

## Incidence and prognosis of contralateral vocal fold palsy after hemithyroidectomy in previously unoperated patients

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### Background

Vocal fold paralysis (VFP) due to damage (physical, thermal or by traction) of recurrent laryngeal nerve is a well-studied complication in thyroid surgery. However, in the course of a unilateral hemithyroidectomy VFP of the contralateral, not operated side, despite normal preoperative laryngoscopic findings, is a very rare and unexpected event. To ascertain its incidence and prognosis, we conducted a retrospective analysis of prospectively collected data from patients operated in our institution.

### Methods

The study population comprised all patients undergoing thyroid resections between January 2012 and November 2021. As standard of care, all patients underwent a pre- and postoperative video-laryngoscopy by an independent ENT phoniatician. In a planned hemithyroidectomy, the contralateral side was never explored or its RLN dissected.

Postoperative VFP was defined as newly discovered movement reduction of vocal folds at the postoperative day 2, a permanent VFP as a persistent functional impairment 6 months after hemithyroidectomy.

### Results

2475 thyroid resections were reviewed. 1349 hemithyroidectomies in previously non-operated patients were performed with 1343 undergoing postoperative laryngoscopy (99.5%). 34 patients (2.5%) showed ipsilateral VFP, whereas 8 unexpected VFP of the contralateral, non-operated side were observed (0.6%). Patients were symptomatic to a varying degree and received speech therapy. Clinical symptomatology and VFP resolved completely in all 8 documented cases within 6 months.

### Conclusion

Contralateral VFP is an exceptionally rare event after hemithyroidectomy. Its occurrence may be underestimated due to missing or incompetently performed postoperative laryngoscopy as standard of care. Fortunately, contralateral VFP seems to have a good prognosis since all observed cases resolved completely.



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