Does a Body Mass Index Optimization Program Effectively Reduce Weight Prior to Total Joint Arthroplasty?

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INTRODUCTION: Obesity is a well-documented risk factor for postoperative complications following total knee arthroplasty (TKA) and total hip arthroplasty (THA), with patients exceeding a BMI of 35 kg/m² experiencing increased morbidity. Preoperative weight loss has been suggested as a strategy to lessen surgical risks, yet the efficacy of orthopaedist-led weight optimization programs remains unclear. This study aims to evaluate the effectiveness of an orthopaedist-initiated weight loss program in reducing BMI below 35 kg/m² prior to surgery, examining the influence of baseline BMI and patient-associated factors on weight loss success.

METHODS: We conducted a retrospective review of a prospectively collected cohort of patients undergoing evaluation for elective primary unilateral TKA or THA by a single fellowship-trained arthroplasty surgeon. All patients with BMI >35 kg/m² between June 2023 and April 2024 were enrolled in a structured weight optimization program. Patients received individualized counseling, risk-benefit discussions, and referrals to a perioperative weight management specialist. BMI changes were tracked over a one-year period, and statistical analysis was performed using Student's t-test and Fisher's exact test, with significance set at $p = 0.05$.

RESULTS: Among 80 patients enrolled, 34 (42.5%) successfully reduced their BMI below 35 kg/m² within a mean of 87 days (range: 14–356 days). Patients who met the BMI target had a lower mean starting BMI (36.8 kg/m²) compared to those who did not (40.9 kg/m², $p < 0.0001$). Females (54.3%) were more likely to achieve the BMI goal than males (33.3%, $p = 0.036$). Older patients had greater success (mean age: 69.5 vs. 64.4 years, $p = 0.018$). There was no significant difference between TKA and THA patients ($p = 0.82$), nor did pharmacologic weight loss interventions affect outcomes.

DISCUSSION AND CONCLUSION: A structured, surgeon-led weight optimization program successfully reduced BMI in 42.5% of patients, with greater success observed in females and older patients. Patients with a BMI >40 kg/m² were less likely to achieve weight loss targets. These findings highlight the potential role of orthopaedic surgeons in facilitating preoperative weight management. Further research is needed to further clarify the long-term outcomes of orthopaedist-led weight optimization programs and their impact on total joint arthroplasty outcomes.