EDITORIAL

From Laboratory to Practice

The great divide in our profession remains the divide between research findings and actual clinical practice. One example is highlighted in this issue of JAAA. Richard Wilson and colleagues at the VA Medical Center in Mountain Home, Tennessee and Debbie Moncrieff, now at the University of Connecticut, report normative data for a CD version of the Masking-Level Difference (MLD) Test. Behind this straightforward declaration lies a long history of unsuccessful attempts to bridge a persistent gulf between the laboratory and the clinic.

The masking level difference phenomenon was first described more than 50 years ago. The fundamental test paradigm is well known. The threshold for a binaural signal is measured in the presence of binaural noise. This masked threshold is measured under two conditions. In one condition the phase relation between signals (S) at the two ears, and the phase relation between noises (N) at the two ears are identical (homophasic, e.g. SoNo). In the other condition the phase relation between signals differs by 180 degrees from the phase relation between noises (antiphase, e.g., SpNo). The resultant change in the perceived locations of signal and noise in intracranial space produces a substantial improvement in the binaural signal threshold in the antiphase condition relative to the homophasic condition.

This difference in masked thresholds, or masking-level difference (MLD), reflects a fundamental dimension of auditory perception by a two-eared system. Not surprisingly, therefore, it has been the subject of considerable research interest over the past half century. We know the effects of peripheral hearing sensitivity loss on the MLD and can, within certain limits, correct for it. We know that reduced MLD is associated with lesions of the low brain stem, that MLD declines in persons with presbyacusis, and that it is related to age in young children. We know further that MLD appears to be reduced in children with auditory processing disorder, in some children with learning disability, and in children with a history of chronic otitis media.

In spite of this impressive catalog of research findings, MLD has not yet become a part of routine audiological assessment. Certainly part of the reason has been a lack of commercially available equipment for administering the test. Wilson and colleagues, however, have developed a CD version of MLD which requires only a CD player and a two-channel audiometer. Their paper in this issue provides both normative data and information on test-retest reliability of the CD version. Hopefully, the ease and simplicity with which MLD testing can now be accomplished will encourage clinicians to add this important test to their clinical armamentarium.

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