Editorial

Audiometry in the Sound Field

I couldn't believe it was possible to feel more depressed than I did after the Houston Oilers blew a 32-point lead and lost to the Buffalo Bills, 41 to 38, in the NFL playoffs. But then I read Gail Rochlin's paper, "Status of Sound Field Audiometry among Audiologists in the United States." And then I was really depressed. Gail surveyed ASHA-certified audiologists on sound field usage and received 418 replies. Her conclusion, that "results show a lack of standardization among sound-field test rooms, great diversity in the stimuli used for sound-field testing, and inconsistent calibration methods," is surely a tactful understatement of a set of findings reflecting a disappointing lack of standardization, or even basic understanding of some fundamental considerations in sound-field testing.

While 93 percent of respondents used either warble tones or narrow bands of noise as test signals, a surprising 16 percent also reported the use of simple pure tones, apparently without concern for standing wave problems. In the area of calibration, only 10 percent of respondents took responsibility for the calibration of their own sound-field systems. An astonishing 74 percent left it to an "equipment repair person." The most frequently reported method for calibrating the system was electroacoustic, but this was reported by only 58 percent. The second most common response, reported by 18 percent, was "don't know." In other words, if this is a representative sample of audiologists, almost one in every five doesn't even know how the sound-field system is calibrated. Finally, of those who did use an electroacoustic calibration method, more than 60% did not know what normative values were used.

Overall, Gail found that only 7 percent of the respondents successfully met all of the following four minimal criteria for satisfactory sound-field audiometry, and only 27 percent met even three of the four.

1. Stimuli used to obtain frequency-dependent thresholds should be warble tones or narrow bands of noise, but not pure tones.
2. Calibration of sound-field stimuli should include electroacoustic measures.
3. Electroacoustic measures should be compared to one of the sets of normative values in the literature.
4. Calibration should be done at least four times a year.

These criteria concern only sound-field threshold measures. They do not adequately address the more complicated issues presented by the kinds of sound-field applications useful in, for example, the evaluation of hearing aid performance, applications involving the use of words, sentences, continuous discourse, babble, and a variety of noises. Yet, as we learn more about the consequences of auditory deprivation and related binaural interference effects (see, for example, the Clinical Forum section in this issue), the growing importance of sound-field testing procedures becomes evident.

It is vitally important to the profession that our Academy take the initiative in developing and publishing standards for the execution of the broad array of sound-field techniques unique to audiologic evaluation, and guidelines for the dissemination of such information to students and to working clinicians.

I suggest, in addition, that there can be no better evidence of the pressing need for a fundamental overhaul of the ways in which we teach audiologists how to do their jobs.

James Jerger
Editor-in-Chief