

	Montana Mental Health Nursing Care Center Policy Manual	Policy Number	605
		Original Date	09/12/1984
	Department: Nursing	Revised Date	
	Central Venous Catheter Care		

POLICY:

Central venous catheters (CVC) will be cared for in a safe and consistent manner.

PURPOSE:

To provide instruction on the appropriate care and troubleshooting guidelines of central venous catheters in the adult patient.

DEFINITIONS:

- A. **Positive Injection Pressure Technique:** Close the slide clamp on the lumen while injecting the final 1cc solution.
1. **Single Lumen:** Central venous catheter with one lumen.
 2. **Double Lumen:** Central venous catheter with two lumens:
 - a. Proximal 18G white port: for general use.
 - b. Distal 18G red or brown port: for blood draws.
 3. **Multi-Lumen:** Central venous catheter with three lumens.
 - a. Proximal 18G white port: for general use.
 - b. Middle 18G blue port: for general access.
 - c. Distal 16G brown port: for blood drawing, CVP pressure monitoring or general use.

GENERAL CONSIDERATIONS:

- A. Any time a CVC is open to the air, there is a risk of air embolism. If the slide clamp is in the "Off" position, air embolism will be prevented. If the clamp is open, minimize the risk by placing the patient supine, head of bed flat or in trendelenburg position if there are not contraindications. Instruct the patient in breathing techniques and practice them before starting procedures.
- B. Catheters may be placed in subclavian, internal jugular or femoral vein.
- C. When using a double or triple lumen CVC, check medication compatibility before initiating infusion due to proximity of infusion ports.

Accessing the Line:

- A. Giving bolus medications, accessing the line for blood draws or accessing for continuous infusions:
 - 1. Close slide clamps before accessing the line, and close when done.
 - 2. To disinfect the injection ports, always remember to perform a 10-15 second friction scrub with alcohol before entering a vascular access device and allow to dry for 30 seconds.
 - 3. Use non-sterile gloves to remove tubing or cap.
- B. Conversion to Heparin Lock: (Injection cap is changed no more than every 7 days with 10 units/cc depending on how often line will be accessed.)
 - 1. Equipment: positive pressure cap, heparinized saline 10units/ccm two 10ml syringes, normal saline, alcohol swabs.
 - 2. Procedure:
 - a. Wash hands.
 - b. Use the slide clamp to close the lumen(s).
 - c. Prepare syringes with 5ml NS and 5ml of 10units/cc Heparin.
 - d. Clean the junction between the catheter and cap using friction with alcohol and allow to dry for 30 seconds.
 - e. Put on non-sterile gloves.
 - f. Remove the old tubing or cap and apply the new sterile cap.
 - g. Proceed with flush procedure.

Flushing the CVC:

CVC catheters are flushed every 24 hours when not in use, or after each use.

- A. Clean the cap with alcohol swab. Always remember to perform a 10-15 second friction scrub with alcohol before entering a vascular access device and allow to dry for 30 seconds.
- B. Clean the cap. Use non-sterile gloves to remove tubing or cap.
- C. Flush line with 5ml NS being careful not to inject air.
- D. Flush with 5ml of 10 unit/cc Heparin using **positive injection pressure** technique when removing the syringe by **closing the slide clamp while injecting the final 1cc of heparinized solution.**
- E. If line is triple lumen only flush all ports every 24 hours or after use of any of the ports. If using only one (1) line of triple lumen, always access white port. Flush other two (2) ports if not in use daily with 5cc of the 10units of Heparin.
 - a. **Single Lumen:** if medicine ordered daily, flush with 5ml of Heparin 10 units/ml. If medicine ordered twice daily or more often flush port with 5ml Heparin 10 units/cc with each use.
 - b. **Double Lumen:** if medicine ordered daily, flush white port with each use with Heparin 5cc 10 units and brown port with Heparin 5ml/10 units/cc daily only.

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- c. **Triple Lumen:** if medicine ordered daily, flush all ports with 5ml of Heparin 10 units/ml. If medicine ordered twice daily or more, flush white port and flush with Heparin 10 units/cc after each use.

Intermittent Medication Administration:

- A. With a 10ml syringe filled with 5ml NS, gently aspirate to check for blood return.
- B. Flush with 5ml NS using sterile technique before medication administration.
- C. Administer medication.
- D. Flush with an additional 5ml NS.
- E. Flush with 5ml of 10 units/cc Heparin, using **positive injection pressure** technique by **closing the slide clamp while injecting the final 1 cc of heparinized solution.**

Blood Draw from CVC:

If obtaining blood for culture, draw two samples, one from the suspicious line as determined by medical staff and one from a peripheral site and label the specimens with type of line and location.

- A. Turn off all running IV's.
- B. Disinfect catheter port with alcohol swab using friction for 10-15 seconds and the allowing to dry for 30 seconds.
- C. Flush with 5ml NS (20cc if patient is on TPN and wait 5 minutes prior to blood draw).
- D. Draw and waste 5ml of blood.
- E. Draw sample.
- F. Flush with 20ml NS.
- G. Resume IVF or flush with 5ml of 10 units/cc Heparin if only accessing once daily. If accessing more often use Heparin 10u/cc 5/cc (also).

Documentation:

- A. Document in the nursing notes as needed.
- B. Document patient education in the nursing notes.
- C. Document site and site condition on the IV Flow Sheet.
- D. Document the rate and IV fluid type on the MAR.

Site Care and Dressing Changes:

Observe the dressing site every shift for evidence of infection and document the assessment. Leave the initial occlusive pressure dressing on the exit site for **24 HOURS** after surgery. Change the central line dressing, using aseptic technique, every seven (7) days and anytime the dressing is wet, loose, or non-occlusive.

- A. Equipment: Central venous catheter dressing kit and an appropriate dressing.
- B. Procedure:
 - a. Explain procedure to patient and position for comfort.

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- b. Secure the lines if needed.
- c. Wash hands for 10-15 seconds or use alcohol based substitute.
- d. Apply mask and non-sterile gloves.
- e. Remove existing dressing gently and inspect the site.
- f. Remove gloves and wash hands then don sterile gloves.
- g. Disinfect the skin at the insertion site with an appropriate antiseptic solution, working out no more than 6 inches.
 - i. A 2% Chlorhexidine gluconate (CHG) is the preferred antiseptic solution. ****If the patient is allergic to Chlorhexidine Gluconate, use alcohol and betadine to clean and disinfect the site.***
Note: Chlorhexidine (ChloraPrep) is not to be used on infants under 2 months.
 - ii. Pinch the applicator “wings”, releasing antiseptic onto its sponge pad and apply using a back and forth friction scrub for 30 seconds. Then allow to dry for 30 seconds.
 - iii. For “wet” areas (central lines in the groin area, around tracheostomy sites, non-tunneled jugular or subclavian catheters), perform the friction scrub for 2 minutes and allow solution to dry for 2 minutes.
- h. Apply Tincture of Benzoin or skin protectant around perimeter of disinfected site to improve adherence of the dressing and let dry.
- i. Apply a Tegaderm IV dressing over the insertion site allowing at least a 1 inch -1.5 inch occlusive perimeter. Overlap and pinch the dressing to assure occlusiveness around tubing. Reinforce the dressing as needed to assure an occlusive dressing. Sterile steri-strips may be used under a transparent dressing.
- j. Label the dressing with the date, time and initials.
- k. Document the dressing change on the treatment sheet.