

Comparison of Three Types of Hearing Aids for Tinnitus Management

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Objectives. An extended-wear hearing aid (Lyric—produced by Phonak LLC) has been developed and refined through 10 years of clinical use. The Lyric is a deep-fit hearing aid that is worn 24/7. The device is replaced when the battery dies after about 3 months of use. Users of Lyric hearing aids who reported bothersome tinnitus at the time of fitting have often noticed that their tinnitus problem was significantly reduced because of the hearing aids. Hearing aids are well known to reduce problems with tinnitus because they amplify the sound environment, which tends to make the tinnitus less salient. It seems possible that even greater benefit is achieved for tinnitus relief with Lyric hearing aids because they are never removed from the ears—thus, “sound enrichment” occurs 24/7 for these individuals. The present study tested the hypothesis that Lyric hearing aids provide greater benefit for tinnitus than the use of traditional hearing aids or combination instruments (hearing aid and “masker” combined).

Plan. This study determined the relative effectiveness of Lyric hearing aids (deep fit, extended wear), Audéo Q90 hearing aids (receiver in the canal—RIC), and Audéo Q90 with Tinnitus Balance (RIC combination instruments) to provide relief from tinnitus. Each of these ear-level devices is a product of Phonak Corp. Participants were people who: (a) would benefit from amplification; (b) are not current hearing aid users; (c) have tinnitus that is sufficiently bothersome to warrant intervention; and (d) qualify to wear all of these devices. The primary outcome measure was the Tinnitus Functional Index (TFI). Secondary outcome measures included hearing-specific questionnaires as well as a semi-structured interview to examine non-auditory factors such as ease of handling, comfort, and convenience.

Methods. Participants were randomized to one of the three groups (Lyric, Audéo Q90, Audéo Q90 with Tinnitus Balance), with approximately 18 in each group, and wore the respective devices for 4 months. Fittings, adjustments, and follow-up appointments were conducted to comply with company guidelines and ensured that all participants attended appointments on the same schedule. At 4 months, participants returned to complete final outcome measures, which concluded their participation. Data analyses will compare outcomes between groups at 4 months with respect to TFI index scores, in addition to measures that assess satisfaction, understanding of speech-in-noise, and non-auditory factors related to the different devices. Participants will be allowed to keep their devices.

Findings to Date. The study is currently closed to enrollment. To date 55 subjects have been enrolled and all of them have completed all study requirements. The data are currently being analyzed. No outcome data are available for reporting.

Relevance to VA’s Mission. Tinnitus is the most prevalent service-connected (SC) disability for Veterans (971,990 Veterans SC for tinnitus in Fiscal Year 2012). The focus of this study is to determine whether extended-wear hearing aids can provide tinnitus relief for these Veterans.