

Adherence to Follow Up in Adolescent Idiopathic Scoliosis Patients after Spinal Fusion

Sarah R Bradley, Ryan McFadden, Jonathan Pire, William R Barfield¹, Sara Van Nortwick¹, Matthew Alan Dow, Robert Francis Murphy²

¹Medical University of South Carolina, ²MUSC Dept of Orthopaedics

INTRODUCTION: Spinal Fusion (SF) for Adolescent Idiopathic Scoliosis (AIS) is an effective procedure for deformity correction and curve arthrodesis. Long-term follow up (≥ 2 years) for these patients is beneficial to monitor for late complications and ensure maintenance of correction. The number of postoperative observation visits can burden families, especially those who must travel far for care. This study aimed to investigate patient adherence to follow up after 2 years following SF for AIS.

METHODS: AIS patients who underwent SF at a single center over a 6-year period (2017-2022) were reviewed. Demographic data, curve magnitude, and SF construct were queried. Patient attendance at institutional follow-up intervals of 2 weeks, 6 weeks, 3 months, 6 months, 1 year, 2 years, and 5 years, was recorded. Patient addresses were used to calculate driving distance from the hospital.

RESULTS: During the 6-year study period, 225 patients qualified for inclusion, with an average age at SF of 14.5 years (range 11-20), with 174 females (77%). Average preoperative main coronal curve was 58° (range 32-114). Most patients (224, 99%) had a posterior-only procedure. For each cohort of available patients at each time interval, the follow-up adherence was: 2 weeks (208/225, 92%), 6 weeks (194/224, 87%), 3 months (162/221, 73%), 6 months (152/209, 73%), 1 year (127/178, 71%), 2 years (53/116, 46%), 3 years (22/75, 29%), and 5 years (1/17, 6%). The average two-way driving distance between the patient's home address and the hospital was 126 miles (range 8.8-350 miles). There was a significant correlation between driving distance and percent adherence ($p=0.027$).

DISCUSSION AND CONCLUSION: In a cohort of 225 spinal fusion patients for adolescent scoliosis, only 46% completed long-term 2-year follow up. The average 2-way driving distance from a patient's address to the medical center was > 120 miles. Patients who lived closer to the treating institution were significantly more likely to adhere to our institution's follow-up protocol.

Figure 1. Overall percent adherence to follow-up protocol at driving distances of 50 miles, 100 miles, 150 miles and 200 miles.

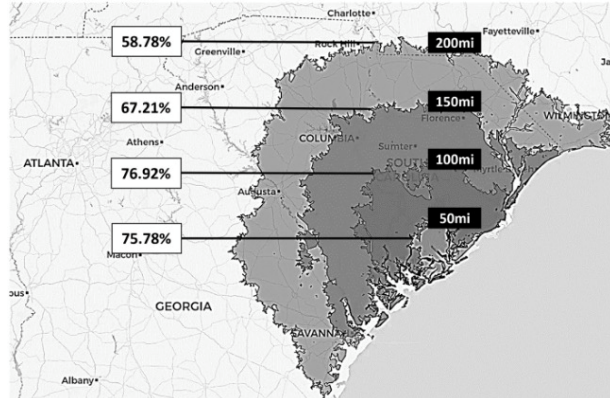


Figure 2 Follow-up adherence for scheduled appointments at 2 weeks (208/225, 92%), 6 weeks (194/224, 87%), 3 months (162/221, 73%), 6 months (152/209, 73%), 1 year (127/178, 71%), 2 years (53/116, 46%), 3 years (22/75, 29%) and 5 years (1/17, 6%).

