

# Evaluating the Effectiveness of the Timed-Up-and-Go (“TUG”) Test as an ED

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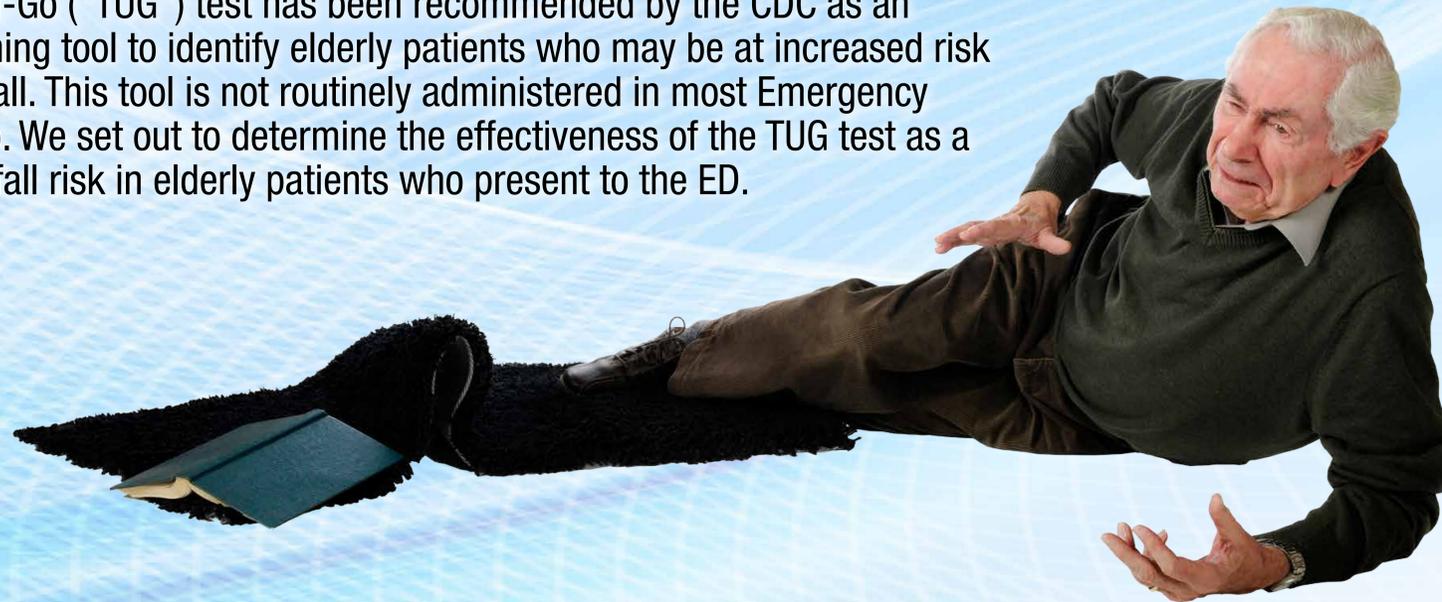
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# Evaluating the Effectiveness of the Timed-Up-and-Go (“TUG”) Test as an ED Screening Tool for Geriatric Fall Risk Assessment

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## BACKGROUND/OBJECTIVE

The Timed-Up-and-Go (“TUG”) test has been recommended by the CDC as an appropriate screening tool to identify elderly patients who may be at increased risk for a mechanical fall. This tool is not routinely administered in most Emergency Departments (EDs). We set out to determine the effectiveness of the TUG test as a screening tool for fall risk in elderly patients who present to the ED.



## METHODS

After IRB approval, this prospective cohort study was conducted at a Level 1 Trauma Center in northeastern Pennsylvania with approximately 75,000 annual adult visits. Patients were approached who were English-speaking, age 65 or older, being discharged home, and reported to either have fallen in the last year, worried about falling, or admitted to feeling unsteady when walking or standing. After informed consent was obtained, subjects were asked to perform the TUG test. This involved having the patient stand up from a chair and walk 10 feet, turn, walk back to the chair and sit down. If a patient took 12 seconds or more to complete the test, they were considered to have a positive TUG test and be at high risk for falling as defined by the CDC.

Subjects had telephone follow-up calls at 6 weeks, 3 months and 6 months, and were asked to self-report any falls they experienced in the time period since their original ED visit or previous phone call. Results are reported as medians to account for outlying times. An interim analysis was completed using Pearson’s chi-square and significance set at  $p < 0.05$ .



## RESULTS

Sixty subjects were enrolled at the time of this interim analysis. Fifty-five were included for analysis; 3 patients withdrew, 1 declined to complete the test due to pain and 1 was lost to follow up. Twenty-seven were female (49.1%) and the average age of participants was 73.6 years old. For the 55 patients analyzed, the median TUG time was 11 seconds. Over the course of the 6-month follow-up, 15 of the 55 participants reported falling after their discharge from the ED. Thirteen of these had a positive TUG test and 2 did not ( $p=0.013$ ) for a sensitivity of 86.7%. Specificity was 50%: 20 patients who did not fall had a positive TUG test; an equal number had a negative TUG test. A positive TUG test in this small cohort had a positive likelihood ratio of 1.73 and a negative likelihood ratio of 0.27.



## CONCLUSIONS

In this small prospective cohort, patients with a positive TUG test were statistically more likely to fall in the next six months. The TUG test was easily performed within the ED setting and may have a role in ED screening to identify patients at risk for falling.

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