

Editorial

Hearing Aid Fitting: Quo Vadis?



In this issue of *JAAA*, Denis Byrne, Director of Research for the prestigious National Acoustic Laboratories (NAL) of Australia, asks us to consider whether our contemporary approaches to hearing-aid fitting rationales need to be critically evaluated. Will they be adequate to meet the challenge imposed by the rapid proliferation of nonlinear amplification systems with multiple memories and sophisticated compression capabilities?

One of Byrne's principal concerns is the apparently widespread, uncritical acceptance of the concept of "loudness normalization" as the only basis for a prescriptive gain rule. As it is applied in most fitting procedures, loudness normalization refers to the normalization of the loudness relationships among different frequency bands, as well as overall loudness of speech. Frequency bands that would be softer for a listener with normal hearing will continue to be softer when amplified according to the loudness normalization rationale. This is in contrast to those linear fitting procedures that seek to amplify all frequencies to equal rather than to normal loudness. Byrne asks us to consider whether loudness normalization, in spite of its intuitive appeal, is necessarily the optimal fitting rationale. In Byrne's words, "...there is often a distressing tendency to assume that what seems right must be right even though some 'right-sounding' theories are mutually contradictory."

Byrne further singles out, as a disturbing trend, the appearance of fitting systems unique to a particular nonlinear instrument. Because the possible permutations of settings of nonlinear systems are so extensive, some manufacturers have devised private fitting algorithms based on their notions of what is, and what is not, going to lead to a successful fitting. In consequence, the audiologist may have little control over, or understanding of, the fitting process for that particular aid. And to the extent that such "proprietary" algorithms are based on the loudness normalization assumption, we are unlikely ever to break out of the current mold.

Byrne is also concerned that such proprietary procedures, and indeed many other fitting rationales, tend to ignore years of previous research. Many investigators seem compelled to reinvent the wheel with every new hearing aid development. Yet there is a considerable body of existing research upon which fitting procedures for new technologies can be based.

Readers are urged to study this important paper in detail. It contains a wealth of observations questioning many cherished assumptions about hearing aid fittings. It suggests, moreover, some important strategies to help us cope with the current explosion in technology.

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