

Is Next-Day Discharge after Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis Safe?

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INTRODUCTION: While the implementation of postoperative protocols and improvements in pain control have decreased the length of stay following scoliosis surgery, adolescents are typically hospitalized for several days after posterior spinal instrumented fusion (PSIF). The purpose of this study was to determine if next-day discharge after PSIF for adolescent idiopathic scoliosis (AIS) was associated with an increase in emergency department (ED) visits or hospital readmissions. The secondary purpose was to examine perioperative factors associated with next-day discharge.

METHODS: We performed a retrospective study of all patients who underwent PSIF for AIS at a single institution from 2017 to 2022. One-hundred-eleven patients were included. We compared patients based on postoperative length of stay with an early discharge group consisting of those who discharged on the first postoperative day (POD1) (n = 40) and a late discharge group consisting of those who discharged after POD1 (n = 71). We documented postoperative ED visits within 30 days and hospital readmissions within 90 days, in addition to perioperative variables.

RESULTS: Forty patients (36%) discharged on POD1. There were two (5%) ED visits and two (5%) readmissions in the early discharge group and three (4.2%) ED visits and two (2.8%) readmissions in the late discharge group (p = 0.86 and 0.55, respectively). Patients in whom intravenous methadone was used intraoperatively were more likely to discharge POD1 (p = 0.02). There were no other significant differences in perioperative variables between the two groups including: BMI, distance from home to hospital, magnitude of main curve, curve flexibility, number of levels fused, estimated blood loss, implant density, surgical time, or postoperative pain scores.

DISCUSSION AND CONCLUSION: Over one-third of patients discharged on POD1 after PSIF for AIS. There was no statistically significant difference in ED visits or hospital readmissions among the early discharge group. Next-day discharge after PSIF for AIS is safe for some patients. Further research may help identify patients prior to surgery who are likely to discharge on POD1.