



11880 S. Sunset Drive
Olathe, Kansas 66061

Dr. Ryan Jacobsen
Medical Director
RJacobsen@jocogov.org
Office 913-826-1035
Cell 913-617-0642
Fax 913-826-1018

Date: Feb, 18th, 2014

To: Emergency Department Staff

From: Johnson County EMS System

Re: EMS use of Long Spine Boards

Effective March 1st 2014, the Johnson County EMS System will be implementing new procedures relating to how we care for prehospital patients with potential spine injuries. Historically, any patient that had the potential for having a cervical, thoracic or lumbar spine injury mandated the EMS provider to transport the patient on a Long Spine board. After careful consideration and an extensive review of the literature we have come to the conclusion that excellent spine care can be accomplished WITHOUT transporting a patient on a Long Spine board.

Other than historical dogma and institutional EMS culture we can find no evidence-based reason to continue to use the Long Spine board as it currently exists in practice today. The evidence that does exist regarding the Long Spine board is overwhelmingly negative.

The following are a brief summary of the known detrimental effects of the Long Spine board:

- The Long Spine board has been shown to induce respiratory compromise. (1, 2,3)
- The Long Spine board has been demonstrated to cause tissue ischemia/pressure sores. (4, 5, 6,7,8)
- The Long Spine board causes pain. (9, 10, 11)
- The Long Spine board can cause increases in unnecessary radiologic exposure. (12, 13)
- Immobilization increased mortality or had no benefit in multiple studies on penetrating trauma patients. (14,15,16,17,18,19)
- Immobilization in pediatric trauma patients markedly increased admission rates and cervical radiography rates. (13)

The new Johnson County protocol is in keeping with position statements from the American Academy of Neurological Surgeons as well as the National Association of EMS Physicians/American College of Surgeons Committee on Trauma Joint Position on prehospital immobilization published in 2013. (20, 21) This change was also supported by the Medical Advisory Council for the state of Kansas that is comprised of EMS Physicians advising the KS Board of EMS. The protocol was ultimately approved by the Johnson County EMS Physicians Committee of the Johnson/Wyandotte County Medical Society in October of 2013. The Johnson County EMS Physicians committee consists of physicians specializing in Emergency Medicine, Trauma Surgery, Pediatric Emergency Medicine, Cardiology and Anesthesia.





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The biggest change to current practice will be the ability of EMS providers to apply a C-collar WITHOUT transporting a patient on a Long Spine board. The Long Spine board will still be utilized to extricate and transfer patients to the EMS cot, but once on the cot they will generally be removed from the extrication board and placed directly on the cot and secured.

Our providers will NOT be "clearing" the thoracic or lumbar spine in the field regardless of whether they arrive on a Long Spine Board or not. The patient will still require an In-hospital provider to evaluate the patient's spine and determine if any imaging is required.

We have attached a copy of the new protocol. We believe that the key impact for Emergency Departments will be how patients are transferred from the EMS cot to the ED bed. This will likely be accomplished best by the use of a slide board. This should mirror established practices of moving the patient within the hospital.

We appreciate your partnership in working for the best possible outcomes for trauma patients in Johnson County. We will be actively monitoring the implementation of these new procedures and would be particularly interested in outcome information to share with our prehospital providers and for our internal Quality Assurance/Improvement processes. If you have any concerns about this or any other protocol in the Johnson County EMS system please do not hesitate to contact us at any time.

Respectfully,

Ryan C. Jacobsen MD, EMT-P

Johnson County EMS System Medical Director

Jacob Ruthstrom MD

Deputy EMS Medical Director

Theodore Barnett MD

Chair, Johnson County Medical Society EMS Physicians Committee



Johnson County EMS System Spinal Restriction Protocol 2014

Spinal Immobilization:

Indications

- Blunt trauma patients that meet Step 1, 2 or 3 or experience axial load; fall of >3 feet; rollover, ATV, cycle or pedestrian/vehicle accidents will be immobilized.
- Patients with penetrating traumatic injuries should NOT be immobilized unless a focal neurologic deficit is noted on physical examination.
- Spinal Immobilization is indicated in trauma patients who sustain a mechanism of injury sufficient to cause a neck or back injury and who display at least one of the following criteria. Use caution for occult fracture in age >65 or <4 years old or history of osteoporosis, bone or vertebral disease.
 - Unreliable physical exam, such as GCS < 15, inability to fully cooperate, evidence of intoxication or acute stress reaction
 - Pain, deformity or tenderness to the neck or back
 - A distracting painful injury
 - Neurologic deficit
 - Pain produced on unassisted rotation of the head 45 degrees in each direction

Techniques

- Stabilize head and neck in neutral position unless movement causes pain, deformity, or resistance. If so, immobilize the head and neck in the position found.
- If the patient is ambulatory, place an appropriately sized cervical collar and position the patient directly on the ambulance cot in the position of comfort, limiting movement of the spine during the process.
- Patients that are stable, alert and without neurological deficits may be allowed to self-extricate to the ambulance cot after placement of a cervical collar. Limit movement of the spine during the process.
- If a Long Spine Board or Scoop Stretcher is used for extrication or patient movement, the patient should be taken off the long spine board or scoop stretcher and placed directly on the ambulance cot using an appropriate technique that minimizes movement of the spine.



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