

General Anesthesia Versus Spinal Anesthesia in Syndesmosis Fixation: An ACS NSQIP Analysis 2008-2016

Introduction: Syndesmosis fixation (SF) is a procedure used for syndesmotic instability that can result in postoperative complications such as infection and wound breakdown. This procedure utilizes general or spinal anesthesia techniques, however, the complications of these two techniques are unknown. The aim of this study is to investigate the effects of general or spinal anesthesia on postoperative complications, as well as other patient outcomes.

Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database was queried via CPT codes between 2008 and 2016 for all SF procedures (CPT code 27829). Patient demographics, comorbidities, and 30-day postoperative outcomes were collected. Univariate analysis and multivariate logistic regression models controlling for age and gender were used to identify general or spinal anesthesia as risk factors for adverse postoperative outcomes.

Results: A total of 3358 patients that underwent an SF procedure between 2008 and 2016 were identified. Compared to spinal anesthesia, the general anesthesia group did not experience significantly different rates of 30-day readmission, reoperation, or wound, renal, and sepsis-related complications (all, $p > 0.156$). Using multivariate logistic regression, general anesthesia was not found to be an independent predictor associated with having a higher risk for complications (all, $p > 0.387$).

Conclusion: There are no significant differences in comorbidities of patients undergoing each type of anesthesia or in risk of postoperative complications. However, spinal anesthesia was associated with a shorter operative time. Operative time is an important factor when considering what form of anesthesia to provide, especially considering that spinal anesthesia was only used in 3.8% of cases studied. The results of this study indicate a need to further investigate the positive benefits of spinal anesthesia during SF procedures.