

Improvement after TKA but KOOS, JR score less than 71: Implications for Merit Based Reimbursements

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INTRODUCTION:

The Center for Medicare & Medicaid (CMS) is introducing the merit-based incentive payment system, requiring outcome reporting. One potential measure is the proportion of patients with a postoperative KOOS, JR score of 71. We sought to determine what percentage of patients achieve meaningful clinical improvement following TKA, but do not reach a KOOS, JR score of 71, as well as associated predictors.

METHODS:

We queried a database of primary TKA cases performed at our tertiary, urban, academic institution from 2018 to 2023, excluding cases revised before 1 year. KOOS, JR scores were collected at pre-operative and 12 months follow up office visits – patients who improved by the minimal clinically important difference (MCID) of 14 at one year were included. The proportion of these patients who reached a KOOS, JR score of 71 was calculated. Univariate analysis was performed for association with KOOS, JR<71 with chi-square and t-tests. Predictor variables included age, sex, BMI, ASA score, Charlson Comorbidity Index(CCI), race/ethnicity, ZIP Code, insurance payer, other joint pain, low back pain (Oswestry Questionnaire), and VR-12 physical and mental component scores. A logistic regression model was then formed.

RESULTS:

The total population was 2583 patients. 1933 patients (76%) achieved the MCID. Of these patients who reached MCID, 60% (n=1154) scored a KOOS Jr<71. On logistic regression, increased preoperative MCS (OR = 1.02, 95% C.I. 1.02 – 1.03; p<0.01) and pre-op KOOS JR scores (OR = 1.01, 95% C.I. 1.003 – 1.014; p<0.01) were associated with increased odds of reaching KOOS JR score \geq 71 at 12 months post-surgery. Patients with mild (OR=0.66, 95% C.I. 0.53 – 0.83; p < 0.001), moderate (OR = 0.74, 95% C.I. 0.58 – 0.95; p = 0.019), and severe (OR = 0.57, 95% C.I. 0.42- 0.77; p < 0.001) low back pain intensity were less likely to reach KOOS JR score \geq 71 compared to patients with no pain at 12 months post-surgery. Patients with 2 (OR = 0.75, 95% C.I. 0.56 – 0.99; p = 0.48) and 3 (OR = 0.47, 95% C.I. 0.35 – 0.63; p < 0.001) non-surgical joints with moderate or severe pain were less likely reach KOOS JR score \geq 71 compared to patients with no non-surgical joint with moderate or severe pain whereas there was no difference in odds of reaching KOOS JR score \geq 71 between patients with one and no joint with moderate or severe pain (OR = 0.99, 95% C.I. 0.81 – 1.22; p = 0.948) at 12 months post-surgery.

DISCUSSION AND CONCLUSION: Though 76% of our patients met the MCID, only 40% of these patients met the KOOS, JR cutoff of 71. Patients with additional painful joints, low back pain, lower VR-12 mental scores, and lower preoperative KOOS, JR scores were less likely to meet the cutoff. This study may inform outcome reporting as new payment models are adopted.