APRIL 2017 EMS CE-TRAUMA SKILLS LAB

IDPH Site Code: 107200E-1217
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TYPES OF TRAUMA

- **Blunt**
  - Vehicle Collisions
  - Pedestrian Collisions
  - Blast injuries
  - Falls
  - Sports Injuries
  - Crush Injuries

- **Penetrating**
  - Gunshot Wounds
  - Bladed Instruments and Arrows
  - Projectile Injuries
Types of Burns
- Thermal
- Electrical
- Chemical
- Radiation
- Inhalation

Burn Depth
Body Surface Area

BURNS
HEMORRHAGE AND SHOCK

- Classes of Hemorrhage
- Hemorrhage Control
  - External Hemorrhage
  - Internal Hemorrhage
- Shock
  - Cellular Metabolism
  - Circulation
  - Cardiovascular System Regulation
  - Stages of Shock
  - Etiology of Shock
RAPID TRAUMA ASSESSMENT
BLEEDING CONTROL
CAT PROCEDURE

Video
JOINT INJURY IMMOBILIZATION
SPLINTING OF LONG BONE INJURIES
TRACTION SPLINTING

- HARE Traction Splint
- Sager Traction Splint
SPINAL IMMobilization

- Backboard
- Cervical Collar
- Selective Spinal Immobilization
A reliable patient without signs/symptoms of neck/spine injury and negative mechanism of injury does not require full spinal immobilization.

If any of the following indications exist or when in doubt, fully immobilize the patient.

<table>
<thead>
<tr>
<th>Mechanism of Injury</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization</th>
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</thead>
<tbody>
<tr>
<td>High velocity MVC &gt; 40 mph Unrestrained occupant in MVC</td>
<td>Yes</td>
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<td>Passenger compartment intrusion &gt; 12 inches</td>
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<td>Ejection from vehicle</td>
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<td>Rollover MVC</td>
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<td>Motorcycle collision &gt; 20 mph Death in same vehicle</td>
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<td>Pedestrian struck by vehicle</td>
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<td>Falls &gt; 2 times patient height</td>
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<td>Diving injury</td>
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<table>
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<tr>
<th>Signs and Symptoms</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization</th>
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<tbody>
<tr>
<td>Pain in neck or spine</td>
<td>Yes</td>
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<tr>
<td>Tenderness/deformity of neck or spine upon palpation</td>
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<tr>
<td>Paralysis or abnormal motor exam</td>
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<tr>
<td>Paresthesia in extremities</td>
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<td>Abnormal response to painful stimuli</td>
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<table>
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<tr>
<th>Patient Reliability Signs</th>
<th>Adult Routine Trauma Care or Pediatric Routine Trauma Care and Full Spinal Immobilization</th>
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<tbody>
<tr>
<td>Signs of intoxication Abnormal mental status</td>
<td>Yes</td>
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<tr>
<td>Communications difficulty Abnormal stress reaction</td>
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<tr>
<td>Distracting injuries</td>
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Adult Routine Trauma Care or Pediatric Routine Trauma Care
Proper Spine Injury Assessment
For many trauma patients, a vetted field assessment criterion that focuses on the assessment of the patient rather than the mechanism of injury would obviate unwarranted immobilization. Indeed, it is increasingly more important to accept that both the use of a cervical collar and full body immobilization are associated with disadvantages. First, use of a cervical collar on its own does not provide full immobilization of the cervical spine, as there is still considerable residual mobility. This residual mobility is evident in all models of cervical collars that have been tested (11, 12, 13). Thus, to protect the spinal column, full immobilization of head and trunk is necessary (14, 15, 16). Moreover, a cervical collar can result in compression of the jugular veins (17) and hence can lead to a significant increase in intracranial pressure (18, 19, 20, 21, 22). Even full body immobilization, for example on a spine board, is not without complications. In healthy young subjects, complete immobilization was associated with restrictive effects on pulmonary function (23). In general, airway management is impeded in immobilized patients (24, 25). Immobilization on a spine board may also cause pain (26, 27, 28) and may result in pressure ulcers (29).

Introduction. Prehospital spine immobilization has long been applied to victims of trauma in the United States and up to 5 million patients per year are immobilized mostly with a cervical collar and a backboard. Objective. The training of paramedics and emergency medical technicians on the principles of spine motion restriction (SMR) will decrease the use of backboards. Methods. The training for SMR emphasized the need to immobilize those patients with a significant potential for an unstable cervical spine fracture and to use alternative methods of maintaining spine precautions for those with lower risk. The training addressed the potential complications of the use of the unpadded backboard and education was provided about the mechanics of spine injuries. Emergency medical services (EMS) personnel were taught to differentiate between the critical multisytem trauma patients from the more common moderate, low kinetic energy trauma patients. A comprehensive education and outreach program that included all of the EMS providers (fire and private), hospitals, and EMS educational institutions was developed. Results. Within 4 months of the policy implementation, prehospital care practitioners reduced the use of the backboard by 58%. This was accomplished by a decrease in the number of patients considered for SMR with low kinetic energy and the use of other methods, such as the cervical collar only. Conclusion. The implementation of a SMR training program significantly decreases the use of backboards and allows alternative methods of maintaining spine precautions. Keywords: Emergency Medical Services; humans;
STANDING PATIENT TAKEDOWN
SEATED PATIENT- KED
CHEST DECOMPRESSION
REFERENCES


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- https://youtu.be/taw-7bRMWh0
- https://youtu.be/3MpOa6K4ZjY
- https://youtu.be/hmJPI7bUI8E