

Surgeon Spotlight

Minimally invasive video-assisted thyroidectomy (MIVAT) is a surgical technique that has shown increasingly positive results, particularly in endocrine surgery centers. Gregorio Scerrino, M.D. from the P. Giaccone University Hospital in Palermo, Italy, has performed hundreds of MIVATs. He published the results of a four-year study on the procedure in the [June 2013 Minerva Chirurgica](#), a bi-monthly journal on surgery.

Prior to 2007, Dr. Scerrino had been using ultrasonic energy and radiofrequency technology to perform both conventional thyroidectomies and MIVATs, but these devices had some limitations. In his words, he was “looking for a device perfectly ergonomic, safe, easy to learn and use, and optimized for both techniques.”

“When we started to use the TLS² and especially TLS³, we appreciated the perfect ergonomics and the optimal shape for traditional ‘open’ as well as for minimally invasive video-assisted thyroidectomy.”

Dr. Scerrino began using Microline Surgical’s TLS² Thermal Ligating Shears in early 2007. What attracted him to the device was its core Thermal Fusion Technology (also known as Tissue Welding). While conventional devices pass energy through the tissue to create heat, Microline’s Thermal Fusion achieves denaturation solely through the application of direct heat and pressure, which minimizes tissue damage, water vapor and smoke production.

In early 2008, when Microline launched its Third Generation Thermal Ligating Shears (TLS³), Scerrino transitioned to this new version of the product. The TLS³ features enhanced fusing and dissecting capabilities, an ergonomic handle design, longer more tapered jaws, and two-speed finger control for unparalleled performance in open and minimally invasive surgical procedures.

TLS³ Thermal Ligating Shears

“When we started to use the TLS² and especially TLS³, we appreciated the perfect ergonomics and the optimal shape for traditional ‘open’ as well as for minimally invasive video-assisted thyroidectomy,” said Dr. Scerrino. “The ability to seal and cut tissues, the simplicity of this system, the safety and the improvement of our results compared to conventional techniques led us to introduce TLS³ into our routine.”



Gregorio Scerrino, M.D.

Most recently, Dr. Scerrino began using the latest generation of Microline’s Thermal Ligating Shears, the MiSeal[®] Reposable Thermal Ligating System. Launched in 2011, MiSeal is the first and only reposable device that simultaneously fuses and divides soft tissue using direct thermal energy, offering surgeons the ability to achieve exceptional patient outcomes at a considerable cost advantage. The device is comprised of a reusable handle and disposable tips, combining the precision of a fully disposable instrument with the economic benefits and quality of a fully reusable handpiece.

Precision, Speed, Simplicity and Safety

According to Dr. Scerrino, both Microline’s TLS³ and MiSeal system have an optimal shape for MIVAT and conventional thyroidectomy and parathyroidectomy (open and video-assisted). He states: “We generally appreciated the ergonomics of the devices, and their speed and safety in tissue synthesis.”

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To date, Dr. Scerrino has performed over 200 MIVATs using TLS³ and MiSeal, and noted the following advantages of these technologies over conventional devices:

- Very limited smoke production
- The complete absence of vibrations that interfere with the metallic instruments simultaneously used in the procedure
- The ability to simultaneously perform fusing and cutting (“one release, two actions”)
- The extremely limited thermal spread at the tip of active branches as a result of the silicon boot

“We recently carried out minimally invasive video assisted thyroidectomies in some low- and intermediate-risk papillary thyroid cancers. In this field, the need of central neck dissection can be efficaciously satisfied using the TLS³ and MiSeal by the head of the patient towards anterior superior mediastinum,” adds Dr. Scerrino.

Dr. Scerrino is also using TLS³ and MiSeal to perform lateral and central neck dissections, laparoscopic cholecystectomies, appendectomies and gastrointestinal surgery. Commenting on the lateral and central neck dissections, he states:

“The safety, efficacy, and reliability of the TLS³ and MiSeal allow us to make the tissue synthesis and hemostasis during VI level lymph nodes dissection, just along the trachea, behind the anonymous trunk, close the inferior laryngeal nerves on its way in the neck to the superior mediastinum.”

Across all of these procedures, Dr. Scerrino points out that the TLS³ and MiSeal are easy to set up and use, reducing procedure time in the operating room (OR). All of Microlin’s energy devices are compatible with the company’s Universal Power Supply (UPS). This compact, three-pound, reusable power source can be suspended from an IV pole or placed on any flat surface, making it portable and easy to store.

“The set up is very simple, and the use in the specific surgical steps is very natural and intuitive,” said Scerrino. “The devices allow us to minimize the ligations and the instrument change, because of their shape fit for dissection. At the moment, we can affirm that in conventional thyroidectomy the TLS³ and MiSeal

curtail the operative time by approximately 30 minutes, especially thanks to a drastic reduction in the ligations done during the operation and the perfect hemostasis.”

In regards to patient outcomes, Dr. Scerrino has found TLS³ and MiSeal enable him to perform a faster operation with a complication incidence similar to “clamp and tie” technique in conventional surgery. He notes that: “the very limited manipulations with TLS³ and MiSeal devices compared to conventional ‘clamp and tie’ technique are a very important matter in safety’s favor.”

Dr. Scerrino has found that patients undergoing procedures with TLS³ and MiSeal show an improvement in blood-calcium levels compared with conventional techniques. He believes this improvement is due to the very limited thermal spread and minimization of damage to parathyroid vascularization with the TLS³ and MiSeal.

Lastly, Dr. Scerrino comments on how the reusable nature of MiSeal and its ability to reduce procedure times makes it an economical alternative to conventional devices.

“The cost of a surgical procedure depends on a number of factors. While we can spend so much on technology, it can also offer advantages that save us costs,” said Dr. Scerrino. “The cost of the new reusable version of TLS³ – MiSeal – is widely justified because it is less expensive compared to half an hour of OR time. Moreover, the use of an energy-based surgical device is mandatory for MIVAT, and the MiSeal provides clear advantages over conventional devices for this procedure.”

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