SPINAL MOTION RESTRICTION (SMR)

ADULT	PEDIATRIC (≤34 KG)

BLS Procedures

- Universal Protocol #601

Any trauma mechanism with potential for spinal injury

- Maintain manual spinal stabilization, while completing patient assessment
  - Avoid any methods that provoke increased spinal pain, movement, or combative behavior

- **SMR Indicated** If the trauma patient meets ANY of the following, apply SMR:
  - Unreliable patient
    - Uncooperative
    - ALOC/any GCS <15
    - Inability to communicate/language barrier
    - Intoxication/unreliable due to alcohol/drugs
    - Distracting injury(s) precluding a reliable exam – including severe pain
  - Spinal pain tenderness or deformity with palpation
    - < 65 years old with midline spine pain
    - ≥ 65 years old with any spinal area pain
    - Anatomic deformity of the spine
  - Abnormal motor/sensory exam
    - Inability to perform wrist/hand extension bilaterally
    - Inability to perform foot plantarflexion and dorsiflexion bilaterally
    - Abnormal sensation
  - **FINAL EXAM STEP**
    - Pain/weakness/paresthesia with self-initiated movement

- **NO FORM OF SMR REQUIRED** if patient is negative for ALL **the criteria listed above**
- **NO FORM OF SMR REQUIRED** with **penetrating injury** to the head, neck, or torso UNLESS a neurologic deficit is present

ALS Procedures

Discontinuation of SMR precautions previously taken

- Reassess patient for all criteria described above

Base Hospital Orders Only

As needed

Notes

- Spinal Motion Restriction (SMR) is the practice of maintaining the entire spine in anatomic alignment while minimizing gross movement and does not mandate the use of a backboard
- Document appropriate measures to maintain SMR by documenting how patient was moved, secured and transported while minimizing flexion, extension, rotation, or torsion
  - SMR patients with isolated thoracic/lumbar pain or deformity do NOT require cervical immobilization, but must have movement limited in thoracic/lumbar spine
- Avoid any methods that provoke increased spinal pain, movement, or combative behavior
  - Document what alternate SMR precautions were taken

- Backboards may be useful for blunt trauma patients requiring extrication, when the patient must be moved multiple times, or as a splint in the patient with blunt trauma and multiple extremity fractures.
- **Penetrating trauma** prioritize treatment of ABC's (i.e. bleeding control, breathing support, pleural decompression, etc.) over SMR. Avoid SMR methods that impede these interventions
- **Pediatric considerations**
    - Take into consideration age appropriate responses to examination
    - May utilize car seat if available
        - Pad shoulders and head for anatomic alignment as indicated
- NONAMBULATORY Patients; use backboard (or equivalent devices) to transfer the patient to gurney or the transport unit with minimal spinal movement, remove the device, and secure for transport.
- Backboards can be left in place if removing interferes with critical treatments or interventions
- AMBULATORY patients may be allowed to self-extricate while assisted and guided to minimize spinal movement
- High-risk populations must be assessed for SMR even with low-energy mechanism
    - <5 and ≥65 yrs
    - Osteoporosis, rheumatoid arthritis, ankylosing spondylitis, etc
- Self-initiated movement of the patient; final exam step in which patient moves head left & right, up & down
- Helmet removal may not be necessary with athletic injuries where shoulder pads are also worn (i.e. football, lacrosse, etc.), and airway management and spinal alignment can be maintained
- BLS responders – when in doubt, maintain manual spinal stabilization until ALS personnel evaluate the patient