Selective Spinal Immobilization Guideline

ALL PROVIDERS

 Definitions:
1. Full spinal immobilization: application of a cervical collar, backboard, head blocks, and straps
2. Cervical immobilization: A rigid collar for immobilizing only the cervical spine with or without the use of head blocks

 Guidelines for use of backboard

- Rationale: While widely practiced in the U.S., there is no clinical evidence that full spinal immobilization protects patients with spinal fractures from secondary injury. There is, however, substantial evidence that immobilization can be harmful. Backboards do not maintain proper spinal curvature, cause significant discomfort, may cause pressure sores (particularly in the elderly), restrict respiratory mechanics, and put the airway at risk. Other developed countries do not use backboards but use sledges or scoop stretchers for extrication only.
- Hard backboards should be used only for extrication in most cases. Full spinal immobilization during transport with a hard backboard used selectively with a back raft for comfort. Full spinal immobilization with backboard may be indicated in the following scenarios:
  - Blunt trauma and altered level of consciousness
  - Neurologic complaint of numbness or weakness
  - Anatomic deformity of the spine
  - High energy mechanism plus:
    - Drug or alcohol intoxication
    - Inability to communicate
    - Distracting Injury
- Patients not meeting the above criteria should be transferred onto the gurney for transport using full spine precautions with log roll or lift-and-slide techniques. Once on the gurney, the head of the bed may be elevated as needed for comfort or airway protection. Transfer the patient to the ED bed using the same techniques used to move the patient to the gurney. Bariatric patients may require the backboard during transport to facilitate movement to the ED bed. A back raft should be used for comfort in such cases.

 Guidelines for cervical immobilization

- Consideration should be given to cervical immobilization for patients (8 years or older) involved in major trauma, including:
  - High speed motor vehicle collisions
  - Fall from >10 feet
  - Axial loading injury (e.g., diving into shallow water)
  - Comatose patients in whom trauma is suspected
- Consider cervical immobilization for elderly individuals (>65 years of age) with relatively minor trauma, such as falls from standing, as less force is required to fracture osteopenic bone.
  - Note: depending on the baseline alignment of the geriatric patient’s cervical spine (kyphosis, lordosis, etc), cervical immobilization may prove difficult. Consider padding the gurney, using towel rolls to fill void space and maintain cervical neutrality.
- A patient may be clinically cleared on scene and cervical collar avoided when they meet all of the following criteria:
  1. No midline spinal tenderness
  2. No evidence of intoxication
  3. No altered mental status
  4. No neurologic complaints (weakness, numbness, paraesthesias)
  5. No distracting injury is present (e.g. extremity fracture)
- The following patients should *not* undergo cervical immobilization:
  - Patients actively vomiting
  - Combative patients
  - Isolated penetrating trauma. Mortality is higher in penetrating trauma victims when a collar is placed.

- Patients who are alert should be allowed to assume a position of comfort on the gurney. Standing takedowns should be eliminated.

- Collars should be removed for invasive airway management while a second provider holds inline stabilization. Replace the collar after securing the airway device.

- Pediatric Patients <8 years of age require clinical judgment regarding the likelihood of spinal injury. When in doubt, immobilize these patients.