Inability to Perform the Repeated Chair Stand Task Predicts Fall-Related Injury in Older Primary Care Patients.

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Scholarly Report Title: Inability to Perform the Repeated Chair Stand Task Predicts FallRelated Injury in Older Primary Care Patients.

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**Objective:** To examine whether the chair stand component of the Short Physical Performance Battery (SPPB) predicts fall-related injury among older adult primary care patients.

**Design:** 2-year longitudinal cohort study of 430 Boston area primary care patients aged ≥65 years screened to be at risk for mobility decline. The three components of the SPPB (balance time, gait speed, and chair stand time) were measured at baseline. Participants reported incidence of fall-related injuries quarterly for two years. Complementary log-log discrete time hazard models were constructed to examine the hazard of fall-related injury across SPPB scores, adjusting for age, gender, race, Digit Symbol Substitution Test score, and fall history.

**Results:** Participants were 68% female and 83% white, with a mean age of 76.6 (SD=7.0). A total of 137 (32%) reported a fall-related injury during the follow-up period. Overall, inability to perform the chair stand task was a significant predictor of fall-related injury (HR [hazard ratio]=2.11, 95% CI=1.23-3.62, p=0.01). Total SPPB score, gait component score, and balance component score were not predictive of fall-related injury.

**Conclusion:** Inability to perform the repeated chair stand task was associated with increased hazard of an injurious fall over 2 years among a cohort of older adult primary care patients.
**Description of Student Role:** Bean JF, Kiely DK, Goldstein R, Ward RE, and I jointly contributed to the design of the approach and methods of this secondary analysis. I executed the data analysis portion of the project, with input from all other co-authors. Kiely DK provided substantial assistance in teaching me to use the statistical software for the desired analyses. Goldstein R provided statistical consulting and advice on data interpretation. Ward RE and Welch SA provided advice on managing the available data, using the statistical software, and interpreting the results. Bean JF assisted with all of the roles described above. I was the primary writer of the manuscript and creator of figures/charts. Bean JF provided regular feedback on the manuscript during the writing process. Ward RE, Welch SA, Kiely DK, and Goldstein R provided feedback on the final manuscript and figures. I managed the submission of the manuscript to the journal of interest. Bean JF assisted me in editing the manuscript to address the journal’s suggested revisions.
