Sternotomy: Open Sternotomy Compresses

Site Applicability

VGH

DIRECTIVE / POLICY / STANDARD:

- This procedure may be performed by RNs in CSICU, T11B, and ICU.
- Open sternotomy compress changes may be performed by RNs after the wound has been assessed by the attending surgeon and found to meet the following criteria:
  - granulation tissue is laid down in the wound so that the heart and great vessels are not visible (may still see movement of heart)
  - no active bleeding from the wound in the past 24 hours.
- A RN **may not** change an open chest dressing when:
  - a retractor is in situ
  - a VAD (ventricular assist device) or an ECMO (extracorporeal membrane oxygenator) is in situ
  - the patient is hemodynamically unstable
- A RN **may not** debride or suction below level of sternum.
- There must be a written doctor's order to perform the compresses change, including the frequency and the type of solution(s) to be used.

Equipment and Supplies

- Masks (2)
- Dressing tray
- Normal saline (for cleansing)
- Compress solution
- Waxed paper bag/plastic bag
- Sterile gloves
- Disposable gloves (gown and goggles as required)
- Sterile Q-tips as required
- Abdominal pads
- For compresses, use one of the following depending on wound size and/or doctor's order:
  - sterile burn dressing gauze 4x4, 16x16
  - gauze sponges 4x4
  - lap sponges 4x12
  - gauze packing 2"x72", 1"x30", 1"x18", etc.
- Sterile vaseline as required
- Montgomery ties, tape and binder
- Duoderm (optional)
- C&S swab as required

- Sterile basin.

Procedure/Recommendations/Assessment

1. Mask self.
2. Mask patient (if not intubated) to prevent wound contamination with respiratory tract organisms.
3. Prepare dressing tray.
4. Put on unsterile gloves.
5. Remove abdominal pad, turn over and place below incision. Instruct patient to say a sustained "eee" to open sternum. If ventilated, remove compresses at the end of the inspiration. Remove compresses with forcep and place on old abdominal pad. If dressing has adhered to wound, moisten compress with generous amount of normal saline, allow to soak into adhered tissue, then gently remove. If difficulty is encountered, DO NOT remove and notify doctor. Observe for bleeding of wound bed post packing/compress removal. Count the number of compresses removed. Ensure that the number of compresses removed match the number inserted with the last dressing change.
6. Assess wound. Obtain a culture of exudate if amount of exudate is increased of if colour of exudate has changed, and per doctor's order.
7. Put on sterile gloves.
8. Place the drape along side of wound nearest to the nurse.
9. Cleanse inner edges of wound with normal saline using sterile forceps or sterile gloved fingers. Cleanse skin at wound edges. Use one sterile gauze for each cleansing stroke.
10. Apply sterile vaseline to skin at wound edges, with sterile Q-tips or gauze, if required, to protect skin from irritation/moisture. Use one sterile gauze/Q-tip for each stroke.
11. Saturate compress gauze with compress solution. Compress solution should be at room temperature or warmed (place in a basin of warm water) to decrease risk of hypothermia and to prevent arrhythmias.
12. Wring excess solution from gauze. Compresses should be damp, not soaked. Compresses that are too wet can macerate healthy tissue and encourage proliferation of bacteria, too dry can adhere to tissue.
13. Instruct the patient to say "eee". If the patient is ventilated, place compress in wound at end of inspiration. As the sternum opens with each "eee", place compress in wound. Open gauze and place compress loosely to prevent tamponading the heart or impairing circulation to the tissues. Gauze should fill all visible recesses within the cavity. Count the number of compresses placed in the wound. Ensure that moist compresses cover all open areas but do NOT lie outside wound edges.
14. Place abdominal pads over compresses to keep the area moist. Do not use regular 4x4 gauze over the compresses as it can draw moisture from the compresses.
15. Secure abdominal pads with Montgomery ties and apply chest binder as required to facilitate chest stabilization during respiration and mobilization.

16. Apply duoderm strips under Montgomery tape to protect skin (optional).
17. Make note of number of compresses on patient's Kardex, for the next dressing change.

Associated Guidelines / Forms / Educational Material:

- Sternotomy: Open, Post Cardiac Surgery, Care & Management of the Patient [D-00-07-30300]

References

Alvarex, O., Rozint, J. and Wiseman, D. (1989). Moist environment for healing: Matching the dressing to the wound. Wounds: A Compendium of Clinical Research and Practice, Premier Issue, April, pp. 35-51.

Stradtman, J. and Ballenger, M. (1989). Nursing implications in sternal and mediastinal infections after open heart surgery. Focus on Critical Care, 16(3), pp. 178-183.

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Alternate Search Terms

sterno