Central Venous Catheter (CVC): Dressing Change & Exit Site Care

BCRenal
Provincial Health Services Authority

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This procedure is posted on the BC Renal website:
Health Professionals ▶ Vascular Access ▶ Resources

Direct link: www.bcrenalagency.ca/health-professionals/clinical-resources/vascular-access

IMPORTANT INFORMATION

This BC Renal guideline/resource was developed to support equitable, best practice care for patients with chronic kidney disease living in BC. The guideline/resource promotes standardized practices and is intended to assist renal programs in providing care that is reflected in quality patient outcome measurements. Based on the best information available at the time of publication, this guideline/resource relies on evidence and avoids opinion-based statements where possible; refer to www.bcrenalagency.ca for the most recent version.

For information about the use and referencing of BC Renal guidelines/resources, refer to http://bit.ly/28SFr4n.

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1.0 Practice Standard

Skill Level (Nursing): Specialized

The following Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) may perform this procedure:

1. Registered Nurses (RNs) and Licensed Practical Nurses (LPNs) who have completed the required hemodialysis (HD) specialty education and who provide nursing care in a BC In-Centre and / or Community Renal Program; &
2. RNs and LPNs who have received the appropriate training in central venous catheter (CVC) care and maintenance (e.g., RNs working in intensive care or home care settings; RNs and LPNs working in acute care or ambulatory care settings).

Need to Know:

1. Check the exit-site dressing every HD treatment. If required, change the dressing.
2. The frequency of dressing change depends on the type of dressing used.
   a) Sterile gauze dressing: change every hemodialysis treatment (every 48 hours) and if dressing is damp, loose or soiled. Gauze dressings are recommended if the patient is diaphoretic or the site is bleeding, oozing, or showing signs of infection, or the skin is compromised.
   b) Sterile, transparent dressing: change every 7 days and if the dressing is damp, loose or soiled.
3. When changing the dressing, check the catheter is secure:
   a) Non-tunneled (temporary uncuffed) catheters: secured by at least one suture for the entire time catheter is in-situ.
   b) Tunneled (cuffed) catheters:
      i) Neck sutures are removed on DAY 7 post insertion (or as per institution policy
      ii) Anchoring sutures are removed on WEEKS 6 - 8 post insertion (or as per institution policy).
4. Use routine (also known as "standard") precautions.
   - Perform hand hygiene.
   - Wear gloves (*non-sterile* to remove the dressing and *sterile* for the rest of the procedure), *non-sterile* gown and *non-sterile* mask/face shield during connect procedures. If institution policy is for a clean "no touch" procedure, then may wear *non-sterile* gloves throughout the procedure and change gloves as indicated.
5. Use clean (also known as "medical") aseptic technique, with additional precautions as follows:
   - Use sterile equipment and supplies and a "no touch" technique when handling the catheter and catheter ports and caring for the exit site.
   - Maintain a *sterile* drape under the catheter ports.
   - Use an antiseptic wipe and vigorously apply mechanical friction to clean the hubs of the catheter ports ("hub scrubs"). If Tego connectors present, use antiseptic wipe and vigorously apply mechanical friction to clean the connectors.
   - Use a separate antiseptic wipe for each clamp/limb/port/Tego connector.
   - Allow antiseptic to dry for maximal effect.
   - Leave hubs "open" (i.e., uncapped and disconnected") for the shortest time possible.
   - Use *sterile* normal saline in a syringe to flush the catheter lumens.

Notes re: antiseptics:

- The Center for Disease Control and Prevention guideline (CDC, 2011) suggests the use of the following antiseptic solutions: >0.5% chlorhexidine with alcohol, 70% alcohol or 10% povidone-iodine. They conclude there is not enough evidence to recommend one antiseptic over the others.
- The Society for Healthcare Epidemiology of America (SHEA) and the Infectious Diseases Society of America (ISDA) joint guideline (Marschall, 2014) suggest that alcoholic chlorhexidine may have additional residual activity (up to 24 hours) compared with 70% alcohol for this purpose.

6. If infection is suspected, swab the catheter exit site for culture and sensitivity (C&S) and consult with the physician.

2.0 Equipment

- Non-sterile gloves
- Non-sterile gown
- Non-sterile mask (2)/eye protection
- Sterile or unsterile gloves, depending on institution policy (2 pair)
- Sterile dressing
- Sterile drape/gauze (or sterile 4x4)
- 4 x 4 sterile gauzes (several)
- Antiseptic wipes (several)
- Dressing (gauze or transparent)
- Normal saline & C&S swab (if required)
- Antibiotic ointment (if ordered)
- Garbage receptacle

3.0 Assessment & Interventions

Preparation:

1. Perform hand hygiene. Gather supplies.
2. Don *non-sterile* gown (staff).
3. Don *non-sterile* mask (staff and patient).
4. Open *sterile* dressing tray and add supplies.
5. Don *non-sterile* gloves (staff)
6. Remove exit site dressing and examine site for signs and symptoms of infection (e.g., redness and/or discharge). Palpate the site for tenderness using a sterile 4x4 gauze. If signs and symptoms of infection are present, cleanse the exit site area with normal saline and swab for culture and sensitivity (C&S).
7. Check that the catheter is secured.
8. Discard the dressing.
9. Place the patient supine in as flat a position as the patient can comfortably tolerate.
10. Remove gloves and perform hand hygiene.
11. Don *sterile* gloves.
12. Using a dry, *sterile* 4x4 gauze, grasp the catheter ports with one hand and place a *sterile* drape under the ports with the other hand. Discard 4x4 that was used to grasp the ports.

Care of exit site:

13. Using antiseptic wipes, cleanse the catheter exit site skin using a back and forth friction motion that covers a 10 cm x 10 cm area. Discard used wipes
14. Air dry.

Apply dressing:

15. Apply sterile gauze or transparent occlusive dressing as per unit policy.

16. If C&S taken, send to the laboratory and notify the physician of suspected infection. Once results are available, consult with the physician re next steps.

4.0 Patient Education & Resources

- Keep dressing clean and dry – a tub bath is the best way to wash.
- If the dressing peels off or gets wet, wash hands well and remove what is left of the dressing. Put on clean, dry 4x4 gauze and tape in place or a new dressing if instruction has been provided. Come to the dialysis unit to have a new dressing applied if instruction has not been provided on self-dressing changes.
- Notify kidney doctor (nephrologist) or dialysis unit for any of the following:
  - Redness, warmth, or pain along the catheter.
  - Oozing or drainage from catheter exit site.
  - Noticeable swelling or itching around catheter or neck.
  - Feverish and any of the above symptoms.
  - Part of the catheter that is outside the skin seems to be getting longer.
  - Catheter is accidentally pulled and there is bleeding around the exit site.

Patient Handout: Care of Your Catheter:
www.bcrenalagency.ca/resource-gallery/Documents/Your%20hemodialysis%20catheter.pdf

5.0 Documentation

- Document exit site status and dressing change as per unit protocol.
- Document that physician was notified (also input into PROMIS) if a swab is sent for C&S. Document actions following receipt of C&S results.

6.0 References

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7.0 Developed & Approved by:

Developed by:

- BC Vascular Access Educators Group (VAEG)
- Renal Educators Group (REG)

Approved by:

- BCR Hemodialysis Committee (reviewed 2011 version; only minor changes in 2017 version)
- BCR Medical Advisory Committee (reviewed 2011 version; only minor changes in 2017 version)

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