Research Report Abstract

TITLE: The Relationship Between Patient Reported Outcomes Measurement Information System (PROMIS) and Timed Up and Go (TUG) Test in Patients Awaiting Total Knee Arthroplasty (TKA)

ABSTRACT BODY:

Purpose: PROMIS computerized adaptive testing (CAT) has the potential to quickly assess patient physical function status before and after a TKA, but there is little research available comparing it to functional measures. The TUG test is a simple functional outcome measure commonly used in clinical practice to assess mobility and fall risk in adults. Completion of the TUG test might be limited due to lack of space, reluctance of the patient to perform the test, and inability of the patient to follow multi-step commands. PROMIS CAT has the potential to address concerns related to this functional outcome measure. However, there is a lack of available evidence comparing the PROMIS CAT to the TUG test. Therefore, the purpose of this study was to determine the strength of the relationship between the PROMIS CAT physical function domain and the TUG test in patients who are candidates for TKA surgery.

Number of Subjects: 59

Materials and Methods: This study was a secondary analysis of an ongoing randomized controlled trial. A single time point from among the 4 time points collected for the original study was used in this secondary analysis. Participants were required to have a diagnosis of severe knee osteoarthritis (OA) and be offered the option to undergo a TKA by an orthopedic surgeon to be included in this study. The PROMIS CAT physical function domain, TUG test, and numeric pain rating scale (NPRS) were collected.

Results: PROMIS CAT physical function domain scores had a significant moderate, negative correlation with the TUG test (r = -0.47; 95% CI = -0.66 to -0.23; p-value = 0.0003). The PROMIS CAT physical function domain accounted for 22.9% of the variance in the TUG test. NPRS had no significant correlation to PROMIS CAT physical function scores (r = -0.24; 95% CI = -0.48 to 0.03; p-value > 0.05) and the TUG test (r = 0.24; 95% CI = -0.02 to 0.47; p-value > 0.05).

Conclusion: These findings suggest that there is a significant moderate, negative correlation between the PROMIS CAT physical function domain and the TUG test. Additionally, the PROMIS CAT physical function domain accounts for a small amount of variance in the TUG test, indicating that it does not seem to be a surrogate for this functional measure. Moreover, the NPRS has no significant correlation with measures of physical function.

Clinical Relevance: Clinicians should consider utilizing a variety of self-report and functional outcome measures to adequately assess patients with severe knee OA who are candidates for TKA surgery.

References (At Least 5 Within the Last 10 Years) (Abstract Submission-Research Report): Bade MJ, Wolfe P, Zeni JA, Stevens-Lapsley JE, Snyder-Mackler L. Predicting poor physical performance after total knee arthroplasty. *J Orthop Res*. 2012;30(11):1805-1810. Broderick JE, Schneider S, Junghaenel DU, Schwartz JE, Stone AA. Validity and reliability of patient-reported outcomes measurement information system instruments in osteoarthritis. *Arthritis Care Res*. 2013;65(10):1625-1633. Fries JF, Cella D, Rose M, Krishnan E, Bruce B. Progress in assessing physical function in arthritis: PROMIS short forms and computerized adaptive testing. *J Rheumatol*. 2009;36(9):2061-2066. Nguyen US, Zhang Y, Zhu Y, Niu J, Zhang B, Felson DT. Increasing prevalence of knee pain and symptomatic knee osteoarthritis: Survey and cohort data. *Ann Intern Med*. 2011;155(11):725-732. Poitras S, Wood KS, Savard J, Dervin GF, Beaule PE. Predicting early clinical function after hip or knee arthroplasty. *Bone Joint Res*. 2015;4(9):145-151.