



Service Priorities and Programmes
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The Figure of Eight Walk Test: Reliability and Associations with Stroke-Specific Impairments

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Introduction

Impaired walking performance is common among stroke survivors, and the most common goal in rehabilitation is to improve walking function. Hess and his colleague developed the Figure-of-8 walk (F8W) test which involves straight and curved paths in order to represent the walking skills required in daily life. In the F8W test, subjects are required to walk a figure-of-8 around 2 cones spaced 5 feet apart. The alternation between straight and curved paths requires changes in motor strategies and motor planning.

Objectives

To investigate (1) the intra-rater, inter-rater and test-retest reliability of the F8W test times; (2) its correlation with other stroke-specific impairments; and (3) the cut-off scores best discriminating patients with stroke from the healthy elderly.

Methodology

Design: Cross-sectional study. Participants: A convenience sample of 64 subjects: 35 subjects with chronic stroke and 29 healthy elderly. Main Outcome Measures: F8W test times, Fugl-Meyer Motor Assessment for the lower extremities (FMA-LE), hand-held dynamometer measurements of bilateral hip abductor and knee extensor isometric muscle strength, Five-times Sit to Stand test (FTSTST) times, 10 meter walk test (10MWT), Timed up and go test (TUGT) times, Berg Balance Scale (BBS) and Activities-specific balance confidence scale (ABC) scores.

Result

Results: Excellent intra-rater, inter-rater and test-retest reliability (ICC range 0.944–0.999) of F8W test times were found. The F8W test times were also found to be significantly associated with FMA-LE, BBS, FTSTST, TUG scores, and 10MWT. No significant correlation was found between F8W test times and either leg strength or ABC results. Conclusions: The F8W test time is correlated well with stroke-specific

impairments and walking tests. The F8W is a reliable measurement tool for assessing the advanced walking performance of subjects with chronic stroke.