

Ventricular Assist Device (VAD) – Heartmate 3 Dressing Change (Ward)

Site Applicability

SPH Cardiac Wards

Practice Level

Basic Skill: Registered Nurses working on a cardiac ward

Need to Know


- Dressing changes using an aseptic technique should be done daily during the patient's stay in CSICU or at the direction of the most responsible physician. Once on the ward, the focus is using a clean technique in order to adapt to doing dressings at home.
- Upon transfer to the ward, when showering, the exit site should be covered with a waterproof barrier until cleared by the VAD Nurse/Patient Educator or the Clinical Nurse Specialist (CNS), at that time, the patient may shower with the VAD exit site exposed.
- The dressing must be changed immediately after the shower.
- Dressing changes should be continued daily and PRN until discharged from hospital, and if the exit site is clean and dry, the dressing change may be performed 3 x per week or after each shower (whichever is more frequent).
- Patients will have a driveline stabilization "anchor" device in place to hold their driveline and modular cable 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 key 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.
- This dressing technique is designed for the patient or caregiver to do it at home. Please follow the exact steps so as not to confuse the patient or family in their learning process.

Equipment and Supplies




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|---|-----------------------------------|
| 2 x pairs of non-sterile latex and powder free gloves | 2 x 9 cm x 15 cm Mepore |
| 1 x Sterile Saline 0.9% bottle (118 mL) | 3 x 4 inch x 4 inch gauze squares |
| Driveline securement “anchor” device (if it needs changing) - | Hand Sanitizer |
| Supplies – Bioderm Cath Grip 2 Strap | |

Procedure




Steps


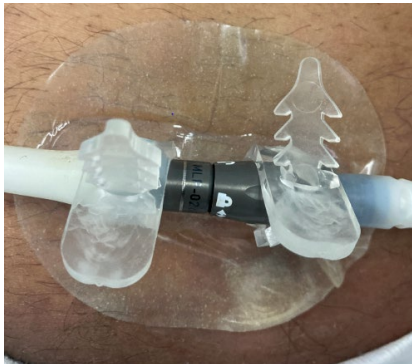
Steps	Rationale
1. Clean a work surface area with Accel or Caviwipes	
2. Ensure garbage can close by for disposal of used items	
3. Wash hands and put on first pair of gloves	
4. Open all packages out flat on table as shown. Leave items in packages	
5. Loosen tube from driveline stabilization device	If attachment device is not loosened it will be difficult for the nurse to clean



Steps	Rationale
6. Open sterile saline 0.9 % and moisten two of the 4 inch x4 inch gauze packets that have been opened	While admitted in hospital, nurses will use the sterile saline 0.9 % bottles. Patients will be provided with saline ampules upon discharge, and can buy saline solution (e.g. saline eye rinse) from their local pharmacy thereafter. 
7. Place sterile saline 0.9 % to one side	In case you need to moisten another gauze.
8. Remove old dressing from patient and discard along with 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.
9. Clean hands again using hand sanitizer	
10. Put on a new pair of gloves	
11. Gather the moistened gauze by the corners, then hold the driveline with one hand and wipe around the tube with moistened saline gauze. Clean the area around the entire driveline exit site in a circular motion (starting closest from the site then moving outwards). Repeat with remaining soaked gauze until site is clean	 



Steps	Rationale
12. Dry skin with dry gauze in the same manner outlined in step 11	Moisture could impede wound healing
13. Handling the gauze by its corners, fold dry 4x4 gauze in half and place it snugly against the skin at the exit site under the line,	 Prevents potential for friction ulcer from the driveline
14. Place final dry 4 inch x4 inch on top of exit site, line up the corners	
15. 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

Steps	Rationale
<p>16. Re-secure the modular cable in the driveline securement device. If necessary, apply a new anchor device after the skin has been properly cleaned and dried.</p>	
<p>17. Ensure that the Modular Cable Lock is secured between both straps.</p> <p>*Do not cut the “tail” of the anchor straps once secured</p>	<p>Immobilization of the line is key for preventing infections as trauma to exit site increases chance for infection</p>  <p>Cutting the “tails” of the anchor strap makes it difficult to thread it back through when trying to release the anchor.</p>

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 protocol above.

Related Documents

1. [B-00-12-10153](#) - Ventricular Assist Device (VAD) – Heartmate 3: Dressing Change (CSICU)
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

CNL's 5A

Heart Transplant Patient/Nurse educator

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