Flushing an Implanted Vascular Access Device (IVAD)

An implanted vascular access device (IVAD) is an injection port that is placed under the skin to allow for intravenous (IV) therapy (e.g. medicine, fluids) to be injected directly into the vein. IVADs are used for patients receiving intermittent IV therapy, enzyme replacement therapy, or who have poor IV access.

The top of the IVAD looks like a small hat. The “crown” of this hat is made from a silicone rubber material, which reseals after the needle with IV therapy treatment is removed. Attached to the bottom of the IVAD is a thin flexible tube called a catheter that enters the large vein close to the heart.

You may hear your IVAD referred to as a Vascular Access Device (VAD) or a Port.

Steps for flushing the IVAD with Heparin

To keep the IVAD functioning, we suggest flushing your IVAD with a solution of heparin (a drug) every 4 weeks (or 1 time per month). This helps prevent blood clots from forming in the catheter (tube).

The catheter provides an easy route for germs to enter the body. To decrease the risk of infection, please follow these 12 steps when flushing your IVAD with heparin solution:

1. Gather the supplies
   - Antibacterial or liquid soap
   - Optional: EMLA cream (cream that numbs the skin so the needle prick is less painful), transparent dressing (e.g. Tegaderm™), and tissue
   - Chlorhexidine/alcohol swabstick
   - 5mL syringe pre-filled with heparin solution (10u/mL)
   - 2 - 10mL syringes pre-filled with normal saline (NS) solution
   - Sharps container (container to safely discard sharp medical equipment)
   - 2x2 gauze square

If you are leaving an IVAD accessed (open) for IV Therapy, you will also need:
   - 1 injection cap
   - 1 transparent dressing (e.g. Tegaderm™)
   - IV tubing

If you are leaving an IVAD accessed (open) for IV Therapy, you will also need:
2. **Apply EMLA cream 1 hour before (optional)**
   If you are using EMLA cream, squeeze a nickel-sized squirt of EMLA cream over the IVAD site. Cover the IVAD site with a transparent dressing. First remove the dressing and proceed to Step 3 after 1 hour.

3. **Clean the non-porous work surface**
   Using alcohol and a paper towel, clean the non-porous tray. Allow the surface to air dry.

4. **Wash your hands**
   - Remove all rings and your watch. Use antibacterial or liquid soap and scrub for 1 minute. Rinse well.
   - Dry your hands with paper towels. Turn off the taps using the paper towel.

5. **Prepare the normal saline (NS) and heparin syringes**
   Open the 5mL heparin syringe package AND the 2 10mL NS syringe packages. Keep the syringes in the package. The package acts as a "boat" for the syringe.

   **For each syringe:**
   - Remove the syringe from the package
   - Press the syringe plunger until you feel a pop: this breaks the seal located inside the syringe
   - Remove the cap from the syringe
   - Hold upright and lightly tap the syringe to get air bubbles out of the top (pointed end) of the syringe and slowly push the plunger until you see a droplet of fluid appear at the top
   - Replace the cap
   - Place the syringe back in the original "boat-like" package

   As you prepare the syringes, do not touch the end of the syringe or the inside of the cap.

6. **Clean skin over the area of the IVAD**
   - If you have used EMLA cream, wipe the cream off the skin with a tissue.
   - Feel for the IVAD port under the skin with your fingertips. Press your fingertip over the rubbery top of the port. This is where the needle will go.
   - Open the chlorhexidine/alcohol swab stick.

   **If you are leaving the IVAD accessed for IV therapy, open the transparent dressing. Place the swabsticks and transparent dressing on the clean non-porous tray.**

   - Starting at the centre of the IVAD port, rub with the swabstick in one direction using light friction for 15 seconds.
   - Flip the stick over and rub for another 15 seconds using friction in the opposite direction. Let the skin dry for 1 minute.

7. **Connect the first 10mL NS syringe to the Winged Huber point needle with tubing**
   - Open the Winged Huber point needle ("the needle") package like a book and set the package on the clean non-porous tray.
   - Remove the cap from the tubing connected to the needle (leave the cover over the needle). Remove the cap from the first 10mL NS syringe and connect it to the tubing.

   **If you are leaving the IVAD accessed for IV therapy:**
   - connect the injection cap to the tubing.
   - then connect the 10mL NS syringe to the injection cap.

   - Push the syringe plunger until the NS solution moves through the tubing and begins to drip out of the needle.
   - Set the syringe, tube, and the needle down on the Winged Huber point needle package.

8. **Insert the Winged Huber point needle into the IVAD**
   Remove the cover from the needle.

   To insert the needle into the IVAD:
   - Hold and steady the IVAD port with your thumb and finger on your non dominant hand (the hand that is opposite to the hand that you write with).
• With your dominant hand (your writing hand):
  - Hold the wings of the needle with your thumb and middle finger.
  - Align your index finger (pointer finger) with the needle part of the Winged Huber point needle.

• At a 90 degree angle (looks like a corner of a square of rectangle), push the needle straight into the middle of the IVAD port until you feel the needle hit the bottom of the IVAD port.

• Pull back slowly on the syringe plunger until a little blood appears in the tubing.

9. **Flush the tubing with NS solution**
   - Slowly push 9mL of the 10mL NS solution into the IVAD port using a push-pause method (quick push – pause – quick push – pause – etc). This will help to rinse the port.
   - Clamp the tubing when there is 1mL of NS solution left in the syringe.
   - Disconnect the syringe from the tubing attached to the needle.
   - Remove the cap from the 2nd 10mL NS syringe and connect it to the tubing. Remove the clamp
   - Push another 9mL of the 10mL NS solution into the IVAD port using the push-pause method.
   - Clamp the tubing when there is 1mL of NS solution left in the syringe.
   - Disconnect the syringe from the tubing attached to the needle.
   - Clamp the tubing while pushing. There should be 2.5ml left in the syringe.

10. **Flush the tubing with heparin**
    - Remove the cap from the 5mL heparin syringe and connect it to the tubing.
    - Undo the clamp. Push 2.5mL of heparin into the tubing with the push-pause method.
    - Clamp the tubing while pushing. There should be 2.5ml left in the syringe.

11. **Remove the Winged Huber point needle from the IVAD**
    To remove the needle from the IVAD:
    - Hold and steady the IVAD port with your thumb and finger on your non dominant hand.
    - With your dominant hand:
      - Hold the wings of the needle with your thumb and middle finger.
      - Gently pull the needle from the IVAD site. You will feel a click as the wing’s safety feature covers the needle to prevent the needle from being reinserted into the IVAD.

    - Discard the needle, tubing, and syringes into a sharps container.
    - Press the 2x2 gauze square over the IVAD site to stop any bleeding.
Cautions

- Always wash your hands for 1 minute BEFORE flushing the IVAD.

- If the NS solution and heparin solution does not flow freely, DO NOT FORCE IT. Call the doctor on call or the nurse working with you. Immediately

- IVADs should only be accessed with huber needles or other needles designed for this purpose.

- Do not reuse supplies.

- If you/your child has a high fever or is unwell this could be related to infection in the IVAD. Please contact your medical team as a blood sample from the IVAD will be needed.

Contact Information

Community nurse:

_________________________________________

Telephone: _______________________________

Doctor: _________________________________

Telephone: _______________________________

Hospital nurse or other contact:

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Telephone: _______________________________