CLOSING THE OPEN ABDOMEN: IMPROVED SUCCESS WITH WITTMANN PATCH STAGED ABDOMINAL CLOSURE.

BACKGROUND: Although the "open abdomen" has likely contributed to improved outcomes in trauma patients, the challenge of subsequent fascial closure has emerged. Since mid 2004, we have incorporated Wittmann Patch staged abdominal closure into our management of the open abdomen. The purpose of this study was to evaluate the impact of this device on our incidence of fascial closure versus planned ventral hernia.

METHODS: Patients managed by open abdomen from 2001 through 2006 were identified from the trauma registry. Fascial closure immediately after definitive repair of injuries was defined as "early fascial closure." Continuation of the open abdomen beyond the definitive repair of injuries with subsequent fascial closure was defined as "delayed fascial closure." Since April 2004, the Wittmann Patch was uniformly employed in open abdomen management. Patients managed before the use of this device ("pre-Patch") were compared with those managed in the "Patch" era.

RESULTS: Fifty-six open abdomens were managed in the pre-Patch era and 103 were managed in the Patch era. In the pre-Patch era, 33 (59%) underwent early fascial closure, compared with 67 (65%) in the Patch era (p NS). For the remaining patients, the incidence of delayed fascial closure was significantly higher in those managed with the Wittmann Patch compared with those managed in the pre-Patch era (78% vs. 30%, p < 0.001). Planned ventral hernia was performed in 8 (8%) patients in the...
Patch era versus 16 (29%) patients in the pre-Patch era (p < 0.001). Abdominal complications were similar between groups (11% vs. 9%, p NS).

**CONCLUSIONS:** Incorporating the Wittmann Patch into a clinical pathway for management of the open abdomen has contributed to an increased incidence of delayed fascial closure. Abdominal complications were similar in both groups, suggesting that the device is not only efficacious, but also relatively safe.

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