

Comparison of Nontraumatic versus Traumatic Slipped Capital Femoral Epiphysis using the NSQIP Pediatric Database

INTRODUCTION: Slipped capital femoral epiphysis (SCFE) is a hip disorder that affects the growth plate of adolescents. There is a lack of literature that compares patient characteristics and adverse postoperative outcomes between nontraumatic versus traumatic SCFE.

METHODS: The National Surgical Quality Improvement Program, Pediatric database, was retrospectively analyzed for patients with nontraumatic and traumatic SCFE. Postoperative outcomes investigated included complications, reoperations, readmissions, and extended length of stay. Binary logistic regression was used to identify predictors of adverse postoperative outcomes.

RESULTS: A total of 2980 SCFE patients were identified. The characteristics of 2700 nontraumatic SCFE patients were mean age (12.5 years), body mass index (BMI) ≥ 30 kg/m² (33.9%), mean length of stay (1.4 days), 77 (2.9%) experiencing postoperative complications. The characteristics of 280 traumatic SCFE patients were mean age (12.3 years), BMI ≥ 30 kg/m² (26.1%), mean length of stay (1.4 days), 7 experiencing postoperative complications (2.5%). Univariate analyses respectively showed no differences in length of stay and age nor adverse postoperative outcomes between non-traumatic and traumatic patients (all, $p > 0.05$). Nontraumatic SCFE patients were significantly more obese (BMI ≥ 30 kg/m²) than traumatic SCFE subjects ($p = 0.008$). This held true in binary logistic regression analysis, which showed that nontraumatic SCFE patients had 1.5 more odds to be obese compared to their traumatic peers (OR=1.5 95% confidence interval [CI] [1.1 – 1.9], $p = 0.009$).

DISCUSSION: Obesity (BMI ≥ 30 kg/m²) is a significant predictor in SCFE patients developing the nontraumatic variant over traumatic. This builds on prior literature discussing obesity as a good predictor of patients developing SCFE.