Comparison of objective and subjective measures of cochlear compression in normal-hearing and hearing-impaired listeners

Among several behavioural methods for estimating the basilar membrane input/output function, the temporal masking curve is the most popular. Distortion product otoacoustic emissions provide an objective measure for estimating cochlear compression. However, estimates from both methods have been poorly correlated in previous studies. We hypothesise that this could be due to the interplay between generator and reflection components in the recorded otoacoustic emissions. Here, compression estimates obtained with the two methods were compared at three audiometric frequencies (1, 2, and 4 kHz) for 10 normal-hearing and 6 hearing-impaired listeners. Distortion-product otoacoustic emissions were evoked using continuouslyswept tones, to separate the generator component and investigate the corresponding compressive characteristic. For hearing impaired listeners, the estimates from the two methods were highly correlated.

General information
Publication status: Published
Organisations: Department of Electrical Engineering, Hearing Systems, Technical University of Denmark
Contributors: Anyfantakis, K., MacDonald, E., Epp, B., Fereczkowski, M.
Number of pages: 8
Publication date: 2017

Host publication information
Title of host publication: Proceedings of the International Symposium on Auditory and Audiological Research
Publisher: The Danavox Jubilee Foundation
ISBN (Print): 978-87-990013-6-1

Bibliographical note
Source: PublicationPreSubmission
Source ID: 145259018
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review