

Estimating The Minimally Clinically Important Difference of the Upper Extremity Scale of the Fugl-Meyer Assessment in Chronic, Severe Stroke

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PURPOSE/HYPOTHESIS: To estimate the minimally clinically important difference (MCID) of the Upper Extremity Fugl-Meyer (UEFM) in a chronic stroke population with severe residual hemiparesis. There is a paucity of literature investigating the MCID of the UEFM in stroke survivors that are in the chronic phase and who have severe residual hemiparesis. We hypothesize that these MCID values would be lower than those previously published for different levels of chronicity and lesser degrees of severity in the stroke population. Participants: 54 patients with chronic (> 6 months since clinical stroke) and severe residual upper extremity paresis defined as not meeting traditional constraint induced movement therapy criteria (10 degrees of extension at the wrist, thumb, and at least 2 additional digits).

METHOD: Secondary analysis of data from two different trials investigating the effectiveness of interventions for upper extremity motor recovery in chronic stroke was completed. Patients in all studies received 12 weeks of upper extremity rehabilitation, specifically repetitive task practice. Measures of UEFM were repeated before and after intervention. An anchor based method utilizing a patient reported outcome (PRO) was chosen for estimating MCID to best reflect the amount of change perceived as important to the patient. Consistent with other reports using anchor-based methods in this population, cutoff scores of patient reported outcomes that signify the smallest meaningful change were utilized to calculate MCID. Mean change scores from pre to post-intervention for those participants who scored at/above the PRO cut-off score were utilized to calculate the MCID.

RESULTS: Utilizing mean change scores on the UEFM from pre to post-intervention in those patients who scored above the PRO cutoff, the estimated MCID for the UEFM is 3.5 points [95% CI 1.9-5.0].

CONCLUSIONS: As hypothesized, the MCID for the UEFM is lower for patients with chronic, severe residual hemiparesis (3.5 points) compared to previously reported values for moderate to minimal hemiparesis (4.25-7.25 points). The results of this study allow for the effectiveness of interventions in this population to be more accurately captured. It is necessary to have an accurate measurement of the MCID for commonly used outcome measures to determine the effectiveness of interventions, the benefit to the patient, and subsequently the potential impact on stroke rehabilitation for those with chronic, severe upper extremity hemiparesis.

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