

## Postoperative Prophylactic Antibiotic Use Following Ventral Hernia Repair with Placement of Surgical Drains Reduces Postoperative Surgical Site Infection Rate

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**INTRODUCTION:** To help prevent complications after incisional ventral hernia repair, traditional teaching has recommended using closed suction drains. However, some studies suggest there is an increased infection risk with use of surgical drains<sup>1</sup> and it is uncertain whether use of extended postoperative prophylactic antibiotics while drains remain in place helps prevent surgical site infections. Evidence guiding surgeons' clinical practice regarding antibiotic use following hernia repair is lacking. We sought to determine whether the use of extended postoperative antibiotic prophylaxis beyond standard SCIP guidelines with closed-suction surgical drain placement in incisional ventral hernia repair reduces the incidence of postoperative surgical site infections.

**METHODS:** A retrospective review of 332 patients who underwent an incisional ventral hernia repair from 2003 to 2013 at a single institution, was performed. Demographic, preoperative, operative, and postoperative data was collected and analyzed.

**RESULTS:** Extended postoperative prophylactic antibiotics significantly reduce the incidence of postoperative surgical site infections (odds ratio=0.307,  $p<0.001$ ). The odds ratio, when stratified by Ventral Hernia Working Group Scale, was 0.63, 0.25, 0.30, and 0.13 ( $p=0.83$  for homogeneity and  $p<0.001$  by the Mantel-Haenszel combined test) for Grade 1, 2, 3, and 4, respectively, but was not statistically significant for differences between hernia grades (Table 1). However, as the hernia grade increased, the odds ratio tended to decrease, suggesting extended prophylactic antibiotics may be more effective at decreasing the incidence of surgical site infections at higher grades (Figure 1).

**CONCLUSION:** Extended postoperative prophylactic antibiotic use should be strongly considered with surgical drain placement following incisional ventral hernia repair, particularly for high-grade hernias.

### REFERENCES:

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### FIGURE LEGEND:

**Table 1.** Crude odds ratio and stratified odds ratio by Hernia Grading Scale and Wound Classification.

**Figure 1. Postoperative SSI by hernia grade with and without prophylactic antibiotics.** The incidence of SSI increases with increasing hernia grade for both the patients who did and did not receive antibiotics. However, the incidence of SSI rose at a slower rate with increasing hernia grade for those who received postoperative prophylactic antibiotics, suggesting that postoperative prophylactic antibiotics may be more effective and decreasing the incidence of SSI at higher grades.