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<tr><td>PROCEDURE</td><td>Manual: Clinical</td><td>Section: Interdisciplinary Clinical</td><td>Code No.: I S005</td><td>Old Code No.:</td></tr>
<tr><td colspan="3" rowspan="3">Title: Spine Precautions and Logrolling Technique</td><td colspan="2">Original Effective Date: Nov 10, 2017</td></tr>
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Purpose:

- To facilitate the safe transfer and movement of patients with spinal motion restriction.

Full Spine Precautions include:

- Cervical collar (i.e.: Ambu® Perfit® Ace® extrication collar or ProCare® Transitional cervical collar or Aspen® Vista® cervical collar or equivalent
- Stable bed surface
- Bed rest only with bed surface flat; no upright imaging; reverse trendelenburg if head requires elevation. NO reverse trendelenburg if atlantoaxial disassociation is diagnosed
- Logroll with manual cervical stabilization until cervical spine has been cleared
- Logroll for thoracic and/or lumbar spine until cleared
- Supine or side-lying position in anatomical alignment with wedge support
- No pillow under head
- All transfers from bed to stretcher or any other surface will be done using a rigid transfer board
- Turning will occur every two hours unless specifically written by the ordering physician with rationale

Responsibility:

- Healthcare professionals trained in logroll technique.

Equipment:

- Cervical collar
- Rigid transport board when transferring between surfaces
- Wedge support (if positioning patient on side-lying position in anatomical alignment)

Method:

The minimal number of team members needed to logroll is four (4). All team members must be trained in logroll procedures. Training may be obtained though a formal trauma course (i.e.:

TNCC, ATCN, ITLS, ATLS, EMR, etc.), or through an in-service provided by the ED Nurse Educator or designate.

Preparation for Conducting a Logroll:

1. Gather required equipment to the bedside (i.e. linens, wedge, pillows, bathing supplies, etc.)
2. The patient must be anatomically aligned prior to starting a log roll.
   The following describes anatomical alignment:
   - the tip of the patient's nose is in line with the sternum and symphysis pubis, and
   - the iliac crests and shoulders are level and the lower limbs are parallel.
3. If the patient is intubated or has a tracheostomy tube consider suctioning prior to logrolling to prevent coughing during the procedure.
4. Check that indwelling catheters or any tubing is repositioned to prevent overextension and possible dislodgement during repositioning.
5. Ensure that the patient's arms are across their chest prior to logrolling. In patients with an upper limb dysfunction, particular care must be taken in positioning the arms to prevent shoulder damage while being log rolled.
6. Explain the procedure to the patient and ask that they remain still and refrain from assisting during the log roll.

Logroll Technique:

1. Four (4) staff members are required to perform a log roll:
   - One (1) to hold the patient's head (see #4 below) and direct the procedure. If the patient is intubated, this staff member also secures the airway device.
   - Two (2) to support the chest, abdomen and lower limbs.
   - One (1) to carry out the planned activity i.e. skin care etc.
     * If patient's cervical spine has been cleared (i.e. cervical injury has been ruled out and their cervical collar has been discontinued) but NOT their thoracic and lumbar spine then 3 staff members will be needed to logroll the patient. In this case, the staff member closest to the patient's head will lead the logroll.
2. The person responsible for stabilizing the patient's head and neck verbally directs the turn.
3. The person at the patient's head stands at the head of the bed with the head board removed and the bed at a comfortable height.
4. Hand positioning on the patient's head for manual in-line cervical stabilization:
   - **Method 1:** One hand cups the patient's chin and the other hand supports the opposite side of the patient's head. This allows the patient's head to be supported on the forearm during the turn and maintains alignment. Firm pressure must be applied to prevent the possibility of flexion, extension or lateral rotation.
   - **Method 2:** Firmly hold the patient's shoulders at the midclavicular level with forearms held tightly to the patient's head and neck. Firm pressure must be applied to prevent the possibility of flexion, extension or lateral rotation.
5. The second staff member assisting in the procedure will place their hand on the patient's shoulder and hip.
6. The third staff member will place one hand on the patient's waist and the other on the patient's thigh. Persons two and three should have their hands overlapping each other to ensure that the patient's thoracic and lumbar spine maintain alignment during the turn. Place a pillow between the patients' legs.
7. The person holding the patient's head is in charge of the procedure. They must ensure that all other staff members are in correct position and are ready to begin. When all are ready to begin the person holding the head may call out “on my count, one, two, three.” The turning will occur on “three”.
8. The fourth staff member will provide the required care or perform the examination, check skin integrity at the patient's occiput, coccyx and heels, change linen, insert wedge or pillow for side lying position etc.
9. The patient should be positioned laterally (side lying) every two hours prior to their spine clearance. The patient must be well supported in the lateral position using wedges and padding (ex. a rolled up towel) may be required between the cervical collar and the bed to prevent lateral tilting of the patient's head.
10. Once the care being provided is completed, the person supporting the patient's head may call out “back, one, two, three”. The move will occur on “three”.
11. The patient must be left in correct anatomical alignment i.e. the tip of the patient's nose is in line with the sternum and symphysis pubis, the iliac crests and shoulders are level and the lower limbs are parallel.
12. If a patient complains of any change while being log rolled or moved, i.e. worsening of pain at the level of injury, pins and needles and / or numbness and weakness, or any

change in neurological signs, return the patient to the supine position. Inform the medical team immediately and make the relevant documentation in the nursing care record.

Special Considerations:

Patients in the Emergency Department

In the Emergency Department (ED), a patient who is in spinal motion restriction precautions will be assessed by an Emergency Nurse and placed in an appropriate assessment room. The backboard will be removed as soon as possible, following the steps described above. Upon removal of the backboard, the fourth team member assesses the patient's posterior surfaces and examines for any steps, deformities or midline tenderness.The patient will be left supine on a soft surface until cleared by the Emergency Physician.

If the Emergency Nurse notes any of the following signs, they will defer the removal of the backboard and examination of the posterior surfaces and immediately notify the ED physician:

a. neck or back pain,
b. spine tenderness,
c. neurologic signs or symptoms,
d. altered level of consciousness,
e. suspected drug or alcohol intoxication,
f. a distracting painful injury (any painful injury that may distract the patient from the pain of a spinal injury),
g. anatomic deformity of the spine,
h. high-energy mechanism of injury, such as:
    i. fall from elevation greater than 3 feet/5 stairs,
    ii. axial load to the head (i.e.: diving accidents),
    iii. high speed motor vehicle collisions (≥ 100 km/hr), rollover, ejection,
    iv. hit by bus or large truck,
    v. motorized/ATV recreational vehicle collision, or
    vi. bicyclist struck or collision

In this case, the ED physician will conduct an examination of the patient and lead the removal of the backboard, if deemed appropriate.

If the patient is intubated, the team member at the patient's head will secure the airway and lead the procedure while maintaining manual in-line cervical spine motion restriction.

If the patient requires cervical spine imaging, ED and Diagnostic Imaging staff will perform the duties described in the Trauma Cervical Spine Imaging policy and procedure. The patient must be logrolled and a rigid transfer board used as necessary.

References:

- Emergency *Health* Services Branch, Ministry of Health and Long Term Care (2016). *Basis Life Support Patient Care Standards*. Queen's Printer for Ontario.
- Gurney, D. & Westergard, A.M (2015) Chapter 5: Initial Assessment. In Emergency Nurses Association [ENA] (Eds*.). Trauma Nursing Core Course, 7th Ed: Provider Manual* . Des Plaines, IL: Emergency Nurses Association.
- Sunnybrook Health Sciences Centre (2016). Spine precautions and logrolling technique. Clinical Standards-Neurological-Spine. Toronto, ON.