in 20 (11.2%). Patient post-operative follow-up averaged 15.5 months. Analysis of 11 recurrences yielded significant differences between Groups-B and C ($p<0.009$), a trend towards significance between Groups-A and C ($p<0.058$), and no difference between Groups-A and B ($p<0.608$). Retromuscular mesh placement and anterior components separation demonstrated protective effects on recurrence (OR: 0.148, $p<0.081$ and OR: 0.259, $p<0.067$). Postoperative mesh infection (OR: 72.03, $p<0.012$) and seroma (OR: 8.992, $p<0.036$) were significant predictors of hernia recurrence. BMI (OR: 1.052, $p<0.015$), VHWG (OR: 1.617, $p<0.056$), and hyperlipidemia (OR: 2.157, $p<0.049$) were significant predictors of SSO on multivariate regression. The posterior sheath was reconstructed primarily using absorbable suture for small defects, or biologic mesh for larger defects.

CONCLUSION: Initial analysis of posterior sheath repair to allow for retromuscular VHR suggests noninferiority, when compared to traditional sublay reconstruction. We present the first known description of discrete posterior sheath reconstruction to aid in retromuscular closure of complex ventral hernia.

Incisional Negative-Pressure Therapy Decreases Complications in Ventral Hernia Repair with Simultaneous Panniculectomy

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INTRODUCTION: Ventral hernia repair with simultaneous panniculectomy is associated with high wound complication rates. Some surgeons believe negative-pressure therapy (NPT) after primary closure of the surgical incision may lower wound complications. Although NPT has been shown to decrease complications in sternal and groin incisions, the benefit in ventral hernia repair is unknown and NPT in ventral hernia repair with simultaneous panniculectomy has not been studied. The purpose of this study is to retrospectively analyze if patients undergoing ventral hernia repair with simultaneous panniculectomy have improved outcomes with NPT.

METHODS: An eight-year retrospective study (2007–2015) was performed on patients undergoing ventral hernia repair with panniculectomy at University of Maryland Medical Center / R Adams Cowley Shock Trauma Center. Patients who underwent ventral hernia repair with simultaneous panniculectomy and incisional negative-pressure therapy using the Prevena V.A.C system (KCI, San Antonio, Tx) were compared to patients who underwent ventral hernia repair with simultaneous panniculectomy and standard sterile dressings (SSD). Patient characteristics and postoperative complications were compared between these groups. Wound complications were defined as skin dehiscence, skin necrosis, development of chronic wound, surgical site infection, seroma, and hematoma.

RESULTS: A total of 106 patients were analyzed; 64 in the NPT group and 42 in the SSD group. The two groups were similar in terms of BMI (39 kg/m² vs 37 ± 8 kg/m², $p=0.288$), gender (84% female vs 79% female, $p=0.446$), and smoking status (30% vs 22%, $p=0.382$). Patients in the NPT group were older (56 vs 50, $p=0.013$), had larger hernia size (120 cm² vs 55 cm², $p=0.029$), were more likely to have a history of recurrent hernias (80% vs 55%, $p=0.006$) and required component separation at the time of VHR (80% vs 50%, $p=0.001$). Nevertheless, despite having higher risk factors, patients in the NPT group had less wound complications (45% vs 69%, $p=0.016$).

CONCLUSION: This study showed that incisional negative pressure therapy in ventral hernia repair with simultaneous panniculectomy decreases wound complications.

Reference Citations:
1. Koolen PGL, Ibrahim AMS, Kim K, et al. Patient selection optimization following combined abdominal procedures: analysis of 4925 patients undergoing panniculectomy/abdominoplasty with or without concurrent hernia repair. Plast Reconstr Surg. 2014;134(4):539e-50e.
The Impact of Hospital Volume on Clinical and Economic Outcomes in Ventral Hernia Repair: An Analysis with National Policy Implications

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**INTRODUCTION:** There is a growing interest in identifying provider and hospital characteristics associated with improved patient outcomes for surgical procedures. Increased operative volume has been associated with benefits in patient centric and economic outcomes for a variety of surgical procedures. In ventral hernia repair, however, there has been a paucity of studies assessing the association between procedure volume and patient outcomes. The objectives of this study are to evaluate the associations between elective hospital ventral hernia repair procedure volume and patient outcomes, including both clinical and economic outcomes.

**METHODS:** The 2014 National Inpatient Sample was queried for patients who underwent elective, open ventral (incisional) hernia repair with or without mesh. Outcomes included occurrence of major or wound-based in-hospital complications, extended length of stay (>4 days), and increased costs (>12,816). High-volume hospitals were defined as the 90th percentile of case volume or higher (>60 cases/year). Multivariate regression was performed to access the outcomes associated with high-volume hospitals.

**RESULTS:** 54,075 patients at 2049 hospitals were retrieved. 41.4 percent of patients were treated at high-volume hospitals. There were significant differences in mesh use (67.2 percent vs 63.8 percent; p<0.001), smokers (30.4 percent vs 27.9 percent; p<0.001), unadjusted major complications (9.5 percent vs 8.6 percent; p<0.001), and unadjusted wound-based complications (6.2 percent vs 5.0 percent; p<0.001) between HV and non-HV. After adjustments for clinical and hospital characteristics, patients treated at high-volume hospitals were less likely to experience a major complication (OR, 0.882; 95 percent CI, 0.815 to 0.955; p=0.002) or wound-based complication (OR, 0.838; 95 percent CI, 0.763 to 0.920; p<0.001). However, in terms of resource utilization, patients treated at high-volume hospitals were more likely to experience an extended length of stay (OR, 1.143; 95 percent CI, 1.090 to 1.199; p<0.001) and an increase in costs (OR, 1.225; 95 percent CI, 1.166 to 1.287; p<0.001).

**CONCLUSION:** Hospitals that perform a larger number of ventral hernia repairs may provide better patient outcomes than lower-volume hospitals. However, these same high volume centers demonstrate an extended length of stay and increased costs thus conflicting with the idea that concentration of resources in high volume centers generates cost-savings. Further research is needed to understand the reason for this gap in proper resource utilization in high volume ventral hernia repair centers.

A Retrospective Comparison of Robot-Assisted Ventral Hernia Repair with Conventional Techniques

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**INTRODUCTION:** Although robot-assisted surgery is no longer considered to be a “novel” technology, its application to hernia repair remains relatively new. As a result, there is limited data available in the literature regarding robot-assisted...