



Association between Surgeon Experience and Complication Rates in Adult Scoliosis Surgery: A Review of 5,117 Cases from the Scoliosis Research Society Database 2004-2007

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Introduction

Surgeon training and experience play an important role in patient outcomes following spinal surgery. The Scoliosis Research Society Morbidity and Mortality (SRS M&M) data allow membership status (active vs. candidate) to serve as a proxy for the level of surgeon experience. Only a few studies have evaluated surgeon experience as a factor for perioperative complications in adult scoliosis surgery. The purpose of this study was to investigate rates of perioperative complications after adult scoliosis surgery based on surgeon experience.

Methods

SRS M&M database was queried for patients aged >18 years who underwent spinal fusion for scoliosis from 2004-2007. Patient demographics, surgical characteristics, and complications were analyzed. Two-tailed t test and chi-square test were performed.

Results

A total of 5,117 cases (avg. age 51.8 years, 21.7% revisions) were identified between 2004 and 2007. Active members performed 3,836 (75%) and candidate members performed 1,281 (25%) surgeries. There were a total of 681 (13.3%) complications: 498 (13.0%) for active; 183 (14.3%) for candidate, p=0.24. Mortality rate was 0.29% (15): 12 for active; 3 for candidate, p=0.88. There were a total of 173 (3.4%) wound infections: 114 (3.0%) for active; 59 (4.6%) for candidate, p=0.01. Spinal cord complications (35) accounted for 0.68%: 21 (0.55%) for active; 14 (1.1%) for candidate, p=0.07.

Conclusions

Overall complication rates were similar regardless of surgeon experience. However, there were significantly more wound infections and a trend toward higher spinal cord deficits in candidate member cases.

Learning Objectives

1)Identify whether surgeon expeirnce plays a role in surgical complications in adult scoliosis surgery

	Active Members	Candidate Members	Total	<i>p</i> -value
Surgeries	3,836 (75%)	1,281 (25%)	5,117	
Revision Surgeries	813	297	1110	0.137
<i>% Of Members Surgeries</i>	(21.19%)	(23.19%)		
<i>% Of all Surgeries</i>	(15.88%)	(5.80%)	(21.69%)	
Overall Complications	498	183	681	0.235
<i>Rate of Members Complications</i>	(12.89%)	(14.29%)		
<i>Rate of Overall Complications</i>	(9.73%)	(3.57%)	(13.30%)	
Deaths	12	3	15	0.879
<i>% Of Members Complications</i>	(2.41%)	(1.64%)		
<i>Mortality</i>	(0.31%)	(0.23%)	(0.29%)	
Spinal Cord Complications	21	14	35	0.072
<i>% Of Overall Complications</i>	(4.22%)	(7.65%)		
<i>Rate of Spinal Cord Complications</i>	(0.55%)	(1.09%)	(0.68%)	
Wound Complications	115	59	174	0.013
<i>% Of Overall Complications</i>	(23.10%)	(33.33%)		
<i>Rate of Wound Complications</i>	(3.00%)	(4.61%)	(3.38%)	

References

Scoliosis Research Society Morbidity and Mortality Database 2004-2007