

Does Revision Shoulder Arthroplasty Increase the Risk of Opioid Use and Dependence?

Vani Janaki Sabesan¹, Laila Hysumi Khoury, Justin N Elkhechen, Clyde Kehbama Fomunung, Kiran Chatha

¹Palm Beach Shoulder Service - HCA Atlantis Orthopaedics

INTRODUCTION: As the rate of shoulder arthroplasty (SA) has increased exponentially over the past two decades, so have associated complications and revision surgery rates. Pain control after revision surgery can be difficult to manage, given that patients are not typically opioid naïve. To date, opioid usage after revision SA has not been reported. The purpose of our study was to compare opioid use and dependence after revision SA to a primary SA cohort.

METHODS: A retrospective review was performed of SA patients at a single institution from 2014 to 2016. The cohort was divided into two groups: primary (n=82) and revision (n=80) shoulder arthroplasty patients. Demographics including age, sex, BMI, ASA class and smoking status were collected. Opioid consumption within 90 days of SA for the preoperative and postoperative period using a state drug monitoring registry was recorded and converted to Total morphine equivalence (TME) for analyses. Opioid dependence was defined as continued prescriptions for 3 months before or after surgery. ANOVA was used to compare TME between groups and Chi square test was used for categorical variables.

RESULTS: Demographics were similar between the two groups for BMI (p=0.73), sex (p=0.51), smoking status (p=0.49) and ASA class (p=0.96). There was a significant difference with the revision group having a younger average age (66.0 revision, 70.1 primary; p=0.005). The mean preoperative TME was significantly higher for revision SA cohort (115.2) compared to the primary SA cohort (31.5). Postoperative TME for the revision SA cohort was 188.7 compared to an average of 117 for the primary cohort (p<0.001). Further, the revision SA group had significantly more patients with preoperative dependence (38.8%) compared to 19.5% for the primary cohort (p=0.006) and postoperative dependence 43.8% (n=35) compared to 29.3% (n=24) patients in the primary group (p=0.04).

DISCUSSION AND CONCLUSION: Patients undergoing revision shoulder arthroplasty have higher rates of preoperative and postoperative opioid usage and dependence when compared to primary SA. Preoperatively dependent revision patients are more likely to remain dependent in the postoperative period than primary SA patients. Orthopaedic surgeons should be aware of the higher opioid requirements of revision SA patients, which may indicate the need for additional consideration for risk assessments, education, and interventions when performing these procedures.