

Letters to the Editor

Response to Zelisko et al

I would like to thank Zelisko et al for taking the time to clarify any misconceptions that may have been presented in the second paragraph of the review of the literature section of "Intersubject Variability of Real-Ear Sound Pressure Level: Conventional and Insert Earphones" (Valente et al, 1994). However, it must be noted that their important contributions on this subject were correctly cited in the first paragraph. I take full responsibility for inadvertently "bundling" the research of Zelisko et al (1992) and Gagné et al (1991a, b) into the second paragraph, which, among others, reported on the Desired Sensation Level (DSL) (Seewald et al, 1991) software system, which provides the predicted ear canal SPL using average transformation values after threshold and loudness discomfort levels, measured in dB HL, are entered.

Zelisko et al correctly point out that the authors of the DSL "place an emphasis on obtaining direct in situ measures of ear canal SPL whenever possible." However, I am quite confident that, although Seewald et al (1991) highly recommend in situ measures of ear canal SPL, it is probable that the majority of professionals dispensing hearing aids do not measure in situ SPL, but rather rely on the predictions provided by the DSL and similar types of software. The reasons for taking this "shortcut" are many, but may include the fact that many professionals do not have access to probe microphone measures or use them on a routine basis. In addition, many audiologists lack the training necessary to make accurate in situ measures and may feel uncomfortable in obtaining these measures. In addition, I suspect that some audiologists may question the clinical utility of in situ measures because guidelines on how to incorporate these measures into the decision-making process of adjusting the electroacoustic characteristics of hearing aids has not been clearly defined.

To press the issue of using "shortcuts" just a bit further, Mueller and Bright (1994) report that only 3 percent of 600 orders for custom hearing aids provided frequency-specific 2-cc coupler values or frequency-specific LDLs (in dB HL) when ordering the appropriate output. In addition, in an informal survey of several manufacturers a few years ago, I was surprised to discover that over 80 percent of orders for custom

hearing aids asked *the manufacturer* to select the matrix (peak gain, slope, and peak output) from an order form that contained only the audiometric thresholds. It would be very interesting for the readers of *JAAA* if the authors of the DSL would send a questionnaire to professionals who purchased the DSL software to determine what percentage of the users actually measure in situ SPL or prefer to use the DSL software to provide the predicted measures. My best guess is that virtually all of the users enter the individually measured hearing thresholds (dB HL), while significantly less measure frequency specific LDLs. In addition, I would suspect that even fewer users measure ear canal SPL, as is suggested by Seewald et al (1991).

The results of Valente et al (1994) once again emphasized the magnitude of the potential error in predicting the ear canal SPL using average transformations. Hopefully, the works of Zelisko et al (1992), Gagné et al (1991a, b), Valente et al (1994), and others will provide guidelines on how ear canal SPL can be measured and continue to point out the significant errors that can result when average transformations are used. Hopefully, the results of these studies might convince more audiologists of the value of taking the time to measure the *individual* auditory area.

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