

ACOUSTICS2008/3433
Better-ear listening strategies for normal-hearing and hearing-impaired individuals

William Whitmer, Maureen Coughlin, Jeff Bondy and Andrew Dittberner
GN Auditory Research Laboratory, 2601 Patriot Blvd, Chicago, IL 60026, USA

The current study was designed to examine how hearing-impaired (HI) listeners use better-ear listening. Better-ear performance was initially assessed for normal-hearing (NH) and HI participants using a connected-speech recognition test at two signal-to-noise-ratio (SNR) levels presented over insert earphones. Test conditions consisted of monaural, symmetric and asymmetric combinations of better and worse SNR conditions. SNRs were different for NH and HI groups. Stimuli were presented at each participant's most comfortable level; to account for audibility with HI participants, stimuli were spectrally shaped based on audiometric data. A second experiment investigated the role of spatial information using recordings of the same stimuli presented in a sound-dampened chamber at the same SNR differences, with the speech signal at 0° azimuth/elevation, and uncorrelated babble presented from eight speakers at the corners of the chamber. Listening strategies between NH and HI groups were similar across experiments; neither group consistently used an optimal listening strategy. Results will be discussed in terms of hearing-impaired pathologies, rehabilitation and amplification strategies.