

## **Weight Loss Before Primary TJA: A Comparative Study of Bariatric Surgery and GLP-1 Receptor Agonist**

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**INTRODUCTION:** A variety of weight-loss strategies exist to optimize body mass index (BMI) to reduce complications prior to primary total hip arthroplasty (THA) and total knee arthroplasty (TKA). Our study aimed to compare perioperative outcomes of obese patients treated preoperatively with bariatric surgery or glucagon-like-peptide-1 receptor agonist (GLP-1) compared to no intervention prior to THA and TKA.

**METHODS:** A multicenter institutional cohort of patients undergoing primary THA (2906) and TKA (3762) in 2024 were identified. Preoperative weight-loss strategies included no intervention (87%), perioperative GLP-1 use (12%), or prior bariatric surgery (1%). Ninety-day readmissions and reoperations were compared amongst groups. Sub-analysis was performed stratifying the no intervention group by BMI classification versus others to contextualize obesity risk. Statistical analysis included the Kruskal-Wallis test for continuous variables and Fisher's exact test for categorical/binary variables.

**RESULTS:** For THAs, the no intervention and GLP-1 groups showed a non-significant trend of lower readmission rates compared to bariatric surgery (3.8% vs. 6% vs. 10.5%, respectively,  $p=0.06$ ). For TKAs, there were no significant differences in rates of readmission ( $p=0.3$ ) or reoperation ( $p=0.6$ ). When stratifying the no intervention group by BMI class, readmission and ( $p\geq 0.3$ ) and reoperation ( $p\geq 0.2$ ) rates were similar compared to GLP-1 or bariatric surgery for both THA and TKA.

**DISCUSSION AND CONCLUSION:** Compared to no weight-loss intervention, patients utilizing perioperative GLP-1s demonstrated similar 90-day readmission and reoperation rates after primary THA and TKA. Those with prior bariatric surgery had the highest rate of readmission after THA.