Health Sciences North
Horizon Santé-Nord

SYSTEMIC TREATMENT
PROCEDURE

CATEGORY: System-Level Clinical **REVISION DATE:** January 2023
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TITLE: **CENTRAL VENOUS CATHETER – PICC CAP AND DRESSING CHANGE**

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Approval: Clinical Policy & Procedure Committee Melissa Bertrand	**Date:** April 5, 2023

PURPOSE
To ensure that the care and maintenance of peripherally inserted central catheters (PICC) follow established best practice guidelines.

PROCEDURE
Equipment
- Chlorhexidine gluconate 2% and 70% isopropyl alcohol swab stick x 2
- Chlorhexidine gluconate 2% and 70% isopropyl alcohol wipe x 2 per lumen
- Clean gloves x 2 pair
- Procedure mask x 2
- Transparent securement dressing
- Barrier film, if applicable
- Normal saline-sterile pathway prefilled 10 mL syringe x 2 per lumen
- Needleless connector per lumen
- Sterile gloves (if applying statlock device)

Special Instructions
- Dressing change 24 hours post PICC insertion then every 7 days along with needleless connector and PRN. Gauze dressing change every 2 days and PRN.
- See Appendix B Algorithm for CVAD Dressing Changes for guidance on management of patients with pruritis, skin irritation or changes.

Method

The certified nurse will:

1. Instruct the patient to don a mask.
2. Wash hands. Don a mask and one pair of clean gloves.
3. Prior to removing the current dressing, palpate over the site and surrounding area to ensure the patient is not experiencing any swelling, induration or discomfort. **(Appendix A)**
4. Remove the dressing and adhesive securement device while maintaining skin integrity and without dislodging the catheter. **Do not pull on the catheter.**
5. Assess the site for any signs of infection. If infection is suspected, follow the procedure for C&S swab.
6. Remove gloves, perform hand hygiene and don the second pair of clean gloves.
7. Maintaining sterility, open the chlorhexidine swab stick and dressing packages for easy access.
8. With your non-dominant hand, gently lift the catheter up off the skin.
9. Use the chlorhexidine swab stick to cleanse the catheter from the site to the hub, taking care to remove any residual buildup on the device with a gentle scrubbing motion. Allow it to dry.
10. Without putting the catheter down, use the second chlorhexidine swab to cleanse the area where the new dressing will be applied with a horizontal back and forth motion using light friction. Ensure a total cleansing time of 15-30 seconds.
11. Turn the swab over and scrub the same area in a vertical back and forth motion using light friction. Ensure a total cleansing time of 15-30 seconds.
12. Place the catheter down and allow the site/line to dry for a minimum of 2 minutes.
13. If required, apply a barrier to the dressing site and allow it to air dry.
14. Maintaining sterility, apply the transparent securement dressing. Ensure that the catheter hub is covered by the dressing. Pass your hand over the entire dressing to ensure adherence to the line and the skin.
~~15.~~ Connect the new connector cap to a 10 mL prefilled NS syringe. Prime, remove the end cover and return it to the sterile packaging.
16. Open the chlorhexidine wipe and cleanse the cap, line and connection area with friction for a minimum of 15-30 seconds. Allow this area to dry for a minimum of 30 seconds to 2 minutes.
17. Remove the old cap using a new chlorhexidine wipe.
18. Attach the primed cap, performing a push/pause turbulent flush to 4-5 mL. Check for blood return then flush the remaining saline using a turbulent flush, maintaining a positive pressure disconnect.
19. Observe the site for any leaking, swelling, or patient complaints of discomfort.
20. Troubleshoot any issues identified with access. (i.e. no blood return, sluggish flush, resistance, etc.).
21. Cleanse the hub of the new cap and flush with the second 10 mL prefilled NS syringe using a push/pause turbulent flush.
22. Follow Steps 15-21 for a second lumen, if required.
23. Document the procedure, noting condition of skin, exit site, and blood return. For inpatients, document on the *Generic - Central Venous Catheter Maintenance Record* (available on The Hub > Forms/Templates > Chart Forms – Chart Records > Generic Folder).

<u>If a Statlock Securement Device is Required</u>

1. Follow Steps 1-13 above.
2. Remove clean gloves and perform hand hygiene.
3. Maintaining sterility, open the sterile gloves and statlock device.
4. Don gloves and apply the statlock. Secure the line.
5. Maintaining sterility, apply the transparent securement dressing. Ensure that the catheter hub is covered by the dressing. Pass your hand over the entire dressing to ensure adherence to the line and the skin.
6. Follow Steps 15-23 above.

References and Related Documents

Canadian Association of Nephrology Nurses and Technicians. (2015). *Nursing Recommendations for the Management of Vascular Access in Adult Hemodialysis Patients.*

Canadian Vascular Access & Infusion Therapy Guidelines 2019 Canadian Vascular Access Association

Gorski, L., Hadaway, L., Hagle, M.,et al. (2021). Infusion Therapy Standards of Practice. *Journal of Infusion Nursing. 8th Ed Vol 44 Number 15*.

Health Science North (HSN). *Central Vascular Access Device: Care, Maintenance, and Removal.*

O'Grady, N., Alexander, M., Burns, L., Dellinger, P., Garland, J., Heard, S., et al. (2011). *Guidelines for the Prevention of Intravascular Catheter-Related Infections.*

Registered Nurses Association of Ontario. (2021). Best Practice Guideline *Vascular Access 2nd Ed..*

APPENDIX A

1

Wash hands and prepare supplies.

2

Observe and palpate site.

3

Remove dressing then dirty gloves. Wash hands.

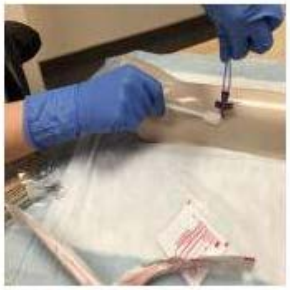
4

Open supplies, keeping sterile. Wash hands and apply new gloves.

5

Clean catheter with swab stick 15-30 sec.

6



Cleanse site with 2nd swab stick 15-30 sec horz and vert.

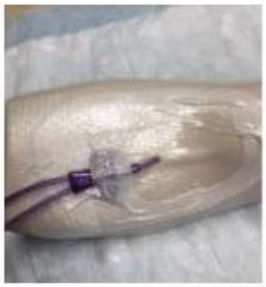
7

Prime new cap. Keep sterile.

8

Open sterile dressing and place over PICC.

9



Ensure wings are under white border and press in place.

10

Clean at connection site of cap 15-30 sec and let dry.

11

Remove old cap with a wipe.

12

Apply new cap and prime line.

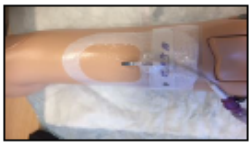
APPENDIX B

ALGORITHM FOR CVAD DRESSING CHANGES

Infusion Therapy Standards of Practice 2021 and Canadian Vascular Access & Infusion Therapy Guidelines 2019

Skin Antisepsis

2% chlorhexidine gluconate and 70% isopropyl alcohol is the preferred skin antiseptic solution
Scrub with friction in a back and forth motion using aseptic technique for 15 seconds; flip swab & scrub for another 15 seconds in a back and forth motion in a different direction (horizontal then vertical)
If there is a contraindication to alcohol chlorhexidine solution, tincture of iodine, povidone-iodine or 70% alcohol may be used
Step 1 -Allow solution to fully dry for 2 minutes prior to dressing placement
(use chlorhexidine with caution in infants under 2 months of age)

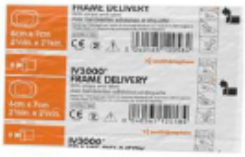


Securement and Dressing

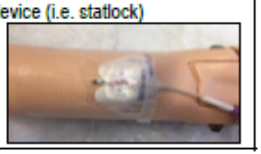
Stabilize and secure CVADs to protect the site, promote skin health, provide a microbial barrier and limit movement of VAD
Apply a transparent dressing with securement properties. If a securement dressing can not be used, apply an adhesive securement device (i.e.statlock) and a transparent dressing using sterile technique

Skin Barrier

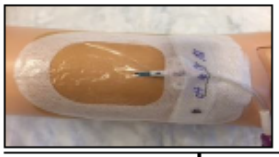
Be aware of medical adhesive-related skin injury (MARSI) associated with the use of adhesive-based stabilization devices/dressings
To reduce risk of MARSI and if pruritis and/or skin irritation or changes develop,
Step 2 - Apply sterile barrier solution to skin exposed to the adhesive dressing in a single layer using aseptic technique. Allow to dry for 1 minute before applying the dressing



If pruritis and/or skin irritation or changes remain the following week:
Repeat Steps 1 and 2 above and
Step 3 - Change to an IV 3000 dressing and a securement device (i.e. statlock)
Use sterile technique to apply the securement device



If pruritis and/or skin irritation or changes remain the following week:
Step 4 - Change skin antiseptic to an iodophor (povidone-iodine)
Scrub with friction in a back and forth motion for 15 seconds; flip swab & scrub for another 15 seconds in a back and forth motion in a different direction (horizontal then vertical) using aseptic technique. Allow to dry at least 2 minutes prior to applying securement device then IV 3000 dressing using sterile technique



If pruritis and/or skin irritation or changes remain the following week:
Repeat steps 4 and 2
Apply an ultra thin duoderm dressing and a securement device/dressing using sterile technique (statlock and IV 3000 or securement dressing) on top of the duoderm. Avoid contact with surrounding skin

Skin irritation/changes:
- Pain, burning, stinging sensation when exposed to alcohol chlorhexidine solution
- Erythematous patchy background
- Papules +/- vesicles
- Possible weeping and/or edema
- Pruritus
- Scaled skin appearance (burn)
- Roughness

Contact dermatitis:
A localized rash or irritation of the skin casued by contact with a foreign substance. Inflamation of the affected tissue is present with large burning and itchy rashes

Irritant contact dermatitis:
Caused by chemical irritants
Inflammatory reaction of the skin following exposure to a foreign agent or a physical agent that damages the skin at a rate faster than its able to repair and regenerate

NOTE: It may be necessary to make more than 1 change to the dressing at a time depending on the severity of the skin irritation
NOTE: A gauze dressing may be used if there is drainage and/or weeping. If a gauze dressing is used, it must be changed every 2 days and the site reassessed

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