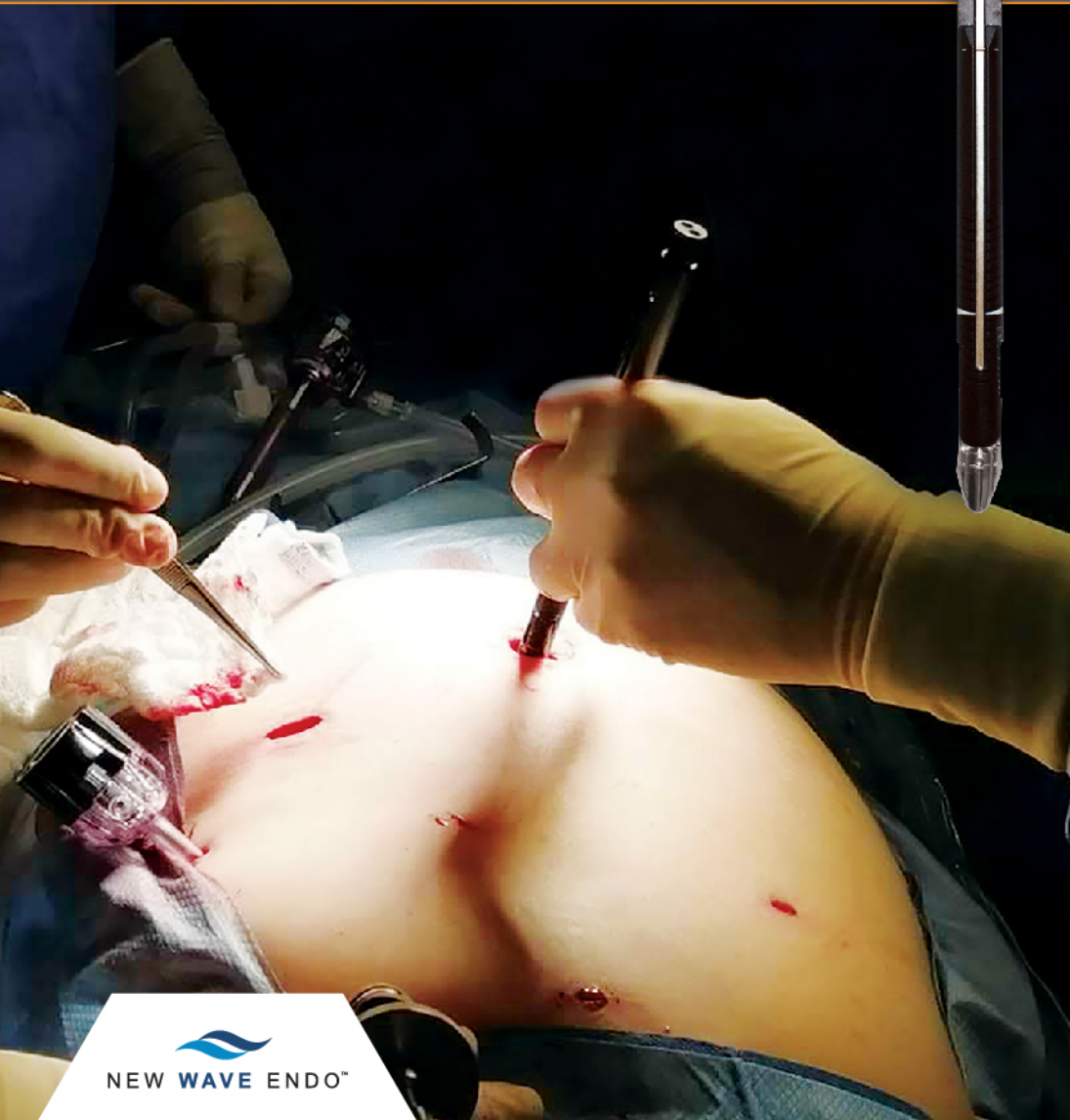


M-CLOSE™
KIT

2 IN 1

MULTIFUNCTION REVOLUTION

TAKE CONTROL OF POSTOPERATIVE PAIN



NEW WAVE ENDO™

SHIFTING THE
PARADIGM
IN HOW SURGEONS
FINISH THEIR
PROCEDURES



Over 127 peer reviewed studies show significant benefits from abdominal wall blocks.

- 67% reduction in post-op opiate use vs local infiltration ⁵
- Over 70% of patients report being pain free at 1 hour after laparoscopic surgery ⁶
- Abdominal blocks tripled the time to first rescue analgesia ⁷
- Patients were discharged significantly earlier ⁸
- Rectus Sheath Blocks can provide sufficient pain control without the need for other post-op analgesia ^{1a}



Why isn't every surgeon doing an abdominal wall nerve block?

Ultrasound guidance is impractical. It requires extra equipment, adds extra costs and can delay surgery by over 18 minutes. ⁹

Blind Loss of Resistance techniques such as the "Pop-Pop" are inaccurate and dangerous.

Local anesthesia is delivered to the correct plane only 14-24% of the time, and 18% of injections believed to be in the correct plane were actually intraperitoneal. ¹⁰

Pain free laparoscopy is possible with targeted nerve blocks¹⁵

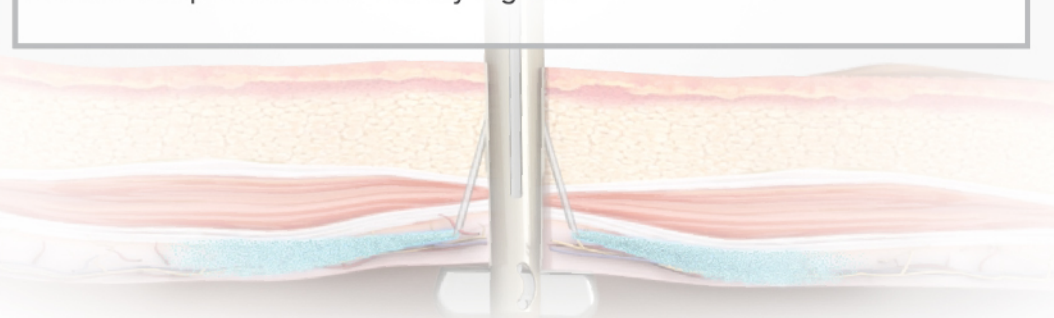
LARGE VARIATION in distance from skin to the pre-peritoneal nerve plane

The thickness of abdominal wall fat and muscle at the umbilicus **varies by over 50mm.**⁴ Current methods for targeting the deep nerve plane are inefficient and dangerous, because they approach the nerves from the anterior wall. The wide variation in fat and muscle thickness make blind injections highly inaccurate.

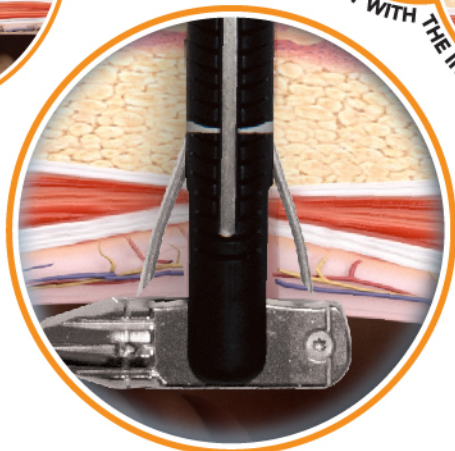
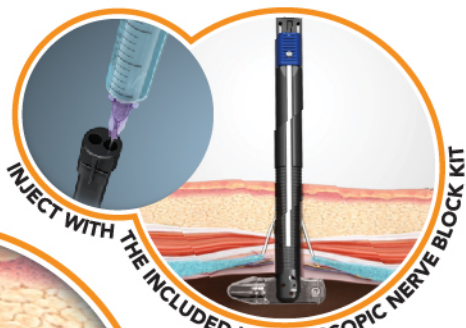
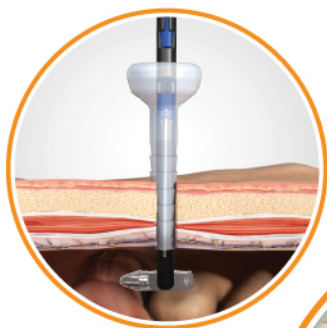


LITTLE VARIATION in distance from peritoneum to the pre-peritoneal nerve plane

The distance from the peritoneum to the deep nerve plane **varies by only 4mm.**³ When measured from below, the extreme variation due to fat and muscle thickness is eliminated and the nerve plane can be consistently targeted.



M-CLOSE uses a **patented reference plane system**, which positions the Nerve Block Needle relative to the peritoneum, not the skin surface.



M-CLOSE KIT combines targeted anesthesia delivery with the most advanced port closure device ¹¹

M-CLOSE PROVIDES A GOLD STANDARD CLOSURE ¹¹

- Adheres to the Jonssoon-Israelsson rules of fascial closure
- Suture bites are symmetrical and 1cm from each side of the defect
- Knot is above the fascial plane

M-CLOSE IS SAFE

- No exposed needles help prevent sharps injuries
- Shielded needles can help prevent injury to intra-abdominal organs, even without pneumoperitoneum, or direct visualization ¹³

M-CLOSE IS EASY

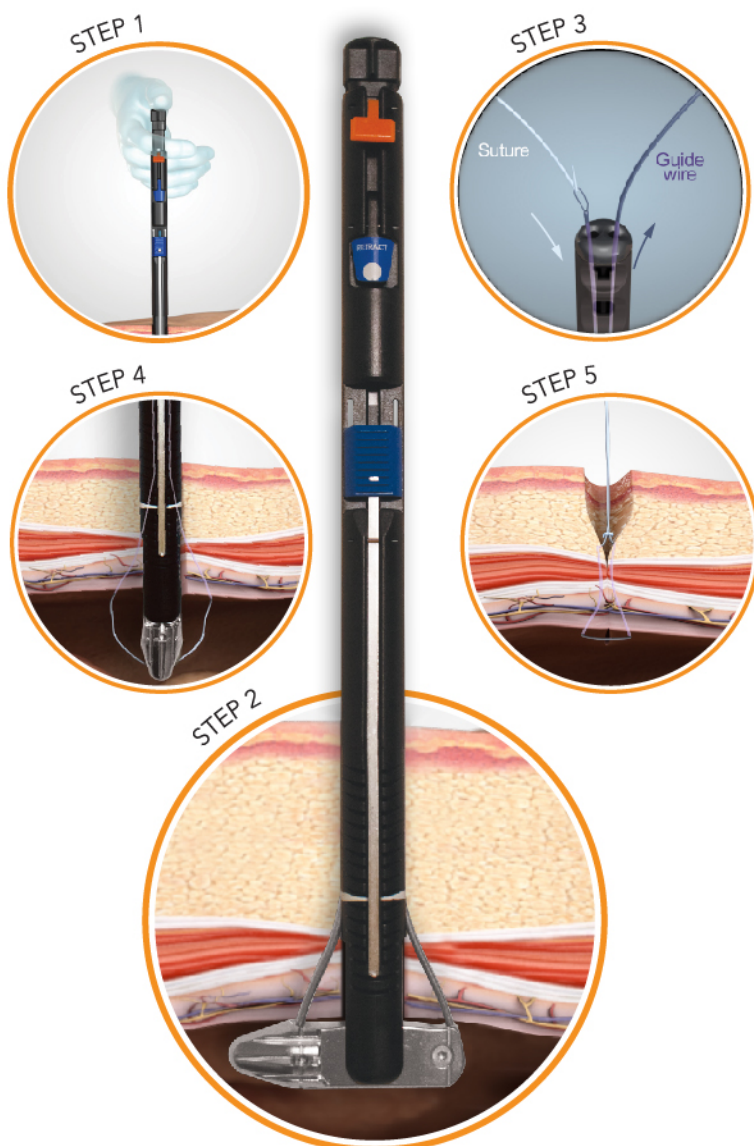
- <30 seconds to place the suture
- Deploys two needles at once
- Can place multiple sutures for large defects

M-CLOSE KIT SAVES MONEY

- Costs less than most port closure devices
- Reduce costs related to post-op port site complications
- Save O.R. time by closing ports faster and avoiding unnecessary scope exchanges
- Deliver targeted anesthesia at no extra cost

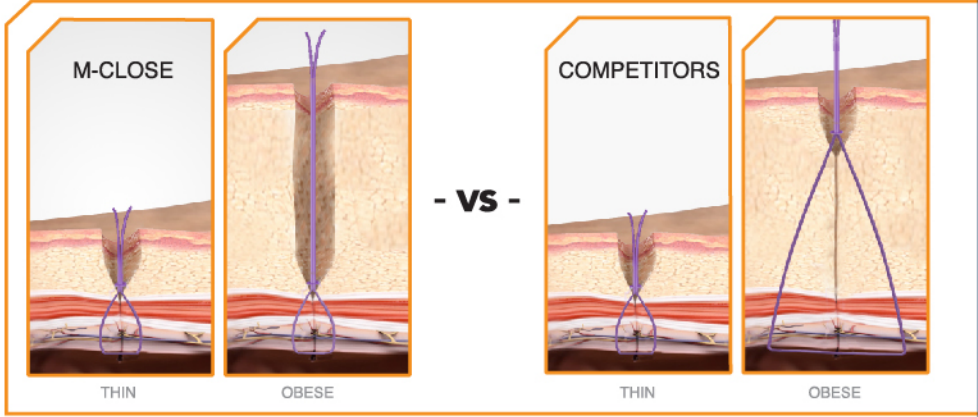


The **ONLY** port closure device with integrated needles that hit both edges of the fascial defect with one push of a button.

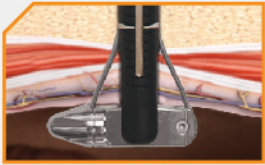


M-CLOSE KIT is designed for **OBESE PATIENTS**

Current devices use the skin as a reference, resulting in larger suture bites as the abdominal wall gets thicker. These large suture bites increase pain and can loosen over time. **M-Close uses the fascia as a reference to produce suture loops that are always the SAME SIZE, regardless of abdominal wall thickness.**



Natural movement, angled views, and the inevitable fascial tenting make symmetry difficult with individual needle punctures. M-Close is the **ONLY** device that **simultaneously deploys two opposing needles**, ensuring proper **180 degree placement every time.**



Simultaneous needles = 180 degrees



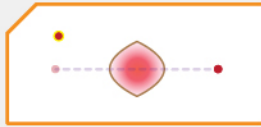
Even a small miss between needles....



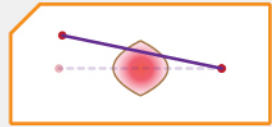
Leads to inadequate closures



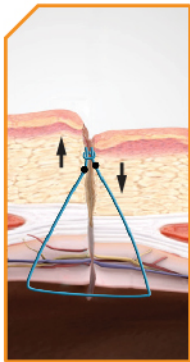
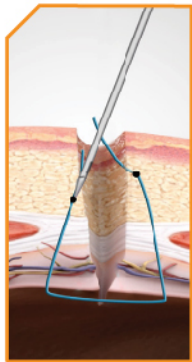
M-Close



Competitors



Competitors

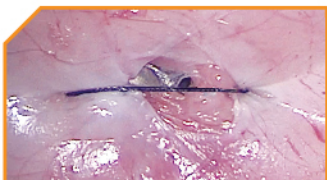


Individual needles can cause dimpling since the needles often enter the side of the defect at different heights.

When the suture is tied the knot forces one side to be pulled toward the other creating asymmetrical tissue folds.

M-Close's simultaneous symmetrical needles always enter at the same height to reduce or eliminate dimpling.

Individual needles capture asymmetric bites, increasing tension in the smaller bite.



Properly closing large defects is important in obese patients who have the highest rates of:

- Port site hernias
- Port site bleeding
- Complications that lead to increased pain and opioid consumption¹⁴
- SSI due to immobility



To learn more, contact us at

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MKT-0004 R07

INCLUDED WITH M-CLOSE IS THE **LAPAROSCOPIC NERVE BLOCK KIT**

Use the included Laparoscopic Nerve Block Kit to deliver anesthesia in conjunction with M-Close, or use it independently to perform abdominal wall nerve blocks. Includes: Nerve block needle, conduction tubing.



- The 20G needle has a Quincke tip, and ergonomic handle, ideal for laparoscopically assisted placement.

M-CLOSE KIT

- All-in-one design
- No exposed needles
- Intra-abdominal needle protected entry
- Single action bilateral needle delivery
- Pneumo not required
- Use any type of suture (4-0 to 1)
- Cost effective
- Reimbursement available for abdominal nerve blocks

OTHER PORT CLOSURE SYSTEMS

- Multiple parts and separate needles
- Exposed needles that increase staff/surgeon risk
- Risk of bowel injury from intraperitoneal needles
- Delays because needles must be inserted one at a time
- Loss of pneumo can make exposed needles dangerous
- Requires costly anchors, cartridges or special sutures

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- 3 Based on internal report: Ultrasound Analysis of the Rectus Sheath in 93 subjects. Sept. 2018
- 4 Kim, J. Thickness of Rectus Abdominis Muscle and Abdominal Subcutaneous Fat Tissue in Adult Women: Correlation with Age, Pregnancy, Laparotomy, and Body Mass Index. Archives of Plastic Surgery 2012; 39(5)
- 5 Crosbie, EJ et al. The surgical rectus sheath block for post-operative analgesia: a modern approach to an established technique. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2012; 160: 196-200
- 6 Dingeman, RS et al. Ultrasonography-Guided Bilateral Rectus Sheath Block vs Local Anesthetic Infiltration After Pediatric Umbilical Hernia Repair A Prospective Randomized Clinical Trial. JAMA Surg. 2013 Aug; 148(8): 707-13
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- 8 Smith, BE et al. Rectus sheath and mesosalpinx block for laparoscopic sterilization. Anesthesia. 1991; 46: 875-877
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- 10 McDermott, G et al. Should we stop doing blind transversus abdominis plane blocks? Br J Anesthesia 2012; 108 (3): 499-502
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- 12 Working Port-Site Hernias: To Close or Not to Close? Does It Matter in the Obese? Bariatric Times June 7, 2011
- 13 Based on internal report: M-Close performance testing, July 2018
- 14 Owens, M. A systematic review of laparoscopic port site hernias in gastrointestinal surgery. Surgeon 2011 Aug; 9(4): 218-24.
- 15 Smith BE, Suchak M, Siggins D, Challands J. Rectus sheath block for diagnostic laparoscopy. Anaesthesia. 1988;43:947-8.