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MEDICAL ADVISORY COUNCIL
Position Statement

MAC PS 2013-003

SPINAL MOTION RESTRICTION

It is the position of the Medical Advisory Council that:

1) Current prehospital management of patients with potential spinal injury using long backboards for immobilization of the spine has no evidence basis, and therefore transition to a different approach to management of patients with potential spinal injury is medically appropriate.
   a) There is considerable evidence that use of long backboards is harmful to patients.
   b) There is no good evidence that use of long backboards benefits patients.
   c) There is no patient benefit to applying the traditional "spinal precautions" including cervical collar and long backboard to patients who do not have any specific indication (below) for spinal motion restriction.
   d) Long backboard and KED / short board should be considered extrication tools and not therapeutic interventions.
   e) Patients with penetrating trauma do not require any spinal motion restriction as part of appropriate patient management.
2) The indications for spinal motion restriction are:
   a) Focal neurologic deficit on motor or sensory exam
   b) High risk patients:
      i) Ejection from vehicle
      ii) Motorcycle crash > 20 mph
      iii) Auto vs. pedestrian or bike at > 20 mph
      iv) Axial load to head (i.e. diving)
      v) Fall from 3x patient's height
   c) Low risk patients who:
      i) have point tenderness on palpation of spinous processes
      ii) are not reliable and competent:
      iii) are not at baseline level of alertness
      iv) have evidence of clinical intoxication
      v) have a distracting injury
      vi) are unable to communicate adequately
3) Assessment and management of a patient with potential spinal injury should include:
   a) Evaluation for indications for spinal motion restriction
   b) Neurologic assessment prior to patient movement and after instituting spinal motion restriction
   c) If patient meets indication(s) for spinal motion restriction, it can be accomplished by:
      i) Application of an appropriately sized cervical collar
      ii) Maintaining neutral spine alignment

(1) Laying patient flat and limiting unnecessary spinal motion. Reinforce to patient the importance of limiting movement of cervical spine and encourage neutral positioning.
(2) A long backboard and/or KED or short board may be used if needed to temporarily facilitate spinal motion restriction during extrication, or if patient is nonambulatory. The patient should be removed from the long backboard and laid flat as soon as practical while maintaining the spine in neutral alignment. KED may be unbuckled and fully released (including head straps) once the patient is laid flat on the cot.

iii) If patient has been ambulatory on scene, preferred management is to bring cot to patient (who has had cervical collar applied) and have patient lay flat on cot. Standing backboard should not be used.

Definitions:

1) **Spinal motion restriction** or **spinal stabilization** is defined as application of a cervical collar and maintenance of the spine in neutral alignment.
2) **Spinal immobilization** is defined as application of a cervical collar and long backboard for immobilization of the spine.

References:

1) 2011 CDC Field Triage Decision Scheme: www.**cdc**.gov/**fieldtriage**/pdf/decisionscheme_poster_a.pdf

2) EMS Spinal Precautions and the Use of the Long Backboard: National Association of EMS Physicians and American College of Surgeons Committee on Trauma Position Statement. Prehospital Emergency Care 2013; 17:392-393

3) Stuke LE, Pons PT, Guy JS, Chapleau WP, Butler FK, McSwain NE. Prehospital Spine Immobilization for Penetrating Trauma--Review and Recommendations From the Prehospital Trauma Life Support Executive Committee. J Trauma 2011; 71(3):763-770.

4) Theodore N, Hadley MN, Aarabi B, Dhall SS, Gelb DE, Hurlbert RJ, Rozzelle CJ, Ryken TC, Walters BC. Prehospital Cervical Spinal Immobilization After Trauma. Neurosurgery 2013; 72:22-34.

Approved by the Medical Advisory Council on November 12, 2013

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Dr. Sabina Braithwaite
Chair, Medical Advisory Council