

# OUTCOMES OF TRANSMASTOID RESURFACING FOR SUPERIOR CANAL DEHISCENCE USING A CARTILAGE OVERLAY TECHNIQUE

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## OTOLARYNGOLOGY

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**OBJECTIVE:** Superior semicircular canal dehiscence is a well described syndrome, with potentially debilitating symptoms, resulting from a third window effect within the vestibular system. We report on the audiologic and symptomatic outcomes of 10 patients (12 ears) operated on through a novel transmastoid resurfacing technique. This technique is familiar to otologists, avoids a middle fossa craniotomy and the potential vestibular complications of plugging.

**METHODS:** Retrospective chart review. Patient symptoms before and after surgery were quantified using mailed questionnaires. Linear regression curves of pre- and post-operative, air and bone pure tone audiometric data were used to evaluate changes in hearing. Surgical success, defined as symptom resolution and the lack of re-operation, was established using Kaplan-Meier survival analysis.

**RESULTS:** Most patients reported improved symptoms after surgery, and considered it to be successful. Post-operatively, hearing through air and bone was decreased at high frequencies (>4000 Hz). Estimated surgical success rate at 12 months was 50% (95% CI: 0.28, 0.88). The most common surgical complication was an intra-operative cerebrospinal fluid (CSF) leak, seen in 4/12 ears (25%).

**CONCLUSION:** This study adds to the literature on the transmastoid resurfacing technique for superior semicircular canal dehiscence. Although deemed successful at reducing symptoms, in our hands this surgical approach did not provide a long term, stable repair, and was associated with hearing loss at high frequencies. Offering resurfacing as the primary approach should involve a detailed discussion on the possibility for revision surgery.