

Adult spinal deformity outcome

The mean preoperative ODI was 48.6, and the mean postoperative reduction in ODI was 24.1. The mean preoperative VAS score was 7.7 with a mean postoperative decrease of 5.2. There were 311 reported complications for 815 patients (38%) and 5 deaths for 659 patients (< 1%).

Elderly patient outcomes were inconsistent in the published studies. Overall, most elderly patients obtained favorable outcomes with low operative mortality following surgery for adult spinal deformity ¹⁾.

The growth of these complex deformity procedures is partially driven by the poor ability of nonoperative management of ASD to improve pain and function. A recent study of adult patients with scoliosis treated using non-operative techniques found that there were no significant improvements in any of the health-related quality of life (HRQOL) outcome measures over the evaluation period ²⁾.

Op treatment for ASD can provide significant improvement of HRQL measures at min 2-year follow-up. In contrast, nonop treatment appears to at best maintain presenting levels of pain and disability ³⁾.

Poor HRQOL uniformly determined operative treatment for ASD. Spinal deformities differed between age groups. Younger OP had larger scoliosis but similar [spino-pelvic alignment](#) (SPA) and sagittal vertical axis (SVA) than nonoperatively (NON). Older OP had similar scoliosis but worse SVA than NON. Age associated differences for poor HRQOL must be considered when evaluating ASD patients ⁴⁾.

High prevalence of residual [cervical spine deformity](#) (CD) has been identified after surgical treatment of [adult spinal deformity](#). Development of new onset CD is less understood and its clinical impact unclear.

A total of 47.7% of patients without preoperative CD developed new onset postoperative CD after thoracolumbar surgery. Independent predictors of new onset CD at 2 years included diabetes, higher preoperative T1 slope minus cervical lordosis, and ending instrumentation above T4. Significant improvements in health-related quality of life scores occurred despite the development of postoperative CD ⁵⁾.

For elderly patients with ASD, [osteoporosis](#) increases the risk of revision surgery, while [BMP](#) use decreases the risk. Other comorbidities were not found to be significant predictors of long-term revision rates. It is expected that within 5 years following the index procedure, over 30% of patients will require revision surgery ⁶⁾.

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