O97 Validation of the PROMIS Physical Function assessment for determining fall risk in elderly populations

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Objective: In 2013, the Center for Disease Control and Prevention (CDC) identified the Stopping Elderly Accidents, Deaths and Injuries (STEADI) program as a strategy to implement fall risk assessment and prevention. Though upheld as the gold standard for determining fall risk, incorporating performance measures in practice has proved difficult. In response, the CDC has suggested the New Falls Free Check Up Tool (NFtool) be utilized instead to limit the time needed to perform physical tests required of STEADI. The purpose of this analysis is to assess the validity of PROMIS Physical Function (PF) assessment tool as an alternative way to screen for falls risk compared to the NFtool.

Methods: Surveys were prospectively administered to 120 patients seeking care at a multiple-surgeon orthopaedic center between July 2021 and April 2025 with a mean age of 73.5 years (range, 65-90 years). Subjects consisted of patients who had previously self-identified as fall risk and who presented for management of upper extremity, spine, and shoulder conditions. Consistent with STEADI, an NFTool score >4 considered the patient at risk for falls.

Results: Logistic regression analysis showed that PROMIS PF ($p=0.008$) significantly predicted falls risk defined by the NFTool. Other PROMIS measures (PI and Dep) were not significant ($p>0.05$). The receiver operator curve showed an area under the curve of 0.73 when assessing the ability to PROMIS PF to predict fall risk categorization. The threshold for fall risk using Youden's index is a PROMIS PF t score of 41, yielding a specificity of 0.78 and sensitivity of 0.65.

Conclusions: This data shows that PROMIS PF is strongly correlated with the NFTool to predict fall risk. A PROMIS PF threshold of 41 could be used as a screening tool to identify patients at risk and allow for referral to rehabilitation services for fall prevention. Utilizing PROMIS PF, already in place at multiple hospital systems, has the potential to improve the efficiency of risk assessment by reducing the workload associated with performance measures of the STEADI program.