Kittitas County Prehospital EMS Protocols

SUBJECT: SPINAL TRAUMA & SPINAL MOTION RESTRICTION (SMR)

Specific information needed:

A. Mechanism of injury and forces involved: be suspicious with falls, decelerations, diving incidents, and motor vehicle incidents
B. Past medical problems and medications

Specific objective findings:

A. Vital signs, including neurologic assessment
B. Level of sensory and motor deficit: presence of any evidence of neurologic function below level of injury (attempt GCS)
C. Physical exam, with careful attention to organs or limbs which may not have sensation

General treatment:

A. Assess airway and breathing: treat life-threatening difficulties, use controlled ventilations for high cervical cord injury associated with abdominal breathing, and maintain inline cervical spine motion restriction while managing ABC's
B. Administer O2 per protocol, and/or
C. Control hemorrhage
D. Spinal motion restriction of the cervical, thoracic, and lumbosacral spine as indicated below.
E. Obtain initial vital signs and neurologic assessment

Advanced Skills (F & G)-

F. Establish venous access. If signs of hypovolemia, fluid bolus 10-20cc/kg to maintain SBP>100
G. Consider narcotic analgesia per protocol
H. Monitor airway, vital signs and neurologic status frequently at scene and during transport

CLINICAL INDICATIONS FOR FULL SPINAL MOTION RESTRICTION:

A. Restrict patient movement with a **rigid device** (backboard, scoop stretcher, or vacuum mattress (peds) and cervical collar for any of the following conditions:
    - Blunt trauma and altered level of consciousness
    - Thoracic or lumbar spinal pain or tenderness
    - Neurologic complaint (e.g. numbness or motor weakness) following trauma
    - Anatomic deformity of the spine following trauma
    - High energy mechanism of injury AND:
        - Alcohol intoxication or drug induced impairment
        - Inability to communicate
        - Distracting injury
    - GSW to head or neck (in general penetrating wounds do not require a rigid device for spinal motion restriction, unless evidence of spinal injury)

B. Patients complaining of isolated cervical pain or tenderness following trauma can be managed by application of a cervical collar and securing the patient firmly to the stretcher, if the following criteria are met:
    - Normal level of consciousness (GCS-15)
    - No thoracic or lumbar (midline) spine tenderness or anatomic abnormality
    - No neurologic findings or complaints
    - No intoxication or drug induced impairment

C. Patients who have no complaints of cervical or back pain and no tenderness should not be placed in a cervical collar or on a rigid device if they meet the following:
   - Normal level of consciousness (GCS-15)
   - No neurologic findings or complaints
   - No intoxication or drug induced impairment

D. These guidelines do not preclude use of a rigid device for extrication or moving the patient.

E. Efforts should be made, especially in the light of extended transport times, to minimize the discomfort associated with a rigid device. Padding under the knees if appropriate, light padding on the board such as a blanket or a Back Raft and other comfort measures may benefit the patient without compromising the goal of spinal motion restriction. Also, the scoop /clam stretcher provides spinal motion restriction while extricating and can be more easily removed once on the stretcher and is an excellent option.

Specific precautions:

A. Be prepared to turn entire board on side if patient vomits.
B. Be sure respirations remain adequate.
D. If hypotension is unresponsive to simple measures, it is likely due to other injuries. Neurologic deficits make these other injuries hard to evaluate. Cord injury above the level of T-8 removes tenderness, rigidity and guarding as clues to abdominal injury.
E. Spinal motion restriction in patients with penetrating trauma is required only when neurologic deficits or altered mentation exists.
F. Removal from transition device once the patient is on the stretcher is appropriate for patients reindicating the (recommended prior to entering ambulance)
G. Assess the need for SMR and evaluate the risk vs. the benefits of SMR for each patient.
H. Providers may consider NOT taking spinal motion restriction precautions on patients with significant mechanism if (what is considered significant may vary by patient):

   - No spine or neck pain/tenderness/deformity on palpation or otherwise
   - No neurologic deficit
   - No major distracting pain or long bone injuries
   - No altered mental status / head injury of any significance
   - Not chemically altered (alcohol or drugs)
   - No pain to back or neck with cough
   - No priapism
   - No language or communications barrier

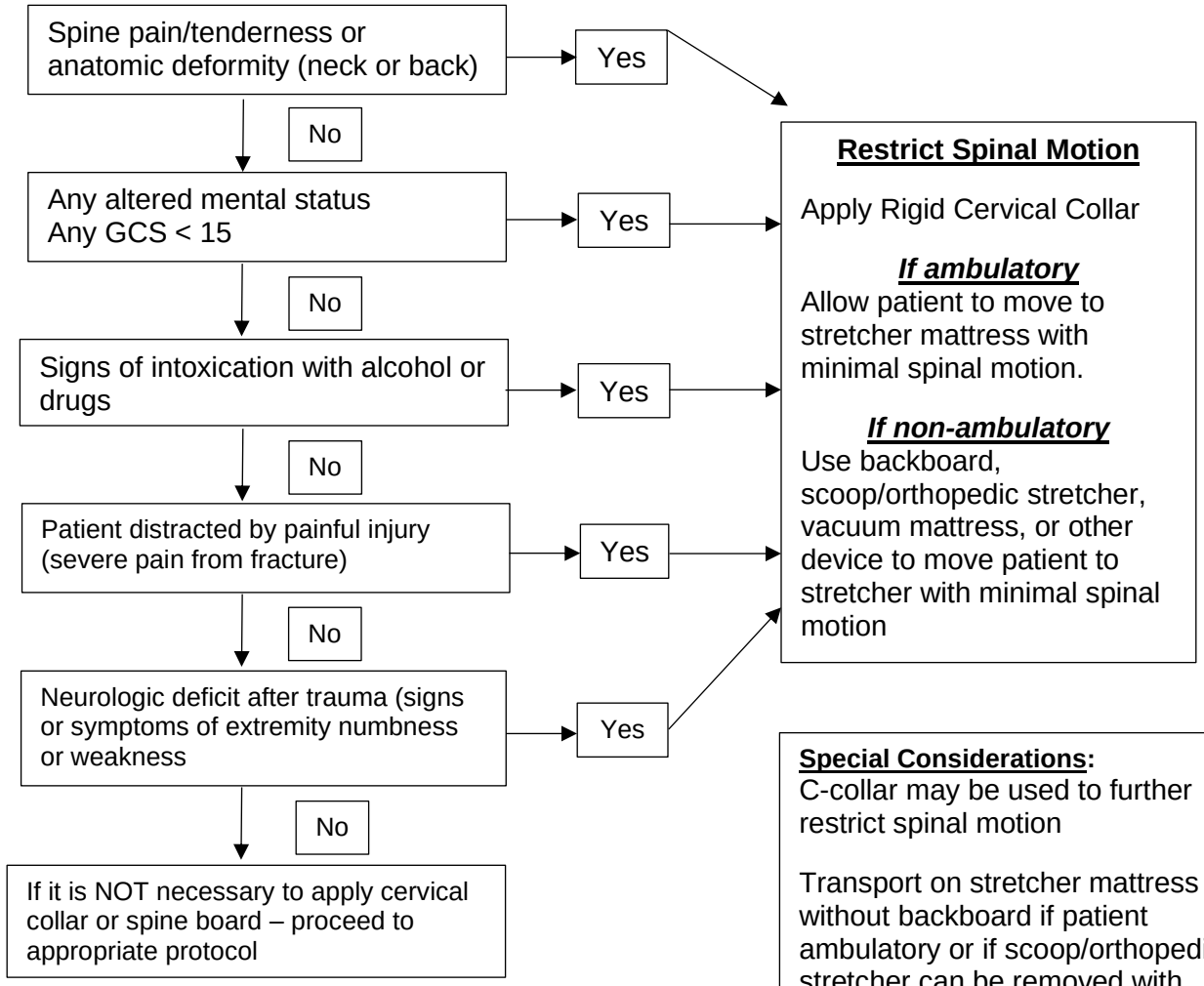
NOTE: Pertinent negatives for NOT taking spinal motion restrictions with significant mechanism (applicable to patient) are to be documented in patient care report.

Kittitas County Prehospital EMS Protocols

SPINAL MOTION RESTRICTION ALGORITHM

ASSESSMENT OF SPINAL INJURIES

A. Patients with the following symptoms or mechanisms of injury should be assessed to determine whether restriction of spinal motion is required.



Special Considerations:
C-collar may be used to further restrict spinal motion

Transport on stretcher mattress without backboard if patient ambulatory or if scoop/orthopedic stretcher can be removed with minimal patient motion

In the event that standard c-collar sizes are not appropriate for your patient(s) the following may be utilized:

1. Blocks and tape.
2. Towel rolls on either side of patient's head and tape.
3. Other approved device for c-spine immobilization.

WARNING: Criteria cannot be assessed on any patient with a language or communications barrier that prevents understanding and appropriately responding to the assessment questions. If there is any doubt about whether the patient meets any of the clinical criteria listed above restrict spinal motion.

NOTE: Exclusion criteria should be used to assess the use of spinal motion restriction and is not definite assessment of whether the patient has a spinal injury. Exclusion criteria should be documented.