Paper #13

Preoperative PROMIS Scores Help Identify Patients Who Will Fail to Improve from Total Hip Replacement at 6-12 Month Follow-Up

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Introduction: The purpose of this analysis was to determine whether the use of preoperative PROMIS scores increases the probability of determining who will fail to improve at 6-12 month following THA.

Methods: Prospective PROMIS physical function (PF), pain interference(PI), and depression scores were collected for all orthopaedic patient clinic visits at a multi-surgeon tertiary total joint clinic from February 2015 to May 2016. Primary THA for osteoarthritis were identified by ICD-9 and CPT code. Of the 881 patients identified, 115 patients had complete data for a minimum of 6 months follow up. The minimal clinical important difference (MCID) was calculated using the distributive method. Receiver operating curves (ROC) were utilized to determine sensitivity/specificity for various cut points to estimate patients failing to achieve a MCID for each PROMIS domain (PF, PI, Depression). Cutoffs corresponding to 95% specificity for not achieving MCID were chosen. Pre- and post-test probabilities were then calculated using the selected cutoffs.

Results: Average follow-up was 279 days (181-447 days). Pre-test probability for patients who failed to improve physical function scores to the MCID was 48.7%. Patients with a preoperative PROMIS PF score of 48.3 or higher had a 78.3% probability of failing to reach the MCID. Pre-test probability for patients who failed to improve pain interference scores to the MCID was 46.1%. Patients with preoperative PROMIS PI of less than 52.4 had an 83.6% probability of failing to meet the MCID. Pre-test probability for patients who failed to improve depression scores to the MCID was 30.4%. Patients with PROMIS depression less than 45.7 had a 74.8% probability of failing to meet the MCID.

Conclusions: Preoperative PROMIS domain scores of physical function, pain interference, and depression can be utilized to identify patients who are unlikely to show improvement following THA at 6-12-month follow-up.

Notes