A basic assumption of caring for multi-injured patients is that all patients are suspected of having a cervical spine injury until proven otherwise. It is known that 2% to 4% of all blunt trauma injury patients have a cervical spine injury. Missed or delayed diagnosis of cervical spine injury occurs in 4% to 8% of patients of whom 70% have altered levels of consciousness. When these missed diagnoses lead to neurologic sequelae the consequences are devastating with estimates of potential lifetime cost to each patient of up to $2.2 million dollars.

In a multicenter study looking at neurologic deterioration from missed spinal injuries the most common etiology was found to be insufficient imaging studies completed (14/24) with the definition of insufficient being that had another study been added the unstable spinal injury would not have been missed as illustrated by the following case study.

A 43-year-old female presented to a trauma center after a high-speed MVA, and was evaluated and treated for multiple injuries, including a facial degloving injury and a closed head injury (Glasgow Coma Scale 11). She underwent lateral and anteroposterior cervical spine radiographs and thin-cut CT, both of which were reported as normal and was cleared. Seven days later, she was noted to have progressive weakness of her hands and was unable to walk (ASIA D). Emergency MRI was performed and showed bilateral perched facets at C6C7, with signal change involving the interspinous ligament of C6C7 and associated cord compression.

Ghanta performed a retrospective review of 124 trauma patients including 59 unconscious patients and found that 19% had cervical spine injury diagnosed only on MRI.

Based on the literature it is my conclusion that in the obtunded patient if the initial CT is negative and the patient is still obtunded at 72 hours an MRI should be obtained. Patients that fit into a high velocity pattern will be defined and this group should have dynamic flexion extension films if the MRI is negative.

REFERENCES