Similar 90-Day Outcomes among Inpatient and Outpatient Arthroplasties: A Single-Surgeon Matched Cohort Analysis
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INTRODUCTION:
The proportion of arthroplasties performed in the ambulatory setting has increased substantially. However, concerns remain whether same-day discharge may increase the risk of complications. The purpose of this study was to compare 90-day outcomes between inpatient arthroplasties and outpatient arthroplasties performed at an ambulatory surgery center (ASC) and determine if there is a learning curve associated with ASC arthroplasties.

METHODS:
Among a single-surgeon cohort of 970 patients who underwent arthroplasty at an ASC, 854 (88.0%) were matched one-to-one with inpatients based on age, gender, American Society of Anesthesiologists (ASA) score, Body Mass Index, and procedure (105 could not be adequately matched while 11 lacked 90-day follow up). The cohort included 281 total hip arthroplasties (32.9%), 267 unicompartmental knee arthroplasties (31.3%), 242 primary total knee arthroplasties (28.3%), 60 hip resurfacings (7.0%), two revision hip arthroplasties (0.3%), and two revision knee arthroplasties (0.3%). Outcomes included readmissions, reoperations, unplanned clinic visits, emergency department visits, and complications.

RESULTS:
Inpatient and outpatient cohorts were similar in all demographic variables, reflecting successful matching. The reoperation rate was 0.9% in both cohorts (p=1.0). Rates of readmission (1.6% outpatient vs. 2.0% inpatient), any complications (5.6% vs. 5.9%), minor complications (3.9% vs. 4.2%), emergency department visits (1.4% vs. 2.7%), and unplanned clinic visits (5.5% vs. 5.7%) were lower in the outpatient cohort but did not reach significance with the sample size studied.

A learning curve may exist as evidenced by significant reductions in the reoperation and overall complication rates among outpatient arthroplasties over time (p=0.03 and p=0.007, respectively), despite outpatients becoming significantly older and heavier (p<0.01 for both) over the course of the study.

DISCUSSION AND CONCLUSION:
Arthroplasties performed at ASCs appear safe in appropriately selected patients, but may be associated with a learning curve as evidenced by the significant decrease in complication and reoperation rates over time.