

Abstract for Supplementing Hearing Aids with Computerized Auditory Training. ID: 1940, VA #11-4306,

Objectives: Hearing aids are the primary method of treatment for adults with hearing loss. Research clearly demonstrates many beneficial treatment effects from hearing aid intervention, however, wide individual variation in outcome is also documented. To improve hearing aid outcomes supplemental auditory rehabilitation can be considered. With the advent of easy access to home computers one intervention that is receiving interest is home-based computerized adaptive auditory training. Although recent work has shown encouraging data, it is not clear that auditory training will improve hearing aid outcomes over that of standard-of-care hearing aid intervention, particularly in the VA population. In this study we will assess the relative efficacy of supplementing standard-of-care hearing aid intervention, with auditory training administered via a commercially available computer-administered auditory training program, and with a “placebo” auditory training paradigm, consisting of “directed listening” activities.

Plan: The study is taking place at three test sites: (1) Bay Pines VA Healthcare System, Bay Pines FL, (2) National Center for Rehabilitative Auditory Research, Portland OR and (3) Mountain Home VAMC, Mountain Home TN. The study is a multi-site, randomized controlled, parallel group clinical trial. Participants are assigned randomly to one of four groups: (1) Auditory Training twenty sessions (AT20), in which the participants complete the LACE auditory training program over twenty sessions; (2) Auditory Training ten sessions (AT10), in which the participants complete the LACE auditory training program over ten sessions; (3) Directed Listening (DL) in which the participants listen to books on tape played from a computer for twenty sessions and (4) Control (CTL) in which participants receive standard-of-care hearing-aid intervention.

Methods: The participants in each group attend four test sessions. During Visit 1 the informed consent process is completed, baseline assessments are made to ensure that the participants meet the study inclusion criteria, testing of predictor variables are completed, and all hearing aids are assessed for correct functionality. Participants then are assigned randomly to a test group. Visit 2 occurs within six weeks of Visit 1. During Visit 2, baseline performance on the outcome measures is assessed, as is performance on the predictor variables. Visit 3 occurs at the end of the 10 or 20 session training periods. Visit 4 occurs six months after Visit 3. During Visits 3 and 4 all participants are retested on the outcome measures to assess short-term and long-term intervention outcomes respectively. At Visits 2, 3 and 4, the stability of hearing aid function is assessed through electroacoustic measures.

Findings to Date: All study testing is complete. Data has been presented at a number of conferences and two publications are in preparation. Data suggest participants improve on within-program training tasks. These skills transfer to the tasks used as outcome measures in this study for some but not for all participants. Analyses modeling individual differences will be conducted to examine this.

Analyses indicate that Relevance to VA’s Mission: The VA issues many thousands of hearing aid annually costing hundreds of millions of dollars. In order to maximize VHA resources, it is imperative to examine the efficacy of LACE, a potentially cost-effective treatment strategies that are designed to maximize benefits obtained from hearing aids and to improve the quality of life of our disabled veterans.