TITLE: ~~CERVICAL SPINE STABILIZATION~~SELECTIVE SPINAL MOTION RESTRICTION (SMR)
EMS Policy No. **5115**

PURPOSE:

~~-~~The purpose of this policy is to provide direction to prehospital personnel for the assessment and management of patients with potential spinal injury and to minimize unnecessary spinal motion while preserving airway management, respiratory function, circulation, patient comfort, and timely delivery of care.~~on the application of cervical spine stabilization.~~

AUTHORITY:

Health and Safety Code, Division 2.5, Section 1797.220 & 1798 et seq.;

DEFINITIONS: See SJCEMSA Policy Definitions.

POLICY:

I. ~~When applying spinal stabilization techniques, the~~The goal of SMR is to prevent gross movement of the spine while using the simplest most effective means possible ~~to provide~~ preserving~~for~~ patient comfort and the delivery of patient care including airway management.

II. Indication for SMR:

A. SMR is indicated following blunt trauma when one or more of the following are present:
   1. Posterior midline spinal pain or tenderness.
   2. Focal neurologic signs or symptoms potentially attributable to spinal injury, including numbness, paresthesia, weakness, or paralysis.
   3. Anatomic deformity of the spine.
   4. Altered mental status resulting in an unreliable examination.
   5. Suspected drug or alcohol intoxication resulting in an unreliable examination.
   6. A distracting injury or circumstance that prevents reliable spinal examination.
   7. Inability to effectively communicate or participate in a reliable examination.

B. Mechanism of injury alone does not mandate SMR in a reliable patient with normal spinal and neurologic examination. High-risk mechanisms and patient factors, including advanced age, should inform clinical judgement

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but do not independently mandate SMR.

C. Patients with blunt trauma do not require SMR when all of the following are present:
   1. The patient is reliable and cooperative;
   2. There is no posterior midline spinal pain or tenderness;
   3. Motor and sensory examination is normal;
   4. There is no distracting injury or circumstance preventing reliable assessment.

D. SMR is not indicated for isolated penetrating trauma in the absence of a concomitant blunt mechanism.

~~I.~~ Application of SMR: ~~Prehospital personnel shall apply cervical spine stabilization techniques to patients injured from blunt force trauma in the following circumstances:~~

III.

A. When SMR is indicated, minimize flexion, extension, rotation, and other gross movement of the spine during assessment, movement, and transport.

B. When clinically appropriate, apply an appropriately sized SJCEMSA-approved rigid cervical collar.

C. A rigid cervical collar should not be applied, or should be removed and alternative SMR measures used, when:
   1. Application compromises airway management or ventilation;
   2. An appropriately sized collar is unavailable;
   3. Patient anatomy prevents appropriate fit or neutral positioning;
   4. Application causes significant increased pain or new or worsening neurologic symptoms; or
   5. The patient is combative or agitated and attempts to apply or maintain the collar result in increased spinal movement or otherwise compromise patient care.

D. Alternative methods of SMR may include manual stabilization, towels, blankets, pillows, padding, positioning on the ambulance cot, or other SJCEMSA-approved methods.

E. Patients with severe kyphosis, obesity, preexisting spinal deformity, or other anatomic considerations should not be forced into an anatomically inappropriate position. Provide support in the patient's natural position while minimizing gross movement.

~~Conscious patients exhibiting one or more of the following signs or symptoms: Posterior midline neck or back tenderness and/or pain.~~

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~~Distal numbness, tingling, weakness, or paresthesia.~~
~~Paralysis.~~
~~Anatomic deformity of the spine.~~
~~Distracting circumstances (e.g. emotional distress, communication barrier), or injury (e.g. long bone fracture, degloving or crush injuries, large burns, etc.)~~
~~Glasgow coma scale of less than 15 involving blunt force trauma or intoxication.~~
~~If the above criteria are not met, but there is still suspicion of spinal column or spinal cord injury due to mechanism or clinical assessment, cervical spine stabilization should occur.~~
~~There is no role for cervical spine stabilization in isolated penetrating trauma.~~

~~Pediatric cervical spine stabilization:~~
~~Apply cervical spine stabilization using a Philadelphia®, Aspen®, Miami J®, X-Collar™, or SJCEMSA approved cervical spine stabilization device.~~
~~ or other SJCEMSA approved cervical spine stabilization device. If an SJCEMSA approved cervical spine stabilization device is not practical use a soft collar and pediatric immobilizer or Kendrick Extrication Device (KED), or any combination of blankets and pillows or other options as outlined below.~~

~~Pediatric Patients and Car Seats:~~
~~Infants restrained in a rear-facing car seat may be stabilized and extricated in the car seat. The child may remain in the car seat if the stabilization is secure and his/her condition allows (no signs of respiratory distress or shock.)~~
~~Children restrained in a car seat (with a high back) may be stabilized and extricated in the car seat. Once extricated from the vehicle, using a car seat, cervical spine stabilization should be applied. The child may be stabilized in their car seat if applying an external standard cervical spine stabilization device causes increased agitation, gross movement, and potential further harm.~~
~~Children restrained in a booster seat (without back) should be extricated using standard techniques with cervical spine stabilization applied.~~
~~If applying cervical spine stabilization to a patient in a car seat, prehospital personnel must conduct a posterior assessment by palpation.~~

IV. ~~Adult cervical spine stabilization~~Patient Movement and Extrication:

A. Alert and cooperative patients capable of understanding and following instructions may be permitted to self-extricate and self-limit spinal movement when clinically appropriate.
B. Other appropriate SJCEMSA-approved equipment may be used to

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facilitate extrication or transfer when their use is expected to reduce unnecessary spinal movement.

C. Long backboards may be used for extrication or movement at the scene but shall not be used for routine transport to the hospital.

D. Following extrication or transfer, securer the patient to the ambulance cot using appropriate restraint systems while maintaining reasonable spinal alignment.

V. Positioning and Transport:

A. Position the patient to maintain spinal alignment to extent practical while optimizing airway management, ventilation, circulation, patient comfort, and treatment of other life-threatening conditions.

B. Supine positioning is not required when another position is clinically necessary or better tolerated.

C. SMR methods shall be modified when their use causes respiratory compromise, increased pain, significant agitation, tissue pressure concerns, or other clinically important adverse effects.

VI. Neurologic Assessment:

A. Assess and document motor and sensory function when clinically possible prior to application of SMR.

B. Reassess motor and sensory function:

1. After application or significant adjustment of a cervical collar or other SMR device;
2. Following significant patient movement or transfer; and
3. When the patient reports new or worsening neurologic symptoms.

VII. Pediatric Considerations:

A. Pediatric patients shall undergo age-appropriate assessment for potential spinal injury. Age alone does not mandate SMR.

B. When a cervical collar is indicated, use an appropriately sized SJCEMSA-approved device when proper fit can be achieved and the device is tolerated.

C. If an appropriately sized cervical collar cannot be applied or causes increased agitation, gross movement, respiratory compromise, or other potential harm, use alternative age-appropriate SMR techniques including padding, blankets, towel rolls, pediatric immobilization devices, or other

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SJCEMSA-approved methods.

D. Avoid SMR techniques that provoke distress or increased spinal movement.

E. Pediatric patients in car seats shall receive appropriate anterior and posterior assessment when clinically feasible.

F. Pediatric stabilization and transport with Car Seats:

1. Infants restrained in a rear-facing car seat may be stabilized and extricated in the car seat. The child may remain in the car seat if the stabilization is secure and his/her condition allows (no signs of respiratory distress or shock.)
2. Children restrained in a car seat (with a high back) may be stabilized and extricated in the car seat. Once extricated from the vehicle, using a car seat, cervical spine stabilization should be applied. The child may be stabilized in their car seat if applying an external standard cervical spine stabilization device causes increased agitation, gross movement, and potential further harm.
3. Children restrained in a booster seat (without back) should be extricated using standard techniques with cervical spine stabilization applied.

VIII. Documentation:

A. When SMR is indicated, the patient care record shall document:

1. Findings supporting the decision to apply SMR;
2. Motor and sensory examination when obtainable;
3. Method or device used;
4. Any modification or omission of a cervical collar or other SMR method and the clinical reason;
5. Relevant reassessment findings; and
~~1.~~6. Any adverse effects associated with SMR.

~~B. Apply cervical spine stabilization using a SJCEMSA approved cervical spine stabilization device. If a cervical spine stabilization device is not practical use any combination of equipment including pillows and blankets or other commercially available stabilization device approved by the EMS Agency to ensure comfort, airway management and spinal stabilization on the gurney.~~

~~1. For those incidents characterized by extrication challenges SJCEMSA approved cervical spine stabilization device and KED~~

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~~may be used.~~

~~2. Patients whose anatomy is not conducive to the use of an SJCEMSA approved cervical spine stabilization device (such as those with severe kyphosis or morbid obesity) may require alternate methods including towels, blankets and pillows.~~

~~B. Long backboards may be used for extrication or movement at the scene. Long backboards shall not to be used to transport a patient to the hospital.~~

~~C. In the presence of neurological symptoms or T-, L- or S- spine tenderness the patient shall be transported with the head of the bed elevated no higher than 30 degrees. Patients who do not meet this criterion may be transported in the position of comfort.~~

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