# Failure to Improve PROMIS Global-10 Score After Hip Arthroscopy: A Multivariable Regression Analysis

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The authors have no relevant disclosures.

# Purpose

The Patient-Reported Outcomes Metric Information System (PROMIS) Global-10 survey is a holistic assessment of mental and physical health in patients. The aim of this study was to identify predictive factors for failure to improve these scores after hip arthroscopy as treatment for femoroacetabular impingement (FAI).

# Methods

A single institutional hip preservation registry was queried, and a total of 161 patients who had undergone primary (n=143) or revision (n=18) hip arthroscopy for FAI with minimum 2-year follow-up were identified. Surgical protocol for 139 cases (86%) included labral repair and 134 (83%) included femoroplasty. A multivariable regression analysis was performed to identify risk factors for failure to improve mental and physical PROMIS Global-10 scores post-operatively. Variables considered included age, sex, and body mass index (BMI).

There was a significant difference between baseline and 2-year follow-up for the mental subscore (p=0.001) but not for the physical subscore (p=0.75). After standardizing, the mean difference in t-score between the two timepoints was -2.3 (SD 11.7) for mental subscore and 0.3 (SD 10.3) for physical subscore. BMI (24.3, SD 3.8) and age (38.6, SD 11.8) were not associated with changes in t-score for physical health; however, female sex did indicate a decrease in t-score for physical health (-0.5, SD=0.4). Overall, a lower baseline mental t-score was associated with lower improvement in physical t-score (p< 0.001) at 2-year follow-up.

# Results

| | Mean at Baseline (SD) | Mean at 2YR (SD) | Mean Difference Between Baseline and 2-YR | P-value |
|---|---|---|---|---|
| **Physical Health** Raw Score | 14.9 (2.2) | 15.0 (2.6) | 0.1 (3.4) | 0.75 |
| **Mental Health** Raw Score | 16.2 (2.6) | 15.4 (3.0) | -0.8 (4.2) | 0.001 |
| **Physical T-score** (Standardized) | 48.1 (6.8) | 48.4 (7.9) | 0.3 (10.3) | 0.57 |
| **Mental T-score** (Standardized) | 54.5 (7.8) | 52.2 (8.5) | -2.3 (11.7) | 0.01 |

# Conclusion

Lower PROMIS Global-10 Mental Health scores at baseline correlate with reporting worsened physical state at 2-year follow-up, highlighting the potential disparity between patient satisfaction and clinical improvement. The answer to this question is essential to the future of value-based medicine, and thus, must be studied further. Additionally, because women are at a higher risk of worsened physical health outcomes, we must devote more attention to their care and potentially identify any sex-specific risk factors for arthroscopic management of FAI.

# Thank you