

SPINAL MOTION RESTRICTION

Spinal Motion Restriction (SMR) is a term that includes C-Spine immobilization. The primary goal of a Pre-Hospital Provider, in patients with a potential spinal injury, is to “do no harm”, stabilize and transport. However, some patients with trauma can be considered for selective immobilization, to avoid morbidity associated with immobilization (skin pressure, respiratory difficulty).

The traditional method of performing “C-Spine immobilization” is still used and widely accepted. The patient is advised not to move and manual control of their neck is maintained with two hands by a provider. A cervical collar is then placed on the patient’s neck. They are then carefully manipulated, minimizing motion of the spinal column, to a long spine board.

Two validated and commonly used criteria to determine need for field immobilization are the NEXUS criteria and the Canadian C-Spine Rule. These screening criteria may be used in stable, alert trauma patients, with no communication barrier.

NEXUS Low-Risk Criteria

Stable, conscious trauma patients with no communication barriers may be transported without spinal immobilization if they meet **ALL FIVE** of these criteria:

- No posterior midline cervical-spine tenderness.
- No evidence of intoxication.
- No altered mental status.
- No focal neurologic deficit.
- No painful distracting injuries.

Canadian C-Spine Rule

- Any high risk factor? (any one mandates immobilization)
 - Age over 65 years
 - Dangerous mechanism
 - Numbness or tingling in extremities
- Any low-risk factor? (if any are no, immobilize)
 - Simple rear end MVC
 - Ambulatory at any time at scene
 - No neck pain at scene
 - No midline c-spine tenderness.
- Ability to voluntarily rotate the neck?
 - Patient voluntarily able to actively rotate neck 45 degrees to right and left
 - If unable, immobilize