

Impact of Obesity, Smoking, and Age on 30-day Postoperative Outcomes, Reoperation, and Readmission of Patients Undergoing Arthroscopic Posterior Cruciate Ligament Reconstruction

INTRODUCTION: Obesity, smoking status, and older age, have been shown to predict poorer general postoperative outcomes. We aimed at evaluating the risk that obesity, smoking, and older age, have on 30-day postoperative outcomes in patients undergoing posterior cruciate ligament (PCL) reconstruction surgery.

METHODS: The American College of Surgeons National Surgical Quality Improvement Program database was retrospectively analyzed between 2008 and 2016. Patients undergoing arthroscopic PCL reconstruction were isolated, while those undergoing simultaneous ligamentous knee repair were excluded. Patients were stratified by body mass index (BMI) World Health Organization classification, age (≤ 30 vs. > 30 years), and smoking status. Patient demographics, operative details, and postoperative outcomes were assessed. Univariate binary logistic regression determined the impact of BMI, age, and smoking, on complications, reoperations, and readmissions, all categorized as “adverse events” to maintain acceptable model fitting.

RESULTS: 444 arthroscopic PCL reconstruction patients were identified. 21.2% were active smokers, 2.0% were diabetics, and 0.7% had bleeding disorders. 16.2% of patients were normal weight, 38.1% were overweight, 22.5% were obese, 13.5% were obese class 2, 8.3% were obese class 3, and 40% of patients were > 30 years old. Rates of any complication, reoperations, and readmissions were 2.5%, 0.5%, and 0.5%, respectively. BMI, age grouping, diabetic status, and bleeding disorders, posed no significant influence on these outcomes (all, $p > 0.05$). Smokers were significantly more likely to have a reoperation (2.6% vs 0%, $p = 0.043$), readmission (2.7% vs 0%, $p = 0.043$), and wound dehiscence (2.1% vs 0%, $p = 0.044$).

DISCUSSION: Despite patients of varying ages and BMI experience comparable postoperative outcomes within 30 days following PCL reconstruction surgery, smokers were more likely to be readmitted, have a reoperation, and experience wound dehiscence.