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CHAIR STANDS TEST AND SURVIVAL IN THE OLDER POPULATION

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To the Editor

In their manuscript recently published, Cesari et al.¹ suggested that scores on the three subcomponents of the Short Physical Performance Battery (SPPB), namely timed usual gait speed, standing balance, and repeated chair stand, are equally predictive of the risk of adverse health events in older persons and their predictive validity is only slightly inferior to the complete SPPB score. These findings were replicated in the Invecchiare in Chianti (InCHIANTI) Study in a representative sample of the older Italian population² including 993 participants aged 65 and older without disabilities in activities of daily living (ADLs) at enrollment. In particular, the hypothesis that the chair stands subtest, which can be easily performed even in a small outpatient clinic, is a valid tool for the assessment of risk of death in community-dwelling older persons was tested. Over 9 years of follow-up, there were 246 deaths. Using a receiver operating characteristic (ROC) analysis, no significant differences were found in death prediction between the chair stand (area under the ROC curve (AUC) = 0.66, 95% confidence interval (CI) = 0.63–0.69), walking (AUC = 0.65, 95% CI = 0.62–0.69), and balance (AUC = 0.68, 95% CI = 0.65–0.71). Using the original scoring method³ and adjustment for age, sex, Mini-Mental State Examination score, coronary artery disease, and smoking habits, those with a repeated chair stand scores of 0, 1, and 2 were, respectively, 2.3 times (95% CI = 1.3–4.1, $P = .004$), 2.0 times (95% CI = 1.3–3.0, $P = .002$), and 1.8 times (95% CI = 1.2–2.7, $P = .008$) as likely to die during follow-up as those with a score of 4 (shortest time) (Figure 1). Because the space necessary to complete the walking test is often not available in an ambulatory or home setting, the chair stand test is a valid and simple alternative to measure lower extremity performance.

Conflict of Interest: The authors declare that they have no conflict of interest to disclose concerning this letter.

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Figure 1. Survival curves during the 9 years of follow-up according to time to complete the chair stand test.