

Risk of Fall-Related Injuries among Ambulatory Participants with Spinal Cord Injury¹

What is the study about?

Medical and rehabilitation care advances have contributed to an increase in the number of individuals with spinal cord injury (SCI) who are able to regain and maintain ambulatory (walking) abilities. However, some studies have implied that the risk of falls is higher for ambulatory persons with SCI. This study assessed the relationship between the use of different walking devices (canes, walkers etc.), alcohol intake, exercise and prescription medication use and falls resulting in injuries (FRI).

Who participated in the study?

This study involved 515 individuals in the southeastern United States with traumatic SCI who were 18 years or older at the time of assessment, were at least one year post injury, and were able to walk.

How was the study conducted?

Potential participants were identified from data records at a specialty hospital in southeastern United States and recruited by an introductory letter via mail. Non-responders were also contacted by phone calls. Those individuals that agreed to participate in the study self-reported on the number of FRI in the past year, whether they used a walker (standard or rolling), canes or crutches (0, 1, 2), short or long leg braces (0, 1, 2). They also reported on the maximum walking distance, relative portion of time spent walking versus time using a wheelchair and perceived walking speed and balance compared to persons of the same age and stature without a disability. In addition, participants were asked about their alcohol use and pain medication use. Variables such as age, gender and injury level were also collected.

What did the study find?

The study found that 20.3% of the participants reported a FRI. The use of unilateral support such as a cane or crutch was associated with FRI. This was not the case for respondents who used braces. Percent of time spent walking at home was related to FRI. Those who reported walking and wheeling equally were most likely to have had a FRI (46.4%) whereas those who reported wheeling more than walking were the least likely (10.9%). Additionally, those with perceived poor balance were 2.41 times more likely to have a FRI than those without poor balance. Those who reported less exercise than other persons with a comparable SCI severity were 2.77 times more likely to have a FRI than those reporting the same or more amount of exercise. Participants who reported pain medication misuse were 2.53 times more likely to have a FRI than those who did not report misuse.

The findings imply that when healthcare providers work with individuals with a SCI who are ambulatory they should be mindful of the increased risk of FRI and its associated conditions. These include unilateral support, balance difficulties, pain medication misuse. Furthermore, results imply that appropriate assistive devices such as those that offer bilateral support and exercise are likely to associate with fewer FRI.

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¹ Saunders, L. L., DiPiro, N. D., Krause, J. S., Brotherton, S., & Kraft, S. (2013). Risk of fall-related injuries among ambulatory participants with spinal cord injury. *Topics in spinal cord injury rehabilitation*, 19(4), 259-266.