



# **TIPPECANOE EMERGENCY AMBULANCE SERVICE**

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# Disclaimer

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- Here only to educate on current trends
- Not here to change institutional policies
- Ask questions and learn from others
- Return and have open discussions with team AT's & team physicians
- Significant study still needs to occur





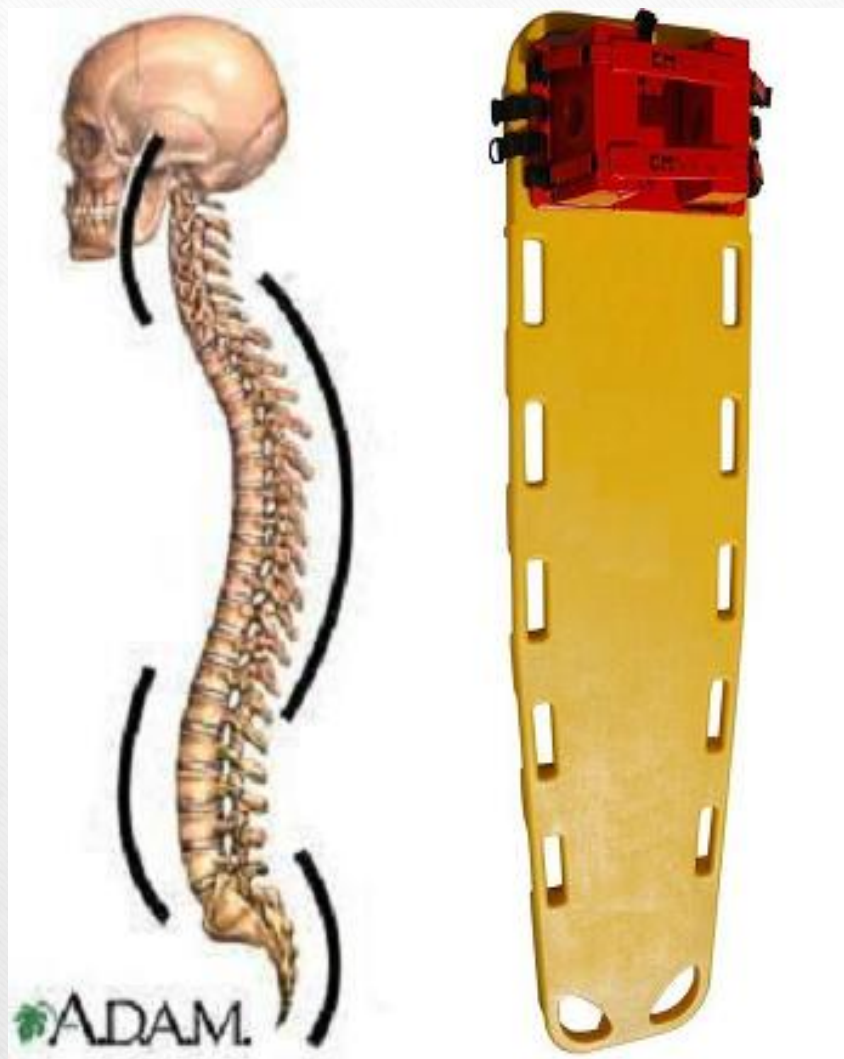




# Original Concept – EMS 1968

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- Backboards use is based on concept of splinting
- Other joints we immobilize above & below fracture
- Cannot isolate sections of spinal column due to configuration
- Standard practice became -immobilize entire spine till injury is ruled out



# Rethinking Long Backboards

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- The long backboard can induce pain, patient agitation, and respiratory compromise. Further, the backboard can decrease tissue perfusion at pressure points, leading to the development of pressure ulcers (National Assoc. EMS Physicians 2012)
- Long backboards are commonly used to attempt to provide rigid spinal immobilization among EMS trauma patients. However, the benefit of long backboards is largely unproven. (College of Surgeons Committee on Trauma 2012)

# Complications/Concerns

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- Airway Compromise & Aspiration
- Head & Low Back pain due to hard surface
- Life threatening hypoxia – Obese & CHF
- Pressure Sores
- Leads to additional unnecessary medical exams

# Studies

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- 1994 – 21 Volunteers – Ages 10-43 – No hx of back problems – 30 minutes on board – 100% complained of pain – 55% stated severe – 29% pain lasted longer than 48 hrs. (*Journal of Emergency Medicine 1998*)
- 2001 – 34,069 Pt's with Blunt Trauma – only 2.4% presented with Cervical Spine injuries & most were stable (*Journal of Trauma 2006*)

# Possible Immobilization Exclusion/C-collar Only

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- GCS of 15 - Normal Level of Consciousness
- Lack of spinal tenderness or abnormalities
- Lack of neurological findings/deficits
- No distracting injuries
- Follow your own organizations guidelines

# When to Immobilize

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- Altered Level of Consciousness
- Spinal Pain or Tenderness
- Neurological Complaint (Numbness/Weakness)
- Deformity of Spine
- High Energy Mechanism and Inability to Communicate or Distracting Injury
- Per your organization guidelines

## **SELECTIVE SPINAL IMMOBILIZATION**

**Background:** Long backboards are commonly used in prehospital care. However their benefit is questionable and may actually cause more harm. The spirit of this guideline is to limit unnecessary use of a long backboard while continuing to immobilize the cervical spine of appropriate patients.

A. Cervical spinal immobilization with a cervical collar is to be provided for the following patients relating to traumatic injuries:

1. Blunt trauma and altered level of consciousness.
2. Cervical spine pain or tenderness.
3. Any neurologic complaint (numbness or motor weakness).
4. Anatomic deformity of spine.
5. High energy mechanism of injury with any of the following:
  - a. Drug or alcohol intoxication.
  - b. Inability to communicate due to age or language comprehension.
  - c. Significant distracting injury.

Note: A backboard can be used if any of the above criteria are met but is not mandatory. What is mandatory is that patient is placed in a cervical collar and moved gently while other spinal precautions are maintained.

B. Patients whom immobilization on a long backboard is not necessary but cervical collar may be appropriate if any signs or symptoms of spinal injury are present include:

1. No cervical spine tenderness or anatomic abnormality.
2. No neurologic findings or complaints.
3. No significant distracting injury.
4. No intoxication with alcohol or drugs
5. Penetrating trauma to head, neck, or torso and no evidence of spinal injury.
6. Patients' ambulatory on scene from blunt trauma.
7. Isolated back pain with no neck injury.

Note: Backboards are acceptable for extrication and transporting these patients to a cot. Once on cot, the patient can be removed from backboard utilizing full spine precautions if patient has no abnormal neurological signs/findings.

C. Whether or not a backboard is used, attention to spinal precautions among at-risk patients is paramount. Typically this is most effective with an appropriately fitted cervical collar. Due to poor collar fit or patient anatomy some patients are best immobilized with objects such as blanket or towel rolls.

D. Full spinal immobilization is always appropriate if the ALS provider has concerns regarding possible injury to the spine, even if not indicated above.

E. Cervical spinal immobilization devices may not be removed. If cervical spinal immobilization has already been initiated (other than manual in-line immobilization), it is to be completed and the patient transferred to definitive care for further evaluation.

# Conclusions

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- What are your current immobilization practices based on.
- Have open discussions with other AT's & team physician.
- Review previous cases and see what the outcomes where?