CENTRAL VENOUS CATHETER DRESSING CHANGE: CUFFED CVC, CUFFED PERIPHERALLY INSERTED CENTRAL CATHETER, HEMODIALYSIS/APHERESIS CATHETER, SHORT TERM CVC

DOCUMENT TYPE: PROCEDURE

Site Applicability

Applicable in all BC Children's Hospital areas where patients with central venous catheters are cared for.

Purpose

The central catheter exit site is an area where microorganisms can enter the body and cause a local or systemic infection. Keeping the area clean, dry and covered is important in preventing catheter-related infections. This is the procedure for changing the dressing on a central venous catheter.

Standards

- A transparent dressing on a Central Venous Catheter (CVC) is changed every 7 days and/or if it is damp, visibly soiled, loosened or if redness/drainage is noted at the site.
- The preferred dressing for a cuffed external CVC is Tegaderm™IV. The preferred dressing for a Cuffed PICC or Short Term CVC is Tegaderm CHG™.
- Tegaderm CHG™ dressings are not appropriate for use in patients younger than 2 months of age or oncology patients receiving chemotherapy.
- If a gauze dressing is used, the dressing must be changed every 24 to 48 hours or more often if it becomes damp/soiled/loose.
- Dressings used on short-term external CVC sites are changed at least every 7 days for transparent dressings, except in those pediatric patients in which the risk for dislodging the catheter may outweigh the benefit of changing the dressing.
- Strict aseptic no-touch technique is required during dressing changes to reduce the risk of catheter-related infection.
- Catheter sites are visually examined when changing the dressing and by palpation through an intact dressing every shift. For outpatients, sites are examined at each visit. If patients have tenderness at the insertion site or other manifestations suggesting local or bloodstream infection, the dressing is to be removed to allow thorough examination of the site.

Practice Level/Competencies

A central line dressing change is considered a **foundational nursing skill** and is practiced once the nurse has:

- Watched the CVC dressing change nursing videos:
  - Cuffed external CVC: https://www.youtube.com/watch?V=kxqsdtmqbmk&list=PL7KS4nRPZ8yCjZceuahHwwMayjrAk2qeT&index=3
  - Powerline or Medcomp: https://www.youtube.com/watch?V=qxw9iiihnys&list=PL7KS4nRPZ8yCjZceuahHwwMayjrAk2qeT&index=4
- Attended the Vascular Access Workshop,
- Practiced the procedure in the lab setting,
- Performed at least 3 dressing changes on patients under supervision of a CVC competent RN
- Completed the CVC validation tool at the bedside with the appropriate clinical support person i.e. Clinical nurse educator, clinical resource nurse, CVC competent RN).

Definitions

Central Venous Catheter (CVC): Any venous catheter with the distal tip dwelling in central circulation. Best practice standards – distal tip dwelling in the lower one third of the superior vena cava (SVC) to the junction of the SVC and right atrium.

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Aseptic no-touch technique (ANTT): a standardized technique that is used during clinical procedures to identify and prevent microbial contamination of aseptic key parts and key sites by ensuring that they are not touched either directly or indirectly. A 'key part' is the part of the equipment that must remain sterile and must only contact other key parts or key sites. Or it is the area on the patient such as a wound, or IV insertion site that must be protected from microorganisms. Aseptic key parts can only contact other aseptic key parts/sites. If it is necessary to touch key parts/sites, sterile gloves are to be worn to ensure asepsis is maintained.

Equipment

- Hospital grade surface disinfectant wipe (e.g. Caviwipe®)
- Mask
- Gloves, non-sterile
- Dressing tray
- Sterile gloves
- 3 x 2% chlorhexidine with 70% alcohol swabs
- 2 x 2% Chlorhexidine with/without 70% alcohol impregnated swab stick
- Sterile cotton tipped applicators (as needed to remove excess drainage/crusting)
- Sterile water if needed to remove excess drainage/crusting
- Adhesive remover as required
- Cavilon™ no sting barrier (optional) – note that oncology patients use the sterile Cavilon™ no sting barrier swab sticks. The spray should not be used as it is not sterile.
- Sterile transparent wound dressing (Tegaderm CHG™ for short term CVC and cuffed PICC, Tegaderm™or IV 3000™for long-term cuffed CVC) or sterile gauze dressing if patient is unable to tolerate a transparent dressing (due to allergy, sensitive skin or skin reaction). See Management of Dressing Related Dermatitis algorithm.
- Securement device (i.e. Statlock™) or waterproof tape and pin as required

Procedure

Steps	*Rationale*
1. **IDENTIFY** patient and **EXPLAIN** procedure.	*Failure to correctly identify patients prior to procedures may result in errors.* *Reduces child and caregiver's anxiety. Evaluates and reinforces understanding of previously taught information and confirms consent process.*
2. **ASSEMBLE** supplies.	*Facilitates completion of task in a timely manner*
3. **CLEAN** working surface using hospital grade surface disinfectant wipe (e.g. Caviwipe®) and let dry for recommended contact time.	*Routine infection control practices; reduces transmission of microorganisms.*
4. **ASSESS** exit site for redness, swelling, tenderness, or drainage. Prepare supplies to **CULTURE** significant drainage and **NOTIFY** physician. Refer to the eLab handbook for wound culture instructions. For alternate dressing options refer to Management of Dressing Related Dermatitis Algorithm-CV.04.05A	*Assessing the entry site for inflammation will prevent unnecessary delays in providing appropriate interventions in care of the patient.*
5. **DON** mask. **PERFORM** hand hygiene as per infection control standards.	
6. **PREPARE** equipment using aseptic no-touch technique at beside.	
7. **PERFORM** hand hygiene as per infection control standards.	*Routine infection control practices; reduces transmission of microorganisms.*

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8. **DON** clean gloves. **REMOVE** old dressing and **DISCARD**. **REMOVE** securement device/waterproof tape if present. May use adhesive remover if patient requests.	
9. **REMOVE** gloves and **PERFORM** hand hygiene. **DON sterile** gloves. If using a Stat-Lock, open and close the wings several times in preparation for securement.	*Routine infection control practices; reduces transmission of microorganisms.*
10. **LIFT** catheter off skin with sterile gauze. With first chlorhexidine/alcohol swab, **CLEAN** the catheter away from the exit site using friction. Repeat at least once more until catheter is visibly clean. Continue to **HOLD** catheter with sterile gauze lifted off skin and allow to dry for one minute.	
11. In your mind, **DIVIDE** the area of skin that will be under the dressing into 2 halves. With the first swab stick **CLEAN** skin **horizontally** away from the exit site using a back-and-forth motion with light friction for 15 seconds. **FLIP** the swab stick and **CLEAN** the second half horizontally away from the exit site using a back-and-forth motion with light friction for another 15 seconds. Discard swab stick.	*This action promotes binding of the chlorhexidine to the layers of skin and improves efficacy. Flipping the swab stick allows for maximum dispensing of antiseptic solution from the sponge.*
12. **REPEAT** step 11 with the second swab stick, cleaning **vertically** away for the exit site using friction for 15 seconds. **FLIP** the swab stick and **CLEAN** the second half vertically away from the exit site using a back-and-forth motion with light friction for another 15 seconds. Discard swab stick. **NOTE**: Excess drainage or crusting can be removed with cotton tipped applicator soaked with sterile water if needed.	*Do not use normal saline as chlorhexidine may be inactivated if in contact with normal saline.*

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13. **ALLOW** chlorhexidine/alcohol solution to air dry for at least one minute **and** until visually dry or for three minutes if using swab sticks without alcohol.	*Provides time for optimal efficacy and decreases risk of skin irritation or burn.*
14. **APPLY** Cavilon™ no sting barrier (if using) to skin that will be in contact with dressing adhesive only. **AVOID** 1-2cm around exit site. Allow Cavilon™ no sting barrier to dry for a minimum of 30 seconds.	*Protects skin and improves adherence.*
15. For cuffed CVCs and cuffed PICCs, **COIL** catheter as shown:	*Provides additional securement.*
16. **APPLY** appropriate securement device as appropriate (i.e. STAT lock). If no securement device required **APPLY** appropriate dressing. **ENSURE** occlusive seal around dressing and catheter. **Do not stretch dressing over skin.**	*Stretching the dressing may cause skin irritation and blistering.* *To prevent line from migrating, STAT lock may be used for hemodialysis/apheresis catheters or short term CVCs as lines are unable to be coiled.*
17. **SECURE** catheter below dressing to patient's skin with small strips provided with dressing or, small transparent dressing. Use waterproof tape and safety pin to further secure catheter to patient's clothing.	*Provides added securement.*
18. **REMOVE** equipment and gloves and **DISPOSE** appropriately. **PERFORM** hand hygiene. **REMOVE** mask and **PERFORM** hand hygiene.	*Routine infection control practices; reduces transmission of microorganisms*

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Documentation

LABEL the dressing with the following information: date, time, and initial of the nurse performing the dressing change.

DOCUMENT on appropriate record(s) (i.e. Central Venous Line Flowsheet for all routine procedures):

- date
- dressing used (if patient uses dressing other than Tegaderm)
- cleaning solution used (if patient uses alcohol free swab sticks)
- assessment of site and surrounding skin if unusual
- patient's response to procedure if unusual
- unexpected outcomes and related treatment
- any other actions or observations

References

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Version History

DATE	DOCUMENT NUMBER and TITLE	ACTION TAKEN
03-Oct-2018	CV.03.15 Central Venous Line Dressing Change: Cuffed Central Venous Catheter, Cuffed Peripherally Inserted Central Catheter, Hemodialysis/Apheresis Catheter, Short Term Cvc	Approved at: BCCH Best Practice Committee
18-Dec-2019	C-05-12-60458 Central Venous Catheter Dressing Change: Cuffed CVC, Cuffed Peripherally Inserted Central Catheter, Hemodialysis/Apheresis Catheter, Short Term CVC	Approved at: C&W Best Practice Committee

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