

PubMed

**Format:** Abstract**Full text links**Neurosurg Focus. 2017 Oct;43(4):E10. doi: 10.3171/2017.7.FOCUS17384.

Neuromuscular scoliosis complication rates from 2004 to 2015: a report from the Scoliosis Research Society Morbidity and Mortality database.

Cognetti D¹, Keeny HM¹, Samdani AF¹, Pahys JM¹, Hanson DS², Blanke K³, Hwang SW¹.

Author information

Abstract

OBJECTIVE Postoperative complications are one of the most significant concerns in surgeries of the spine, especially in higher-risk cases such as neuromuscular scoliosis. Neuromuscular scoliosis is a classification of multiple diseases affecting the neuromotor system or musculature of patients leading to severe degrees of spinal deformation, disability, and comorbidity, all likely contributing to higher rates of postoperative complications. The objective of this study was to evaluate deformity correction of patients with neuromuscular scoliosis over a 12-year period (2004-2015) by looking at changes in postsurgical complications and management. **METHODS** The authors queried the Scoliosis Research Society (SRS) Morbidity and Mortality (M&M) database for neuromuscular scoliosis cases from 2004 to 2015. The SRS M&M database is an international database with thousands of self-reported cases by fellowship-trained surgeons. The database has previously been validated, but reorganization in 2008 created less-robust data sets from 2008 to 2011. Consequently, the majority of analysis in this report was performed using cohorts that bookend the 12-year period (2004-2007 and 2012-2015). Of the 312 individual fields recorded per patient, demographic analysis was completed for age, sex, diagnosis, and preoperative curvature. Analysis of complications included infection, bleeding, mortality, respiratory, neurological deficit, and management practices. **RESULTS** From 2004 to 2015, a total of 29,019 cases of neuromuscular scoliosis were reported with 1385 complications, equating to a 6.3% complication rate when excluding the less-robust data from 2008 to 2011. This study shows a 3.5-fold decrease in overall complication rates from 2004 to 2015. A closer look at complications shows a significant decrease in wound infections (superficial and deep), respiratory complications, and implant-associated complications. The overall complication rate decreased by approximately 10% from 2004-2007 to 2012-2015. **CONCLUSIONS** This study demonstrates a substantial decrease in complication rates from 2004 to 2015 for patients with neuromuscular scoliosis undergoing spine surgery. Decreases

in specific complications, such as surgical site infection, allow us to gauge our progress while observing how trends in management affect outcomes. Further study is needed to validate this report, but these results are encouraging, helping to reinforce efforts toward continual improvement in patient care.

KEYWORDS: DVT = deep venous thrombosis; IONM = intraoperative neuromonitoring; M&M = Morbidity and Mortality; MRSA = methicillin-resistant *Staphylococcus aureus*; MSSA = methicillin-sensitive *Staphylococcus aureus*; NSQIP = National Surgical Quality Improvement Program; PE = pulmonary embolism; SRS = Scoliosis Research Society; SSI = surgical site infection; Scoliosis Research Society; VTE = venous thromboembolism; cerebral palsy; complications; infection; neuromuscular scoliosis

PMID: 28965448 DOI: [10.3171/2017.7.FOCUS17384](https://doi.org/10.3171/2017.7.FOCUS17384)

LinkOut - more resources

