

## **Preliminary findings from a study of 217 patients undergoing robotic gynecologic surgery demonstrates that the M-Close Kit significantly reduces postoperative pain and recovery times.**

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### Device description

The M-Close Kit is a new product for laparoscopy that combines a port-closure device and an anesthesia delivery system. M-Close facilitates a fascial closure at the port site and simultaneously directs an anesthesia needle into the surrounding pre-peritoneal nerve plane for delivery of a bilateral block at the port site. The device uses an intra-abdominal reference plane to position the needles relative to the fascia, rather than the skin; when measured from below, variation due to fat and muscle thickness is eliminated and the nerve plane can be consistently targeted.

### Study design

A prospectively designed study evaluated the M-Close device in patients undergoing robotic gynecologic surgery. A total of 217 female patients were enrolled in the study with 100 of them having the standard fascial closure with the Carter-Thomason device and 117 with the M-Close device. All patients had their right lower quadrant port site closed with either the Carter Thomason device or the M-Close device, and a comparable volume of local anesthetic was administered for each patient, delivered using either the M-Close Kit or using a standard needle under laparoscopic visualization. Closure time, time to first pain medication, total doses of pain medication, time to discharge, pain at 4 week visit, dimpling of skin (if present) and resolution (if occurred) were recorded. Patients and recovery room staff were blinded as to which closure method was used.

### Preliminary results

Time to closure was different in both groups with the average in the control group being 64.2 seconds while the average in the M-Close group was 43.8 seconds, and the range was 39 - 148 seconds versus 37 - 56 seconds respectively. Time to first postoperative pain medication in the recovery room was similar in both groups (22 min vs 23 min) but only 68 patients (58%) in the M-Close group required a narcotic versus 87 (87%) in the control group required the narcotic pain medication. None of the M-Close patients required a 2nd dose of narcotics, while 9 (9%) of the control group required a second narcotic dose. Average time to discharge home was longer in the control group 91.2 min versus 74 minutes ( $p < 0.01$ ). Dimpling of the skin occurred in 12 (12%) of the control patients versus 5 (4.3%) of the M-Close patients at the 2 week appointment. Pain was similar in both groups at the 4 week appointment.

### Conclusion

The M-Close Kit significantly reduces immediate postoperative pain and recovery time. In cases where M-Close was used, PACU length of stay was reduced by 19% and patients were 33% less likely to need a narcotic. Additionally, the device reduced closure times by 32%, performed the port closure with no exposed needles, and resulted in less dimpling at the port site.