SPINAL INJURY ASSESSMENT

Adult	Pediatric

Indication

Trauma patients with a mechanism of injury that has the potential to cause a spinal injury and who have at least 1 of the following:

- Neurological deficit
- Spinal pain or tenderness
- Unable to successfully complete a Motor/Sensory exam
- Altered mental status
- Evidence of intoxication
- A distracting painful injury (e.g. long bone extremity fracture)

Victims of penetrating trauma (stabbing/gunshot wounds) to the head, neck, and/or torso **SHOULD NOT** receive SMR unless there is 1 or more of the following:

- Obvious neurologic deficit to the extremities
- Significant secondary blunt mechanism of injury
- Priapism
- Neurogenic shock
  Anatomic deformity to the spine secondary to injury

Assess for Spinal Pain or Tenderness

- Palpate each vertebrae starting at the base of the skull to the bottom of the sacrum, asking the patient to state if any pain or tenderness is experienced with palpation.

Perform a Motor/Sensory Exam

Ask the patient to:

- Extend both wrists, open the hands and touch each finger to the thumb
- Flex each foot down and upward
- Check gross sensation in all extremities
- Check for abnormal sensation to extremities (a sharp sensation feeling dull or a dull sensation feeling sharp)

BLS

- Provide manual stabilization restricting gross motion movement.
- Alert and cooperative patients may be allowed to self-limit motion if appropriate with or without a collar.
- If a patient experiences negative effects of SMR methods, alternative measures should be implemented.

Approved methods and tools to achieve SMR:

- Vacuum splint
- Lateral, Semi-Fowler’s or Fowler’s position with a cervical collar only
- Childs car seat
- Kendrick Extrication Device (KED)
- Backboards with adequate padding, head immobilizers and straps

Consider

Low-Risk Factors:

- Simple rear-end Motor Vehicle Collision (MVC)
- Ambulatory at any time on scene
- No neck pain at scene

High-Risk Factors:

- Age > 65
- Pediatric patients < 3
- Meets trauma triage criteria
- Axial load to the head
- Numbness or tingling in the extremities

Pediatric Patients in Car Seats:

- Infants restrained in a rear facing car seat may be immobilized and extricated in the car seat. The child may remain in the car seat if the immobilization is secure and his/her condition allows.
- Children restrained in a car seat with a high back may be immobilized and extricated in the car seat. Once removed from the vehicle the child should be placed in SMR.
- Children restrained in a booster seat need to be extricated and immobilized following standard SMR procedures.
- If the decision is made to apply SMR to a patient in a car seat, ensure that a proper assessment of the patient's posterior is performed.

Helmet Removal:

- Any type of helmet that requires manipulation of the head and neck to remove it from a trauma patient should be left in place. The airway may be managed through the mask/screen but should be removed if the airway cannot be managed and with the mask/screen in place. Be sure to pad around the helmet, neck and shoulders to fill any gaps and maintain inline spinal motion restriction.

- Traditional full spinal immobilization with a back board may cause airway compromise, skin breakdown, and pain which may lead to unnecessary diagnostic procedures.
- SMR should reduce, not increase, patient discomfort and any SMR that increases patient movement and/or pain should be avoided.
- SMR should be accomplished using the most appropriate method/tool for each specific circumstance.

Direction

- All patients should be assessed using the YEMSA Spinal Injury Assessment prior to being placed in SMR.
- In the event a patient is placed in SMR prior to the transporting unit arrival, the transporting provider has the discretion to remove or modify SMR if the patient meets the requirements outlined in the spinal injury assessment.
- Management of SMR should not delay scene time for critical patients