

Hearing Aids – Past, Present and Future: SNR Loss Comes of Age

Published November 12th, 2025

Mead Killon, PhD

Mead C. Killon, Ph.D. and Patricia A. Niquette, M.A.

In: 18th Danavox Symposium, 325-340, 2000.

SOMETHING ABOUT MEAD

Google AI defines a visionary as “someone with original and imaginative ideas about the future, who can envision how things could be improved or changed.” It’s safe to say that Mead’s professional life has been one of a visionary. Like [Mead’s 1982 chapter](#) in the Vanderbilt Report included in this issue (“Transducers, Earmolds and Sound Quality Considerations”), this article discusses the development of hearing aid technologies that are advancing their effectiveness. Improved circuits, transducers and directional microphones (now found in almost all hearing aids) have led to perhaps the article’s main vision: elevating testing SNR loss (the ability to hear in noise) as a primary component of clinical hearing evaluations. Following through with that vision, Mead and his company, Etymotic Research, has undertaken the development of the QuickSIN (Quick Speech-In-Noise) test, whose use has become a standard in clinical practice worldwide.

SUMMARY (Transcribed)

The technology exists to give nearly every hearing-impaired individual the ability to carry on conversations in noisy environments such as restaurants and parties. With mild SNR loss, simply increasing audibility with amplification will be enough. With greater SNR loss, some form of directional or close-talking microphones will be required. In all cases, however, we need to know the extent of the SNR loss so we can:

- a. choose the appropriate technology (it makes no sense to give everyone with a given hearing loss an FM system just because some individuals with that audiogram need it),
- b. adequately counsel our patients about the extent of their difficulty and the problems they will encounter after adopting the various levels of intervention.

We should be able to provide significantly better benefit and satisfaction to our hearing aid patients

in the future. The rapid measurement of SNR should help us to choose among the increasingly sophisticated circuits and microphones that will be available.

Annotated by: Larry Revit