sticks and alcohol swabs
- Spare dressing
- Heparin flushing supplies

## HELPFUL HINTS

### Supplies

- Always store needles and supplies away from children and pets' reach.
- Do not call the clamps "scissors". Young children may misunderstand and use real scissors on the line...oops!
- It may be helpful to have smaller children wear snug fitting t-shirts to help secure the line and dressing.
- Clamp the line on the "thickest" part of the line and try to clamp in a different spot each day to prevent wear on the line.
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**Remember, if your home health company brings you different supplies, please have them clarify how to use them.**

### Heparin

- Do not refrigerate the Heparin, but also avoid extreme heat (like living in Texas in August!)

**If your child can "taste" the Heparin, you may:**

- push the Heparin at a slow, steady pace,
- have the child sip on a drink, suck a piece of hard candy or chew gum during the Heparin injection.

## GLOSSARY

**Adhesive tape remover:** a pad that is wet with a special liquid that helps remove tape. It must be completely cleaned off with the Chloraprep before the new dressing will stick

**Antibacterial soap:** a soap that kills germs, the liquid pump version is best. Examples are Dial®, Zest®, Safeguard® and Soft Soap® antibacterial brands.

**Biopatch:** a medicated disc that is placed around the exit site to prevent infection

**CC or ML:** cubic centimeter or milliliter. Small units used to measure how much medicine is in a syringe. 1 cc is the same as 1 ml.

**Central venous catheter (CVC):** a thin, hollow rubber-like tube that has been placed in a large vein near your child's heart. A doctor or surgeon inserts this during surgery while your child is asleep. This catheter will be used for drawing blood samples and giving medicine, chemotherapy, IV fluids and blood products. There may be one, two or three tubes or openings, called lumens with a plastic clamp and cap on each end.

**Chloraprep:** a solution filled swab used to clean the skin around the exit site of a central venous catheter. This solution kills bacteria on contact, and continues working for up to 5 days.

**Clamps:** a special piece of plastic on the catheter used to compress the catheter line during the cap change or when the line is uncapped (also called a "line clamp"). Spare clamps, which may look like scissors, will be given to you by your home health company to use if the line should break or develop a leak.

**Clot:** when the blood clumps together, forming a "patch" to stop bleeding. Sometimes a clot will form in the catheter and "clog up" the line. Heparin helps to prevent clots from forming.

**Exit site:** where the catheter comes out through the skin

**Gauge:** the size of a needle

**Heparin:** a drug that prevents blood clots from forming inside the catheter. Daily flushing of each catheter lumen will help prevent this.

**Hickman / Broviac Catheter:** types of central venous catheters

**Injection Cap or CAP:** the special cap on the end of each catheter lumen that keeps blood from leaking out of the tube and keeps germs and air from going in. Other names are infusion cap and intermittent infusion port.

**Intravenous (IV):** into the vein

**IV gauze:** also called a split gauze; used when a dressing that can not be seen through is on the catheter exit site

**Occlusive dressing:** a clear, completely sealed dressing that is waterproof. The line site can be seen through a transparent dressing.

**Syringe plunger or plunger:** the inside part of the syringe with the black rubber tip that pushes the medicine out of the syringe.

## **FREQUENTLY ASKED QUESTIONS**

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### **What if I am unable to push the Heparin into the catheter?**

- This may be caused by a blood clot inside the catheter or at the end of the tube
  - Never force the Heparin or you could cause the catheter to break or split.
  - If you are unable to push the Heparin in easily, call the clinic or home health nurse.
  - Try and remember to flush the catheter the same time every day to establish a routine.
  - When flushing the catheter, close the catheter clamp during the last ½ cc of the Heparin to create positive pressure and reduce blood backing up into the line.
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### **What happens if I see blood inside the cap?**

- Check to make sure the cap is on tight.
  - Flush the line with Heparin using your usual technique.
  - If the blood does not flush out of the cap, change it using the steps instructed in this booklet.
  - Blood backing up into the cap is not an indication of a problem, but if it continues to happen, let your clinic or home health nurse know.
  - Keeping the blood out of the catheter will help to prevent an infection, but only flush the catheter one extra time per day if needed.
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### **How will I know if the line is infected?**

- Look at the exit site every day.
  - Look for redness, swelling, pus or drainage around the exit site.
  - Ask your child if the line site is sore or tender to touch either around the exit or above the exit where the line is underneath the skin.
  - Call your clinic nurse or doctor if you notice any of these signs.
  - Another sign may be a low-grade fever or fever within an hour of flushing the catheter. If this happens, call your doctor, your child may need antibiotics.
  - Always remember to wash your hands before changing the dressing and flushing.
  - Change the dressing if it gets wet or soiled or becomes loose.
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### **What do I do if the cap comes off?**

- Immediately close the catheter clamp.
  - Clean the end of the catheter with alcohol.
  - Replace the old cap with a new, sterile one.
  - Insert a new empty syringe into the capped line and draw back on the syringe plunger until you get blood in the syringe.
  - Flush with Heparin using your usual procedure.
  - If your child begins to have a hard time getting his or her breath (shortness of breath) or if a lot of blood came out of the catheter when the cap was off, call your doctor immediately.
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### **What should I do if the line breaks or gets a hole in it?**

- Immediately clamp the catheter above the break...between the exit site at the skin and where the tear has happened.
  - Call your clinic nurse.
  - You will need to come into the clinic or emergency room. The line can probably be repaired.
  - Remember, never try and force the Heparin into the line when flushing.
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### **What if the catheter cuff is showing or the line gets pulled out?**

- If the catheter is pulled out, put firm pressure on the opening for at least 15 minutes until the bleeding has stopped.
- Cover the opening with a dressing.
- Call your clinic nurse or doctor immediately.
- Remember to loop the catheter under the dressing and change the dressing if the loop comes out. If you or any of your family members would like to attend another class to practice central line care, please contact an education coordinator at 682-885-1631. We will be glad to schedule you in a class.