

# Cochlear implantation

Cochlear implants provide an effective treatment option for those with severe hearing loss, including those with preserved low frequency hearing.

Common contraindication to [MRI](#).

Hearing rehabilitation is an important management aspect of patients undergoing excision of vestibular schwannomas. Studies have shown cochlear implantation (CI) is possible at the time of tumor excision via a translabyrinthine approach. Primary objectives of this report are (1) to review prospective studies pertaining to outcomes of concurrent CI and translabyrinthine tumor removal in detail and (2) perform an aggregate analysis of outcomes for case reports and series. Design

Systematic review based on Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Setting Review of literature using PubMed and Cochrane databases.

Participants Eligibility included patients undergoing translabyrinthine excision of vestibular schwannoma with concurrent CI. Main Outcome Measures

Open-set speech discrimination scores, sound localization, patient-reported outcome measures. Results Forty-one subjects were identified.

Two prospective studies have been performed, which showed improvement in speech localization and patient-reported outcome measures. While the majority of patients achieved open set speech

recognition, data pertaining to improvement in speech perception were variable. Approximately 85% of subjects had audibility with their CI. Of those that achieved open-set speech discrimination, 75%

could be classified as either intermediate or high performers. The majority of low performers in open-set speech either endorsed subjective benefit or demonstrated improvement compared to

preoperative measures. There was a high risk of selection and reporting bias. Conclusions

The majority of patients undergoing translabyrinthine excision of vestibular schwannoma with concurrent CI achieve open set speech perception, with 75% of these patients meeting criteria for being intermediate to high performers. Additional benefits include improved subjective hearing measures, decreased tinnitus, and improved sound localization <sup>1</sup>.

## Technique

[Cochlear implantation technique](#).

## Mouse model of cochlear implantation

see [Mouse model of cochlear implantation](#).

## Unclassified

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