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Citation	The 1st World Congress on Spina Bifida Research and Care, Orlando, FL., 15-18 March 2009.
Issued Date	2009
URL	http://hdl.handle.net/10722/62496
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Orthopedics Abstracts

Title: TIBIAL ROTATIONAL OSTEOTOMIES IN PATIENTS WITH MYELOYDYSPLASIA: OUTCOMES AND RISK FACTORS

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Background: Lower extremity rotational deformities in patients with lumbar level myelodysplasia are common. Standard treatment for persistent rotational deformity is tibial derotational osteotomy, with or without concomitant fibular osteotomy. There are few studies looking at the long-term results and outcomes. Thus, the purpose of this study is to determine outcomes as a function of complication rates and revision surgery rates.

Method: A retrospective chart review of ambulatory patients with lumbar myelodysplasia treated at Shriners Hospital for Children in Chicago, IL between 1995 and 2005 for rotational deformities of the lower extremity was conducted. All patients had distal tibial derotational osteotomies performed for either internal or external tibial torsion. Mann-Whitney U, Wilcoxon, Chi-square, Fisher's Exact, Cox regression tests and binary logistic regression modeling were performed.

Results: Thirty-one individuals with lumbar-level pathology (14 males, 17 females) were analyzed (mean follow-up of 8.7 years). Postoperative complications were noted in 8 patients (28%), including wound breakdown, nonunion, delayed union and cellulitis. Revision surgery was performed in 9 patients (31%). A statistically significant difference was noted in age at the time of initial surgery between individuals who underwent revision surgery (mean 7.4 years) to those who did not (mean 10.4 years) ($p=0.037$). Preoperative independent ambulators were significantly more likely to be ambulating independently postoperatively.

Conclusion: Complication and revision rates were found to be significantly higher than previously reported. Younger individuals at the time of surgery were more likely to undergo revision surgery. Preoperative ambulation status was the strongest predictive factor regarding postoperative ambulation, with preoperative independent ambulators having a 22-fold increased likelihood in ambulating independently postoperatively. Thus, proper patient selection is essential for improved outcomes.