



Safe Selection of Outpatient Joint Replacement Patients with Medical Risk Stratification: The “OARA Score”

R. Michael Meneghini, MD, Mary Ziemba-Davis, BA,
Marshall K. Ishmael, BS, Alex L. Kuzma, MD, Peter P. Caccavallo, MD

Introduction: While there is substantial interest in outpatient joint replacement, risk stratification and patient selection criteria currently are crude and unreliable in the ambulatory setting. The objective of this study was to assess the validity of a medically-based risk stratification score in selecting patients for outpatient joint replacement surgery.

Methods: A retrospective review of consecutive patients who underwent primary hip and knee arthroplasty in a high-volume academic practice with an early discharge program was performed. Patients underwent risk-assessment by a perioperative medical specialist. An Outpatient Arthroplasty Risk Assessment Score (“OARA Score”) was developed to risk-stratify patients for outpatient joint replacement with categories of “low risk/appropriate” (0-59) and “high risk/not appropriate” (>59). OARA and ASA classification scores were calculated for all patients. Statistical analysis was performed to correlate scores with early discharge and to evaluate readmissions.

Results: 720 patients had a mean age of 62.2 years and mean BMI of 32.2. Mean OARA Scores for patients discharged the same day or the day after surgery were 27.3 and 26.3, respectively; versus mean OARA Scores of 42.8 and 58.4 for days two and three, respectively ($p < 0.005$). The positive predictive value of the OARA Score was 84.3% for same or next day discharge, compared to 56.2% for the ASA classification score. All cause readmission rates in this early discharge program were 0.0% for same day discharge compared to 2.6% for next day ($p = 0.083$) and 3.1% for day two or later ($p = 0.009$) discharges.

Conclusions: The OARA Score is a valid medical risk-stratification tool, accurately predicting the ability to undergo total joint arthroplasty in a same day or 23-hour outpatient program. The OARA Score has more precise predictive ability than the ASA classification with respect to early discharge with low all cause readmission rates. Significance: Accurate medical risk-stratification is an essential component of safe patient selection for outpatient joint replacement. The OARA Score is a valid tool that facilitates the assessment of patient appropriateness for hip or knee arthroplasty in the outpatient or ambulatory setting.