

# Central Venous Line: Heparin Locking



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## What is Heparin Locking?

**Heparin locking** means flushing the lumen of the catheter with a heparin solution. Heparin locking keeps the catheter open and free of clots. If your child has a catheter with a double line, you must flush both lumens. Choose a time of day when you will not feel rushed. Depending on the type of line, you may need to flush the lumen(s) daily or twice a week.

## How and why to keep the catheter clean:

Germs can enter the body through the catheter. Keep your CVL work surface, CVL supplies, and the catheter as free of germs as possible. This is very important when you open or enter the catheter.

**Note:** If you plan to change your child's cap, do this before heparin locking.

## How do I heparin lock a central venous line?

### 1. Gather the equipment.

- Antibacterial soap
- Bottle of 70% Isopropyl Alcohol
- Paper towels
- For every lumen on your child's line:
  - 4 Chlorhexidine/alcohol swabs per lumen
  - 1 pre-filled heparin syringe (10 units/mL)
  - 1 SwabCap® (pumpkin)

### 2. Clean a non-porous work surface.

You can use a stainless steel cookie sheet, hard smooth plastic, or a glass tray. Ask your nurse if you are unsure what to use. Clean the surface with alcohol and paper towels. Let it air dry.



### 3. Scrub your hands for 1 minute.

Remove all rings and your watch. Wash your hands with soap and water for 1 minute. Rinse well, and dry with a clean paper towel or towel. Use the paper towel or towel to turn off the water.

### 4. Open the chlorhexidine/alcohol swabs.

Open the first package on 3 sides and set it down as an open book. This provides a sterile surface on which to stack the next 3 swabs.

### 5. Prepare the pre-filled heparin syringe.

Open the syringe packages that you will use. Drop each heparin syringe onto the tray.

Keep the cap on the syringe. Push the plunger up until you feel the plunger move and hear a "pop".

Remove the cap of the heparin syringe. Hold the syringe upright and tap it lightly to move any air bubbles to the top of the syringe. Slowly push the plunger up until you see a droplet of fluid.

Put the cap back on the syringe and place it back on the tray. Do not touch the end of the syringe or the inside of the cap.

If you are using a second syringe, repeat these steps.

#### 6. **Open the SwabCap®**

Open the SwabCap®(s). Keep them in their packages, and place them on the tray.



#### 7. **Wash your hands**

Before you touch your child's line, wash your hands again, or use alcohol-based hand sanitizer and let your hands dry.

#### 8. **Clean the injection cap and catheter.**

Scrub the top of the cap with a chlorhexidine/alcohol swab for 30 seconds. Allow to dry for 1 minute.

If there is a SwabCap® on the end of the

line, you **do not** have to scrub the top of the cap. Remove the SwabCap® and allow the cap to dry for 1 minute. Holding the side of the cap with a swab, surround the catheter with a second swab and clean from the cap along the catheter. Apply gentle friction when cleaning. Clean up the line and away from your child. Clean the clamp.

When you finish cleaning the line and clamp, discard the swab. Let the catheter dry for 1 minute.



#### 9. **Attach heparin syringe.**

Remove the cap from the heparin syringe. Attach the heparin syringe to the cap. Gently push and twist the syringe clockwise onto the end of the cap.

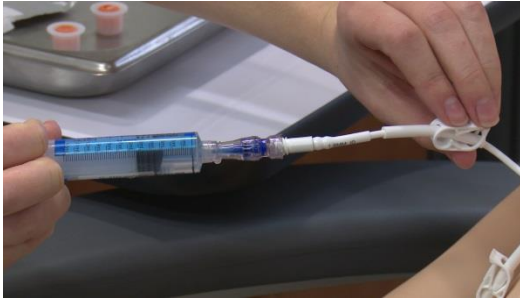
#### 10. **Inject the heparin.**

The amount of heparin you will use is based on your child's weight and the type of central venous line they have. Your nurse will tell you how much heparin to use.

With one hand, open the clamp on the catheter.

With the other hand, use **the turbulent flushing method** to move the heparin into the catheter. The **turbulent flushing method** helps to rinse the lumen, and is done by giving a quick push of solution, pausing, and giving another quick push,

etc. Repeat until you put the right amount of heparin into the line. Then, clamp the catheter. Remove the syringe from the cap by twisting it counterclockwise.



**11. Apply a new SwabCap® .**  
Apply a SwabCap® to the end of the line.

**12. If your child has two lumens, repeat steps 8 to 11.**



**Caution:**

If the solution will not enter the catheter freely, **DO NOT FORCE IT.** Check that the clamp is open. If this is not causing the problem remove the syringe and contact your nurse clinician or doctor. The blockage may be caused by a clot in the line.

**If you are worried about any of these instructions, please feel free to call:**



**Contacts:**

Community Nurse: \_\_\_\_\_

Telephone: \_\_\_\_\_

Doctor: \_\_\_\_\_

Telephone: \_\_\_\_\_

Nurse Clinician or other: \_\_\_\_\_

Telephone: \_\_\_\_\_

At Children’s & Women’s Health Centre of British Columbia we believe parents are partners on the health care team. We want you to be as informed as possible. This pamphlet will answer some of your questions.

Please ask about things you do not understand and share your concerns.

If you have any questions, please contact one of the contacts listed above.