

Effects of Surgeon Volume on Outcomes Following TKA in the Morbidly Obese: An Analysis from the AJRR

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INTRODUCTION: The purpose of this study was to utilize the American Joint Replacement Registry (AJRR) to examine the effects of surgeon total knee arthroplasty (TKA) volume and surgeon obesity-specific TKA volume on rates of revision following primary TKA in patients with morbid obesity.

METHODS:

We identified 833,099 primary TKAs performed from 2017 – 2021 by 4,829 surgeons in the AJRR. Annual surgeon TKA volumes and obesity-specific TKA volumes were calculated based on the median annual number of primary TKAs performed per surgeon for all patients and for patients with morbid obesity, respectively. Multivariate logistic regression was used to evaluate the effects of surgeon volume and obesity-specific volume on risk of all-cause revision and revision for periprosthetic joint infection (PJI).

RESULTS: Median surgeon TKA volume was 85 cases/year (range, 1 to 466 cases/year) and median surgeon obesity-specific TKA volume was 11 cases/year (range, 1 to 242 cases/year). Increasing surgeon TKA volume was not associated with a decreased risk of any revision or a decreased risk of revision for PJI ($p>0.05$ for all) for patients with morbid obesity. Similarly, there were no associations between surgeon obesity-specific primary TKA volume and risk of any revision or revision for PJI following TKA in patients with morbid obesity ($p>0.05$ for all).

DISCUSSION AND CONCLUSION: Morbidly obese patients had a similar risk of any revision and PJI after undergoing primary TKA performed by low-volume or high-volume surgeons. Similarly, surgeon annual obesity-specific primary TKA volume was not associated with these endpoints in this patient population. Based on these data, surgeon volume does not appear to be a modifiable risk factor for optimization of outcomes in morbidly obese patients undergoing primary TKA.