

Cervical Spine Clearance Protocol

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Preamble

Cervical spine immobilization can prevent spinal cord damage and subsequent paralysis in patients with traumatic injuries. However, cervical spine immobilization is not without risks and potential complications. In select patients, unstable cervical spine injury can be reliably ruled out using a systematic approach incorporating history and physical exam.

Requirements

1. Fully licensed Technician-Paramedic
2. Certification in the Cervical Spine Clearance Protocol by the Medical Director.

Indications

Patients with known or suspected traumatic injury.

Contraindications

Patient age less than 16 years.

Procedure

1. Perform patient assessment and record vital signs.
2. Assess that patient meets criteria for this protocol.
3. Ensure there are no contraindications to use of this protocol.
4. Follow the protocol as described below.

Consider cervical spine injury in the following settings:

- fall from a height (>1m, 5 stairs)
- motor vehicle collision (high speed, rollover, ejection, motorcycle, pedestrian struck)
- obvious and significant blunt trauma above the clavicles
- age > 65 years
- found unconscious with signs of significant trauma above the clavicles

Note: The following mechanisms are not considered high risk for C-spine injury

- falling from a standing position where there are no signs of trauma above the clavicles (e.g. cardiac syncope, TASER)
- minor trauma to head and neck (abrasions, lacerations)
- penetrating trauma (including gunshot wound) **unless** neurologic deficit present

Assessment of the Patient

Once the need for assessment of the C-spine is identified, the factors listed below must be identified. Each factor must be ruled out before going on to the next step. If any factor cannot be ruled out, then the patient must be immobilized.

1) Altered Mental Status

Assess that the patient is alert, oriented to place, time and the injury event, and is cooperative with questioning and physical examination. If so, then altered mental status is ruled out.

2) Intoxication

Determine if the patient is under the influence of alcohol or illicit drugs. History of intoxicant ingestion may be available. Patients under the influence of intoxicants may exhibit slurred speech, confusion or difficulty mobilizing (if mobile at scene). The presence or absence of an odour of liquor on the breath is not a reliable physical sign. When in doubt, assume intoxication and immobilize.

3) Distracting Painful Injury

Painful injuries such as major fractures or large burns may distract the patient such that he/she might not notice that there is pain to the area of the C-spine. Unless the mechanism of injury clearly makes a C-spine injury unlikely, trauma victims with extremely painful injuries should have spinal immobilization.

4) Focal Neurologic Deficit

If a trauma patient exhibits lack of movement or complains of decreased sensation in a given region (e.g. not moving legs, not moving one or both arms), then the patient should be immobilized.

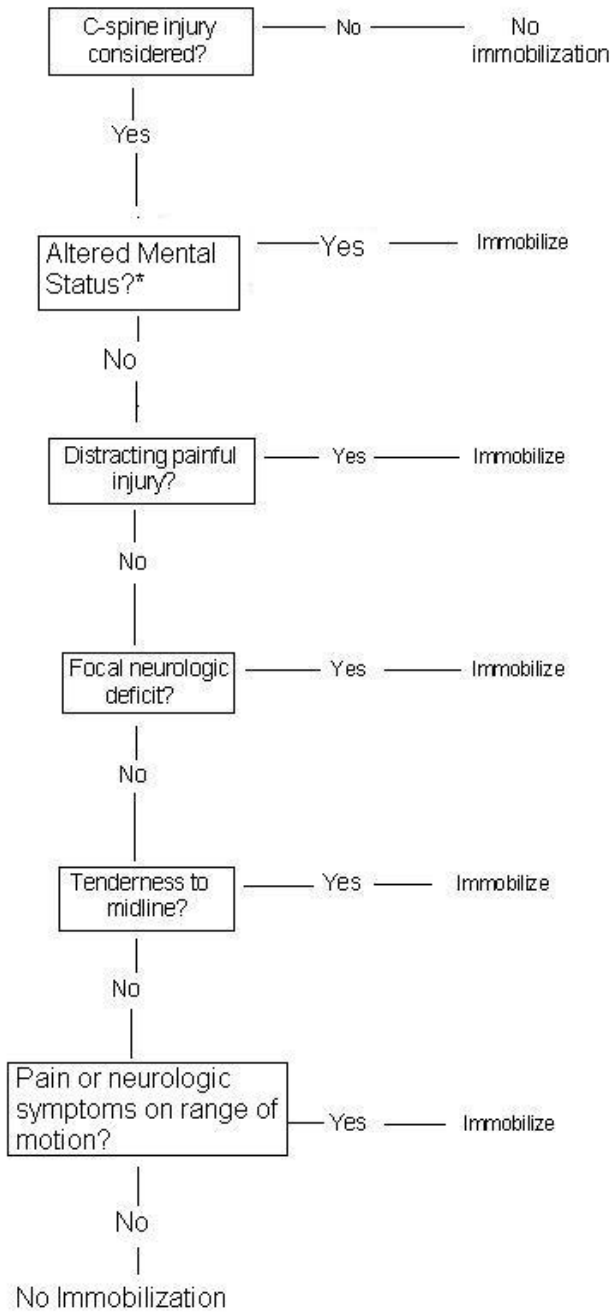
5) Tenderness to Midline of Posterior Neck

If #1-4 have been ruled out, palpate the midline of the posterior neck with one finger, starting at the base of the skull, and moving down the spinous processes to a point between the shoulder blades. If the patient complains of tenderness at any point, the C-spine should be immobilized.

6) Pain or Neurologic Symptoms on Motion

If there is no midline tenderness, ask the patient to turn their head 45° to the right, and then 45° to the left. If the patient complains of pain, weakness or changes in sensation at any point while moving the neck, they are to be instructed to stop, and the C-spine should be immobilized. If the patient is able to move both directions without pain or neurologic symptoms, then the patient does not require C-spine immobilization.

Cervical Spine Clearance



*Normal Mental Status:
All of the following:
-GCS 15
-alert
-oriented to time, place
and event

Documentation Requirements

The following information must be documented on the patient care report form:

1. Patient's presenting signs and symptoms, including vital signs.
2. Indications for protocol use.
3. Changes from baseline, if any, that occur during transport.
4. Signature and license number of EMS personnel performing any transfer of function skills.

Certification Requirements

1. Attend in-depth classes and lectures on cervical spine clearance.
2. Demonstrate an understanding of the anatomy of the cervical spine and mechanisms of spinal injury.
3. Pass a written examination.
4. Certification is by the Medical Director.

Recertification Requirements

1. Review class and recertification is done every 12 months.
2. A record will be kept to document all cases where this protocol is used.

Decertification

1. Decertification is at the discretion of the Medical Director or the Provincial Medical Director, Emergency Medical Services, Manitoba Health & Healthy Living.

Quality Assurance Requirements

1. Appropriate quality assurance policies must be in place. The Medical Director or designate must review all instances where this protocol is used. As a minimum, the following must be assessed:
 - i) appropriateness of implementation
 - ii) adherence to protocol
 - iii) any deviation from the protocol
 - iv) corrective measures taken, if indicated

2. Yearly statistics for protocol use compiled and forwarded to Emergency Medical Services, Manitoba Health & Healthy Living.