



Adult spinal deformity surgery: complications and outcomes in patients over age 60

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STUDY DESIGN: A retrospective analysis, including prospectively collected patient outcomes data. **OBJECTIVE:** To determine the rate of complications and outcomes in patients ≥ 60 years of age who underwent major spinal deformity surgery requiring a minimum 5-level arthrodesis procedure. **SUMMARY OF BACKGROUND DATA:** As the population ages, an increasing number of older patients are presenting with spinal deformity disorders that may require major reconstructive procedures. Previous studies have reported complication rates as high as 80% in this age group for 1- and 2-level fusion procedures. The prevalence of complications was found to increase with the greater number of levels fused. **METHODS:** Forty-six patients who were 60 years of age or older underwent a thoracic or lumbar arthrodesis procedure consisting of 5 levels or greater. Diagnosis, comorbidities, operative data, hospital data, major and minor complications, and deaths were recorded. Oswestry Disability Index (ODI) Scores were used to evaluate clinical outcomes. **RESULTS:** Thirty-eight females and 8 males with a mean age of 67 years (range, 60-85 years) and a mean follow-up of 4.2 years (range, 2-11 years) had complete records. Thirty-six (78%) patients had at least 1 comorbidity. Twenty-nine (63%) patients had at least 1 prior spinal surgery. A mean of 9 levels (range, 5-16 levels) were fused in each patient. The overall complication rate was 37%. The major complication rate was 20%. ODI improved from 49 to 25 for a mean improvement of 24 (49%) ($P < 0.0001$).

CONCLUSION: The overall complication rate was 37% and the major complication rate was 20%. Increasing age was a significant factor ($P < 0.05$) in predicting the presence of a complication. Patients older than 69 years had more complications. The presence of a comorbidity had no association with complication rates and neither had an effect on final patient reported outcomes, which showed significant improvement (ODI preoperative, 49; postoperative, 25) ($P < 0.0001$).

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