Spinal Motion Restriction Update

ROB MILLER, MD FACS

TRAUMA MEDICAL DIRECTOR MONUMENT HEALTH
RAPID CITY HOSPITAL
“I don’t move fast, but I just keep moving.”

- CLINT EASTWOOD
Spinal Immobilization

Transport tool. True Spinal Immobilization is not possible.
Spinal Immobilization

• Commonplace in emergency care, but why?

• First notable study on the implementation of backboards and C-collars was conducted in the 1960s, but most of the recommendations based on tradition and informed opinion, and not necessarily validated, scientific evidence

• 2007 Cochrane review showed no prospective RCT on spinal immobilization

• Several studies since have shown potential adverse effects including airway/breathing issues, worse outcomes in penetrating injuries, risk of increased ICPs, potential spine injuries themselves, and pressure ulcers which can begin to form within 30 mins
I digress...
Pressure Ulcers

Why is this important?

Over $11 B spent annually to treat pressure ulcers – not all trauma related obviously
SMR here we come!

Say NO to DISTRACTION so you can say YES to your DESTINY.

- Thema Davis

WWW.LIVELIFEHAPPY.COM
Position Statement 2018

• ACS-COT, ACEP, NAEMSP
  • Endorsed by (AAST, EAST, WTA, NASEMSO, NAEMT, PTS, NAEMSE, APSA, STN, AAP, ENA) alphabet soup = lots of organizations

• Recognizing that true immobilization is not possible but there is significant risk to worsening injury to spinal injured patients, restrict motion and limit morbidity

• Goal of SMR is limit unwanted motion in the potentially injured spinal patient
Spinal motion restriction = maintain anatomical alignment and minimize gross movement
INDICATIONS FOLLOWING BLUNT TRAUMA

i. Acutely altered level of consciousness (e.g., GCS<15, intoxication)

ii. Midline neck or back pain and/or tenderness

iii. Focal neurologic signs and/or symptoms (e.g., numbness/weakness)

iv. Anatomic deformity of the spine

v. Distracting circumstances or injury or any similar injury that impairs the patient’s ability to contribute to a reliable examination

NO ROLE IN PENTRATING TRAUMA

Should be removed as soon as possible (at facility or in ambulance)

PEDiatrics

i. Age alone not a factor in decision-making

ii. Young children pose communication barriers, but does not mandate SMR

iii. A cervical collar should be applied if the patient has any of the following: neck pain, torticollis; neurologic deficit; GCS <15, intoxication, involvement in a high-risk motor vehicle collision, high impact diving injury, or substantial torso injury.

iv. There is no evidence supporting a high risk/incidence for noncontiguous multilevel spinal injury in children. The rate of contiguous multilevel injury in children is 1%. The rate of noncontiguous multilevel injury in children is thought to be equally as low.

v. Minimize the time on backboards with consideration for use of a vacuum mattress or padding as adjuncts to minimize the risk of pain and pressure ulcers if this time is to be prolonged.

vi. Additional padding under the shoulders is often necessary to avoid excessive cervical spine flexion with SMR.
So who doesn’t get a backboard?

GCS 15

No spinal tenderness/deformity

No neurologic complaints/signs

No distracting injury

No intoxication

Penetrating trauma with no evidence of spinal injury
Whether or not a backboard is used, attention to spinal precautions among at-risk patients is paramount. These include application of a cervical collar, adequate security to a stretcher, minimal movement/transfers, and maintenance of inline stabilization during any necessary movement/transfers.
Best use of backboards

- An extrication tool
- Transport tool if necessary
- Removed promptly (ASAP)
- Do not need to place back on long board if transferring to another facility
QUESTIONS?