

Myofascial Flap Closures Decrease Cerebrospinal Fluid Leaks in Tethered Cord Patients

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Disclosure/Financial Support: None of the authors has a financial interest in any of the products, devices, or drugs mentioned in this manuscript.

INTRODUCTION: The benefits of spinal surgery for patients with symptomatic tethered cord syndrome are well-described, however complications such as cerebrospinal fluid leak, seroma, and infection frequently occur. Recent studies have shown many advantages of myofascial flap closure for various spinal procedures. This study investigated whether the collaboration between neurosurgery and plastic surgery results in better outcomes and lower complications for patients undergoing tethered cord release.

METHODS: A retrospective review of patients presenting to Weill Cornell Medical Center from 2010 to 2014 for tethered cord surgery was performed. All patients who underwent tethered cord release by three neurosurgeons with or without involvement of a plastic surgeon were included in the study. Data including patient demographics, medical co-morbidities, surgical history, complications, and follow-up information were collected and analyzed from clinical charts.

RESULTS: Sixty-six patients underwent tethered cord release at Weill Cornell Medical Center from 2010 to 2014. Fifty-one (77%) patients had tethered cord release without myofascial flap closure, while fifteen patients (23%) had tethered cord release with myofascial flap closure. In the non-flap group, there were 46 primary dural closures (92%) with 6 cases of cerebrospinal fluid leak (12.7%), 10 reoperations (19.6%), 5 infections (9.8%), and 3 seromas (6.4%). In the myofascial flap group, there were 11 primary dural closures (78%) with no cerebrospinal fluid leaks, no reoperations, 1 infection (6.7%), and 1 seroma (6.7%).

CONCLUSION: Our results suggest that patients undergoing tethered cord release may benefit from myofascial flap spine closure. Bringing in well-vascularized tissue to obliterate potential space and create a water-tight seal around the dural repair can decrease rates of cerebrospinal fluid leak. This study supports the idea that neurosurgical patients should consider plastic surgical consultation when considering tethered cord surgery.