

Critical Review: In the adult population receiving little benefit from hearing aids, would the Vibrant Soundbridge middle ear implant provide better outcomes on measures such as speech intelligibility and subjective questionnaires?

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This critical review examines the benefit of the Vibrant Soundbridge (VSB) middle ear implant for the adult population who receive little to no benefit from their hearing aids. Study designs include mixed (between and within) group studies and single-group (pre-post test) studies. Overall, the literature reviewed provides evidence that the VSB provides greater perceived benefit than conventional hearing aids, at least for those dissatisfied with their aids. In terms of speech intelligibility, the results are variable. Some studies show greater benefit using the VSB while others show no difference. These inconsistencies are worthy of further, more thorough investigation.

Introduction

It is estimated that approximately 20% of people with hearing loss use hearing aids. However, only 58% are fully satisfied with their aid(s). These individuals may complain of poor sound quality, occlusion effects, or feedback issues when using hearing aids. Consequently, these concerns have resulted in a significant number of hearing aid returns. In addition, there are individuals who have such a significant hearing loss that hearing aids may not improve speech intelligibility drastically yet who are not candidates for cochlear implants due to their relatively good residual hearing. With these considerations, middle ear implants were introduced. (Luetje et al., 2002)

Among the various middle ear implants available worldwide, the Vibrant Soundbridge (VSB) by Med El is the only FDA-approved middle ear implant and has grown significantly throughout the years. (Truy et al., 2008)

The VSB is a semi-implantable middle-

Results

Single-group (pre-post test) Study
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functional gain obtained using the middle ear implant and open-fit hearing aid were determined and compared.

Results indicated that with respect to speech recognition scores, there were no statistically significant differences between the two devices (84.0 ± 14.7 for VSB and 90.6 ± 12.5 for open-fit).

References

- Beltrame, A. M., Martini, A., Prosser, S., Giarbini, N., & Streitberger, C. (2009). Coupling the vibrant soundbridge to cochlea round window: Auditory results in patients with mixed hearing loss. *Otology & Neurotology*, *30*(2), 194-201.
- Luetje, C. M., Brackman, D., Balkany, T. J., Maw, J., Baker,