

Perioperative Orthopaedic Surgical Home (POSH): Optimization of High-Risk TJA Candidates Is Effective

Kelvin Y. Kim, BS, **Afshin A. Anoushiravani, MD**, Kevin K. Chen, MA, Robert Li, MD, Joseph A. Bosco, MD, James D. Slover, MD, Richard Iorio, MD

Introduction: It is well recognized that unplanned readmissions following total joint arthroplasty (TJA) are more prevalent in patients with comorbidities. However, few investigators have delayed surgery and medically optimized patients prior to surgery. In its current form, the Perioperative Orthopaedic Surgical Home (POSH) is a surgeon-led screening and optimization initiative targeting eight common modifiable comorbidities.

Methods: A total of 4,188 patients who underwent TJA between January 2014 and December 2016 were retrospectively screened by the Readmission Risk Assessment tool (RRAT) score. From this cohort, 1,194 subjects had a preoperative RRAT score of 3 and were eligible for inclusion. Patients were then separated into two cohorts based upon whether they were medically optimized according to the POSH initiative (POSH; n=216) or continued with surgery (non-POSH; n=978) despite their high-risk for readmissions. Demographics and quality metrics were then compared between the two cohorts.

Results: Since the implementation of the POSH initiative, patients with RRAT scores ranging from 3 to 5 have experienced lower 30-day (1.6% vs. 5.3%; p=0.03) and 90-day (3.2% vs. 7.4%; p<0.05) readmission rates when compared to the non-POSH cohort. Only 15.3% of medically optimized patients enrolled in the POSH initiative were discharged to a post-acute care (PAC) facility, whereas, 23.4% of non-POSH patients were discharged to a PAC facility (p=0.01). There were no differences in LOS and infection rates between the two cohorts. Moreover, 90-day episode of care costs were 14.9% greater among non-POSH Medicare TJA recipients and 32.6% higher if a readmission occurred.

Conclusions: The identification and medical optimization of comorbidities prior to surgical intervention may enhance the value of care TJA candidates receive. A standardized multi-disciplinary approach to the medical optimization of high-risk TJA candidates may improve patient engagement and perioperative outcomes, while reducing cost associated with TJA.