# Pre-hospital Spinal Motion Restriction Guidelines

**Adult (≥16 Years Old) Trauma Patients**

**Maintain manual in-line spinal stabilization until completing a patient assessment**

- ***Patients with only penetrating trauma, regardless of whether deficits are present, should not be placed in SMR***
- Assume spinal motion restriction is indicated until proven otherwise
- When in doubt, utilize full spinal motion restriction

***NOTS Trauma Triage Center: 216.778.7850***

***Reference***:

- NAEMSP and ACS COT Position Statement- EMS Spinal Precautions and the Use of the Long Backboard (12-2012)
- NEXUS and Canadian C-spine Rule

**Patients exhibiting:**

- Blunt trauma and altered level of consciousness
- Any level spinal pain/tenderness and/or significant findings (crepitus, deformity or other irregular findings during palpation of the spine)
- Neurological complaint (i.e. numbness, tingling, motor weakness, etc)
- High-energy mechanism of injury and the presence of:
  - Drug or alcohol impairment
  - Inability to communicate
  - Distracting injury
  - Inability to ambulate

**YES** →

**Full Spinal Motion Restriction**

- A variety of methods can be used to achieve full SMR. Page 2 of the guideline outlines some acceptable methods

**NO** ↓

**Patients exhibiting:**

- ***Cervical pain/tenderness*** during palpation ***without*** neurological findings
- Patients must have:
  - Normal level of consciousness (GCS = 15)
  - Ability to communicate
  - Ability to ambulate
  - No drug or alcohol impairment
  - No distracting injuries

**YES** →

**Limited Spinal Motion Restriction**

- A variety of methods can be used to achieve limited SMR. Page 2 of the guideline outlines some acceptable methods

**NO** ↓

**Patients exhibiting:**

- ***No*** spine tenderness or anatomic abnormality
- Patients must have:
  - Normal level of consciousness (GCS = 15)
  - Ability to communicate
  - Ability to ambulate
  - No drug or alcohol impairment
  - No distracting injuries

**YES** →

**No Spinal Motion Restriction is indicated**

- Special considerations are listed on Page 2 of this guideline. Review special considerations that may apply

## High Risk Factors:

*See bottom High Risk Factors at the bottom of page 2*

*"right patient, right place, right time"*

Adopted 03/16

# Methods of Achieving Spinal Motion Restriction

**Adult (≥16 Years Old) Trauma Patients**

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## Penetrating Trauma without other mechanism of injury (with or without deficits) - Spinal Motion Restriction not indicated

**Appropriate full spinal motion restriction can be achieved using ANY one of the following options:**

- Cervical collar or towels and blankets minimizing the movement of the cervical spine **AND**:
  - A long backboard or Reeves stretcher (with sheet under the patient) with voids padded appropriately secured with a minimum of three straps **OR**
  - A vacuum mattress (with sheet under patient) molded to patient's body to minimize motion **OR**
  - Laying supine on a firm mattress as warranted by assessment, provided efforts are made to reduce spinal motion

***In cases where there is concern that full SMR increases pain or symptoms, secure in a position of comfort (with or without c-collar, long board, etc.)***

**Providers must document pertinent positive and/or negative findings supporting the above decision**

**High Risk/Suspicion**

- Document pertinent positive and/or negative findings supporting the need for full SMR
- If clinical indications warrant (i.e. respiratory distress), may place patient with longboard or Reeves in reverse Trendelenberg position up to 30 degrees. Pad voids below device.

**Appropriate cervical motion restriction can be achieved using ANY one of the following options:**

- Cervical collar or towels and blankets minimizing the movement of the cervical spine
- Patient's may be transported in a supine or semi-fowler's position depending on the individual patient need

**Providers must document pertinent positive and/or negative findings supporting the above decision**

**Moderate/Low risk/Suspicion**

- Document pertinent positive and/or negative findings supporting the need for limited SMR

**Consider High Risk Factors:**

- Patients ≥ 65 years of age, specifically patients with obvious head trauma (hematoma, lacerations, abrasions, etc.), consider cervical motion restriction
- Osteoporosis or ankylosing spondylitis (inflammatory disease which can fuse the spine, reducing flexibility)
- Chronic steroid use
- Axial loading
- Inability to ambulate

**EMS Provider Judgment:**

- If unsure of appropriate level of SMR, always make determination to protect the patient
- Evaluate SMR patients before and after restriction and document

*"right patient, right place, right time"*