



Paper #1

Does Bariatric Surgery Reduce Postoperative Complications Following Total Knee Arthroplasty?

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Introduction: Previous studies have failed to clearly demonstrate a significant reduction in postoperative TKA complication rates in patients who have had bariatric surgery (BS), potentially due to low patient numbers. The purpose of this study was to utilize a national database to evaluate the complication rates after TKA in patients who have had BS. The hypothesis was that BS prior to TKA would be associated with improved outcomes.

Methods: Patients who underwent TKA were identified using the PearlDiver (www.pearldiverinc.com) database. Three cohorts were identified: 1) non-obese TKA patients, 2) morbidly obese TKA patients who did not have BS, and 3) patients who underwent BS for weight loss prior to TKA. Each cohort was assessed for major and minor complications within 90 days postoperatively. Odds Ratios (OR), 95% confidence intervals (CI) and chi square tests were calculated using SPSS. $p < 0.05$ was considered significant.

Results: 78,036 unique TKA patients were identified from 2005-2011. 11,294 patients (14.5%) were coded as morbidly obese. 219 of the obese patients underwent BS prior to TKA. Morbidly obese patients had a major complication rate of 16.7% and minor complication rate of 23.7% (major: OR 4.03, 95% CI 3.79 – 4.28, $p < 0.0001$; minor: OR 2.25, 95% CI 2.14 - 2.36, $p < 0.0001$). In patients who underwent TKA after BS, the major complication rate (9.1%) and minor complication rate (16.4%) was significantly lower compared to morbidly obese patients who did not have BS (major: ORw 0.50, 95% CI 0.32 – 0.80, $p = 0.004$; minor, OR 0.63, 95% CI 0.44 – 0.91, $p = 0.016$). Obese patients who had BS still had significantly higher major complication rates than non-obese patients ($p = 0.004$), but there was no statistically significant difference in minor complication rates ($p = 0.065$).

Conclusion: Obesity and its associated medical comorbidities place patients undergoing TKA at a significantly increased risk for both major and minor postoperative complications. Patients who underwent bariatric surgery prior to TKA appear to have a lower risk than morbidly obese patients, although still remain at higher risk than non-obese patients.
