

Case study: Use of Stryker's Sustainability Solutions Reprocessed HARMONIC FOCUS® Shears + Adaptive Tissue Technology ("HAR9F") during a Transcervical Total Thyroidectomy

A review by Ralph P. Tufano, MD



About Dr. Ralph P. Tufano

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Dr. Tufano is the Medical Director of Head and Neck Endocrine Surgery at Sarasota Memorial's First Physicians Group Thyroid and Parathyroid Center. He specializes in thyroid and parathyroid surgery, including the management of hyperparathyroidism, thyroid nodules, early, advanced and recurrent thyroid cancer, neck lymph node metastases, goiter and Graves' disease. His expertise and novel treatment techniques have helped personalize treatment and improve surgical outcomes for patients with these conditions.

Patient History:

A 50-year-old woman with Graves' disease and related orbitopathy had been on antithyroid medication for five years with lability of her thyroid hormone levels. She has difficulty tolerating the medicine and wanted a definitive therapy for her hyperthyroidism. Surgery was recommended by her endocrinologist because of the concern that radioactive iodine (as treatment) could worsen her eye disease.

Assessment:

Upon examination of her neck, the thyroid was full and without any distinct nodules palpable. An ultrasound examination of the thyroid demonstrated an enlarged and hypervascular thyroid on the color doppler. The right and left lobes both measured over 6cm in greatest dimension. The risks, benefits and alternatives of a total thyroidectomy were discussed with the patient, and she wished to proceed with the operation.



Stryker's Sustainability Solutions Reprocessed HARMONIC FOCUS® Shears + Adaptive Tissue Technology

Procedure/Treatment:

The patient was taken to the operating room for a transcervical total thyroidectomy. The thyroid was highly vascular with prominent blood vessels on the capsule. The Stryker's Sustainability Solutions ("SSS") reprocessed HAR9F was used to reliably seal both superior thyroid pole vascular pedicles, while preserving the function of the identified external branch of the superior laryngeal nerve. The SSS reprocessed HAR9F was used to mobilize the inferior parathyroid glands away from the thyroid capsule, while preserving their blood supply. The superior parathyroid glands and blood supply were also preserved. The SSS reprocessed HAR9F was used at Berry's ligament, with the inactive side closest to the dissected recurrent laryngeal nerve. Thus, mobilizing the thyroid lobes over the trachea without leaving any significant thyroid tissue behind and without seeing a reduction of the signal response to stimulation on the nerve monitor. No sutures or vascular clips were used for vessel control during this surgery. The estimated blood loss for the procedure was minimal and the immediate post-op intact parathyroid hormone level was within the normal range. The patient was discharged after two hours in the Post Anesthesia Care Unit.

Clinical Outcome:

The patient returned to the clinic for a post-operative visit after three weeks. She did not experience any hoarseness and her range of voice was unchanged. The incision healed well and she shared she was feeling the best she had in years while taking her thyroid hormone replacement medicine. Her serum calcium and intact PTH levels were checked and were normal.

Conclusion:

This case illustrates the safe and effective use of the SSS reprocessed HAR9F in thyroid surgery. The minimal blood loss for a very vascular disease process shows the reliable ligation of blood vessels during the surgery. The safety profile for the laryngeal nerves and parathyroid glands was evident in the maintenance of a normal range of voice, blood calcium and intact PTH levels respectively. The patient was discharged after two hours in the Post Anesthesia Care Unit. There was no bleeding, building further confidence in the reliability of blood vessel sealing. There was no discernible difference in the way this device performed during the conduct of the procedure when compared to original equipment. The post-operative outcome was similar as well.

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