Second language learning in adolescents with cochlear implants

No registrations found.

Ethical review	Not applicable
Status	Other
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON26678

Source
Nationaal Trial Register

Brief title
SENCHA

Health condition

hearing impairment, deafness, cochlear implant, second language acquisition, second language learning

slechthorendheid, doofheid, cochleair implantaat, tweede taal acquisitie, leren van een tweede taal

Sponsors and support

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

Intervention

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 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.

The objectives of the current study are

(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.

The first stage of the project (questionnaire stage) assesses self-perception of second language learning; the second stage of the project (behavioural testing) allow objective testing of second language abilities. Adolescent participants and their parents and teachers

will answer questions regarding their language-, hearing and cognitive functioning, as well as demographics and environmental factors. Standard behavioural tests for language-, hearing and cognitive functioning will also be administered.

All participants will be Dutch and healthy, except for their hearing status. The population of interest is adolescents who underwent paediatric cochlear implantation. They are expected to experience difficulties during second language learning. Control groups are normal-hearing adolescents, and hearing impaired adolescents not implanted with cochlear implants.

There is no known risk, nor benefit associated with participation. Questionnaires will take maximally 3 hours to complete. Participation in experiments will take maximally 6 hours (2 sessions, maximally 3 hours per session) with adequate breaks to prevent fatigue.

Study objective

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 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.

The objectives of the current study are

(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

Not applicable

Intervention

Not applicable

Contacts

Public
Universitair Medisch Centrum Groningen - Afdeling KNO, Hpc BB20

DE Jung
Hanzeplein 1

Groningen 9713 GZ
The Netherlands
Scientific
Universitair Medisch Centrum Groningen - Afdeling KNO, Hpc BB20

DE Jung
Hanzeplein 1

Groningen 9713 GZ
The Netherlands

Eligibility criteria

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

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other

Control: N/A , unknown

Recruitment

NL

Recruitment status:	Other
Start date (anticipated):	17-05-2015
Enrollment:	294
Type:	Unknown

Ethics review

Not applicable

Application type:	Not applicable

Study registrations

Followed up by the following (possibly more current) registration

ID: 45218
Bron: ToetsingOnline
Titel:

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

No registrations found.

In other registers

Register	ID
NTR-new	NL4999
NTR-old	NTR5154
CCMO	NL51608.042.14
OMON	NL-OMON45218

Study results

Summary results
Not applicable