



RehabMove 2018: FACTORS ASSOCIATED WITH TRANSFER INDEPENDENCE IN MEN WITH PARAPLEGIA

R.E. Cowan¹, A.A. Guccione², R.E. Keyser², D. Murray², C.S. Fitzmaurice¹, A. Rounds³, I. Ljungberg³, S. Groah³

¹University of Miami Miller School of Medicine, MIAMI, FL, United States of America

²George Mason University, FAIRFAX, VA, United States of America

³MedStar Health Research Institute, HYATTSVILLE, MD, United States of America

PURPOSE: To determine if personal and clinical characteristics are associated with transfer independence and for factors associated with transfer independence, to identify thresholds with high transfer independence specificity.

METHODS: Eighty-four men with spinal cord injury ≥ 6 months post injury who used a manual wheelchair completed the study at one of three centers in the United States. Weight, height and body mass index (BMI) were measured. Questionnaires assessed injury level & completeness, age, age at injury, and injury duration. Graded exercise tests to volitional exhaustion determined peak aerobic power. SCIM-III self-report questions about bed, shower/toilet, and car transfers quantified transfer independence. Persons indicating they needed no assistance in all three transfers were coded as independent and those needing assistance or adaptive devices in any transfer were coded as dependent. Unadjusted associations between candidate variables and transfer independence were identified using individual binary logistic regressions. Receiver operating characteristic curves were used to identify thresholds with high transfer independence specificity.

RESULTS: Candidate variable means (SD) included: age (39(13) years (yrs)), age at injury (28(11) yrs), injury duration (11(11) yrs), weight (81(18) kgs), BMI (25.6(5.9) kg/m²), motor completeness (75% complete), sensory completeness (56% complete), fall concern (23(7) points), and peak aerobic power (1.1(0.31) watts/kg). Of these, three were associated with transfer independence: age at time of injury, fall concern, and peak aerobic power, all $p < 0.01$. Age at injury ≤ 41 years, fall concern ≤ 29 points, and peak aerobic power ≥ 0.81 Watts/kg each provide $\geq 90\%$ transfer independence specificity.

CONCLUSIONS: Practitioners could use thresholds for fall concern and peak aerobic power as additional rehabilitation goals and the threshold for age at injury to indicate that assistance or adaptive equipment may be required.