Inter and Intra-Rater Differences in the Extent of Lean Release and its Influence on Backward and Lateral-Stepping Characteristics

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Abstract

Introduction: stepping is a protective response to disturbances, preventing falls. backward and lateral balance loss poses greater injury risk.

Methods: participants meeting specific criteria are explained about the study and asked for their consent. with a laser pointer attached to their pelvis, they stand in a stable position as the examiner positions themselves behind and releases support while the participant leans backwards and laterally. this procedure is repeated three times with different therapists and participants, and video analysis tracker is used to evaluate the backward and lateral stepping strategy.

Results: (by using anova and icc)backward stepping reaction: backward stepping reaction: none of the trials have p values below the common significance threshold of 0.05, indicating that there are no statistically significant differences in therapist variable on the outcomes measured in each trail. intraclass correlation. 75 subjects and 3 raters/ measurements. icc type as referenced by shrout & fleiss lateral stepping reaction: among the three analyses, only tl 1 showed a statistically significant difference in outcomes based on the therapist, suggesting that the particular measure or context of tl 1 might be more sensitive to the therapist's influence compared to tl 2 and tl 3. 50 subjects and 4 raters/ measurements. icc type as referenced by shrout & fleiss.

Conclusion: clinicians should assess compensatory stepping to identify fall risk. variability in best test can enhance physiotherapists' skills in assessing spatiotemporal parameters and improving treatment protocol for balance.