



## Readmissions After Spinal Deformity Surgery

Dante Leven DO; Parth Kothari BS; Javier Z Guzman BS; Branko Skovrlj MD; Nathan John Lee BS; Jeremy Steinberger MD;

John I Shin BS; John M. Caridi MD; Samuel K Cho

Icahn School of Medicine at Mount Sinai



### Introduction

Certain medical comorbidities likely influence postoperative readmission rates in adult patients undergoing spinal deformity surgery.

### Methods

Patients undergoing adult spinal deformity surgery from 2011-2012 were identified by the Current Procedural Terminology (CPT) codes in the ACS NSQIP database. Those readmitted within 30 days after surgery were identified. The association between patient characteristics and the odds of readmission were analyzed using stepwise multivariable logistic regression.

### Results

2,171 adult patients undergoing spinal deformity surgery were identified, of which 109 (5.0%) were readmitted within 30 days. Independent predictors of readmission included Body Mass Index >30 (Odds Ratio [OR]: 1.6,  $p = 0.03$ ), diabetes mellitus (OR: 1.7,  $p = 0.04$ ), presence of bleeding disorder (OR: 3.5,  $p = 0.01$ ), and operative time greater than four hours (OR: 1.6,  $p = 0.02$ ). Patients who underwent primary anterior fusion had a lower risk of readmission (OR: 0.4,  $p < 0.00$ ).

Adjusted Risk Factors for Readmission within 30 Days of Spinal Deformity Fusion Surgery			
Variable	Odds Ratio	95% CI	
BMI > 30	1.578	1.052	2.366
Diabetes	1.671	1.032	2.703
Bleeding Disorder	3.456	1.372	8.707
Operative Time > 4 hours	1.623	1.07	2.461
Primary Anterior Fusion	0.429	0.256	0.721

### Learning Objectives

The objective of this study was to examine the incidence and predictors of readmission after adult spinal deformity surgery and to attempt to create an algorithm to identify patients who are a higher risk for readmission.

### Conclusions

Several patient characteristics have a significant impact on the risk of 30 day readmission after spinal deformity surgery, including obesity, diabetes, presence of bleeding disorder, and longer operative times. This information may aid in preoperative risk stratification for readmission.