2016

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The Relationship between Observed and Perceived Measures of Balance Stability

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Abstract

Introduction Injurious falls have risen significantly in the past decade, raising concerns about the efficacy of fall prevention programs. The purpose of this study was to analyze the correlation between perceived and observed balance measures used in a falls prevention program.

Methods Subjects (S) were 70 (F), 59 (F), and 73(M). They were taught the Rate of Perceived Stability (RPS), a perceived measure of balance intensity and completed the Berg Balance Test (Berg), Timed up and Go (TUG), and Activities Specific Balance Confidence Scale (ABC). The Berg and TUG are observed measures and the ABC is a perceived measure. Last, subjects underwent Limits of Stability Testing (LOS), an observed measure allowing calculation of base of support (BOS) and center of mass (COM).

Results The Berg predicted fall risk for S2 and 3 (2:51/56, 3:43/56). TUG results were well below age norms for S 1 and 3 (1: 12.1s, 3: 12.7s). S1 and 3 reported fear of falling; S 2 and 3 reported frequent falls. LOS testing showed S1 and 3 with minimal COM movement.

Discussion S1, with a fear of falling, history of falls, and no fall risk, moved slowly and with minimal COM displacement. S2, with a fall risk and history of falls, moved with more COM excursion. S3, with a fall risk and history of falls, moved slowly with little COM excursion. Perceived versus observed clinical balance measures correlated well. LOS analysis was more complex, however, perceived RPS scores mirrored observed measures. This study provides initial feasibility data on this assessment protocol.

Conclusion Perceived balance scores matched actual balance measures when overall excursion and movement speed were taken into account in this preliminary descriptive study.