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Central Line - Care and Prevention of Contamination, 11626

Guideline of Care

DESCRIPTION:

Tools and actions for prevention of central line contamination by environmental and/or bodily contaminants (ex: bodily fluids, water, etc.).

Guidelines to care for central line dressings and/or tubings contaminated with bodily fluids or presumed contamination by unplanned disconnection.

DEFINITIONS:

Dressing: Entire dressing and central line up to the first injection cap.

Tubing: The first injection cap including the rest of the tubing to the pump.

Contamination: Bodily fluids or other environmental agents that have come in contact with the central line dressing and/or tubing. Unplanned disconnection between any of the connections from the first injection cap up to all along the tubing and the fluids/medications.

High Risk Patients (for contamination of their central lines): lower extremity central line, loose stools, frequent stools, diarrhea, frequent emesis, and/or copious secretions.

CLABSI: Central Line Associated Blood Stream Infection; laboratory-confirmed bloodstream infection in a patient where the central line was in place.

GUIDELINES:

Assessment:

- A. Assess patient for diagnoses and/or symptoms that define them as a "High Risk Patient

for line contamination".

- B. Assess central line dressing, tubing, and connections every two hours. Be sure that they are clean, dry, and intact and that all connections are tightly secured.

Interventions:

- A. Disconnections from catheter hub injection cap to tubing set should be minimized due to risk for contamination and subsequent CLABSI
 - 1. *Examples:*
 - a. On tubing change day, partner with your patient and family to cluster their shower, disconnection, and tubing change.
 - b. It is best to have patient bathe daily when their lines are disconnected so their CVC dressing can be covered completely with AquaGuard®, protecting from contamination with water during the shower or bath.
 - c. Patients receiving intermittent medications should stay connected to tubing as much as possible utilizing TKO (to keep open) rates to assure patency of the line, rather than hep-locking between doses and accessing the line more often than necessary
 - d. If disconnecting patients frequently (i.e. more than once per day, excluding one morning lab draw), escalate to your charge nurse and daily huddles.
- B. Identify High Risk Patients and document.
- C. Communicate Precautions at shift hand off.
- D. Prevention Bundle: (see [Appendix I](#) for photographic details)
 - 1. Position lines and pumps at head of bed. Move lines away from source of contamination.
 - 2. Bundle and secure lines (i.e. tape, CoFlex®, bulldog clip, blue clamps, etc)
 - 3. Added interventions **if needed:**
 - a. Double diaper
 - b. Use UltraSorb® Pads under diapered areas.
 - c. If patient has good skin integrity, use a Mud-flap (Steri-Drape) as a barrier between source of contamination and central line dressing and/or tubing.
 - d. Protect connections and tubing from contamination by applying clear plastic sheet called, VALGuard.
 - e. Dress patient in the "Ben-Guard" Line Securement Onesie (current sizes 3 mo - 12 months)
- E. Post Contamination:
 - 1. Dressing:
 - a. Remove source of contamination.
 - b. Bathe area or body of patient with soap and water and Chlorhexidine (CHG) wipes.

- c. Change dressing as outlined in **P&P: [Central Venous Catheter \(CVC\) Management, 12665](#)**.
 - d. Alert the provider of the event.
 - e. Document findings and interventions in the medical record.
 - f. Communicate events during shift handoff.
2. Tubing:
- a. Remove source of contamination.
 - b. Bathe area or body of patient with soap and water and CHG wipes.
 - c. Change entire tubing as soon as possible including all infusion syringes/bags (May finish intermittent medication infusion before tubing change).
 - d. Alert the provider of event.
 - e. Document findings and interventions in the medical record.
 - f. Communicate events at shift handoff.
3. It is not necessary to obtain a blood culture in an asymptomatic patient following a contamination event. Blood cultures obtained immediately after a contamination event will often reflect contamination of the central line and not a true infection.

Outcomes:

- A. Effectively identify patients at increased risk for central line contamination events.
- B. All high risk patients for central line contamination will have "Central line contamination risk" precautions initiated.
- C. Decrease overall central line contamination events.
- D. Decrease blood stream infections related to contamination events.
- E. Increase patient and family education related to prevention of contamination.

PATIENT/FAMILY/CAREGIVER EDUCATION:

- A. All patients/families will receive the [Helping Prevent Catheter-Associated Bloodstream Infections](#) patient education handout.
- B. Notify patient and family of any contamination events and reinforce teaching about prevention methods.
- C. Promote use of daily CHG wipes if not contraindicated.

SEE ALSO:

- **Job Aid:** [Job Aid: Disconnecting Lines, 12532](#)

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Lewis, Sharon, et al. Nursing Management Central Venous Access Devices. *Medical-Surgical Nursing: Assessment and management of clinical problems*, volume 1, 9th edition. 2014, 311-312, Elsevier/Mosby: St. Louis, Missouri.

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APPENDIX:

Appendix I: Prevention Bundle Examples

A. Position/Bundle/Secure



B. Double Diapering and Use of Ultrasorb® Pads

1. First diaper child in appropriate sized diaper for weight. Then apply another diaper 1-size larger over the top



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C. Ben-Guard Line Securement Onesie

1. Dress patient in onesie and pull line through pocket. No disconnection necessary, use snaps to open/close along left side of the garment.

2.

a.



b. Secure catheter with black strap and snap

c.



d. Close flap. If connected to IV tubing, secure at left shoulder.

e.



3. Mud-flap placement

1. Cut to size according to patient. Apply with adhesive side proximal to patient then drape over line and tubing.

4.

D.

1.

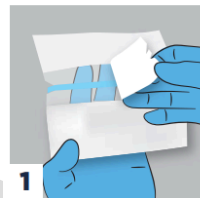




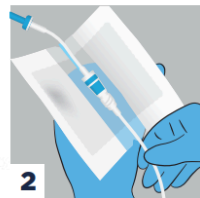
E. VALGuard placement

Single Connection Application Instructions

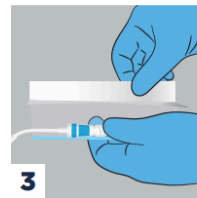
1.



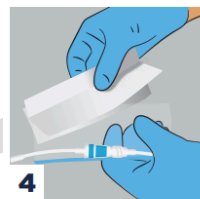
1. Remove center liner strip to expose quick release strip.



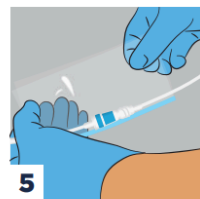
2. Place line connection or lumen in the center of VALGuard. Secure line/lumen(s) to adhesive border.



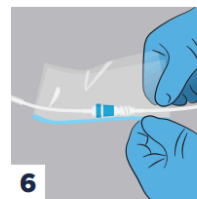
3. Fold VALGuard in half to encapsulate the line/lumen(s) inside.



4. Grab and pull both paper liners away from adhesive.

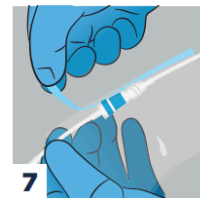


5. Press perimeter to confirm seal around border.

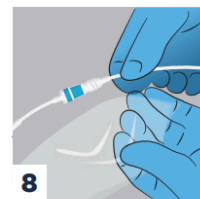


6. Confirm effective seal around tubing or line and fold over any exposed adhesive.

Removal Instructions



7. Locate blue pull tab at center of either end of VALGuard, pull away from VALGuard.



8. Once quick release strip has been removed, peel VALGuard away from line.

Attachments

[Image 06](#)

[Image 07](#)

[Image 08](#)

Approval Signatures

Step Description	Approver	Date
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