WHY SHOULD WE SPINAL IMMOBILIZE WITHIN THE PREHOSPITAL SETTING

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Tulane Trauma Education

WHY DO WE SPINAL?

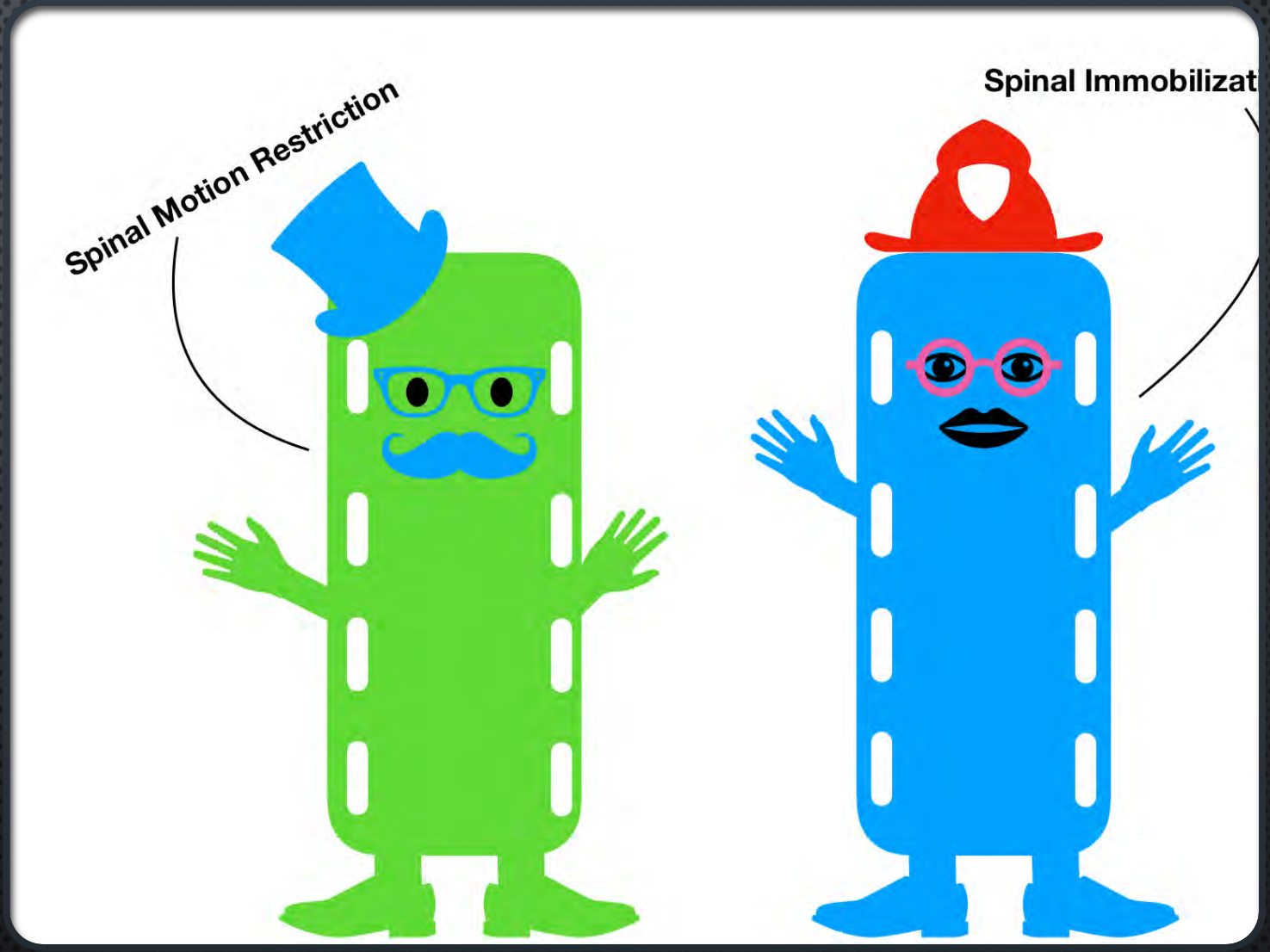
A HISTORY LESSON

1966 report by Geisler et al. attributed “delayed onset of paraplegia” in hospitalized patients with spinal fractures to “failure to recognize the injury and protect the patient from the consequences of his unstable spine.”

In 1971, the American Academy of Orthopedic Surgeons published one of the first guidelines for EMS treatment. Emergency Care and Transportation of the Sick and Injured advocated the use of spinal immobilization using a backboard and cervical collar for trauma patients with signs and symptoms of spinal injury

DIFFERENCE IN LETTERS, SAME MEANING

- THE USE OF THE WORDS SPINAL IMMOBILIZATION HAS FAVORED TO BE REMOVED
- REPLACED BY 'SPINAL MOTION RESTRICTION'
- BOTH HAVE THE SAME CONCEPT, TO MINIMIZE UNWANTED MOVEMENT OF THE A POTENTIALLY INJURED SPINE



REASON FOR SPINAL MOTION RESTRICTION

- TRUE DESIGN OF A LONG SPINE BOARD IS TO IMMOBILIZE THE SPINAL COLUMN FROM THE CERVICAL VERTEBRAE TO THE COCCYX.

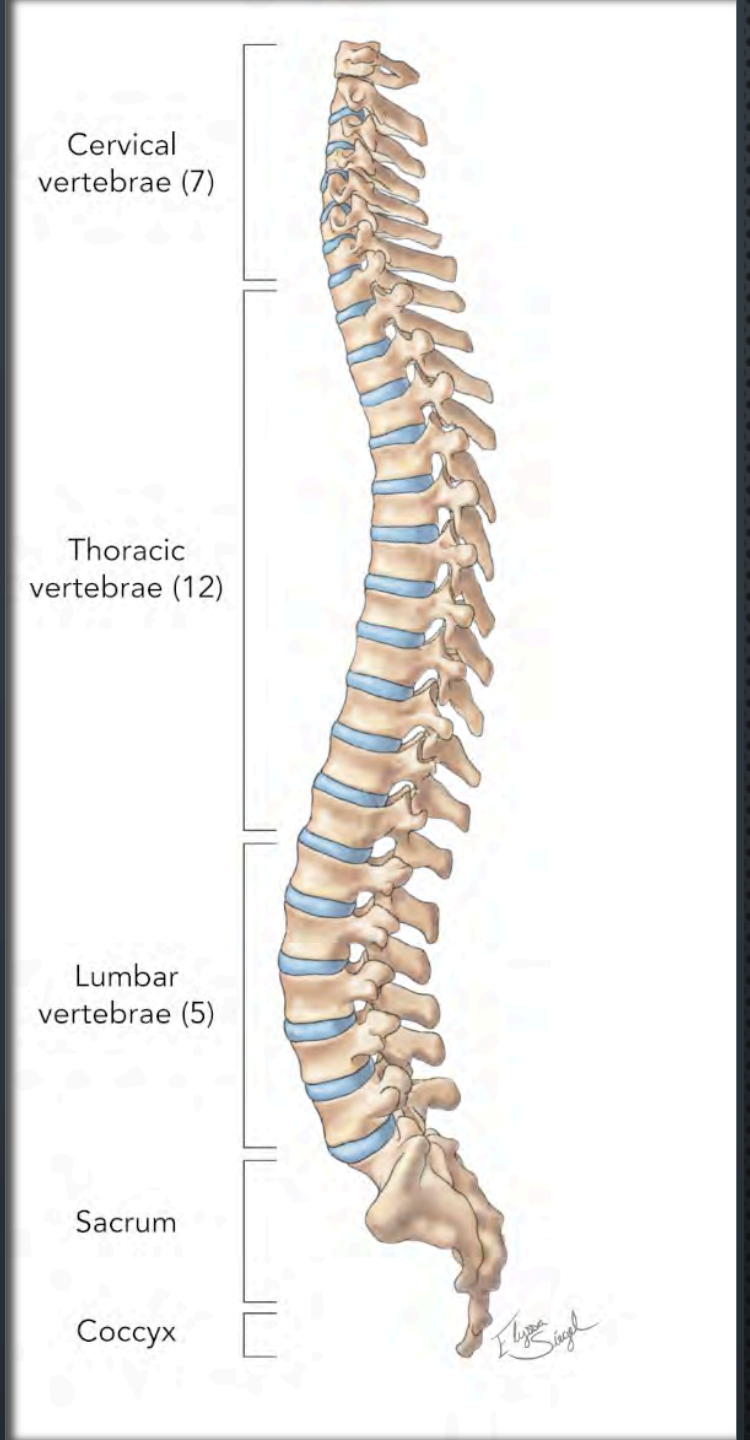
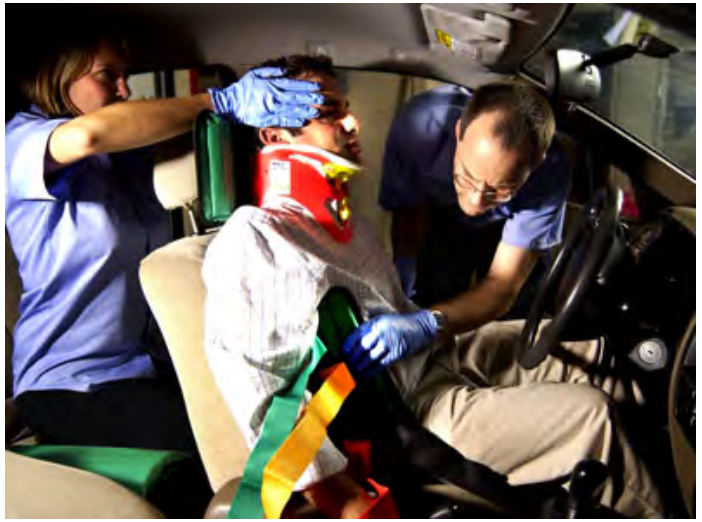


Image: https://www.goodmancampbell.com/spine-anatomy

ALTERNATIVE DEVICES FOR SPINAL MOTION RESTRICTION

- Vacuum Spine Boards
- Kendrick Extrication Device (KED)
- Scoop Stretcher
- Short Spine Boards



https://www.conterra-inc.com/products/vsb-aerolite-vacuum-immobilizer http://www.ferno.com/info_newsletter.aspx?articleID=10034
http://www.greatems.com/stretcher/scoop-stretcher/aluminum-alloy-scoop-stretcher-with-nylon.html

PATIENT SAFETY IS THE MAIN GOAL

https://umcemsce.com/2018/02/18/a-crash-course-in-ambulance-safety/
https://www.infineon.com/cms/en/about-infineon/press/press-releases/2017/INFXX201706-058.html

SMR Recommendations for Pre-Hospital Providers

Adults

- Blunt Force Trauma, not Penetrating
- Acute LOC: GCS <15
- Evidence of Intoxication
- Midline neck or back pain/tenderness
- Focal Neurologic Signs/Symptoms
- Anatomical deformity of the Spine
- Distracting Injuries

Pediatrics

- C/C of Neck Pain
- Torticollis
- Any neurological Defect
- Altered LOC <GCS 15 or Intoxication
- Involved in High Speed MVC
- Torso Injury resulting rom MVC

SMR Recommendations for In-Hospital Providers

Guidelines

- Carefully and quickly remove the LSB, Scoop Stretcher, or Vacuum Stretcher efferently
- Training of sufficient number of individuals to assist with transfer

Tools

- Slide boards

SMR is necessary to ensure proper care for patients w/evidence of blunt force trauma

- Needs to be done Safely and in a Timely Manner
- Utilization of a LSB as an Extrication Device is Warranted, but not as a Spinal Splint
- Shorter duration of time spent on a LSB
- Utilizing other tools, KED/Scoop Stretcher

Reference

- Chelsea C. White IV, Robert M. Domeier, Michael G. Millin & and the Standards and Clinical Practice Committee, National Association of EMS Physicians (2014) EMS Spinal Precautions and the Use of the Long Backboard –Resource Document to the Position Statement of the National Association of EMS Physicians and the American College of Surgeons Committee on Trauma, Prehospital Emergency Care, 18:2, 306-314, DOI: 10.3109/10903127.2014.884197
- Feller R, Reynolds C. EMS, Immobilization (Seated and Supine) [Updated 2018 Jul 26]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2018 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK459341/
- Peter E. Fischer, Debra G. Perina, Theodore R. Delbridge, Mary E. Fallat, Jeffrey P. Salomone, Jimm Dodd, Eileen M. Bulger & Mark L. Gestring (2018): Spinal Motion Restriction in the Trauma Patient – A Joint Position Statement, Prehospital Emergency Care, DOI: 10.1080/10903127.2018.1481476

ALWAYS REMEMBER: HAVING A GREAT PARTNER ENSURES THAT C-SPINE IS HELD DURING ASSESSMENT AND APPLICATION OF A MOTION RESTRICTION DEVICE