

A Test Battery To Assess The Benefits Of Bilateral Amplification With Hearing Aids (part I)

J. van Schoonhoven (1), M. Schulte (2), M. Boymans (1), K. Wagener (2), W. Dreschler (1), B. Kollmeier (2)

(1) Department of Clinical and Experimental Audiology, Academic Medical Center, Amsterdam(2)
Hörzentrum Oldenburg, Germany

Aim: The aim of this study was to investigate which laboratory tests require the full benefit of binaural hearing using hearing aids. **Methods:** Forty subjects with a mild and moderate to severe hearing loss were tested with one and two hearing aids, together with twenty normal hearing subjects, where the condition with a unilateral hearing aid was simulated. Several free field speech reception tests, subjective performance tests and localisation tests were done. Different questionnaires were completed by the hearing impaired subjects. The current abstract describes all speech perception tests with the corresponding self-reported measures. In part II, the remaining outcome measures are discussed. **Results:** The Binaural Intelligibility Level Difference, Intelligibility Level Difference and the interleaved speech reception test showed a significant effect of hearing loss on bilateral advantage ($p < 0.001$) when noise was presented from the unilaterally aided side. The results of the AVETA questionnaire indicated a consistent benefit from the second hearing aid for speech in noise and in quiet and a tendency towards a larger effect with increasing hearing loss. Regarding SSQ-C, there is a significant effect of hearing loss ($p < 0.05$) on the total SSQ score, but not on the individual subscales. The speech subscale shows a bilateral benefit for the total group ($p < 0.05$). **Conclusion:** The current analyses indicate a bilateral benefit on the speech perception scores, especially when the noise source is located at the unilaterally aided side. This is partly supported by the self reported measures. More focus is needed in future research to obtain more information about the sensitivity of the tests.

