Date: October 27, 2014

To: All EMS Physicians, Staff, Direct Delivery, Contracted Care, IFT, and Air Providers

From: Dr. Ian Phelps – Senior Medical Director – Emergency Medical Services
Dr. Hal Canham – Provincial EMS Medical Director – Alberta Health

RE: Spinal Motion Restriction Management

The use of long board immobilization in the pre-hospital setting is a practice that is poorly supported by clinical evidence and has been shown to cause harm to patients in the form of pressure ulcers, restricted chest wall movement, stress and pain. In fact, some services in the U.S. have now decided to stop using long boards for patient transport entirely.

Long boards are used for extrication of patients and to assist in moving patients but are not required to achieve spinal motion restriction. Spinal motion restriction is still required in patients with potential spinal injury; however, a long board is not required to achieve the spinal motion restriction. EMS practitioners may therefore logroll cooperative patients off a long board onto an EMS or hospital stretcher as soon as deemed possible. Long boards are not required for patient transport and are contra-indicated in patients who have long transport times or wait times.

Paralysis or spinal cord injury symptoms are not an indication to keep a patient on a long board as these patients are at high risk of skin breakdown and pressure ulcers. Additionally, the risk of vomiting in a non-intubated patient is not an indication to keep a patient on a long board. These patients should be transported in such a fashion that they can clear their own airway; suction catheters cannot adequately manage secretions and emesis in a patient forced to lie flat; thereby, increasing the risk of aspiration.

Some alert patients are not able to lie flat due to head, facial or neck trauma, severe respiratory disease, body habitus etc. and if forced to lie flat they are at an increased risk of airway occlusion that may result in the need for intubation. These patients may be transported seated with a collar in place. Also, if a patient is being transported from ED to ED and has been ambulatory with a collar at the sending facility, they can also be transported seated in a collar.

Please refer to the attached document, Spinal Motion Restriction Management Points of Emphasis for EMS Practitioners, for additional information.

If there are any questions regarding EMS protocols please feel free to contact your zone Medical Director. If you need a review of how to move a patient off of a long board or positioning a patient to maintain spinal motion restriction ask your field training office or a member of the Learning and Development team.

2 Johnson County Kansas, New Haven Connecticut
5 Alberta Health Services Emergency Department C-Spine Protocol Part 3-Log Rolling Patient Off Backboard
In an effort to assist practitioners in determination of management and/or removal, key clinical points are emphasized and provided below for reference.

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Spinal Motion Restriction Management Points of Emphasis for EMS Practitioners

The following information will assist and guide EMS practitioners in the management and maintenance of spinal motion restrictions including appropriate patient removal from long boards.

Long boards used for extrication of patients have been long used in practice to maintain spinal motion restriction; however, this should be considered an extrication tool and patients should be removed from a long board as soon as is reasonable for the given situation provided the following criteria are met:

- Patient must be cooperative
- Prior to removing the patient from a long board, a full trauma assessment and neurological assessment, including motor power and sensation of all extremities, must be completed and documented

Guidelines for removing a patient from a long board:

- When removing a patient from a long board, 3 to 4 people are generally required. This may include an EMT-P, EMT-A, EMR, Firefighter, RN, RRT, Police, or a bystander:
  - 1 person (must be an EMT-P, EMT-A or RN) must manage the head and maintain cervical spine control and will provide direction/cadence during the log roll
  - 1 to 2 people are required to log roll the patient
  - 1 person is required to remove the long board
    - If an EMT-P, EMT-A or RN is removing the long board, they must observe the neck and back for bruising, swelling or deformity and, if possible, palpate for deformity or pain

- Following removal of the patient from the long board, the patient must be log rolled onto their back, secured to the stretcher and modified spinal protection, using a rigid collar and towel rolls/head blocks must be used to maintain spinal motion restriction. The patient must be informed they are to remain in this position until assessed by a physician.

- Any changes or significant findings upon removal of the patient from the long board must be reported to the receiving Emergency Department physician.

- Motor power and sensation to all extremities and neurological assessment must be assessed and documented following the log roll and removal of the long board

- Patients must be reassessed every 30 minutes thereafter and any changes must be reported to the receiving Emergency Department physician

Special Considerations:

- Non-intubated patients at risk of vomiting should be transported in a manner where they can clear their own airway
- Alert patients not able to lie flat may be transported seated with a collar
- Inter-hospital transfer of a patient who has been ambulatory with a collar at the sending facility may be carried out by transporting the patient seated with a collar
- Long boards may be used as a method of patient restraint for those patients who are obtunded or uncooperative and are at risk of harming themselves
- Long boards may be used for splinting long bone and pelvic fractures if it is clinically indicated