# A method for non-invasive intracranial pressure measurement in glaucoma

No registrations found.

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

# **Summary**

# ID

NL-OMON27286

Source NTR

**Health condition** 

Glaucoom Niet-belastende Intracraniele druk Distortion Product Otoacoustic Emissions

## **Sponsors and support**

Primary sponsor: UMCG Source(s) of monetary or material Support: Marie Curie

## Intervention

### **Outcome measures**

#### **Primary outcome**

The primary objective is to evaluate the use of DPOAEs as a representation of ICP in Glaucoma patients by investigating changes in DPOAE amplitudes and phase angles with changes in posture in subgroups of glaucoma patients and in healthy controls.

N/a

# **Study description**

#### **Background summary**

The relationship between intraocular pressure (IOP) and intracranial pressure (ICP) is a crucial aspect of the pathology of Glaucoma. Alterations in either IOP or ICP that lead to a change in the pressure gradient between the two threaten the neural tissue in the eye and, if left untreated, can lead to blindness. Currently the only reliable methods of measuring ICP are by lumbar puncture or intraventricular catheter, two extremely invasive techniques. It is therefore necessary to establish an accurate non-invasive measurement of ICP for evaluating the cause and progression of Glaucoma. Current research shows that Distortion Product Otoacoustic Emissions (DPOAEs) may be able to accurately represent changes in ICP.

#### **Study objective**

The changes in DPOAEs from upright to 30 degrees HDT will be greatest for subjects who are expected to have the lowest ICP (primarily NTG subjects). Alternatively, the least amount of change in DPOAEs will occur in subjects who are expected to have the highest ICP (primarily the high IOP, non glaucomatous subjects).

ICP = Intracranial pressure; IOP = Intraocular pressure; DPOAE = Distortion product otoacoustic emissions

N/a

#### Intervention

N/a

# Contacts

#### Public

K. Westra

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Groningen The Netherlands **Scientific** K. Westra Groningen The Netherlands

# **Eligibility criteria**

#### **Inclusion criteria**

50-70 years of age

Presence of DPOAEs in one ear

For healthy controls: Upright IOP of 21mmHg or lower

For high pressure glaucoma: Diagnosed Glaucoma, upright IOP over 21mmHg before the onset of IOP lowering treatment, and established disease progression rate based on perimetry

For normal tension glaucoma: Diagnosed Glaucoma, upright IOP of 21mmHg or lower with or without IOP lowering treatment, and established disease progression rate based on perimetry

For high IOP with no glaucoma: Upright IOP of 22mmHg or higher

Written informed consent.

### **Exclusion criteria**

No presence of DPOAEs

For healthy controls, any eye disease or family history of glaucoma

# Study design

### Design

Study type:

Observational non invasive

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Intervention model:	Other
Masking:	Open (masking not used)
Control:	N/A , unknown

## Recruitment

NL	
Recruitment status:	Pending
Start date (anticipated):	31-01-2017
Enrollment:	80
Туре:	Anticipated

# **Ethics review**

Not applicable	
Application type:	Not applicable

# **Study registrations**

# Followed up by the following (possibly more current) registration

No registrations found.

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

No registrations found.

## In other registers

Register	ID
NTR-new	NL6053
NTR-old	NTR6200
Other	: 201600875

# **Study results**