

PURPOSE:

The purpose of this policy is to provide direction to prehospital personnel on the application of cervical spine stabilization and to reduce the risk of negative effects caused by traditional spinal immobilization.

AUTHORITY:

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

DEFINITIONS:

- A. The Glasgow Coma Scale (GCS) Motor Response has 6 grades:
1. No motor response.
 2. Decerebrate posturing accentuated by pain (extensor response: adduction of arm, internal rotation of shoulder, pronation of forearm and extension at elbow, flexion of wrist and fingers, leg extension, plantar flexion of foot).
 3. Decorticate posturing accentuated by pain (flexor response: internal rotation of shoulder, flexion of forearm and wrist with clenched fist, leg extension, plantar flexion of foot).
 4. Withdrawal from pain (absence of abnormal posturing; unable to lift hand past chin with supra-orbital pain but does pull away when nailbed is pinched).
 5. Localizes to pain (purposeful movements towards painful stimuli; e.g., brings hand up beyond chin when supra-orbital pressure applied).
 6. Obeys commands (the patient does simple things as asked).

POLICY:

- I. The San Joaquin County EMS Agency is supporting efforts to decrease unnecessary spine stabilization in the field and reduce the risks and complications associated with traditional spinal immobilization. Studies show immobilizing trauma patients may cause more harm than good to the patient especially penetrating trauma patients (stabblings and gunshot wounds) which benefit most from rapid assessment and transport to a trauma center.
- II. When applying spinal stabilization techniques the goal is to prevent gross movement of the spine while using the simplest most effective means possible to provide for patient comfort and the delivery of patient care including airway management.

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- III. Prehospital personnel shall apply cervical spine stabilization techniques to patients injured from blunt force trauma in the following circumstances:
- A. Conscious patients exhibiting one or more of the following signs or symptoms:
 - 1. Posterior midline cervical tenderness or pain.
 - 2. Distal numbness, tingling, weakness, or paresthesia.
 - 3. Paralysis.
 - 4. Neck guarding or restricted range of motion.
 - 5. GCS motor response of less than 5 as a result of blunt force trauma or intoxication.
 - B. Unconscious patients or patients unable to be assessed for spinal injury suffering a blunt force mechanism of injury.
- IV. Prehospital personnel shall not apply spine stabilization to patients in the following circumstances:
- A. Patients injured solely from penetrating trauma (e.g. stabbing, gunshot wound).
 - B. Patients in cardiac arrest.
- V. Cervical spine stabilization shall be performed by selecting the most effective methods and tools for the specific situation with the goal to prevent gross movement of the cervical spine while allowing necessary treatment including airway management.
- VI. Pediatric cervical spine stabilization:
- A. Apply cervical spine stabilization using an X-Collar™. If an X-Collar™ 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.
 - B. Pediatric Patients and 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.
4. If applying cervical spine stabilization to a patient in a car seat, prehospital personnel must conduct a posterior assessment by palpation.

VII. Adult cervical spine stabilization:

- A. Apply cervical spine stabilization using an X-Collar™. If an X-Collar™ is not practical use any combination of equipment including pillows and blankets or other commercially available immobilization device approved by the EMS Agency to ensure comfort, airway management and spinal stabilization on the gurney.
 1. X-Collar™ should be considered before all other devices.
 2. For those incidents characterized by extrication challenges X-Collar™ and KED may be used.
 3. Patients whose anatomy is not conducive to the use of the X-Collar™ (such as those with severe kyphosis or morbid obesity) may require alternate methods including towels, blankets and pillows.

VIII. Long backboards and Miller Boards may be used for extrication or movement at the scene. Long backboards shall not to be used to transport a patient to the hospital.

IX. Movement on scene:

- A. Pull sheets, other flexible devices, scoops, scoop-like devices may be used. Unpadded long backboards should have limited utilization.
- B. If a longboard or scoop stretcher device is used to move patients on scene such devices should only be used as a temporary means of transporting the patient to a gurney.
- C. Keeping with the goals of restricting gross movement of the cervical spine and preventing further pain and discomfort, patient self-extrication is allowable.

X. Special Considerations:

- A. Patients who are agitated or restless due to shock, hypoxia, head injury or intoxication may be impossible to stabilize adequately. It may be necessary to remove stabilization devices or modify stabilization techniques to reduce the risk of further injury.

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- B. Patients with severe kyphosis (malformation of the spine), morbid obesity or other anatomical or medical complications may best be stabilized using a combination of pillows, blankets or other devices.
 - C. Paramedics may discontinue or clear spinal stabilization initiated by BLS personnel, if in the opinion of the paramedic cervical spine stabilization is not required by policy or compromises the ability to render patient care. Paramedics are required to document on the patient care record each instance of discontinuing cervical spine stabilization and their basis for removal.
 - D. When performing spine stabilization patients should be placed in semi or standard Fowler's position to address respiratory conditions or for patient comfort.
 - E. Prohibited equipment and practices:
 - 1. Hard rigid cervical collars that encircle the neck.
 - 2. Adhesive tape applied to the patient's skin.
- XI. EMS Policy No. 5506 BLS Spinal Immobilization is hereby rescinded.

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