

Ventricular Assist Device (VAD) - Heartmate 3: Dressing Change (CSICU/CICU)

Site Applicability

SPH Cardiac Surgery Intensive Care Unit (CSICU)

SPH Cardiac Intensive Care Unit (CICU)

Practice Level

Basic Skill: Registered Nurses working in the Cardiac Surgery Intensive Care Unit (CSICU) or Cardiac Intensive Care Unit (CICU)

Need to Know

- Dressing changes using an aseptic technique should be done daily during the patient's stay in CSICU until transfer orders are completed or when specifically ordered by the surgeon. Thereafter, the focus is using a clean technique in order to adapt to doing dressings at home.
- If patient is to shower in CSICU, the exit site should be covered with a waterproof barrier. The dressing must be changed immediately after the shower.
- Patients will have a driveline stabilization "anchor" device in place to hold their percutaneous line still at the entry site. The driveline stabilization device should be changed PRN. To determine if it needs changing, gently pull the line to see if the device still holds the line firmly. Immobilization of the line is crucial for preventing infections as trauma to exit site increases chance for infection.
- Do not use acetone or acetone-based products near VAD line and equipment (i.e. nail polish remover or adhesive removers)
- Using alcohol swabs to clean the driveline is allowed.

Equipment and Supplies

1 x pair of clean gloves

1 x pair of sterile gloves

1 x face mask

1 x bouffant cap

1 x Tube securement "anchor" device (if it needs changing) –
Bioderm Cath Grip 2 Strap (medium)

1 x dressing tray


2 x Chlorhexidine swab sticks

2 x 9 cm x 15 cm Mepore


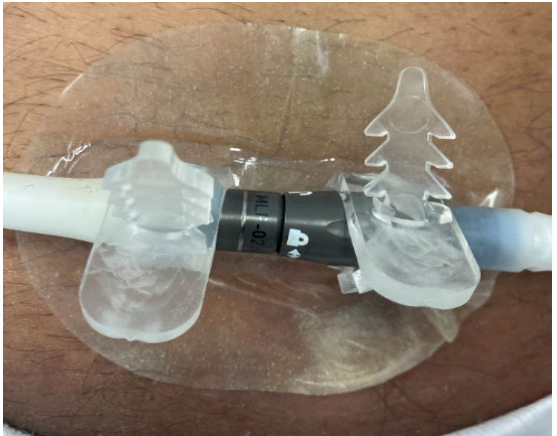
2 x 4 inch gauze squares

Procedure

Steps

Steps	Rationale
1. Clean a work surface area with Accel or Caviwipes	
2. Ensure garbage can close by for disposal of used items	
3. Wash hands and don bouffant, face mask and clean gloves	
4. Open all packages and place sterile items in the sterile field of the dressing tray.	Preparing all equipment in the sterile field for access once sterile gloves are donned.
5. Carefully loosen tube from driveline stabilization device	If attachment device is not loosened, it will be difficult for the nurse to properly under the driveline. Care should be taken to minimize movement of the line at the exit site throughout the dressing change.
6. Remove old dressing and discard along with clean gloves. Check for signs of infection or irritation	Document any signs of infection. If new discharge that is purulent is seen, discuss with MRP regarding culture.
7. Wash hands and don sterile gloves	
8. Using a Chlorhexidine swab stick, clean the area around the entire driveline exit site in a circular motion (starting closest from the site then moving outwards). Flip the stick to the other side and repeat. Repeat this procedure with the second Chlorohexidine swab stick	Cleaning closest to the site and moving outwards pushes any potential infection contaminants away from the exit site
9. Allow to air dry	Moisture could impede wound healing
10. Handling a 4 inch x4 inch gauze by its corners, fold gauze in half and place it snugly against the skin at the exit site under the line,	 <p>Prevents potential for friction ulcer from the driveline</p>



Steps	Rationale
11. Place final 4 inch x4 inch on top of exit site, line up the corners	
12. Apply Mepore dressing to seal the area. Pinch dressing around the driveline	Pinching the dressing around the driveline provides a seal of the dressing around the site and preventing risk of infection from contamination
13. Re-secure the driveline securement device. If necessary, apply a new anchor device after the skin has been properly cleaned and dried	Immobilization of the line is key for preventing infections as trauma to exit site increases chance for infection 
14. Ensure the Modular Cable lock is secured between both straps.	Cutting the “tail” of the anchor strap would make it extremely difficult to thread it back through when trying to release the anchor the next time  Security between both straps will help balance and secure the modular cable.

Documentation

Cerner Documentation — record assessment, variations from baseline, nursing interventions and patient's response.

Patient and Family Education

VAD Nurse/Patient Educator or CNS will provide the patient and caregiver with instructions that reflect the ward procedure ([B-00-12-10184](#)) once patient and caregivers are able to participate in care

Related Documents

1. [B-00-12-10084](#) - Ventricular Assist Device (VAD): Heartmate Dressing Change (WARD)
2. Abbott HeartMate 3 product information - <https://www.cardiovascular.abbott/us/en/hcp/products/heart-failure/left-ventricular-assist-devices/heartmate-3/about.html>
3. Abbott Heartmate 3 Website (Clinician and patient information) - <https://www.cardiovascular.abbott/us/en/hcp/products/heart-failure/left-ventricular-assist-devices/heartmate-3/manuals-resources.html>

References

Kirkland et al. 2020. American Association for Thoracic Surgery/ISHLT guidelines on selected topics in mechanical circulatory support. The Journal of Heart and Lung Transplantation, 39(3): 187-219

Koval & Stosor 2019. Ventricular assist device-related infections and solid organ transplantation—Guidelines from the American Society of Transplantation Infectious Diseases Community of Practice. Clinical Transplant, 33:e13552.

Koken et al, 2021. Driveline exit-site care protocols in patients with left ventricular assist devices: a systematic review. Journal of Cardio-Thoracic Surgery 60: 506-515

Persons/Groups Consulted:

Cardiac Surgeons

Nurse Educator CSICU

Infectious Diseases Physician

Author(s):

Clinical Nurse Specialist Heart Failure and Heart Transplant

VAD patient/nurse educators

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