PROMIS CAT FORMS DEMONSTRATE RESPONSIVENESS IN PATIENTS FOLLOWING ARTHROSCOPIC ROTATOR CUFF REPAIR ACROSS NUMEROUS HEALTH DOMAINS

Presenter: Felicity Fisk, MD
Authors: Felicity Fisk, MD; Sreten Franovic, MS, BS; Joseph Tramer, MD; Caleb Gulledge, BS; Noah Kuhlmann, MS, BS; Vasilios Moutzouros, MD; Stephanie Muh, MD; Eric Makhni, MD, MBA

Purpose: Recent studies have validated use of National Institutes of Health (NIH) Patient-Reported Outcomes Measurement Information System (PROMIS) health measures in patients with rotator cuff tear. These studies have demonstrated favorable administration and psychometric properties of PROMIS forms. However, the responsiveness of PROMIS computer adaptive test (CAT) forms in patients undergoing rotator cuff repair has not been investigated. The purpose of this study was to investigate the responsiveness of PROMIS CAT assessments post-operatively in patients undergoing arthroscopic rotator cuff repair.

Methods: All patients undergoing arthroscopic rotator cuff repair by one of three fellowship-trained surgeons were included in the study. PROMIS CAT upper extremity physical function ("PROMIS-UE"), pain interference ("PROMIS-PI"), and depression ("PROMIS-D") scores from pre-operative and 6-month post-operative visits were collected and analyzed. Patient-centric demographic factors, tear size, and biceps involvement were also correlated to pre- and post-operative PROMIS scores.

Results: A total of 101 patients were enrolled in the study. The average age was 59.8 ± 8.9 years with 51 males (50.5%). Pre-operative PROMIS-UE, PROMIS-PI and PROMIS-D CAT scores improved significantly from 29.8 ± 6.0, 62.6 ± 5.1, and 48.4 ± 8.7, respectively, to 40.9 ± 9.8, 51.2 ± 9.3, and 42.9 ± 9.0, respectively, at 6-month follow-up (p<0.001). Pre-operative correlations were found between PROMIS-UE and PROMIS-PI scores (p<0.001) and between PROMIS-PI and PROMIS-D scores (p=0.001). No significant correlation was found between PROMIS-UE and PROMIS-D scores (p=0.08), pre-operatively. Pre-operative PROMIS-UE, PROMIS-PI or PROMIS-D scores were not correlated with rotator cuff tear size (p=0.4).

Conclusion: PROMIS CAT forms demonstrate responsiveness in patients undergoing arthroscopic rotator cuff repair across numerous domains.
Figure 1. PROMIS Scores Change over Time (Mean ± SEM). Patients show improvement in all 240 three health domains after rotator cuff repair. Abbreviations: Patient-reported outcomes measurement information system (PROMIS); Upper Extremity (UE); Pain Interference (PI); Depression (D).
Figure 2. Pre-Operative Score Impacts Recovery. Histogram showing frequency of patients reaching a positive change in PROMIS Upper Extremity (UE) (Post-Operative – Pre-Operative). The two x-axes are grouped Pre-Operative PROMIS-UE and Pre-Operative PROMIS-Pain Interference ranges. Abbreviations: Patient-reported outcomes measurement information system (PROMIS); Upper Extremity (UE); Pain Interference (PI).