



Research Brief

Assistive devices and future fall related injuries among ambulatory adults with spinal cord injury: a prospective cohort study

Introduction

Return to walking is often reported as one of the main goals after spinal cord injury (SCI). Much emphasis has been placed on rehabilitation interventions to improve walking outcomes after SCI. In those who do walk, the majority use assistance devices (e.g., cane, walker, crutches, braces, or orthotics). While walking is associated with many benefits, those with SCI who walk may be at an increased risk of experiencing falls.

Our objective was to evaluate the relationship between those who walk using assistive devices with the number of fall-related injuries. To do this, we assessed participants at baseline who reported walking using assistive devices and then assessed them again approximately one year later at follow-up. At follow-up, we looked at the number of fall related injuries and if the participant's walking status had changed.

Key Findings

- Walker use at baseline was associated with 214% greater number of fall-related injuries at follow-up, and cane use at baseline was associated with 160% greater number of fall-related injuries at follow-up.
- Participants using one walking device related to 194% greater number of fall-related injuries, and using multiple devices related to 730% greater number of fall injuries than those who used no devices.
- The percentage of walker use decreased from 22% at the baseline to 18% at the follow-up, and the percentage of multiple assistive devices usage dropped from 17% at the baseline to 13% at the follow-up.
- The percentage of at least one self-reported fall-related injury decreased from 22% at baseline to 13% at the follow-up.

Conclusion

The probability of at least one fall-related remained high in those who walk after SCI. The consequences of these fall-related injuries were severe, resulting in medical care in a clinic, emergency room, or hospital. Because walking devices usage was associated with increased risk of fall-related injury, health care professionals and caregivers should be aware of the balance between promoting ambulation after SCI and taking more precautions about the risks of fall-related injury for those who are ambulatory and use assistive devices.