

Medical Issues Complicate 90 Day Return to the ED after Spinal Deformity Surgery: A Review of 346 Patients

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INTRODUCTION:

Return to the hospital after surgery is frequently being used as a quality metric. The purpose of this study is to evaluate the reasons and risk factors for ED visits less than 90 days after spinal deformity surgery.

METHODS: A review of spinal deformity surgeries between 2011 - 2018 was performed. Radiographic, operative, and hospital stay data were collected and presented as median and interquartile ranges(IQR) if continuous, and counts and frequencies if categorical. Wilcoxon-Signed Rank was used to analyze categorical data while Kruskal-Wallis tests analyzed continuous metrics. Patients who returned to the ED for any reason within 90 days were analyzed. ED visits were categorized as medical and surgical. Medical visits included but not limited to fever, pain, and seizures. Surgical visits included but not limited to wound infection, and surgical site infection.

RESULTS:

346 patients were included: 274 idiopathic scoliosis, 48 neuromuscular, 10 Scheurmann's kyphosis, 3 spondylolisthesis (grade 4), and 11 other. 41 patients (11.8%) returned to the ED within 90 days. 32 (78%) returned with medical-related complaints: pain (n=14), fever (n=6), constipation (n=4), spasm/seizures(n=2), syncope (n=3), fall (n=1) and dysnea(n=2). 9 (22%) returned with surgical-related complaints: drainage from incision (n=6), wound infection (n=2), and baclofen pump failure (n=1). 65.8% (n=27) returned to the ED within 30 days.

There was no significant difference in age (13.19 vs 12.42 years, p=0.27), BMI (18.27 vs 17.13,p=0.33) preoperative Cobb (47.30 vs 46.0, p=0.731), preoperative kyphosis (16 vs 17,p=0.971), and levels fused (10 vs 11,=0.359) between those did not return to the ED and those who did. Blood loss (300 vs 350ml,p=0.973), surgical time (230 vs 228,p=0.180), and length of stay (4 vs 4,p=0.94) were also similar between the two cohorts. Neuromuscular distribution was also similar (12.8% vs 21.9%).

DISCUSSION AND CONCLUSION:

11.8% of patients returned to ED within 90 days mostly with medical complaints – more than half by 30 days. Although no risk factors were found in this study, the findings present an opportunity to better improve discharge planning and care coordination.