

## **Poor Pre-Operative Emotional Health Limits Gain in Function after Total Hip Replacement**

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**Introduction:** While total joint replacement surgery successfully reduce joint pain and is associated with a low complication rate, patients experience a wide variation in functional improvement. Pre-surgery emotional state correlates with post-surgical functional improvement in total knee replacement patients. We tested this concept against a national cohort of total hip replacement (THR) patients.

**Materials & methods:** Patients undergoing primary THR from 7/1/11 through 12/6/13 with postoperative outcomes at 6 months were identified from FORCE-TJR, a US national research consortium. We obtained data on patient demographics, underlying type of arthritis, body mass index (BMI), Charlson Comorbidity Index, arthritic pain in contralateral hip and bilateral knees, back pain, Hip Disability and Osteoarthritis Outcome Score (HOOS), global function based on the Short Form 36 (SF-36) Physical Component Score (PCS) and emotional health using the SF-36 Mental Component Score (MCS). We performed descriptive statistics and multivariable linear regression models to identify factors associated with 6-month postoperative PCS global function scores.

**Results:** The 1,426 THR patients identified were 60.7% female, 95.0% white, mean age 65.3 years, mean BMI of 29.0. Mean preoperative surgical joint pain, stiffness and function was 50.1 ( $\pm 19.2$ ), 38.7 ( $\pm 21.9$ ), 46.4 ( $\pm 19.2$ ) respectively. MCS was 51.56 ( $\pm 12.2$ ) and PCS 31.6 ( $\pm 8.9$ ). Pre-operative and post-operative functioning differed based on emotional health (MCS <50 vs.  $\geq 50$ ). In multivariable models, lower MCS levels were associated with worse PCS at 6 months (coefficient of 0.18. 95% CI 0.14-0.22) after controlling for demographics, medical comorbidity, baseline PCS and burden of musculoskeletal disease.

**Conclusion:** Poorer emotional health is associated with poorer global function following surgery and a key factor in the recovery and rehabilitation following THR. Better emotional health screening for THR surgical candidates, and interventions to provide additional emotional support to those who need it, are necessary to ensure optimal functional gain.