COUNTY OF SAN LUIS OBISPO HEALTH AGENCY
PUBLIC HEALTH DEPARTMENT
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County of SLO Emergency Medical Services Agency
Memo 2019 - 1

PLEASE POST

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Assessment and Use of Spinal Motion Restriction Procedure

Recently, the EMS Agency has been notified of several cases where patients who met the indications for spinal motion restriction (SMR) defined in Procedure #702 – SMR (attached) did not have their spine properly protected and were later diagnosed with serious spinal injuries.

Please review County Procedure #702 – SMR. Pay close attention to the following key points which were common themes amongst these missed opportunities to utilize SMR;

- Unreliable or uncooperative patients with subtle or atypical MOI must have SMR carefully assessed
- Some patients (elderly, comorbidities) have higher-risk for injury even with a relatively minor mechanism
- Manual immobilization and restriction of spinal movement must be initiated while a thorough assessment of all the exclusion criteria is completed. If unable to clearly exclude a patient from SMR, then appropriate immobilization shall be applied
- Careful documentation of your assessment and treatment, including restriction of spinal movements and any modified SMR precautions used, is required

The current SMR policy was created based on the well-established criteria, used in ED's all over the world for many years, for evaluating a patient's risk of spinal injury. Adoption of this new policy has led to an appropriate decrease in the routine immobilization of patients to hard flat surfaces, which did little to protect patients from neurological damage and had many other undesirable effects. These facts notwithstanding, we must take care to provide appropriate SMR, and not unnecessarily miss cases where SMR is indicated.

Please, be careful and diligent in your assessment and application of the SMR procedure to ensure we are taking appropriate precautions for our patients.

The EMS Agency is continuing to evaluate the root causes and specific factors affecting the use of SMR. We expect to engage all our providers in the near future to ensure we are continuing to deliver the exceptional level of care we all desire for our patients.

Thomas G. Ronay, M.D. FACEP
Medical Director

SPINAL MOTION RESTRICTION (SMR)

BLS Procedures

ADULT

- Universal Protocol #601

- **SMR should be considered for *high risk trauma* patients whose injuries/complaints may indicate spinal cord damage, including:**
  - High energy blunt trauma (i.e. Step 3 Trauma Criteria)
  - Axial spine loading
  - High-risk age group < 5 and ≥ 65 years old
  - Complaint of paralysis, numbness or tingling in extremities
- Maintain manual spinal stabilization, complete patient assessment.

SMR Indicated

If the high risk trauma patient meets ANY of the following, apply SMR:

- Unreliable patient
  - Uncooperative
  - ALOC/abnormal GCS from baseline
  - Inability to communicate because of alcohol/drugs/language barrier
  - 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 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
  - Pain/weakness/paresthesia with self-initiated movement (**FINAL EXAM STEP**)

NO FORM OF SMR REQUIRED

- Patients that do not meet the above criteria
- Patients with penetrating injury to the head, neck, or torso unless a neurologic deficit is present

PEDIATRIC (≤34 KG)

- Universal Protocol #601

- **Same as adult SMR evaluation requirements**
  - Take into consideration age appropriate response to examination
  - May utilize car seat if available
  - Pad shoulders and head for anatomic alignment as indicated

BLS Optional Scope
Pulse Oximetry – O_2 administration per Airway Management Protocol #602
ALS Procedures
Removal of the cervical collar/SMR after patient assessment
Base Hospital Orders Only
As needed
Notes

- Spinal Motion Restriction (SMR) is the practice of maintaining the spine in anatomic alignment while minimizing gross movement and does not mandate the use of a backboard
- Self-initiated movement of the patient-final exam step in which patient moves head left & right, up & down
- Apply C-Collar and secure patient for transport to minimize flexion, extension, rotation, or torsion
    - SMR patients with isolated thoracic/lumbar pain or deformity do NOT require a C-Collar
- 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.
- 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
- High risk population of < 5 and ≥ 65 yrs should be assessed for SMR even with low energy mechanism
- 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

Spinal Motion Restriction (SMR)