

PRACTICE GUIDELINE

Effective Date: 5-21-04

Manual Reference: **Deaconess Trauma Services**

TITLE: CERVICAL SPINE PRECAUTIONS AND SPINE CLEARANCE

PURPOSE:

1. To define care of the patient requiring cervical spine immobilization and cervical spine precautions as well as to provide guidelines for cervical spine clearance.

GOAL: Early recognition and management of cervical spine injury to minimize complications and severity of injury to return patient to optimal level of functioning while providing for the physical, emotional, and spiritual well being of the patient and their family.

DEFINITIONS:

1. Cervical spine (c-spine) immobilization: The patient should be positioned supine in neutral alignment with no rotation or bending of the spinal column. The cervical spine should be further immobilized with use of a rigid cervical collar.
2. Long Spine Board (LSB): A LSB with 3 body straps, a rigid collar and head blocks all secured should be used to maintain c-spine immobilization during transport. The LSB should be removed ASAP upon arrival to Emergency Department to prevent skin breakdown and decubitus formation (Goal is less than 20 minutes).
3. Manual control of the cervical spine: must be maintained anytime the rigid collar is removed. All patients with suspected or known cervical spine injury will remain supine bedrest with HOB flat or until the cervical spine is cleared or an order is received by the physician.
4. Logroll: A patient with known or suspected cervical spine injury requires preplanning and the assistance of 4 or more qualified persons to move them. Neutral anatomic alignment of the entire vertebral column must be maintained while turning or moving the patient. One person is assigned to maintain manual control of the cervical spine; 2 persons will be positioned unilaterally of the torso to turn the patient towards them while preventing segmental rotation, flexion, extension, and/or lateral bending of the chest or abdomen during transfer of the patient. A fourth person is responsible to remove LSB, check skin integrity and/or change linens and position padding. Neurologic function must be assessed after each position change.
5. Rigid cervical collar: used to maintain c-spine, can be pre-hospital collar. If the collar is ill-fitting or soiled it may be changed to an Aspen collar (according to hospital guidelines) while a second qualified person maintains c-spine immobilization.

6. Cervical spine clearance is a clinical decision suggesting the absence of acute bony, ligamentous, and neurologic abnormalities of the cervical spine based on history, physical exam and/or negative radiologic studies.
7. Definitive care of a known cervical spine injury is adequately stabilizing the c-spine. This can include surgical fixation, surgical decompression, and/or any number of cervical stabilization devices (Halo fixation/cervical collars).

GUIDELINES:

1. Any patient with know or suspected cervical spine injury will have cervical spine immobilization and spine precautions maintained until injury can be ruled out, spine is cleared (see flowsheet) or definitive care is achieved. The cervical collar is not to be removed from the patient's neck until C-spine is cleared and an order is received from the physician. Spine Board should be removed as soon as possible even if spine has not been cleared per physician order, as these devices do not in themselves provide complete spinal immobilization.
2. Any adult patient without clinical evidence of neurologic injury, alcohol, drug intoxication, altered mental status, or distracting injury may have the cervical spine cleared on clinical grounds (NEXUS criteria).
3. Nursing is responsible to ensure that a physician order is on the chart "addressing spine clearance" upon admission to their unit. If an order is not on the patient's chart, the primary nurse must obtain order by physician who wrote the admission orders. This includes when the physician cleared the spine on clinical grounds (NEXUS criteria).
4. Radiographic images of the cervical spine will be obtained with the immobilization devices in place. These devices **will not** be removed unless manual control of the cervical spine is obtained and by order of the physician. Once manual control of the cervical spine is obtained, it will be maintained until the patient is re-immobilized by staff.
5. Any adult patient who does not meet criteria to have their cervical spine clinically cleared (continued neck pain, altered mental status, etc.) undergoes CT scanning with 1.25 mm cuts of the entire cervical spine with complete reformats.
6. If CT is normal and no neurological deficit, the Cspine is cleared. If the patient has a normal CT scan, but a neurologic deficit is present, an MRI is obtained.
7. If the patient is not evaluable secondary to coma, the CT scan is without abnormality, and the patient was moving all four extremities upon arrival to the emergency department, the cervical spine will be cleared and spinal precautions removed.
8. If the patient is in a coma and/or neuromuscular blockade, and there is no observed movement of the extremities, patients are kept in spinal precautions until such movement is observed or until a MRI scan is obtained.
9. For a patient less than 14 years of age, it is the clinician's discretion (suggestion: MRI for unconscious or unevaluable patient).
10. If Mechanism Of Injury is consistent with suspected thoracic or lumbar injury recommend dedicated spiral CT of thoracic and lumbar spine or reformats from visceral CTs (included on "Trauma CT" order set).

11. If any abnormalities are found on any of the radiographs or any neurological deficits attributable to a possible spinal cord injury, then consult neurosurgery/orthopedic surgery for advice on the next appropriate radiologic procedure. The cervical collar should be kept in place and spinal precautions maintained.
12. Patients should be considered to have cervical spine injury if they present with any of the following:
 - a. Blunt force trauma to head, neck or back, MVC, fall, loss of consciousness, or altered mental status.
 - b. Neurologic deficits (weakness/parasthesia) in torso, legs, or arms not explained by peripheral nerve injuries.
 - c. Pain to palpitation of the cervical spine.
 - d. Pain in the cervical spine or paraspinous muscles.
13. Every effort should be made to ensure patient comfort. Consider placing extra padding to bony prominences. A small (1-1/2inch thick) pad may be placed behind knees, to lumbar space (if lumbar spine negative) or occiput.
14. Skin care should be performed at least once per shift while a second person is maintaining cervical spine immobilization. Skin integrity should be assessed and documented at least once a shift. If skin breakdown or decubiti are apparent, obtain a wound specialist consult immediately.
15. Notify physician immediately of any changes in neurologic status (weakness, parasthesia) or respiratory compromise.

REFERENCES:

- ADVANCED TRAUMA LIFE SUPPORT FOR DOCTORS: 7th edition; American College of Surgeons Committee on Trauma.
- TRAUMA NURSING CORE COURSE, Emergency Nurses Association, Sixth edition, 2007.
- Deaconess Trauma Guideline Manual, Nursing Protocol for Care of the patient in Spinal Precautions.
- RESOURCES FOR OPTIMAL CARE OF THE INJURED PATIENT: 2006; Committee on trauma American College of Surgeons.

REVIEWED DATE	REVISED DATE
JAN 05	4-21-06
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