

Impact of Preoperative and Demographic Risk Factors on Reoperation and Readmission on SCFE Patients: An ACS-NSQIP-Pediatric Analysis 2012-201

Introduction: Slipped capital femoral epiphysis (SCFE) is a hip condition commonly seen in adolescents. Risk factors for SCFE include high BMI and obesity. There is currently a paucity of data regarding the risk factors that contribute to reoperation and readmission of SCFE patients after repair.

Methods: The American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) database was queried via CPT codes between 2012 and 2016 for patients who had undergone surgery for SCFE. Patient demographics, comorbidities, and 30-day post-operative outcomes were collected and analyzed. Patients were grouped into those who did and did not require reoperation or readmission. Univariate analysis and multivariate logistic regression models were used to analyze risk factors for readmission or reoperation.

Results: The query yielded 2,660 patients, 32 of whom required readmission and 31 of whom required reoperation. 63.4% of patients were male, 39.5% were African American, and 62.3% were between the ages of 12 and 18.

Patients who required readmission after SCFE repair were more likely to be ASA class 2 (68.6%, $p < 0.001$), have required nutritional support (3.1%, $p < 0.001$), or have a structural CNS abnormality (3.1%, $p = 0.016$). Patients undergoing reoperation were more likely to be ASA class 2 (58.1%, $p < 0.001$) and have required nutritional support (3.2%, $p = 0.046$).

Requiring nutritional support was also a significant risk factor for both reoperation (OR 22.9 [1.8-299.4]; $p = 0.017$) and readmission (OR 23.1 [1.8-301.9]; $p = 0.017$), and structural CNS abnormalities were found to be a risk factor for readmission (OR 8.3 [1.0-67.2]; $p = 0.048$).

Conclusion: High ASA class, nutritional support, and structural CNS abnormalities were risk factors for readmission and reoperation following SCFE repair surgery. Importantly, BMI and race were not found to be risk factors for post-operative readmission or reoperation.