



Introducing...

Continuous Vagus Nerve Monitoring



Injury to the recurrent laryngeal nerve (RLN) is one of the most serious complications of thyroid surgery. Yet research shows the rate of RLN damage is underestimated.¹⁻⁵



INTRODUCING THE INNOVATIVE

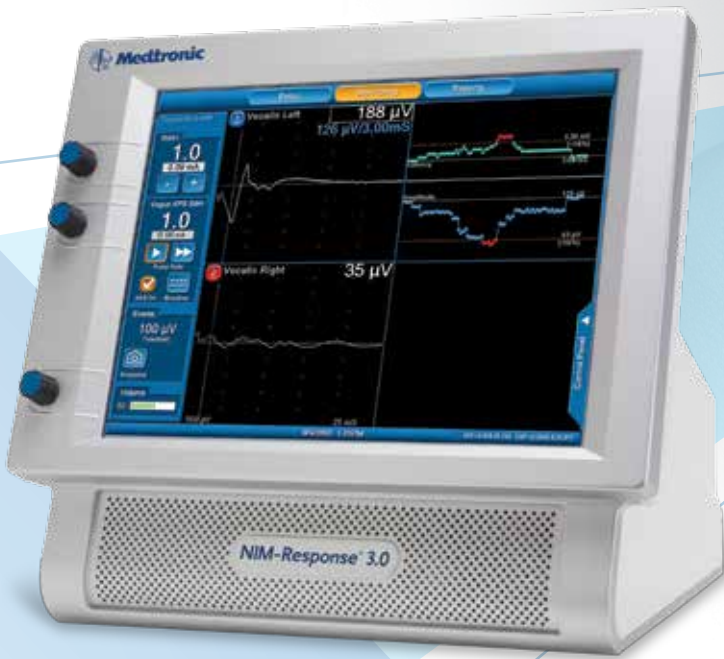
APS[®] Electrode



Why Use Continuous Vagus Nerve Monitoring?

Nerves can be at risk in between stimulations due to surgical incision, “blind” trauma caused by stretching and manipulation during tumor/thyroid removal, and cumulative trauma or damage that may result in neuropraxia.

Used with the NIM® 3.0, the APS® (Automatic Periodic Stimulation) Electrode enables early detection and warning of a change in nerve function. The APS® Electrode is placed on the vagus nerve and delivers continuous low-level stimulation. A baseline of nerve function is obtained and subsequent EMG responses are monitored and charted in real-time to provide feedback.



Function

- Provides continuous, low-level periodic stimulation of vagus nerve, which in turn stimulates RLN
- Records responses via EMG endotracheal tube
- Trends amplitude and latency in real time
- Includes adjustable alarm limits for significant baseline changes

Benefit

- Provides early warning of nerve damage or fatigue
- Gauges health of vagus and RLN during surgery
- Helps prevent false negatives and/or accidental nerve damage
- Provides prognostic indication of nerve function

Product Info

Item No.	Description	Size Range	Qty
8228052	2 mm APS® Electrode (Yellow)	2 mm to 3 mm	1
8228053	3 mm APS® Electrode (Green)	3 mm to 4 mm	1

References

1. Lo C, Kwok F, Yuen P. A prospective evaluation of recurrent laryngeal nerve paralysis during thyroidectomy. *Archives of Surgery* 2000;135(2):204-7.
2. Dionigi G, Bacuzzi A, Boni L, Rovera F, Rausei S, Frattini F, Dionigi R. The technique of intraoperative neuromonitoring in thyroid surgery. *Surg Technol Int.* 2010;19:25-37.
3. Randolph GW. Surgery of the thyroid and parathyroid glands. Chapter 25: Surgical anatomy of the recurrent laryngeal nerve (p316). *Elsevier Science (USA)*, 2003.
4. Bergenfelz A, Jansson S, Kristoffersson A. Complications to thyroid surgery: results as reported in a database from a multicenter audit comprising 3,660 patients. *Langenbecks Arch Surg.* 2008; 393: 667-673.
5. Ready AR, Barnes AD. Complications of thyroidectomy. *Br J Surg.* 1994; 81:1555-1556.

For further information, please call Medtronic ENT at 800.874.5797 or 904.296.9600. You may also consult our website at www.MedtronicENT.com.

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