



## Behavioral Factors and Unintentional Injuries after Spinal Cord Injury

Cao Y, DiPiro N, Krause JS,

### WHAT IS THE STUDY ABOUT?

Unintentional injuries are a leading cause of healthcare utilization, disability, and mortality in the United States. They are defined by being unplanned, unexpected, or accidental. The most commonly reported causes of unintentional injuries include falls, motor vehicles crashes, poisoning, burns, drownings, and other adverse events. Our objective is to identify how demographic characteristics, like age and gender, SCI factors, and behaviors related to the risk of having at least one injury unintentional injury in the past year that were seriously enough to receive medical care in a clinic, emergency room, or hospital. We differentiate injuries due to fall with other injuries that were not due to falls.

### WHO PARTICIPATED AND HOW WAS THE STUDY CONDUCTED?

4670 participants, who were at least 18 years old and more than 1 year since SCI, completed a self-reported assessment during 2012-2016. We classified participants into three groups: reported no unintentional injuries in the past year, reported at least one fall related unintentional injury, and reported at least unintentional injury and all of which were unrelated to a fall. We examined a number of behavioral factors and their relationship to unintentional injuries, including weight status, alcohol misuse, non-medical substance usage, frequency of prescription medication usage, and prescription medication misuse.

### WHAT DID WE FIND?

Participants who could walk were at substantially greater risk of having at least one fall related injury. Those who were independent in their ambulation were actually at a greater risk of an unintentional fall related injury compared with those who required assistance from another person to walk. We found that those with higher-level SCI were less likely to have fall related injuries. Several types of substance use and drug misuse were particularly strongly related to an increased risk of fall related injuries, including prescription use for pain and depression, non-medical substance use, prescription medication misuse (e.g., using pain medications to aid in sleep), and frequent heavy alcohol use (binge drinking), as defined by five or more drinks on a given occasion. Those who are able to walk were associated with a lower-risk of non-fall related injuries.

### IMPLICATIONS AND OR RECOMMENDATIONS?

There are several key intervention and prevention strategies for both fall and non-fall unintentional injuries. First, injury prevention strategies should target older ambulatory individuals who cannot ambulate independently, even in the absence of a pattern of high-risk behaviors. Second, modifiable behaviors are one of the keys to injury prevention. Three types of patterns are important: the simple quantity of medications used to treat secondary health conditions, using illicit substances, or prescription medication misuse, and heavy alcohol use on multiple occasions. Substance misuse and binge drinking are two primary areas that may fall within the realm of traditional treatments. Lastly, another set of risk behaviors that require further awareness training are related to the use of prescription medications to treat pain, spasticity, sleep, and depression; and the misuse of these medications by treating conditions other than for what they were prescribed. Always consult your physician or healthcare provider regarding your medications and other activities before making changes. Talk with your provider about your health and your activities, and how that might affect your outcomes, including your risk of unintentional injuries.

This brief is based on the full publication: Cao, Y., DiPiro, N., Li, C., Roesler, J., & Krause, J. S. (2020). Behavioral Factors and Unintentional Injuries After Spinal Cord Injury. *Archives of physical medicine and rehabilitation*, 101(3), 412–417. <https://doi.org/10.1016/j.apmr.2019.09.008>

The contents of this research brief were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant numbers 90SI5002, 90DP0004, 90RT50035, H133N000005). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this research brief do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.