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Does Functional Gain and Pain Relief After TKR and THR Differ by Patient Obese Status?

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Introduction: Obesity is an important predictor of functional status and pain after total knee (TKR) and total hip (THR) replacement. However, variations in pre-post TKR and THR changes in function and pain by obesity status remain to be examined.

Material & Methods: Pre- and 6 month post surgery data were collected on 2,964 primary TKR and 2,040 primary THR patients between 5/2011 and 3/2013. Data included demographics, comorbidities, operative joint pain severity based on the Knee Injury or Hip Disability and Osteoarthritis Outcome Score (KOOS/HOOS), WOMAC pain (higher is better), physical function (SF-36 PCS, higher is better), mental health (SF-36 MCS), and musculoskeletal burden of illness. Pre-post changes in PCS and pain were analyzed using descriptive statistics.

Results: TKR patients were average 67 years, 61% women, 93% whites, 13% under or normal weight, 33% overweight, 29% obese, 15% severely obese, 9% morbidly obese. Greater level of obesity was associated with lower PCS at baseline and 6 month, lower pain scores at baseline but larger improvement post-op. Pre to-6 month PCS did not differ by obesity status. At 6 months morbidly obese patients had slightly lower/worse pain score. THR patients were average 65 years, 62% women, 95% whites, 27% under/normal weight, 38% overweight, 23% obese, 9% severely obese, 4% morbidly obese. Greater level of obesity was associated with lower PCS at baseline and 6 month, poorer baseline pain score but larger improvement post-op. Mean changes in pre-to-6 month PCS did not differ by obesity status.

Conclusion: At 6 months after TKR, severely obese patients (BMI>35) reported improvements in both pain and function equal to or greater than patients with BMI<35. At 6 months after THR, all patients reported significant functional gains although patients with BMI>35 had lower mean functional gain than those with BMI<35. All patients reported excellent pain relief.