

CERVICAL SKELETAL TRACTION/HALO VEST APPARATUS

- PURPOSE:** To outline the management of the patient requiring cervical skeletal traction or a Halo vest apparatus.
- SUPPORTIVE DATA:** Cervical skeletal traction or a Halo vest apparatus is used to maintain alignment and immobilization of the cervical vertebrae after traumatic injury, cervical spinal surgery or invasion of the cervical spine by infection or tumor. These devices promote healing and prevent further injury.
- Cervical skeletal traction may be applied to tongs attached by pins to the patient's skull, e.g., Gardner-Wells, Crutchfield, Venke, Trippe-Wells. Once the tongs are in place, traction is created by extending a rope from the center of the tongs over a pulley and attaching weights. Skeletal traction may only be used in the ICU.
- A Halo vest apparatus consists of a metal ring which fits over and is attached to the patient's skull by 4 stabilizing pins (2 anterior and 2 post lateral). The metal ring is connected by metal bars to a plastic, sheepskin-lined vest. Complications may include: limitation of chest expansion, pressure injuries, limited visual field, and increased risk for falls. **ONLY A PHYSICIAN MAY REMOVE VEST.**
- ASSESSMENT:**
1. Assess neurological status a minimum of every 2 hours for skeletal traction, every 4 hours for Halo including:
 - Level of consciousness
 - Equality of pupillary size and reaction
 - Motor/sensory function
 2. Assess the following a minimum of every 4 hours:
 - Respiratory status, for dyspnea
 - Pain with jaw movement (May indicate that pins have slipped onto temporal plate)
 - Pin sites for signs and symptoms of infection, or loosening
 - Cervical skeletal traction
 - Prescribed amount of weight
 - Weights hang freely
 - Knot remains free of pulley
 - Halo vest for fit and comfort, it should not be too loose or too tight (should be able to insert 1-2 fingers under vest at shoulder and chest when patient is supine)
 3. Assess skin integrity around edges of halo vest every 4 hours (ICU), every 8 hours (Acute Care Units)
 4. Assess for difficulty in swallowing when patient takes anything by mouth
 5. Assess gait, balance, and blood pressure with each ambulation (Halo only).
 6. Slide pillowcase/cloth through vest and skin from one end to the other (in the front and the back), every shift to check for drainage. DO NOT open Halo vest. May also use a flashlight while pressing the liner toward the vest to facilitate visualization of the skin.
 7. Perform pin care a minimum of every 12 hours. (Clean with 1:1 hydrogen peroxide and normal saline, rinse with normal saline).
 8. Minimize moisture during bathing to avoid wetting the liner of the vest.
- CARE AND MAINTENANCE:**
- SAFETY:**
9. Do not use Halo vest superstructure for turning or lifting patient. (May result in skin tear at pin sites or malalignment of cervical spine)
 10. Keep wrench and other halo-removal tools taped to front of Halo vest at all times (Exception, the tools must be removed for MRI).
 11. Maintain head of bed as ordered.
- PIN DISLODGEMENT**
12. Maintain spinal alignment, place sandbags to either side of head, do not reposition patient.
 13. Perform neurological assessment.

CARDIAC ARREST (HALO):

14. Place patient supine, maintain cervical spine alignment, unfasten vest straps (like belt buckles) and fold anterior vest up and in half at the crease. (Only a physician may remove vest).
15. Begin CPR.
16. Avoid touching the bars of traction during defibrillation.

REPORTABLE CONDITIONS:

17. Notify the provider for:
 - Change in neurological status from baseline
 - Respiratory distress
 - Loose/dislodged pins
 - Signs/symptoms of infection at pin sites
 - Pin site pain, jaw pain
 - Malfitting Halo vest
 - Skin breakdown or red areas under/around vest

PATIENT/ FAMILY TEACHING:

18. Instruct on the following:
 - Purpose of cervical skeletal traction or Halo vest apparatus
 - Not to use halo device to move/help the patient sit or stand up
 - To do the following when sitting up or getting out of bed
 - Roll onto side at the edge of the bed
 - Bend the legs up from the hips
 - Drop the legs off the edge of the bed, pushing sideways with the elbow and hand at the same time to elevate to a sitting position
 - Notification of R.N. for loose or dislodged pins
 - Pin care, including signs and symptoms of infection
 - Decreased visual field and limited head movement
19. Teach alternative methods for improving visual field (for skeletal traction), e.g., prism glasses

ADDITIONAL STANDARDS:

20. Refer to the following as indicated:
 - Pressure Ulcer Prevention and Management
 - Fall/Injury Prevention
 - Immobility
 - Pain Management
 - Restraints

DOCUMENTATION:

21. Document in accordance with documentation standards.
22. Document the following in iView Systems Assessment Orthopedic Device/Immobilizer/Cast section:
 - Halo vest info: Create dynamic group “Traction Vest” under devices
 - Cervical traction info: Create dynamic group and label under “other” as “Cervical Traction” under devices
 - Pin care info (for both halo vest and cervical traction): Create dynamic group: “Pin/Wire Care Information”

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References:

Diaz, C. (2017) Halo Ring and Vest Care. In Wiegand, D. (Eds.) *AACN Procedure Manual for High Acuity, Progressive and Critical Care*, 7th Ed. St. Louis, Missouri

Diaz, C. (2017) Pin-Site Care: Cervical Tongs and Halo Pins. In Wiegand, D. (Eds.) *AACN Procedure Manual for High Acuity, Progressive and Critical Care*, 7th Ed. St. Louis, Missouri