



System Medical Advisory May 31, 2017

Risk of Spinal Cord Injury

Failure to consider spinal cord injury (SCI) can and does result in harm to patients when appropriate interventions are not applied. We must remain diligent in our assessment of patients experiencing trauma. While the national spinal cord injury statistical center reports motor vehicle crashes as the most common cause of SCI (38%), falls are the reported mechanism for 30% of SCIs (NSCISC, 2016). **Slips, trips and stumbles from a standing position account for 1 in 5 SCIs associated with falls. In patients greater than 60 years of age, these are most commonly simple ground-level falls** (Chen, 2016).

The Spinal Motion Restriction COGs, U-05 and CP-58, have been recently revised to reflect critical assessment components, identification of patients at greater risk of SCI, and the potential value of cervical collar use without a long spine board. Please take the time to review these COGs.

Below are key points for assessing and managing patients with potential or suspected SCI.

In the presence of a traumatic mechanism of injury:

1. Patients greater than 65 or less than 5 years of age are at greater risk of SCI.
2. For these high-risk patients, falls from ground level provide sufficient force to result in some degree of spinal injury.
3. A normal/typical exam may not be sufficient to rule out the presence of SCI
4. Patients with incomplete spinal cord injury will likely **NOT** present with paralysis; Lack of neck pain does not rule out spinal cord injury.
5. Incomplete spinal cord injury may manifest as any neurologic abnormality to include altered or decreased sensation, burning, pain, tingling, and/or weakness.
6. Adequate spinal precautions may be achieved by placement of a cervical collar and minimizing movement during transport.
7. If SCI is suspected or considered based on mechanism or symptoms, ability to ambulate should **not** be used as a means to rule in or out SCI and carries high risk of harm if spinal precautions are not initiated.
8. Consider a cervical collar even with patients found ambulatory and even when a long spine board is indicated but not tolerated or appropriate for the patient.

9. Manual in-line stabilization during patient transfer/movement and application of a cervical collar remains the preferred actions when caring for patients with suspected SCI.
10. Findings may develop over hours or days therefore it is important to consider recent events.
11. In the presence of intoxication or altered mental status, symptoms may be minimized or not disclosed by the patient.

To minimize the risk of additional injury during prehospital assessment and treatment, we must maintain a high index of suspicion for SCI even with seemingly low energy mechanisms in high-risk patients. Additionally, documentation should clearly reflect assessment findings guided by the algorithm provided in COG U-05. As always, please contact the OMD with any questions on this or any other clinical topic.



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NSCISC, National Spinal Cord Injury Statistical Center, Facts and Figures at a Glance. Birmingham, AL: University of Alabama at Birmingham, 2016. <https://www.nscisc.uab.edu/Public/Facts%202016.pdf>

Chen, Y. Tang, Y. Allen, V. & DeVivo, M. Fall-induced spinal cord injury: external causes and implications for prevention. Journal of Spinal Cord Medicine, vol 39, 2016-Issue 1.
<http://www.tandfonline.com/doi/abs/10.1179/2045772315Y.0000000007>