EMERGENCY RESPONSE TRAINING
a division of Peak Project Management, Inc.

APPENDIX 2

SPINAL INJURY ASSESSMENT

AND

SPINAL MOTION RESTRICTION GUIDELINE

PREAMBLE

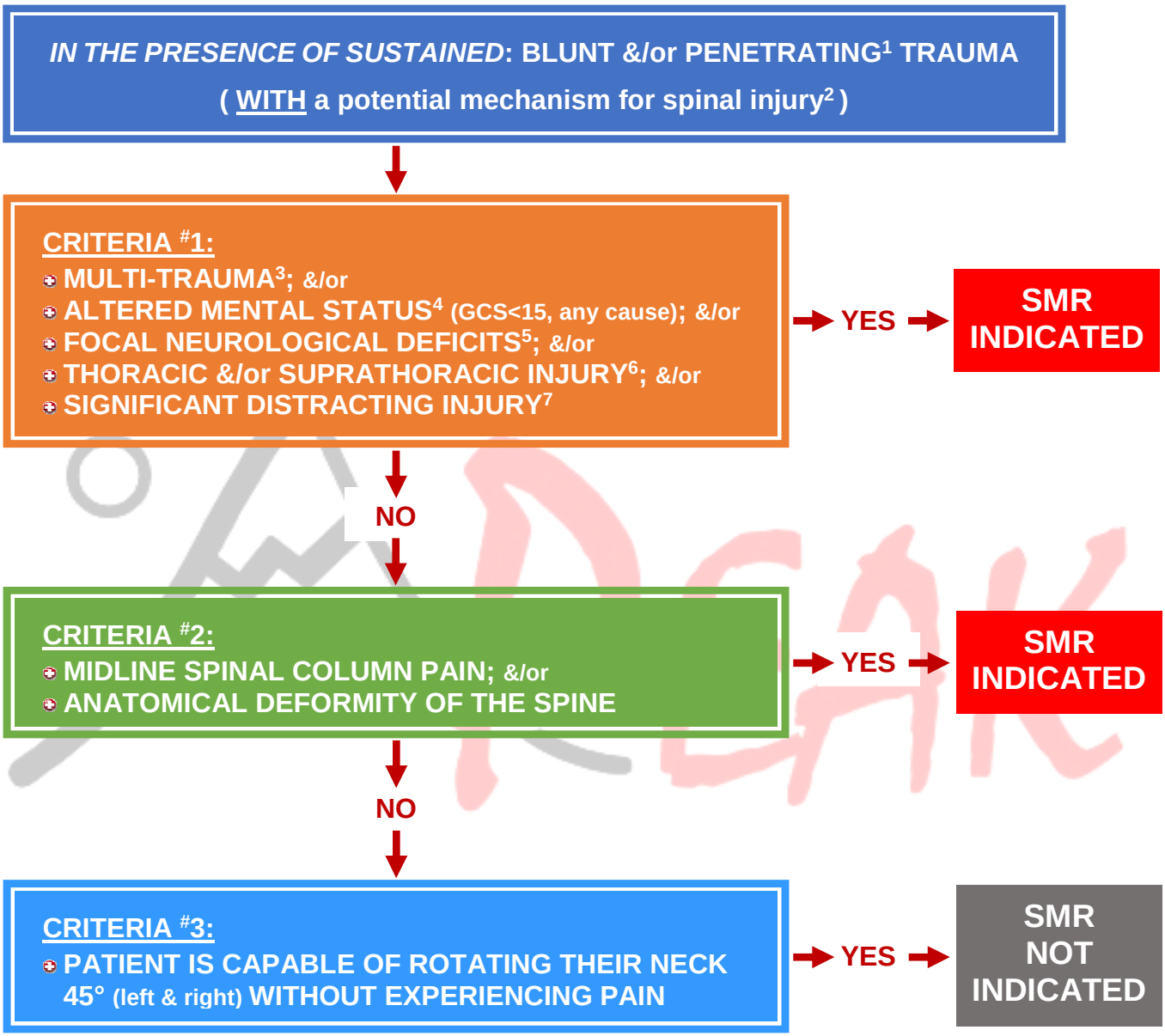
Determining and establishing consistent criteria for spinal injury indication, evaluation and the potential need for spinal motion restriction (SMR) – in situations of blunt &/or penetrating trauma – continues to be a complex element of pre-hospital care. This is seen in all environments and is perhaps most difficult for responders working in non-urban environments. A patient with an unstable spinal injury, with an intact spinal cord, likely represents one of the greatest management challenges for non-urban responders.

Recent studies have produced reliable scientific evidence that suggests that traditional spinal immobilization (use of long spinal board, cervical collars, strapping, sand bags, etc.) may cause harm, including (but not limited to), increased intracranial pressure, respiratory impairment due to hypoventilation, aspiration, tissue degradation leading to pressure injury, airway compromise and increased pain.

This guideline document was developed in conjunction with existing practice standards including: BC Emergency Health Services, NEXUS, Canadian C-Spine Rule, International Commission for Alpine Rescue, Wilderness Medical Society and WorkSafe BC.

Implementation of a spinal assessment procedure in the non-urban environment requires careful consideration on the part of the providers. This document and the following 'Spinal Motion Restriction (SMR) Determination Algorithm' is intended as a guideline tool for responders. Providers are cautioned to initiate SMR procedures in accordance with their training standards and within their scope of practice.

SPINAL MOTION RESTRICTION (SMR) DETERMINATION ALGORITHM



[1] Penetrating Neck Trauma: Does not require immediate SMR unless the patient exhibits neurological deficits as per #5.

[2] Potential Mechanism for Spinal Injury: e.g. moderate to severe deceleration, moderate to severe MVI (rollover, ejection, significant passenger compartment intrusion, avalanche burial, explosion, axial lode to head, high voltage/amperage electric shock, etc.).

[3] Multi-Trauma: A patient that sustained more than one simultaneous injury.

[4] Altered Mental Status: Patient must be alert & oriented x4 (GCS=15). Patient history and assessment may be unreliable due to intoxication (drugs &/or EtOH).

[5] Neurological Deficits: Weakness, parasthesias, paralysis.

[6] Thoracic/Suprathoracic Injury: Significant injury such as (not limited to) disrupted chest wall, bilateral clavicular fracture, etc.

[7] Distracting Injury: A significant painful injury that may interfere with the ability to assess a pain response from a patient while palpating their spinal column.

FACTORS TO CONSIDER

- Patients > 65 years or those presenting with a history of degenerative bone disease such as (but not limited to), ankylosing spondylitis and rheumatoid arthritis should be treated with a higher level of suspicion for possible spinal injuries.

- Patients with previous spinal surgery should be treated with a higher level of suspicion for possible spinal injuries.

- The use of a long spine board (LSB) to provide SMR should be kept to a bare minimum. LSBs are designed for extrication purposes (short term use) not patient transport.

- PEAK strongly recommends the use of vacuum mattresses also referred to as vacuum spine boards for transport of spinal motion restricted patients especially in the non-urban environment. Local policies and procedures may differ from site-to-site and may depend on what equipment is readily available. Consult with your supervisor for site-specific directives that may affect implementation or use of this guideline.

- In the non-urban environment, spinal motion restriction may be applied as a precautionary procedure. In addition, it may be applied where a spinal injury 'rule-out' is delayed in order to facilitate the movement of a patient to a warm and controlled environment. In this situation, standard spinal precautions must be taken prior to and during transport of these patients until a thorough SMR indication determination can be conducted.

NOTICE OF LIABILITY