

## Evaluation and Clearance of the Cervical Spine in the Obtunded SICU Patient

**Background:** Techniques and processes for cervical spine clearance in alert patients is relatively well established but generally relies on an adequate physical exam. In an obtunded patient, clearance of the cervical spine is more complex as an adequate exam is not feasible. CT scans, now done routinely for blunt multi-system trauma patients are very accurate for bony fractures but may not detect isolated ligamentous instability. Improved quality multiplanar CT scans with no abnormalities are unlikely to miss unstable injuries.<sup>1</sup> Unfortunately, other diagnostic modalities tend to be inadequate (Flexion/Extension under fluoroscopy) or time limited (Magnetic Resonance Imaging).<sup>2</sup> Therefore, a practice of leaving cervical collars in place until an exam is possible or for some predetermined extended period is common in many centers. Unfortunately, this is also not without cost to the patient in the form of decubiti and difficulty with mobilization. These guidelines will help guide clinicians in their decisions on timing and appropriateness of clearance of the cervical spine in an obtunded patient with a CT scan that does not show a fracture or spine abnormality.

### Clinical Practice Guidelines:

*Please note that at Grady Memorial Hospital, all CT scans of the cervical spine are overread by an attending neuroradiologist.*

- I. Any obtunded blunt trauma patient with no neurologic deficit which could be localized to the spinal cord and with a high quality multi-planar ( $\leq 2.5$  mm collimation with bone algorithm) CT scan of the cervical spine which is read and signed off by an attending neuroradiologist without recommendation for an MRI may have their cervical collar removed without further testing.
- II. Obtunded blunt trauma patients whose CT scan is deemed concerning and warranting an MRI by an attending neuroradiologist and who are stable for transport should undergo an MRI of the cervical spine within 24 hours of injury. If this is negative for acute injury, the cervical collar may be removed.
- III. Patients who do not fall into these categories should have their cervical precautions maintained (with the use of an Aspen collar + Occian back) until such a time as an examination can be completed or six weeks have elapsed.

### References:

1. Patel et al. Cervical spine clearance in the obtunded adult blunt trauma patient. *J Trauma ACS* 78: 430-41, 2015.
2. Como et al. Practice management guidelines for identification of cervical spine injuries following trauma: Update from the EAST PMG committee. *J Trauma* 67: 651-9, 2009.