

## Component Separation of the Back: A Simple Modification for the Closure of Complex Spinal Wounds

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**INTRODUCTION:** We present the results of a single surgeon's experience with a turnover paraspinous muscle flap technique for the closure of complex spinal wounds and compare it to contemporary techniques with regard to wound complications and hardware salvage. We also describe this technique in terms of its similarity to component separation closure of abdominal wounds.

**METHODS:** We reviewed the medical records of patients who underwent complex or revision spinal procedures from 2007-2009. All wounds were closed primarily by a reconstructive plastic surgeon by the component separation paraspinous muscle (CSPM) flap technique. Post-operative courses were reviewed for wound complications requiring return to the operating room; hardware salvage was used as an endpoint for successful wound closure, and length of hospital stay was also noted. Outcomes were compared with contemporary techniques of complex spinal wound closure.

**RESULTS:** Fifty-three patients met inclusion criteria; 30.2% underwent surgery for osteomyelitis, 22.6% for pseudarthrosis, 30.2% for degenerative/deformity conditions, 5.7% for tumor, and 9.4% for other diagnoses. Three patients (5.7%, 95% CI 1.2%-15.7%) developed re-infection/abscess requiring their return to the operating room. Average length of hospitalization was 12.7 days post-operatively (range 2-110). Sixty-seven percent of complications occurred in the first year ( $p < 0.05$ ) of the series. One hundred percent of patients had hardware salvaged at an average follow up of seventeen months.

**CONCLUSION:** The CSPM flap closure compares favourably with contemporary techniques, showing significantly lower infection rates than seen in some similar populations where rates approach 20% ( $p < 0.05$ ), as well as 100% hardware salvage.<sup>1,2,3,4,5</sup> The CSPM flap technique is a simple modification of local flap coverage for complex spinal wounds, offering superior results for their primary closure, and may help avoid costly, and potentially dangerous, returns to the operating room.

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