

# Editorial

## What Determines Benefit from Hearing Aids?



*There are more things in heaven and earth, Horatio,  
than are dreamt of in your philosophy.*

William Shakespeare

Over the years, audiologists have developed a number of cherished convictions about hearing aids. One may be termed the “engineering solution.” If hearing loss varies with frequency, then we should provide amplification in exact proportion to the degree of loss at each frequency. Although there has long been lively debate concerning the exact target amplification formula, commitment to precise selective amplification remains strong among loyalists. Another fervently held conviction is that if a little auditory training is a good thing, then a lot must be even better. Still a third is that nothing matters but the audiogram. Hearing aid benefit relates exclusively to the relief of the pattern of peripheral hearing sensitivity loss. Other factors are either irrelevant or nonexistent.

In this issue of *JAAA*, however, Sharon Beamer, Ken Grant, and Brian Walden, of the Walter Reed Army Medical Center, present findings that challenge some conventional thinking about hearing aids. They used the Profile of Hearing Aid Benefit (PHAB) instrument to measure perceived benefit from hearing aid use in 134 men with high-frequency loss (> 2000 Hz) who had been using binaural aids for at least 6 months. In 74 subjects (group 1), the aids provided a close match to the National Acoustic Laboratories’ prescribed target gain. In the remaining 60 subjects (group 2), however, there was substantial deviation from the target gain. Results showed that, in terms of perceived benefit from the aids on the PHAB, there was no significant difference between the two groups. The authors concluded that “Apparently, exact matches to prescribed frequency-gain targets

are not necessary for deriving benefit from hearing aids, assuming that the deviations are within some reasonable criterion (e.g.,  $\pm 10$ – $15$  dB).”

Auditory training has always been an integral part of the fitting process at Walter Reed. There are two programs: short (2 hours) and long (3½ days). Again, there was little difference in perceived benefit between the short and the long group. The authors concluded that “A disappointing finding was the fact that the type of auditory training program attended (2 hours versus 3½ days) seemed to have no predictive relationship with perceived hearing aid benefit...”

One factor that did seem to play a role in perceived benefit was the age of the user. Although there were no differences between younger and older subjects in terms of either the degree or slope of the high-frequency loss, there were differences in perceived benefit. Older subjects perceived less benefit than younger subjects. The effect was especially prominent in the more difficult listening situations. The authors concluded that “In general, older subjects tended to report less benefit than younger subjects for each of the five speech subscales and greater tolerance of their aids under aversive listening situations.” This observation would appear to be in concordance with the frequent observation that aging is accompanied by changes in auditory function not always explained by the audiometric contour.

Beamer, Grant, and Walden have very effectively mobilized the excellent and in many ways unique resources of the Army Audiology and Speech Pathology facility at Walter Reed to explore some basic issues in our field.

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Editor-in-Chief*

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