

Increased Dislocation Rates after THA in Patients with Prior Isolated SI Fusion

Abstract

Introduction: While stiffness of the lumbosacral spine is a known predictor of instability following total hip arthroplasty (THA), little is known about the medical and surgical related outcomes following THA in patients with prior isolated sacroiliac (SI) joint fusion. The purpose of this study was to determine if prior isolated SI joint fusion is a risk factor for early post-operative medical and surgical complications for patients undergoing primary elective THA.

Methods: Patients with a history of isolated SI joint fusion who subsequently underwent primary, elective THA for a diagnosis of osteoarthritis from 2010-2020 were identified in a national insurance database. Patients who had a history of prior lumbar fusion were excluded due to the known confounding effect of lumbar fusion on outcomes after THA. The rates of post-operative medical and surgery-related complications, as well as hospital readmission and ER visits were calculated. SI fusion patients were then compared to a 10:1 propensity matched control cohort without prior SI fusion using a logistic regression analysis to control for confounding factors.

Results: 160 primary THA patients with prior SI joint fusion were identified and compared with a matched control cohort of 1,600 patients without prior SI joint fusion. The study group had a significantly higher incidence of dislocation (OR 3.19, 95% CI 1.43-7.09, $p=0.004$), and 90-day hospital readmission (OR 2.03, 95% CI 1.01-4.04, $p=0.045$) when compared to the matched controls. There were no significant differences in incidence of medical complications.

Discussion and Conclusion: Patients with prior isolated SI joint fusion undergoing primary THA for osteoarthritis demonstrated a three-fold increased incidence of prosthetic dislocation and double the rate of 90-day hospital readmission when compared to those without prior SI fusion. These findings provide insight for preoperative considerations for arthroplasty surgeons in this unique patient population.