

Differential Effect of COVID on Total Joint Arthroplasty: Hospital vs. Ambulatory Surgical Center / Hospital-Based Outpatient Department - A MARQI Analysis

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INTRODUCTION:

COVID-19 created unprecedented challenges for healthcare, especially for high volume elective case subspecialties like total joint arthroplasty (TJA). Conservation of resources and limited inpatient capacity led to new patterns of clinical workflow such as changes in preoperative selection for outpatient surgery, a push for same day discharge, and changes in site of service. This study examined demographic changes and short-term complications associated with TJA pre- and post-COVID and analyzed differential effects between hospitals and ambulatory surgical centers / hospital-based outpatient departments (ASC/HOPD).

METHODS:

Using a statewide TJA registry, case volumes, patient demographics, and 90-day complications of primary TJA performed at hospitals and ASC/HOPDs between 07/2019-12/2019 and 07/2020-12/2020 were compared. Propensity scoring was used to create a matched hospital cohort for complication comparisons.

RESULTS:

When comparing 2020 to 2019, there was a 9% and 17% decrease in hospitals for THA and TKA volume respectively. In contrast, these increased 84% and 125% in ASC/HOPDs. Entering 2020: ASC/HOPD patients became older ($p=0.0031$, $p<0.0001$; hips, knees), more ASA>2 ($p=0.0105$, $p=0.0021$), less attended joint class ($p<0.0001$, $p<0.0001$), and more hips were women ($p=0.023$). Hospitals had higher preoperative pain scores ($p=0.0117$, $p<0.0001$; hips, knees), less joint education attendance ($p<0.0001$, $p<0.0001$), had younger knees ($p=0.0169$), and more ASA>2 (0.0009). After propensity matching, there were no significant differences for 90-day fractures, DVT/PE, infection, or hip dislocations in either setting. Hospital hips had higher readmissions ($p=0.0003$), and knees higher 30-day ED visits ($p=0.005$). In the ASC/HOPD both THAs and TKAs were prescribed higher OMEs ($p<0.0001$, $p<0.0001$).

DISCUSSION AND CONCLUSION:

COVID shifted TJAs to the ambulatory setting. The care pattern change negatively affected preoperative education and increased the number of less healthy patients in outpatient settings. However, aside from increased discharge OMEs, short-term complications post-COVID were not increased in ASC/HOPDs in this propensity matched cohort. The COVID induced push for site of service change appeared safe and efficacious.