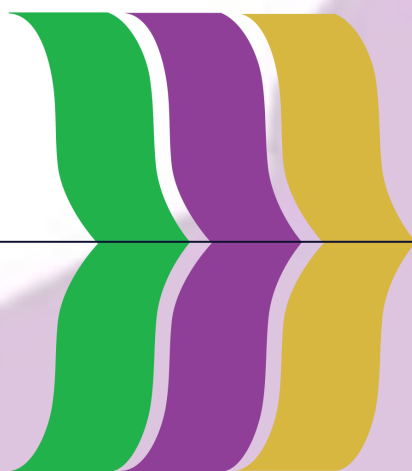




# NANOVA AS-Q-CLIP

*Non-absorbable Polymer Ligation Clips*



**with Patented Tissue Locking Technology**



For Internal Use Only

**NANOVA**

# Polymer Ligating Clip and its Intended Use

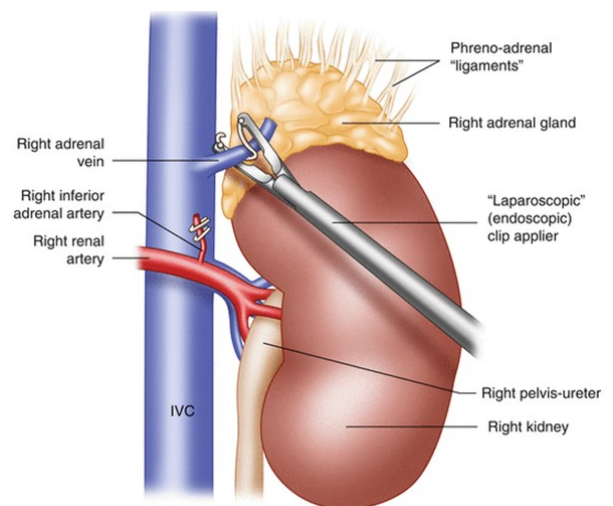
Polymer Ligating Clip is a manually applied hemostatic clip intended to connect internal tissues to aid healing. Vas-Q-Clip® Polymer Ligating Clip is injection molded from a non-absorbable polyacetal material.

## Polymer clips have advantages over metal clips:

- **Flexible, living hinge and bosses address issues with scissoring and overclosure;**
- **Teeth and lock address slippage and migration;**
- **Radiolucent acetal address CR/MRI.**

Polymer Ligating Clips are intended for use in procedures involving ligation of vessels or tissue structures. The following is a list of surgical techniques commonly used with polymer ligating clips:

- Open or Laparoscopic Colon Resection: A surgery to remove all or part of the large intestine.
- Open or Laparoscopic Appendectomy: A surgery to remove an infected appendix.
- Laparoscopic Cholecystectomy: The removal of the gallbladder through small insertions made in the upper right part of the abdomen.
- Laparoscopic Nephrectomy: A minimally invasive operation to remove a diseased or cancerous kidney.
- Radical Prostatectomy: The removal of the prostate gland and some of the surrounding tissue to treat prostate cancer.
- Laparoscopic Hysterectomy: The minimally invasive removal of the uterus.
- Laparoscopic Splenectomy: The removal of the spleen through small incisions.
- Laparoscopic Adrenalectomy: The minimally invasive removal of masses.



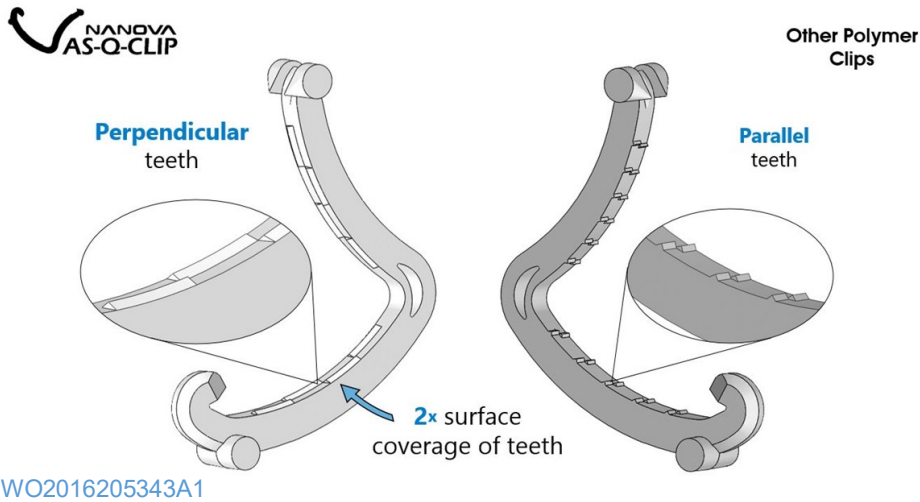
Source: Lairmore T.C. (2017) Posterior Retroperitoneoscopic Adrenalectomy. In: Howe J. (eds) Endocrine and Neuroendocrine Surgery. Springer Surgery Atlas Series. Springer, Berlin, Heidelberg

While migration is not the highest occurrence problem, it can lead to more serious complications from internal bleeding, bile leakage, and even death. With high migration resistance on vessels, Vas-Q-Clip® Polymer Ligating Clips address the common issue reported by the FDA for similar products.

Broken clips and unable to close have the highest problem rate are generally associated with the clip applicators. If the tip of a clip applicator is damaged or not maintained well it can lead to clips not closing or clips breaking.

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# Patented Tissue Locking Mechanism



Patent Inventor

**Richard Joseph Lebens III, Ph. D.**

Director of Orthopedic & Surgical

Department

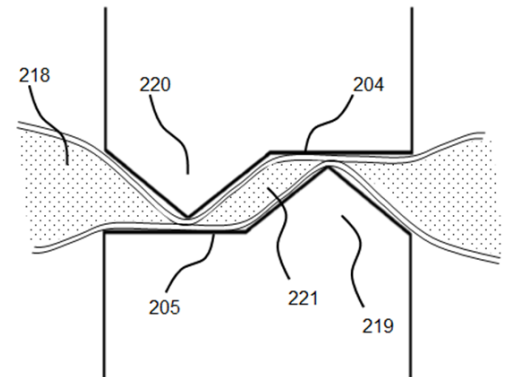
NANOVA Biomaterials Inc.

## Tissue-locking + Anti-migration technology

➤ Anti-Migration protrusions on the inner surface of the Vas-Q-Clip® force tissue into an **occlusion cavity**, which forms a “tissue knot”. Immediately and following the necrosis of the tissue locked in place, the formed “tissue knot” fixes the tissue and clip as a solid construction. Whereby, the knots formed along the Vas-Q-Clip® surface cannot exit the occlusion cavity through the narrow channel formed between apexes and edges of the rhombus shaped cross section. This patented tissue locking technology is only available with the Vas-Q-Clip® Locking polymer clip.

➤ This design can maintain the stability of the closure under higher blood pressure and can also effectively prevent the ligation clip from sliding or slipping off the closed tissue.

➤ **Don't just lock your clip, lock the tissue with Vas-Q-Clip®.**



### A cross sectional view after closing

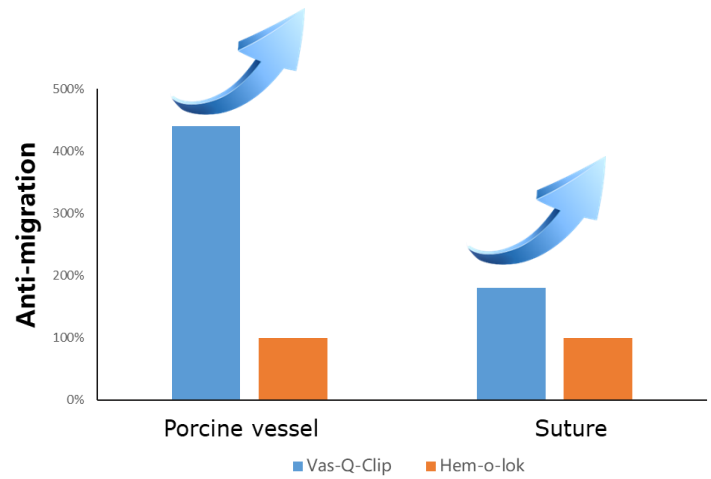
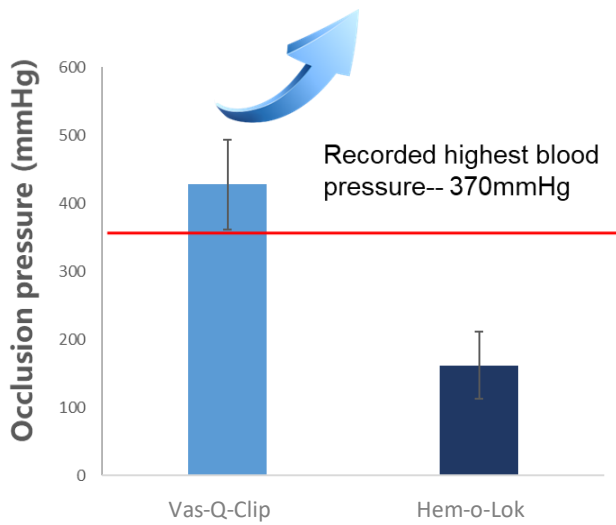
218: Tubular tissue (e.g. blood vessel)

221: Occlusion cavity

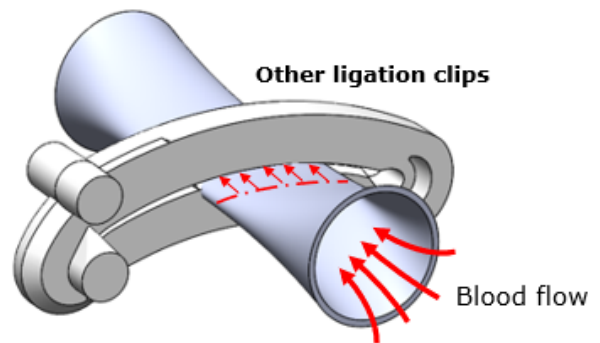
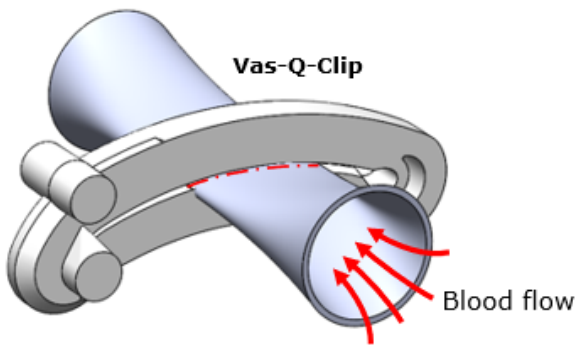
221: Tissue knot

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# Product Advantage: Secure Locking, Anti-Migration, and Accurate Closure\*



\*Data on file at Nanova Biomaterials, Inc. as submitted to the FDA is ML.



Over 500,000 Vas-Q-Clips have been sold since 2018

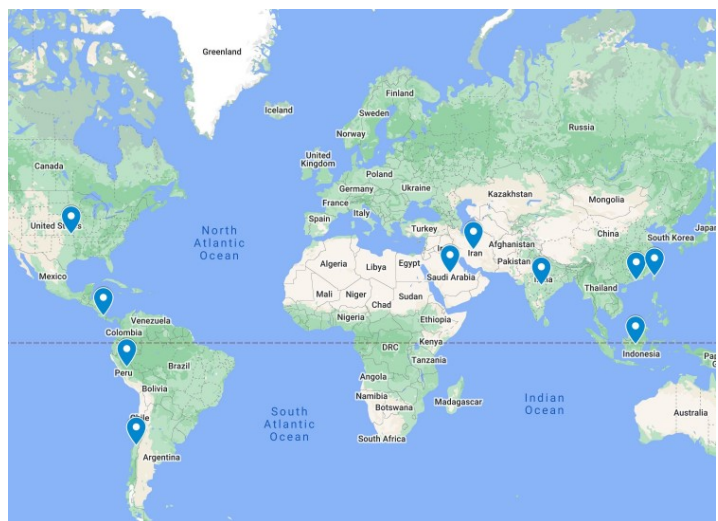


4.9/5 Performance score<sup>1</sup>



4.8/5 Safety score<sup>1</sup>

<sup>1</sup> According to clinical research in the international market



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