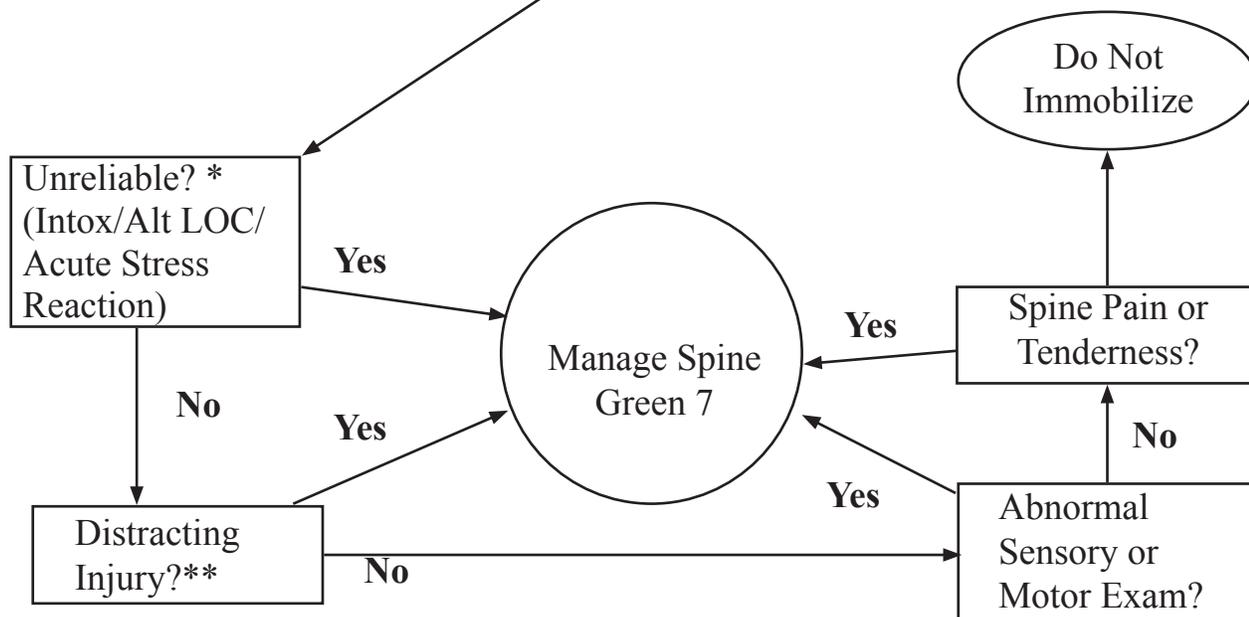


Spine Assessment Protocol

Suspected Spinal Injury - Based on Complaint and mechanism of injury*



* **High Risk Mechanisms of Injury in the pediatric population include, but are not limited to, the following — motor vehicle collisions, recreational vehicles (all-terrain vehicles and snowmobiles), axial loading, substantial torso injuries, and falls greater than 10 feet**

** **Clearance of the spine requires the patient to be calm, cooperative, sober, and alert. Note that the smell of alcohol on the breath is not necessarily the same thing as intoxication; a single beer can be detected on the breath, but does not necessarily cause significant intoxication. The real question is not about the presence or absence of any alcohol, etc.; it is whether or not the patient and the exam are reliable**

*** **Distracting injury includes any injury that produces clinically apparent pain that might distract the patient from the pain of a spine injury. The real question is not about the presence or absence of any other injuries, it is whether or not the patient and the exam are reliable**

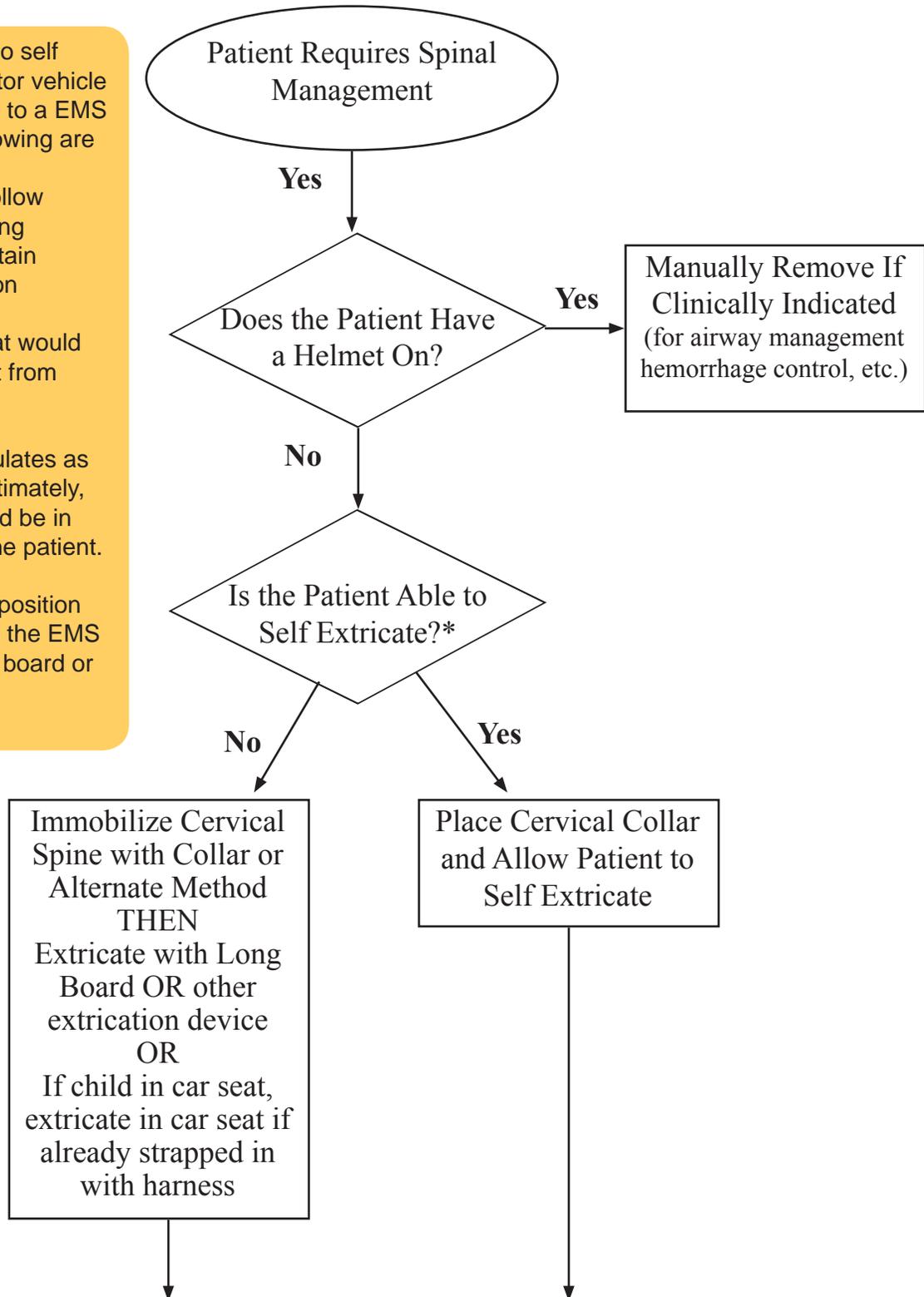
Remember that patients can fracture the spine at any level, not just the C-spine. If a fracture at another level of the spine is suspected, the entire spine must be immobilized, including the cervical spine. Patients with thoracic or lumbar fracture will commonly have associated cervical spine injuries.

Spine Management Protocol #1

* Patients are able to self extricate from a motor vehicle or a seated position to a EMS litter if all of the following are met:

- 1) Able to reliably follow commands - including instructions to maintain neutral spine position
- 2) Without injury that would preclude the patient from ambulating
- 3) The patient ambulates as little as possible. Ultimately, the EMS litter should be in close proximity to the patient.

Patients in a prone position should be moved to the EMS litter by scoop/back board or other similar device



Once patient on EMS Litter, remove long board UNLESS safe transport requires the use of a long board (see PEARLS). Transfer patient to appropriate hospital based on trauma triage decisions. If patient is in a car seat, appropriately secure car seat to the stretcher or captains's seat

Spine Management Protocol #2

PEARLS for Spine Management

Role of Backboards - While the MDPB is attempting to limit the use of backboards, pre-hospital and hospital providers should recognize there remain circumstances in which use of a backboard is appropriate. Backboards should be utilized to extricate patients from vehicles or other situations when they are unable to extricate themselves (critical patients, patients with lower extremity injuries, severe head injuries, etc.). In most instances, once on the EMS litter, the backboard is redundant and can be removed. However, in some settings, it may be appropriate for the backboard to remain. Those settings include, but are not limited to the following:

- 1) Cases in which the backboard is being utilized as an element of the splinting strategy (such as multiple long bone fractures)
- 2) Cases in which the patient is at risk for vomiting but unable to protect their own airway (such as intoxication, head injury, etc.) and may need to be turned to the side for airway protection during transport.
- 3) Cases in which the patient is unresponsive or agitated (i.e.: head injury)
- 4) Cases in which removal of the backboard would otherwise delay transport to definitive care in a critical patient.

Inter-Facility Transport - Long backboards do not have a role in the transport of patients between hospitals EVEN IF SPINE INJURY IS DIAGNOSED. Use of long boards during inter facility transport is associated with increased pain and potential for pressure sores and ulcers. Patients should instead be managed with cervical collar (if appropriate) and firmly secured to the EMS stretcher. If a sending facility has placed the patient on a long board or requests use of a long board, EMS providers should discuss the option of foregoing backboard use with the sending physician. If a back board is used, it must be padded adequately to maximize patient comfort.

Penetrating Injury - The incidence of incomplete, unstable spine injury in penetrating trauma is low. Spine immobilization on a backboard is associated with an increased risk of death in patients with penetrating injuries to the neck, especially gun shot wounds, due to unrecognized hemorrhage and airway compromise. Spine immobilization does not appear to prevent progression of neurologic injury in cases of penetrating cervical trauma and may negatively affect patients with vascular and airway injuries. Penetrating trauma such as a gunshot wound or stab wound should not be immobilized on a long board and should instead be secured firmly to the EMS litter. Emphasis should be on airway and breathing management, treatment of shock, and rapid transport to a Level 1 or 2 Trauma Center.

Pediatric Considerations

* Caution should be exercised in older patients (e.g. 65 years and older) and in very young patients (e.g. less than 3 years of age), as spinal assessment may be less sensitive in discerning spinal fractures in these populations. However, age alone should not be a factor in decision-making for prehospital spinal care, yet the patient's ability to reliably provide a history should be considered

* In children using a booster seat or lap/shoulder belt during a motor vehicle collision, consider allowing the patient to self-extricate him/herself after applying a cervical collar, if needed. For the infant or toddler who is already strapped in a car seat with a built-in harness, extricate the child while strapped in his/her car seat.

* Children who do not require spinal immobilization or lying flat may be safely transported when restrained in an age-appropriate car seat secured to the stretcher. Children who do require spinal immobilization or lying flat should be directly secured to the stretcher.

Helmet Use - Padding should be applied, if necessary, to maintain neutral cervical spine positioning - depending on the type of sports and presence or absence of shoulder pads

Management - In patients who have suffered a potential spinal injury and need to be moved onto or off of a backboard, consider using the lift and slide technique rather than the log roll technique, when feasible.