Date: March 6, 2015

To: All Connecticut Licensed/Certified EMS Organizations
   All Connecticut Sponsor Hospitals

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Re: Spinal Motion Restriction Guideline – UPDATED GUIDELINE

In October of 2014, the Office of Emergency Medical Services (OEMS) sent out notification of the expansion of the scope of practice for EMS providers in Connecticut to include Spinal Motion Restriction. Accompanying the memo was a guideline titled “Spinal Trauma.”

The Spinal Trauma Guideline is part of a larger project the Connecticut EMS Medical Advisory Committee has taken up to develop statewide guidelines. The project is in its final phases and will be a statewide ‘best practices’ approach to standardizing the practice of pre-hospital emergency care. The guidelines will be a ‘living document’, one that will be regularly reviewed and updated. As pre-hospital emergency care is ever-evolving, there will be times when a guideline will need to be revised in the interim between regular reviews. These ‘Critical Updates’ will be communicated to EMS organizations through the Everbridge notification system, and can be found on the OEMS website.

Attached to this memo is the updated Spinal Trauma Guideline, including a detailed description of the changes. Please retain this version and discard any previous versions.

The Connecticut Office of Emergency Medical Services greatly appreciates the efforts of all our partners in developing this initiative and in advancing prehospital care for the residents and visitors of Connecticut.
OFFICE OF EMERGENCY MEDICAL SERVICES

Statewide Guidelines Updates & Corrections – Critical Update 1.1
Spinal Trauma Guideline

- Spinal Trauma Guideline – removed Red Flag Box on first page about high risk mechanisms and the parenthetical comment that referred readers to that Red Flag Box. Guideline/practice is NOT changed. The removed content was originally inserted as a reference back to the educational material and was causing confusion to providers since its inclusion did not change practice.
The Connecticut Department of Public Health and the physician EMS medical directors of the Connecticut EMS Medical Advisory Committee have approved the following guideline. This guideline represents a significant change in practice for EMS providers. It reflects our intention to ensure EMS standards in Connecticut remain consistent with the best emergency medicine standards. Services should consult with their EMS sponsor hospital regarding implementation of and training in the use of this guideline. Resources are available on the Education and Training page of the CT OEMS website at: http://www.ct.gov/dph/EMS

Special thanks to the New Hampshire Bureau of EMS for permission to use portions of their content and formatting.

**PURPOSE:** This protocol provides guidance regarding the assessment and care of patients who have a possible spinal injury.

**ASSESSMENT FOR SELECTIVE SPINAL CARE**

Patients who have experienced a mechanism of spinal injury require spinal motion restriction (as described further on) and protection of the injury site if they exhibit any of the following:

- Midline spinal pain, spinal deformity or tenderness with palpation;
- Abnormal (i.e. not baseline) neurological function or motor strength in any extremity;
- Numbness or tingling (paresthesia);
- Sensation is not intact and symmetrical (or baseline for patient);
- Cervical flexion, extension and rotation elicits midline spinal pain.

**OR** if they cannot competently participate in the assessment due to one of the following:

- Altered mental status (e.g., dementia, preexisting brain injury, developmental delay, psychosis, etc.);
- Alcohol or drug intoxication;
- Distracted by significant injuries to self or others;
- Insurmountable communication barriers (e.g. hearing impairment, language, etc.).

Patients without any of the above findings should generally be transported without the use of a cervical collar or other means to restrict spinal motion. Utilize spinal motion restriction only where, in the professional judgment of the provider, the patient is at high risk for spinal injury or displays clinical indications of injury (e.g. midline spinal pain or deformity of the spine). When possible, the highest level provider on scene should determine whether spinal motion restriction is to be used or discontinued (collar removed, etc.).

When spinal motion restriction has been initiated and a higher level provider arrives, patients should be reassessed for spinal injury (as described in this section) to determine the most appropriate ongoing care.
Long backboards do not have a role for patients being transported between facilities. If the sending facility has the patient on a long backboard or is asking EMS to use a long backboard for transport, EMS providers should discuss NOT using a long backboard with the sending facility physician before transporting a patient. If the sending physician requires a long backboard be used, it should be padded to minimize patient discomfort.

Use spinal motion restriction with CAUTION for patients presenting with dyspnea and position appropriately. Spinal motion restriction may limit respiratory function with the greatest effect experienced by geriatric and pediatric patients restricted to a long spine board.

Combative patients: Avoid methods that provoke increased spinal movement and/or combativeness.

Patients with penetrating trauma such as a gunshot or stab wounds should NOT be immobilized on a long spine board. Additional movement will not worsen an already catastrophic spinal injury with neurological deficit. Emphasis should be on airway and breathing management, treatment of shock, and rapid transport to a level 1 or 2 trauma center.
PEARLS:
- As with traumatic brain injury, secondary injury to the spine often arises from increased pressure (e.g. swelling, edema, hemorrhage) or from hypoperfusion or hypoxia (e.g. vascular injury). While the optimal treatment for secondary injury has not been established, providers should protect the injury site and be cognizant of the risk of secondary injury.
- In some circumstances, extrication of a patient using traditional spinal immobilization techniques may result in greater spinal movement or may dangerously delay extrication.
- Studies suggest protecting the injury site from pressure may be as important as reducing spinal movement.
- All patients who have suffered possible spinal trauma should be handled gently and spinal motion should be minimized.
- Caution should be exercised in older patients (e.g. 65 years or older) and in very young patients (e.g. less than 3 years of age), as spinal assessment may be less sensitive discerning spinal fractures in these populations.
- Only remove secure-fitting helmets from patients receiving spinal motion restriction when necessary to provide clinically important patient care (e.g. airway maintenance, ventilation, etc.).