

INTRODUCTION TO THE WHEELCHAIR SKILLS PROGRAM: SKILLS FOR WHEELCHAIR USERS AND CAREGIVERS

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Abstract

Research evidence has been accumulating that demonstrates the safety and superior efficacy of a formal approach to wheelchair skills training of wheelchair users and their caregivers. The Wheelchair Skills Program (WSP), available free on the Internet (www.wheelchairskillsprogram.ca), includes useful evaluation and training tools to help practitioners translate this research evidence into clinical practice. On completion of the session, attendees will better understand how the WSP may be implemented in their own settings.

Learning Objectives

On completion of the session, attendees will be able to describe:

- 1) the research evidence supporting the safety and efficacy of wheelchair skills training
- 2) the motor-learning principles underlying successful wheelchair skills training
- 3) the practical steps involved in conducting wheelchair skills training

Research Evidence

The measurement properties of the Wheelchair Skills Test (WST) have been documented.^{1,2} In these studies, the WST was found to be safe, practical, reliable, valid and useful. The WST has been used as a screening or outcome measure in a number of studies. Further study is needed to evaluate the measurement properties of the WST as it evolves, and in different settings.

The relationships between the objective WST and the questionnaire version of the WST (WST-Q) have also been reported.^{3,4} The correlations between the total WST and WST-Q scores were found to be excellent, although the WST-Q scores were slightly higher.

Regarding the Wheelchair Skills Training Program (WSTP), we have completed two randomized controlled trials on wheelchair users, one on wheelchair users admitted for initial rehabilitation⁵ and one on wheelchair users in the community.⁶ In both, we found that the WSTP was safe, practical and resulted in significantly greater improvements (2-3 fold) in wheelchair skills performance than standard care. In a third randomized controlled trial, on occupational therapy students, we found that the WSTP resulted in significantly greater improvement (2-3 fold) in wheelchair skills than a standard undergraduate occupational therapy curriculum⁷ and that these skills were retained 9-12 months later.⁸ Finally, in a recent pilot study in a rehabilitation centre,⁹ we provided less than 50 minutes of training on wheelchair-handling skills to caregivers of wheelchair users. We found that the WSTP was an effective way to improve caregiver skills and that these skills were retained. Studies of the safety and effectiveness of the WSTP in other settings are planned.

Motor-Learning Principles

There is growing interest in motor-learning literature with a new level of attention being given to the area of rehabilitation. There are many techniques that may be used to facilitate the learning of motor skills such as wheelchair skills. Listed are some of the techniques that will be discussed during the workshop:

- Use brief training sessions
- Use a high ratio of trainers to learners
- Use a partner of comparable skill level
- Demonstrate the skills
- Segment complex skills
- Identify limiting factors
- Provide feedback correctly
- Choose an appropriate focus of attention
- Use learning exercises
- Facilitate consolidation
- Ensure retention

Please review the online WSP manual for further information on how to use these learning techniques.

Practical Component

A handout will be provided at the session to help guide participants through the workshop and to act as a resource for training wheelchair-using clients and caregivers. The small group format will allow participants to comment and ask questions throughout the workshop. The opportunity to practice the skills while simulating paraplegia and hemiplegia introduces attendees to the basic training elements of wheelchair skills.

The fundamentals of the training module are as follows:

1. Operating the parts of the wheelchair
2. Understanding the dimensions of the wheelchair
3. Moving the wheelchair on smooth level surfaces
4. Leaning forward or backwards
5. Transiently popping the front wheels
6. Balancing on the rear wheels

References

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