Sequential second language learning and academic adjustment in hearing impaired adolescents with cochlear implants

Published: 10-06-2015
Last updated: 19-03-2025

(1) To evaluate the abilities of implanted adolescents to learn a second language in the current school settings compared to normal-hearing and hearing-impaired peers; (2) To identify and quantify environmental, sensory and cognitive aspects that...

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Hearing disorders
Study type	Observational non invasive

Summary

ID

NL-OMON45218

Source
ToetsingOnline

Brief title
Second language learning in adolescents with cochlear implants / SENCHA

Condition

- Hearing disorders

Synonym
deafness, hearing impairment

Research involving
Human

Sponsors and support

Primary sponsor: Universitair Medisch Centrum Groningen
Source(s) of monetary or material Support: NWO

Intervention

Keyword: Adolescents, Cochlear implant, Effort, Second language

Outcome measures

Primary outcome

Second language proficiency as measured in self- and proxy-reports, as well as in accuracy and reaction times on different tasks.

Secondary outcome

Native language proficiency, sensory processing abilities and cognitive capacities as measured in self- and proxy-reports, as well as inaccuracy and reaction times on different tasks.

Study description

Background summary

Children with cochlear implants (CIs) learn Dutch through the input of their CIs, which offers qualitatively different sensory input than ears. Therefore, these patients are thought to develop auditory processing patterns different from normal-hearing (NH) populations. Also, decoding auditory input into meaningful linguistic information is likely requiring greater processing capacities than for normal-hearing (NH) children.
We postulate that these two CI-related factors (sensory and cognitive) may limit the capactity to learn a second spoken language (English) successively to their native language (Dutch). Mastering a second language, particularly English, has direct advantages for implanted adolescents, for example for pursuing internationally oriented careers. Also, speaking a second language likely improves cognitive control, helping these adolescents to communicate better.

Study objective

(1) To evaluate the abilities of implanted adolescents to learn a second language in the current school settings compared to normal-hearing and hearing-impaired peers;
(2) To identify and quantify environmental, sensory and cognitive aspects that

affect second language acquisition in implanted adolescents;
(3) To assess positive effects of successful L2 acquisition on CI adolescents* speech perception in adverse listening situations.

Study design

Observational cohort study with control groups. First stage: Questionnaires. Second stage: Behavioural testing.

Study burden and risks

No risks are related to this study. The experiments are constructed to be of minimal burden to the participants. The maximal duration of participation for adolescents participating in both stages of the study is 9 hours, spread across 3 hours for questionnaires and 2 behavioural testing sessions of maximally 3 hours with adequate breaks.

Contacts

Public
Universitair Medisch Centrum Groningen

Hanzeplein 1
Groningen 9713 GZ
NL
Scientific
Universitair Medisch Centrum Groningen

Hanzeplein 1
Groningen 9713 GZ
NL

Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Adolescents (16-17 years)
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

• Age: 12- 17 years
• Cognitive capacities within normal-to-above-normal range (non-verbal IQ > 80 points)
• Native Dutch speakers, English at school
• Enrolled in secondary education (*voortgezet onderwijs*), can be either special education or standard education, but not primary education (*basisschool*)
• Hearing status: Normal-hearing, hearing impaired without cochlear implant, hearing impaired with cochlear implant

Exclusion criteria

Only applicable for behavioural stage, not questionnaire stage:
• Low cognitive capacities (non-verbal IQ <80 points)
• Communication disorder (i.e., diagnosed with autism spectrum disorder)
• A history of neurological and psychiatric disorder other than a diagnosis of ADD/ADHD and a diagnosis of reading disabilities (i.e., dyslexia)

Study design

Design

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

Recruitment

NL
Recruitment status: Recruitment stopped

Start date (anticipated):	24-06-2015
Enrollment:	351
Type:	Actual

Ethics review

Approved WMO Date:	10-06-2015
Application type:	First submission
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)
Approved WMO Date:	22-02-2017
Application type:	Amendment
Review commission:	METC Universitair Medisch Centrum Groningen (Groningen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

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

ID: 26678
Source: Nationaal Trial Register
Title:

In other registers

Register	ID
CCMO	NL51608.042.14
Other	Registered in the 'Nederlands Trial Register' on 07/04/15, identification number not yet received.
OMON	NL-OMON26678