

General Anesthesia Versus Spinal Anesthesia in Lower Extremity Amputations: An ACS NSQIP Analysis 2008-2016

Introduction: Lower extremity amputations are a commonly done procedure, particularly in patients with diabetes mellitus or peripheral vascular disease. This procedure is usually done with either general or spinal anesthesia, however there is currently no information on the outcomes of a particular anesthetic procedure.

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 lower extremity amputations including foot, above and below the knee amputations. These were then categorized into isolated general or isolated spinal anesthesia groups, and 1:1 propensity score matched controlling for estimated probability of morbidity, age and gender. Univariate analysis and multivariate logistic regression models controlling for demographics, comorbidities, and 30-day post-operative outcomes were used to identify general or spinal anesthesia as risk factors for adverse postoperative outcomes.

Results: The mean patient age was 68.4 years, 66.2% were male, and 68.0% were white. Spinal anesthesia was associated with significantly longer hospital stays (15.0 days vs. 13.0days, $p<0.001$) and a lower estimated probability of mortality (7% vs. 8%, $p=0.002$). The general anesthesia group experienced significantly higher rates of 30-day wound complications, pulmonary complications, sepsis-related complications, readmission, and reoperation (all, $p<0.05$).

Conclusion: While spinal anesthesia was associated with a longer hospital stay, there was a lower risk of post-operative complications. These risks need to be weighed against the benefits when determining what form of anesthesia to provide patients undergoing lower extremity amputations.