

Title: Efficacy of Intraoperative Recurrent Laryngeal Nerve Monitoring: A Single-Institutions' Experience.

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ABSTRACT:

Objective: To evaluate the efficacy of intraoperative nerve monitoring (IONM) during thyroidectomy in preventing recurrent laryngeal nerve (RLN) injury.

Design: Retrospective cohort study.

Setting: Academic institution.

Patients: Consecutive sample of subjects undergoing thyroidectomy by experienced endocrine surgeons between 2006 and 2008 at a single institution.

Intervention: Intraoperative RLN monitoring.

Main outcome measure: RLN injury.

Results: Between 2006 and 2008, 296 subjects underwent thyroid lobectomy or total thyroidectomy by the authors. One patient was excluded because of preoperative documentation of RLN injury. IONM was used in 253 (88%) cases, with a total of 403 nerves at risk of injury. Loss of RLN signal following surgical dissection occurred in 13 cases, prompting a change in surgical plan in one case. Post-operative laryngoscopy was performed in eight patients with hoarseness, documenting vocal cord paralysis in one patient who had clear intraoperative anatomic evidence of RLN injury. In no case did loss of RLN signal after dissection lead to nerve injury in the absence of anatomical evidence of injury as detected by the surgeon.

Conclusions: IONM added cost and resulted in surgeon angst in cases of malfunction without a clear benefit in RLN identification and protection. Anatomic identification of the RLN should remain the gold standard in preventing RLN injury during thyroidectomy.