Speech intelligibility in noise with and without advanced signal processing.

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The results are used to develop a computer model that can predict speech intelligibility for hearing impaired people, even after signal processing. A model like that can be used to choose the most optimal hearing aid settings in the future....

Ethical review	Approved WMO	
Status	Will not start	
Health condition type	Hearing disorders	
Study type	Observational non invasive	

Summary

ID

NL-OMON35824

Source ToetsingOnline

Brief title Speech intelligibility in noise.

Condition

• Hearing disorders

Synonym Hearing Impairement, Hearing Loss

Research involving Human

Sponsors and support

Primary sponsor: Academisch Medisch Centrum **Source(s) of monetary or material Support:** Houbolt fonds

Intervention

Keyword: Hearing aids, Hearing impairement, Signal processing in hearing aids, Speech intelligibility

Outcome measures

Primary outcome

The Speech Reception Threshold (SRT) for various performances (scores). They

are compared between different noise conditions and across subjects (hearing

impaired and normal hearing subjects).

Secondary outcome

Study description

Background summary

Many hearing impaired people suffer from understanding speech in background noise. Hearing aids become ever more advanced. Except from amplifying the incoming sounds, the devices also perform advanced signal processing. In many studies the effects and consequences of advanced signal processing are investigated because they are not always clear. In this study, the effect on speech intelligibility is investigated for various kinds of background noise and for different types of sound processing.

Study objective

The results are used to develop a computer model that can predict speech intelligibility for hearing impaired people, even after signal processing. A model like that can be used to choose the most optimal hearing aid settings in the future. Furthermore, a computer model could replace long term listening experiments. The results of this study are also used to gain more insight about speech perception and about how the hearing functions. In addition, they will be used to educate hearing impaired people.

Study design

An observational study with hearing impaired and normal hearing subjects.

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Study burden and risks

Two times a visit of three hours at the AMC. There are no risks, but to keep the load as small as possible, the measurement is frequently paused.

Contacts

Public Academisch Medisch Centrum

Meibergdreef 9 1105 AZ Amsterdam NL **Scientific** Academisch Medisch Centrum

Meibergdreef 9 1105 AZ Amsterdam NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age Adults (18-64 years) Elderly (65 years and older)

Inclusion criteria

Normal hearing: Pure tone audiometry (PTA) 15 dB HL or better for 125-8000 Hz. Maximaal 65 jaar oud.;Hearing Impaired: No air-bone gaps PTA at 250, 500 and 1000 Hz worse or equal to 20 dB HL

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2, 3, 4 and/or 6 KHz worse than 30 dB HL PTA 0.5, 1, 2 not higher than 50 dB HL.

Exclusion criteria

Mother tongue not dutch / not fluently dutch speaking.

Study design

Design

Masking:	Open (masking not used)
Allocation:	Non-randomized controlled trial
Intervention model:	Other
Study type:	Observational non invasive

Primary purpose: Diagnostic

Recruitment

NL	
Recruitment status:	Will not start
Enrollment:	70
Туре:	Anticipated

Ethics review

Approved WMO Application type: Review commission:

First submission METC Amsterdam UMC

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

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Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register

ССМО

ID NL37251.018.11