The Use of Bilateral Paraspinous Muscle Flaps and Bilateral Composite Latissimus Dorsi and Gluteus Maximus Flaps for Closure of Lumbosacral Myelomeningocele Defects in Infants

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**PURPOSE:** Myelomeningocele is the most common congenital malformation of the central nervous system, with a prevalence of 4.4 to 4.6 per 10,000 live births in the United States. They are most commonly observed in the lumbosacral region, as this is the last region of the neural tube to fuse.¹ Robust, reliable and reproducible closure of lumbosacral myelomeningocele defects remains a challenge. Closure of spinal defects following neurosurgical procedures with well-vascularized flaps in high-risk patients has been shown to reduce complications in the adult population.² In infants with lumbosacral myelomeningocele, in addition to the relatively standard neurosurgical repair that consists of placode tubularization and dural repair, multiple methods of soft tissue coverage have been described. These include various cutaneous, fascial and muscle flaps and grafts. We present here our unique closure technique with well-vascularized flaps following lumbosacral myelomeningocele repair.

**METHODS:** After the neurosurgical repair of lumbosacral myelomeningocele is completed, bilateral composite latissimus dorsi musculocutaneous and gluteus maximus fasciocutaneous flaps are elevated. The gluteus maximus fasciocutaneous flaps are completely elevated from their insertion on the ileum and sacrum. The paraspinous muscle flaps are then elevated and medialized based on the lateral row arterial perforators to provide complete muscular coverage of the dural repair. The bilateral composite latissimus dorsi musculocutaneous and gluteus maximus fasciocutaneous flaps are medialized, reapproximated with the sacrum, and closed over the paraspinous muscle flap repair.

Demographic and outcomes data of 9 patients from June 2014 to present were retrospectively reviewed.

**RESULTS:** Of the 9 patients that underwent the above technique for closure of myelomeningocele defects, all repairs were performed between days of life 0–3. Seven of 9 (77.8%) had Chiari 2 malformation and 3 of 9 (33.3%) required ventriculoperitoneal shunt. There have been no episodes of dehiscence with a median follow-up of 52 weeks (6–161 weeks). One patient experienced a small area of superficial skin necrosis requiring surgical excision and reclosure.

**CONCLUSION:** Use of bilateral paraspinous muscle flaps covered with bilateral composite latissimus dorsi and gluteus maximus flaps provides robust and durable coverage of lumbosacral defects following neurosurgical myelomeningocele repair in infants.

**REFERENCES:**

1. Kural, Solmax, Tehli, Emiz, Kutlay, Daneyemez, Izci. Evaluation and management of lumbosacral myelomeningoceles in children. *Eurasian J Med.* 2015; 47(3): 174–178.
2. Kesan, Kothari, Gupta, Gupta, Karkera, Ranjan, Mutkhedkar, Sandlas. Closure of large meningomyelocele wound defects with subcutaneous based pedicle flap with bilateral V-Y advancement: our experience and review of literature. *Eur J Pediatr Surg.* 2015; 25(2): 189–194.
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RESEARCH & TECHNOLOGY SESSION 2

Discrepancies between Registered and Published Primary and Secondary Outcomes in Randomized Controlled Trials within the Plastic Surgery Literature

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BACKGROUND: Recent studies have identified an alarmingly high incidence of discrepancy between registered and published outcomes in registered medical and surgical randomized controlled trials. This has not yet been studied in the plastic surgery literature.

METHODS: The authors systematically assessed plastic surgery randomized controlled trials (RCTs) published between 2012–2016, in seven high impact plastic surgery journals. Data was collected from the registration website and published manuscript using a standardized data extraction form.

RESULTS: 145 RCTs were identified, of which fifty-seven RCTs were registered (39%). Forty-nine RCTs were included in the final analysis. Forty-three of trials (88%) had a discrepancy between registered and published outcomes - 23 trials (47%) for primary outcome(s), and 37 trials (76%) for secondary outcome(s). The prevalence of unreported registered outcomes was 13% (primary) and 38% (secondary). Registered primary outcomes were published as secondary outcomes in 30% of trials. Publishing new non-registered secondary outcomes (65%) and changing the assessment timing of published primary outcomes (61%) were the most common types of discrepancies. Discrepancies favored a statistically significant positive outcome in nineteen of the forty-three trials (44%) with an outcome discrepancy.

CONCLUSION: Similar to studies of trials in other medical and surgical areas of the literature, the field of plastic surgery has high rates of discrepancies between registered and published trial outcomes. Outcome reporting discrepancy is even more problematic secondary outcomes, an area of analysis that has previously been poorly studied in other areas. This study also identified biasing practices such as outcome discrepancies favoring a statistically significant result.

A Critical Assessment of Surveys in Plastic and Reconstructive Surgery: A Systematic Review

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PURPOSE: Surveys are one of the fundamental approaches used to assess patient preferences and current practice patterns in plastic surgery. In contrast with other surgical specialties, plastic surgery procedures emphasize quality of life outcomes. Therefore, understanding factors that influence the attitudes of patients and physicians are important to achieve successful outcomes. Despite the prevalent use of surveys in Medicine, researchers have identified inherent biases in surveys used in medical research. It is uncertain how prevalent and the magnitude of these problems in plastic surgery surveys. Our specific aims are to (1) determine the extent to which survey instruments in plastic and reconstructive surgery contain inherent biases and (2) identify areas of improvement for developing survey instruments.

METHODS: We searched four databases (Embase, PsychInfo, Medline and PubMed) for articles in plastic surgery that contain a survey. We identified studies published from 1997 to 2017 that had some measurement of physician/patient attitudes as a key theme. Validated or outcome instruments were excluded. Two trained reviewers assessed the articles using specific inclusion and exclusion criteria. A modified checklist from Choi et al. was used to examine the biases in these surveys.

RESULTS: Of the 4,768 articles captured by the search, 200 articles were included in the final review. The number of questions in a survey ranged from 2 to 82 (mean, 14...