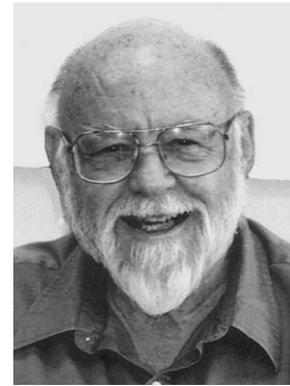


# Editorial

## Use It or Lose It! But Use It Wisely



There are two well-known and well-documented reasons to fit hearing aids bilaterally: better sound localization and better speech understanding in background noise. To be sure, some elderly persons may do better when fitted monaurally, perhaps due to an age-related interaural interference effect, but these two principal advantages of bilateral fittings have been demonstrated many times over in the majority of hearing aid users.

In this issue of *JAAA*, two papers add further dimensions to the issue. In “Auditory Deprivation in Adults with Asymmetric, Sensorineural Hearing Impairment,” authors Carol Silverman, Shlomo Silman, Michele Emmer, Janet Schoepflin and John Lutolf have extended earlier studies of the auditory deprivation effect, which were previously carried out primarily on participants with symmetrical sensorineural loss, to users with distinctly asymmetrical losses. They compared two groups with essentially similar, asymmetric, audiometric levels, over a two-year period. One group was fitted monaurally on the poorer ear. The second group remained unaided over the two-year period. Monosyllabic word recognition, using W-22 test materials, was tested three times, once at initial fitting, once after one year, and again after two years postfitting. Results were striking. In the aided group, W-22 scores did not change on either the unaided better ear or the aided poorer ear. In the unaided group, however, W-22 scores, while not changing in the better ear, declined significantly on the poorer ear. In other words, the poorer ear, deprived of the stimulation provided by amplification, declined in speech understanding ability. In the aided group, however, the stimulation provided by the aid on the poorer ear apparently countered any deprivation effect over the two-year period.

This result provides further support for the fitting of aids bilaterally even though there is a significant difference between the sensitivity levels on the two ears. It used to be thought that bilateral fittings were only appropriate in fairly symmetrical losses. The conventional wisdom was that, when the two ears differed by a substantial amount, it was only

useful to fit the better ear. But the results of Silverman et al provide another strong reason for fitting the poorer ear as well. Although fitting only the better ear may, indeed, produce a successful fitting, amplifying the poorer ear as well may prevent the development of a deprivation effect on that ear.

On a slightly different note, the paper “The Occlusion Effect in Unilateral versus Bilateral Hearing Aids” by Charlotte Thunberg Jespersen, Jennifer Groth, Jürgen Kiessling, Barbara Brenner, and Ole Dyrland Jensen illuminates a potential problem in bilateral fittings not widely appreciated. When both ears are occluded, a user’s own voice may be variously described as “too boomy,” “very unnatural,” “too loud,” and so on. Jespersen et al suggest that this complaint may underlie at least some of the resistance to the use of two aids. Certainly the user’s own voice is the one he or she is most used to and very likely to be noticed when its familiar characteristics have changed. Jespersen et al show that the “unnatural” effect can be attenuated by attention to the acoustic mass of the vent. They asked both normal-hearing listeners and experienced users of bilateral hearing aids to rate the naturalness of their own voices as vent characteristics were systematically varied under both unilateral and bilateral conditions. Both groups rated their voices as more “unnatural” when both ears were fitted than when only one ear was fitted. The only exception was fitting with a nonoccluding silicone eartip, where no difference was found between the unilateral and bilateral conditions. Moreover, naturalness was maximized with these nonoccluding silicone eartips.

So, there appear to be two take-home messages here:

1. *Use it or lose it!* Amplify the poorer ear as well as the better ear in persons with asymmetric sensorineural loss.
2. *Use it wisely!* Be aware that two occluded ears makes the user’s own voice seem less natural than only one occluded ear and that venting minimizes the unnaturalness.

*James Jerger*  
Editor-in-Chief