

## Outcomes in patients with vestibular schwannoma after subtotal resection and adjuvant radiosurgery

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## Abstract

**Objectives:** Debate continues with a limited number of publications describing outcomes in patients with vestibular schwannoma (VS) treated with planned subtotal resection (STR) plus radiosurgery (SRS). Here we present our experience.

**Methods:** This is a retrospective review of 22 patients with Koos grade III and IV VS who were treated with subtotal resection followed by SRS. Tumor volumes, facial nerve function, hearing preservation, and the presence of trigeminal neuropathy were noted. Spearman's rank test was used to correlate facial nerve grade with postoperative tumor residual tumor volume.

**Results:** Tumor control was achieved in all patients with a mean follow-up of 28 months. No patient required other treatment beyond the original surgery and adjuvant SRS during this period. After a mean postoperative period of 28 months, 19/22 patients had excellent (H&B I or II) facial nerve function grading. Improved facial nerve function was positively correlated with larger residual tumor volume ( $r_s = 0.63$ ). Kaplan Meier curve showed around 80% probability for regaining facial nerve function after initial deterioration. Four patients reported postoperative facial numbness at the side of surgery, with 3 cases showing improvement within a month. Temporary post-operative caudal cranial nerve dysfunction was observed in 2 patients.

**Conclusions:** Hybrid strategy of subtotal resection and adjuvant SRS provide patients with large VS excellent tumor control and a good clinical outcome.

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### Abstract

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