

Laparoscopic Vertical Sleeve Gastrectomy: Technological Alternative for Staple Line Imbrication

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Background

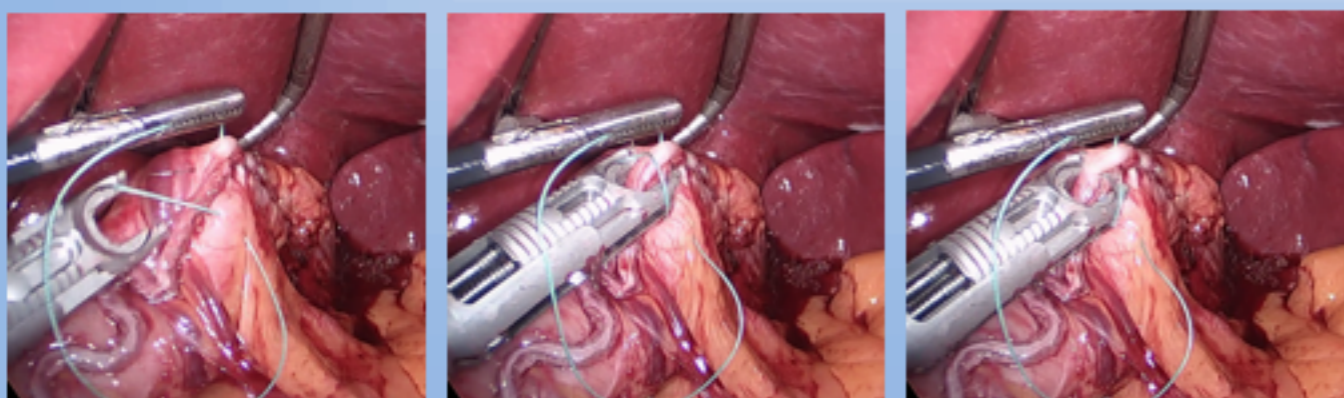
Laparoscopic vertical sleeve gastrectomy is one of the most commonly used bariatric procedures and one of the dreaded complications associated with this procedure is a leak occurring at the staple line. Staple line leaks occur in approximately 2.8% of cases, and can be due to a variety of reasons such as technique, poor vascularization and inflammation. Numerous modalities are available to reinforce the staple line in an attempt to prevent post-operative staple line leaks.

Description

One technique which may decrease complications by providing reinforcement includes imbrication of the vertical sleeve gastrectomy staple line. This technique provides additional tissue at the area of greatest weakness has been associated with increased strength at the staple line. While this may be technically challenging by free hand intracorporeal suturing, we employ the Endo360™ device. This device allows the surgeon to perform intracorporeal suturing similar to the Endostitch™. Major advantages include a sharp and curved needle on an instrument in which articulation is possible. This is extra step may help to decrease complications associated with a vertical sleeve gastrectomy.

Materials and Methods

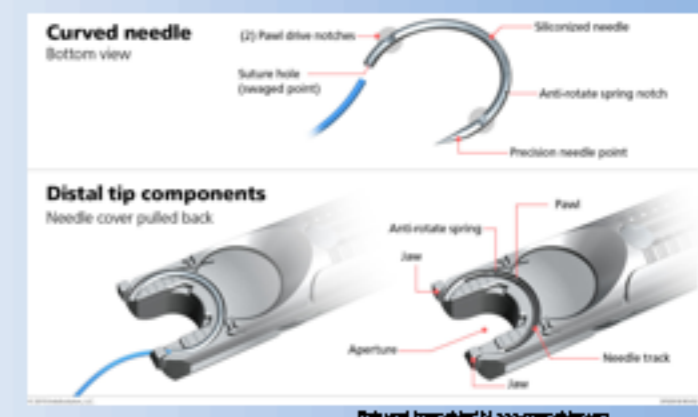
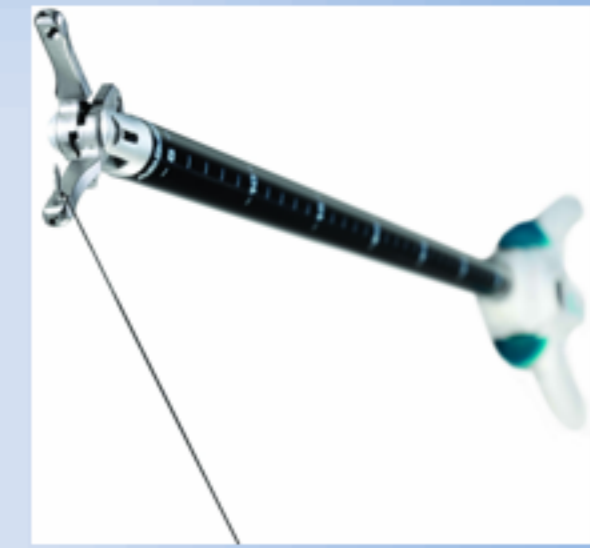
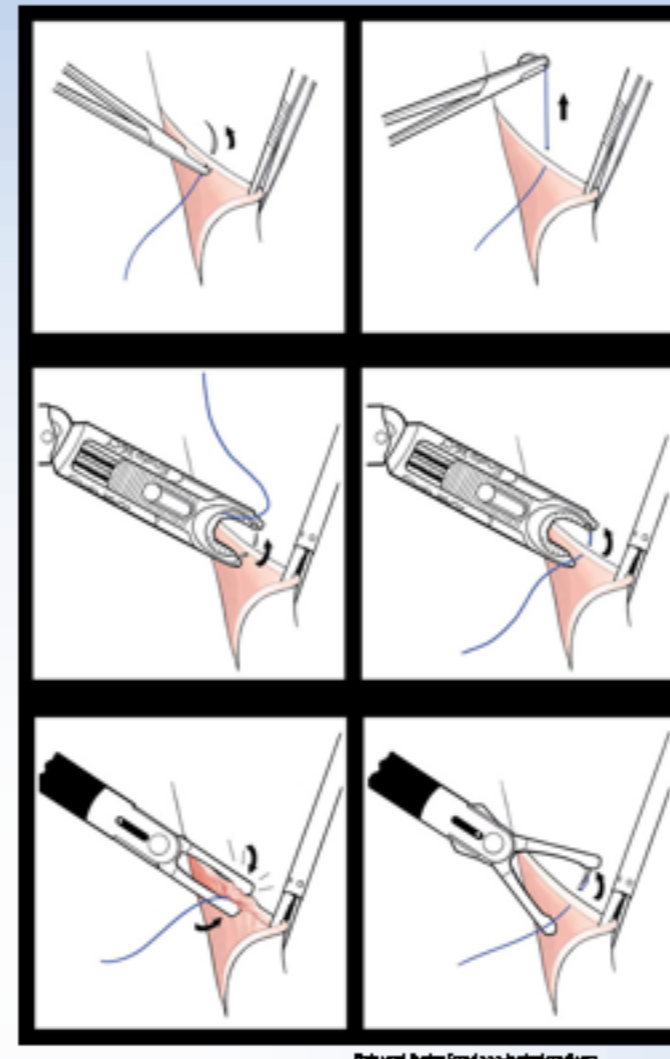
Endo360™ device was used for the purposes of staple line imbrication in vertical sleeve gastrectomy. The surgeon's experience with the device was recorded as to ease of use, technical aspects of suturing, final appearance of the reinforcement.



1. Identifying stitch location

2. Placing instrument

3. Activating needle



Results

Both devices have a learning curve, which can be surmounted with simulation and live practice. The Endo360™ offers a sharp needle, which approximates more closely the free hand suturing, and has an articulating head, allowing more freedom of port placement.

Conclusions

Intracorporeal suturing by free hand can be technically challenging. The Endo360™ device allows the surgeon to imbricate the vertical sleeve gastrectomy staple line and possibly decrease complications such as leaks.

References

D'Ugo, S., et al (2014). Comparative use of different techniques for leak and bleeding prevention during laparoscopic sleeve gastrectomy: A multicenter study. *Surgery for Obesity and Related Diseases*, 10(3), 450-454.