As demonstrated in this case study, initial surgeon experience in more than 500 bariatric and general laparoscopic procedures employing the new Endo360° automated suturing device with standard curved needles has been shown to eliminate challenges associated with straight needle suturing devices.

Lack of articulation, difficulty penetrating mesh and thick tissue, tearing tissue, puncturing other organs, breaking needles off inside the patient’s body — these and many other issues make suturing during bariatric and general laparoscopic procedures especially difficult. But bariatric surgeon Scott Stowers, DO, sutured during such complex MIS procedures as gastric bypass and gastric sleeve with absolute precision and control.

Dr. Stowers, Medical Director of My Bariatric Solutions in the Dallas-Fort Worth metropolitan area, and his partner, Randall Wright, MD, use a new automated suturing device called Endo360°, which Dr. Stowers credits with his ability to suture with such precision. The tool was developed by EndoEvolution, LLC, whose founders believed that the optimal suturing device for MIS procedures needed to mimic how surgeons traditionally suture when they do it manually — with curved needles. To meet this need, Endo360° was introduced to the market this past year, for the first time putting an automated suturing device that employs standard curved needles into the hands of MIS surgeons.

**Naturally intuitive, low learning curve**

According to Dr. Stowers, he initially saw the Endo360° device at the 2012 Minimally Invasive Surgery Symposium held in Salt Lake City, Utah, where he had the opportunity to use Endo360° in a hands-on laparoscopic suturing workshop. As he recalls, he immediately identified the device as: “A vast improvement over what we had before. We all learned to do open procedures using curved needles. This was the first time I’d seen an automated suturing tool that approximates what we do naturally.”

Both Drs. Stowers and Wright were anxious to get their hands on the new suturing tool and were excited to learn that this past March, Endo360° was available for commercial use. “I saw an ad for the device in a trade publication and called EndoEvolution. They jumped on a plane and came down to Texas,” recalls Dr. Stowers.

“Because it is intuitive to use, there’s a low learning curve. Anyone doing any type of laparoscopic procedure can get up to speed quickly.” - Dr. Wright

After doing just a few cases, both doctors felt comfortable using the device. Says Dr. Wright: “Because it is intuitive to use, there’s a low learning curve. Anyone doing any type of laparoscopic procedure can get up to speed quickly.” Today, Drs. Stowers and Wright use the Endo360° device exclusively in all of their bariatric and general laparoscopic procedures, with the number of cases performed now exceeding 500.

**Accuracy and precision with maximum depth control for uniform stitches**

For both doctors, the device’s biggest advantages include its needle’s sharp tapered tip, as well as the ability to place the needle with precision and control depth, which enables them to produce uniform stitches. “When you use straight needles, there’s no control over how deep into the tissue you drive the needle; it’s more of a guess,” notes Dr. Stowers. “Squeezing the handle of the Endo360° device slightly advances the needle enough to see the tip as it passes through the tissue. And we can achieve a nice bite because of the device’s wide jaw, which allows us to control depth. With its articulation and roticulation control, the device also allows us to access difficult-to-reach places.”

Furthermore, Dr. Stowers recalls that when he did use straight needle devices, he would typically need to twist his wrist to arrange the needle in the right direction: “As you’re driving the needle through the tissue, the needle should always follow the arc of its own curve. So naturally, you’re trying to make your wrist turn like a curved needle. It’s hard to get that perfect circle and impossible to repeat it. With Endo360°, the driver of the device mimics the scooping motion initially taught when suturing manually. So you don’t have to push the needle through; it drives like it is supposed to. You can’t hardly mess it up; it’s a perfect stitch every time,” Dr. Stowers emphasizes.

Dr. Wright, who uses Endo360° for many types of MIS procedures, from fundoplication with mesh repairs to ventral hernia, says that the device makes it easier — and quicker — for him to sew through mesh products and thicker tissue. “With straight needle devices, I often wasn’t able to take a big bite of the tissue without getting the needle and suture caught up in the tissue. But because of the 360°’s wide jaw, I can get a really good bite of the fundus. The curved needle also facilitates proper angulation. Because I’m able to articulate the distal tip, I feel that I am able to gain a mechanical advantage when placing sutures through the cruras during hiatal hernia repair.” And an added advantage, he notes, is the ability to tie intracorporeally, rather than extracorporeally using a knot pusher.

For more than 20 years, Dr. Stowers has performed the full range of bariatric procedures to help morbidly obese patients achieve their weight loss goals. Most importantly, says Dr. Stowers, he and his team are committed to helping patients, the majority of whom present with numerous clinical challenges, gain control over such weight-related complications as diabetes, high blood pressure, high cholesterol, hypertension and sleep apnea. Thanks in part to advances in laparoscopic techniques, including the new Endo360° suturing device, his practice has had tremendous success. Patients typically lose 61.6% of excess weight in their first year following surgery, along with accompanying complications resolved in approximately half of its patients.
needle placement, give me the confidence to suture through delicate tissues such as the anterior wall of the esophagus.

In addition, the Endo360°’s needle is always enclosed in the distal tip of the device, limiting needlesticks. Says Dr. Stowers: “The design of the device makes it much safer to use inside the body. The needle stays in place, so there’s much less chance of puncturing adjacent tissue or organs and causing bleeding.”

Patient safety is always top of mind for Dr. Wright as well. For cases in which he is required to work close to the esophagus, Dr. Wright had considered going back to manually suturing: “The curve of the needle, its sharpness and linear suture arrangement, along with the precision of needle placement, give me the confidence to suture through delicate tissues such as the anterior wall of the esophagus.”

A 360º is more intuitive than a traditional needle because the needle goes through in a natural path; there’s not as much nicking for greater patient safety.

For more information about Endo360°, the first reusable, automated suturing device using standard curved needles, contact Erin Trigilio, Director of Clinical Training, erin@endoevolution.com or visit: endoevolution.com

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