Monterey County EMS System Policy

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SPINAL MOTION RESTRICTION

I. PURPOSE

To provide guidance and standardization regarding prehospital spinal immobilization indications and processes.

II. POLICY

A. SMR should be considered for any patient presenting with a positive or questionable mechanism for spinal injury. SMR should be applied based on the indications listed below where assessment findings are present.

B. Partial SMR may be performed based on the criteria below.

C. Patients for whom SMR is omitted must meet all exclusionary criteria listed below.

D. Documentation shall reflect the assessment findings that indicate the need for SMR or the findings that indicate that the patient may not need SMR. Documentation shall include the equipment used to immobilize the patient and describe modifications used to immobilize the patient.

E. SMR will be omitted for Major Trauma Patients (MTP) with penetrating trauma to the head, neck, or torso and do not have obvious neurological deficits, spinal deformities priapism, or a secondary mechanism of injury (i.e., falling down the stairs after a gunshot).

III. INDICATIONS FOR SPINAL MOTION RESTRICTION

A. Full SMR should not be performed based on mechanism alone. Examples include, but are not limited to:

1. Vehicle collision with damage to the vehicle.
2. Vehicle roll-over.
3. Pedestrian struck by a vehicle.
4. Fall to include ground-level falls.
5. Blunt trauma to the head, neck, or torso of sufficient force to suspect spinal injury.
6. Penetrating trauma to the spine or area proximal to the spine.
7. Exposure to any abrupt accelerating, decelerating, or rotational forces.

B. Assessment of the patient reveals one or more of the following in the presence of a mechanism of injury listed above:

1. The patient complains of pain or tenderness to the area of the spine.

2. Deformity of the spine found on examination. Report of the presence or transient episode of numbness, tingling, or other motor/sensory deficit.
3. The patient has unstable vital signs or poor peripheral perfusion in the presence of trauma.
4. Persistent altered level of consciousness from any condition in the presence of trauma. This is the patient who is unable to communicate the presence of pain such as the unconscious patient or the patient with advanced dementia as examples. The patient who has mild dementia symptoms and may not know the day of the week, but is able to communicate the presence or absence of pain, as an example, would not meet these criteria.
5. The patient exhibits the influence of drugs, alcohol, or other conditions causing impairment of judgment in the presence of trauma.
6. Distracting injuries. This is often related to the pain from or preoccupation with other injuries such as long bone fractures, lacerations, contusions, or other injuries that may prevent the patient from awareness of a spinal injury. This includes signs of an acute stress reaction.
7. Communication barrier.

C. The paramedic may use their judgment and provide spinal immobilization when they believe spinal injury is present without a mechanism described above. This is particularly true for the high-risk patient such as the elderly and those with pre-existing health issues such as osteoporosis.

D. BLS personnel may provide manual stabilization of the cervical spine when they believe the potential for spinal injury exists outside the criteria described above. Paramedic personnel will make the determination to provide spinal immobilization.

IV. PARTIAL SPINAL MOTION RESTRICTION

A. Indications for partial SMR:

1. Patient has isolated neck pain.
2. No thoracic or lumbar spine pain.
3. No numbness, tingling, or motor/sensory deficit whether present or transitory after the traumatic event.
4. Patient is conscious with no evidence of impairment of judgment from alcohol, drugs, or other cause.

V. EXCLUSIONARY CRITERIA

A. SMR may be omitted if all the following conditions are met.

1. There is no presence of a mechanism of injury to suggest spinal injury.
2. The patient does not have any of the assessment indications for SMR with an uncertain mechanism of injury.
3. A complete patient examination has been performed.
4. The patient is calm, cooperative, alert and oriented.
5. The patient is a reliable historian.

6. Absence of pain when the patient flexes and extends their head in a normal range of motion in the coronal, transverse, and sagittal planes.

VI. PROCEDURE

A. Procedure for SMR:

1. Provide manual stabilization of the cervical spine.
2. Apply cervical collar (C-collar).
3. The long backboard (LBB) is an extrication tool, to facilitate transfer of a patient to a transport stretcher, and is not intended or appropriate to obtain spinal stabilization. Judicious application of the LBB for purposes other than extrication requires that the benefits outweigh the risks of application. If the LBB is used, patients should be removed as soon as is safe and practical.
4. Apply stabilizing blocks, or other similar device, to both sides of the patient's head.

B. Modified SMR may be provided to the patient based on the patient's condition. Attempts to restrict movement of the spine shall be provided. Examples of conditions that may require modification of SMR include:

1. Pain, increased pain, or resistance to placing the head in anatomical alignment.
2. Inability to manage the airway or increased shortness of breath due to immobilization.
3. Kyphosis, lordosis, or scoliosis.
4. Advanced arthritis or other conditions that render spinal immobilization painful or difficult.
5. Penetrating trauma with an impaled object.

C. Patients who do not initially meet criteria for SMR but later develop any symptoms indicative of spinal injury shall have SMR applied.

D. Infants restrained in a well fitting, full back, car seat may be immobilized and extricated in the car seat.

VII. NOTES

A. High risk patients are those for whom caution is needed, such as the elderly and diabetic patient as they may present with minimal or no pain following a spinal injury.

SPINAL ASSESSMENT ALGORHYTHM