Procedure: Central Venous Access Devices - Removing a Non-Tunneled Central Venous Catheter

Approved:

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Procedure: Central Venous Access Device; Removing a Non-Tunneled Central Venous Catheter

**Essential Information**

1. Intravenous Therapy, Blood Draws via a VAD, and Venipuncture Competency required.
2. A medical order to remove VAD is required.
3. Please check coagulation and platelets before removal of any central line.
4. Review chart to obtain total length of catheter from VAD flowsheet
5. Chlorhexidine may cause a chemical burn if it is not allowed to completely dry prior to application of skin prep or dressing.

**Equipment**

1. Sterile, disposable suture removal set (if necessary)
2. Mask
3. Sterile Scissors (if culturing catheter tip)
4. Non-sterile gloves
5. 4 X 4s (3 pkgs.)
6. One chlorhexidine and alcohol applicator (3 mL)
7. Sterile gloves
8. Transparent sterile occlusive dressing
9. Sterile drape/barrier
10. Alcohol pads (optional)
11. Sterile specimen container (if culturing catheter)
12. Optional: Goggles
13. Chux optional

<table>
<thead>
<tr>
<th>STEPS</th>
<th>KEY POINTS</th>
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<td>1. Position the patient in bed at a 10-20 degrees Trendelendberg position. If patient cannot tolerate Trendelendberg, recline the patient in the supine position.</td>
<td>1. Trendelendberg position elevates venous pressure above atmospheric pressure, reducing the risk of air entry into the wound. Have patients perform valsalva maneuver to increase intrathoracic pressure. Central lines should NOT be removed with the patient in a non reclining chair or upright position.</td>
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<td>2. If a femoral line is being removed, positioning the patient in a bed is required.</td>
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<td>3. Apply mask.</td>
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<td>4. Perform hand hygiene.</td>
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<td>5. Set up sterile field and put on non-sterile gloves.</td>
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<td>6. Remove the dressing and anchoring devices other than sutures.</td>
<td>6. Patients should be instructed to turn head away from insertion site or put mask on.</td>
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<td>7. Remove gloves.</td>
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<td>9. Cleanse exit site area around catheter insertion and sutures with chlorhexidine/alcohol applicator using a bidirectional scrub.</td>
<td>9. Chlorhexidine/alcohol swabs should be applied to the site as follows: a. 30 seconds for dry surgical sites such as arm or abdomen b. 2 minutes for moist sites such as inguinal or</td>
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<tr>
<td>Step</td>
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<td>10.</td>
<td>Remove sutures, if present.</td>
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<td>11.</td>
<td>Fold two 4x4 gauze pads in half and place over the catheter exit site.</td>
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| 12.  | If removing an internal jugular (IJ) or subclavian (SC) line:  
|      | a. Patient should be instructed to perform a Valsalva maneuver while removing lines situated above the diaphragm, (including PICCS) or to hold their breath.  
|      | b. If patient is unable to follow commands, (e.g. the ventilated patient) remove catheter during end exhalation.  
|      | c. While holding slight pressure over the site, slowly and steadily remove the catheter.  
|      | 12. Educate patient on how to perform Valsalva maneuver and anticipatory teaching about catheter removal.  
|      | If resistance is met while pulling the catheter, stop, apply dressing, and notify the Licensed Independent Practitioner (LIP). |
| 13.  | If removing femoral lines: while holding pressure over the site, slowly and steadily remove the catheter. |
| 14.  | If removing a PICC:  
|      | a. Position patient’s arm so it is gently extended outwards.  
|      | b. Grasp the catheter just below the hub and then withdraw the PICC, regrasping catheter closer to insertion site with removal.  
|      | c. Using a gentle downward motion, steadily remove catheter away from the body toward the patient’s hand.  
|      | d. If resistance is encountered, discontinue catheter withdrawal, reposition patient’s arm, and try again.  
|      | e. If resistance persists, cover the insertion site with a temporary sterile dressing and apply a warm pack to the upper arm for 15-30 minutes to relax the spasm and allow easier catheter removal. Reattempt removal.  
|      | 14. If 2nd attempt fails, cover site with temporary sterile dressing, notify LIP and do not reattempt catheter removal. |
| 15.  | If a catheter tip is to be cultured, hold it over sterile specimen container and using sterile scissors, cut a two (2) inch segment of the tip. Cover the container and send to the lab at the completion of the dressing change. |
| 16.  | When catheter is out, apply firm pressure to the catheter exit site until hemostasis has been achieved.  
|      | a. If bleeding is noted, continue to apply pressure, checking at 5-minute intervals until hemostasis has occurred.  
|      | 16. Always inspect catheter tip to insure it is intact, smooth and not jagged and that the length corresponds to total catheter length upon insertion for lines placed at NIH.  
|      | For lines placed outside of NIH with no documentation of total catheter length inspect the tip for uneven, jagged edges which may indicate a
17. Once hemostasis has occurred, apply fresh sterile gauze and a sterile transparent occlusive dressing over the gauze. If you suspect a broken catheter obtain order for chest x-ray.

17. Patients should be advised not to cough, laugh or sneeze post catheter removal.

If patient develops symptoms of air embolism; sudden dyspnea, pallor, tachycardia or coughing, place patient immediately on left side in Trendelenberg position, call a code and stat page the LIP.

18. The patient must remain in bed/chair for the following time periods:
   a. PICC, Subclavian, and Internal Jugular between 30 minutes to one hour.
   b. Femoral lines – a minimum of one hour with assessment of bleeding/hematoma every fifteen minutes.
   c. Reassess site after patient has been out of bed.

18. Once hemostasis achieved, HOB may be elevated 30 degrees.

19. a. For outpatients - Instruct the patient to leave the dressing in place for a minimum of 24 hours and to check the dressing every few hours for signs of bleeding.

   b. For inpatients – Dressing should be changed 24 hours post catheter removal and site assessed every 24 hours until site is epithelialized Apply new dressing as needed.

19. If bleeding is noted, instruct the patient/family member to hold pressure over the site and call the responsible LIP for further instructions.


References: