

# Twenty-second test could identify frailty in hospitalized older adults

December 16 2016, by Dipali Pathak

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Falls and fall-related injuries are a common concern in older adults and can have significant consequences. For older adults who are hospitalized for ground-level falls, their level of frailty can be an important indicator of adverse health outcomes upon discharge. Experts at Baylor College of Medicine and the University of Arizona recently developed a 20-second upper-extremity function test to help identify frailty in this group of adults and found that the test can be used in the trauma setting to predict adverse outcomes in older adults after discharge. Their report appeared in the journal *Gerontology*.

The upper-extremity function test uses wearable sensors to identify frailty by testing repetitive elbow flexion (bending) and extension for 20 seconds. The assessment of frailty is based on quantifying weakness, slowness and exhaustion during the 20-seconds of flexion and extension.

"In a previously study, we demonstrated that this simple test could identify frailty status just as well as conventional assessments," said Dr. Bijan Najafi, professor in the Michael E. DeBakey Department of Surgery at Baylor and director of clinical research in the division of vascular surgery and endovascular surgery. Najafi, a biomedical engineer, is the director of the Interdisciplinary Consortium on Advanced Motion Performance (iCAMP) at Baylor.

In this study, Najafi and colleagues examined whether the test could predict adverse health outcomes upon discharge in bedbound older adults admitted to the hospital due to ground-level fall injuries.

Researchers recruited 101 [older adults](#) with an average age of 79 who were admitted to a trauma setting. Participants underwent the test at the time of admission and were followed for up to two months with phone calls and chart reviews. Researchers measured [health outcomes](#) including discharge disposition (favorable: discharged home or to rehabilitation versus unfavorable), hospital length of stay, 30-day readmission, 60-day readmission and 30-day prospective falls.

They found that the only predictor of 30-day prospective falls postdischarge were patient demographics, which include age, gender and body mass index. The upper-extremity function test was a predictor of discharge disposition, 30-day readmission and 60-day readmission. The indicators of slowness, weakness and exhaustion within the test were highly associated with an unfavorable discharge disposition.

"The study suggests that a 20-second upper-extremity [test](#) is practical for a busy hospital setting and could be used as a quick measure for predicting adverse events and outcomes in bedbound patients postdischarge," said Najafi. "It may help in planning discharge disposition and hospital resource allocation among geriatric inpatients as well as in establishing prevention and preoperative strategies to improve both short- and long-term outcomes in these patients."

**More information:** Bellal Joseph et al. Upper-Extremity Function Predicts Adverse Health Outcomes among Older Adults Hospitalized for Ground-Level Falls, *Gerontology* (2016). [DOI: 10.1159/000453593](https://doi.org/10.1159/000453593)

Provided by Baylor College of Medicine

Citation: Twenty-second test could identify frailty in hospitalized older adults (2016, December 16) retrieved 19 April 2024 from <https://medicalxpress.com/news/2016-12-twenty-second-frailty-16>

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