Editorial

Evidence-Based Practice in Audiology

This special issue has been written by members of the Independent Hearing Aid Fitting Forum (IHAFF). The IHAFF was formed in 1993 with the goal of creating a more systematic and scientific basis for fitting nonlinear hearing aids. The IHAFF Hearing Aid Fitting Protocol resulted from the early efforts of this group. In the mid-1990s, most audiologists thought that the new era of digital processing on a hearing-aid-size platform would herald solutions (finally) to many of the nagging problems that had complicated hearing aid fittings. As a result, it was hoped that amplification effectiveness would improve with a concomitant increase in real-world satisfaction with hearing aids.

A decade later, it was disappointing to realize that the anticipated up-tick in user satisfaction had mostly failed to materialize (see, for example, Kochkin’s article in *The Hearing Review*, 2003). What went wrong? In 2003, the IHAFF group met to ponder the current situation in hearing care. In this issue, Van Vliet summarizes the status quo and the obstacles that seem to be blocking progress. Based on these considerations, the group attempted to formulate a strategy to address continuing impediments to successful rehabilitation of people with hearing problems. One of the first questions considered was “How do we know we are using the most effective methods in our clinical practices?” This led to an extensive review of the evidence base for current practice in audiological rehabilitation, including hearing aid fitting. The results were eye-opening.

Most of the papers in this special issue report what was determined about the scientific bases of hearing rehabilitation. Many components of contemporary practice in hearing care were reviewed. The overriding observation was that most of the research has many limitations, and the evidence that exists pointing to effective strategies in hearing rehabilitation tends to be relatively weak. Why is the scientific basis of hearing care so rudimentary? In this issue, Fabry provides thought-provoking observations as he contrasts the development of evidence supporting provision of hearing aids with that for provision of cochlear implants.

The take-away message is that there is a critical need for improved research methods and careful, complete data reporting to produce the quantity and level of evidence needed to establish solid scientific underpinnings for hearing aid fitting and associated practices. In addition, because amplification technology changes so rapidly, practitioners can no longer rely on experts to distill and disseminate research evidence in a timely manner. In this issue, Cox provides a tutorial about the meaning and methods of evidence-based practice to help practitioners develop the skills to become self-sufficient in this arena.

Although all of this sounds as though the situation might be grim, the existing research did produce some guidelines that provide a starting place for the evidence-based practitioner. Keep in mind that these guidelines are provisional rather than definitive. Briefly, the evidence tends to support the importance of using real ear measures to match a prescription target similar to the NAL-RP for average speech (Mueller), and matching real ear maximum output to unaided loudness discomfort levels (Mueller and Bentler). In addition, although audiologists often report that they measure discomfort for amplified loud sounds, no evidence was found to support or refute the value of this in improving hearing aid
fitting. On the other hand, the evidence suggests that measuring unaided speech recognition ability in quiet does not facilitate hearing aid fitting, despite the continuing popularity of these tests (Killion and Gudmundsen). Further, research exploring the real-world effectiveness of directional microphones in hearing aids suggests that their effects are limited in scope, whereas the real-world effectiveness of noise reduction algorithms remains to be demonstrated (Bentler).

Although audiological rehabilitation beyond amplification is not widely performed, there is evidence to support the usefulness of counseling-based group programs (Hawkins), as well as for individual auditory training programs (Sweetow and Palmer) for adults. In fitting young children, there is evidence to suggest that their amplification systems should encompass wide dynamic range compression and should amplify soft sounds more than is typically necessary for adults. In addition, young children require a wider bandwidth of amplification than that required by adults with similar hearing losses (Palmer and Grimes).

This special issue has about twice as many pages as the typical issue of *JAAA*. The additional pages were supported by Etymotic Research, HearUSA, the Hearing Aid Laboratories for Basic and Applied Research at the University of Iowa, and the Hearing Aid Research Laboratory at the University of Memphis. It was hoped that a single, larger issue on the current evidence in amplification would make it easier for the reader to appreciate the big picture. Is the glass half full or half empty? You decide.

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*Guest Editor*

**REFERENCE**