Speech Intelligibility Test for Clinical Practice

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Introduction
Many people, and especially hearing-impaired listeners, can find it challenging to hear and understand speech in a noisy environment. To achieve a measure of hearing-impaired individual’s ability to hear speech in background noise different speech intelligibility test has been developed. The commonly used test in the Danish clinical practice is the Dantale I test [1]. For some patients the result of the test seems not to valid.

Objective
The purpose of this project is to investigate whether speech intelligibly tests involving informational masking compared with tests involving only energetic masking contribute to better simulations of an everyday listening situation and thereby give more valid test results. The goal is to construct an better test than those available today for clinical practice.

Methods
Different test parameters will be evaluated by psychoacoustic listening tests involving both normal hearing and hearing-impaired subjects. The performance will be validated statistically as regards the test's reliability, validity, sensitivity, and specificity [2].

Energetic masking results when competing signals overlap in time and frequency by which portions of one or more of the signals are being inaudible.

Informational masking results when similarities between competing signals makes it difficult for the listener to distinguish between them.

Reliability refers to whether the test provides repeatable and consistent results.

Validity refers to the extent to which the test measures what it is purport to measure.

Sensitivity and specificity refer to the rate of correct identification of affected and unaffected individuals, respectively.

References

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