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Evaluation of differences between audiometric and ASSR thresholds

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The aim of the study was to determine the differences between audiometric thresholds and ASSR thresholds measured with different devices in groups of normal and hearing impaired subjects. An additional objective was to assess threshold variability.

Three systems were used in the tests: GSI Audera, BioLogic MASTER, and GN Otometrics Chartr EP. ASSRs were measured at four audiometric frequencies using procedures recommended by manufacturers. The ASSR thresholds were also compared with ABR thresholds.

The investigation showed that significant differences between behavioural and ASSR thresholds may appear irrespective of the applied measuring system. Intra- and intersubject variability of the ASSR thresholds is also meaningful.

The estimation of audiometric threshold based on ASSR measurement must take into account specificity of the patients' population and the applied signal detection method. Threshold variability must also be considered as a factor limiting estimation accuracy.

