A comparison of widely used clinical contrast sensitivity tests: the relation between defocus specific contrast sensitivity and higher order aberrations.

Gepubliceerd: 17-11-2006 Laatst bijgewerkt: 13-12-2022

Higher order aberrations, like spherical aberration, decreases visual performance.

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON20124

Bron
NTR

Verkorte titel
Defocus specific contrast sensitivity and spherical aberration

Aandoening

Measurements in 48 healthy subjects aged 20 to 35 years (24 subjects) and 55 to 70 years (24 subjects).

Ondersteuning

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Overige ondersteuning: SenterNovem

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Selection of the contrast sensitivity test which predicts the spherical aberration most reliably.

Toelichting onderzoek

Achtergrond van het onderzoek

The relation between contrast sensitivity and spherical aberration and other higher order aberrations (RMS) will be studied in young and elderly subjects without ocular pathology. Contrast sensitivity will be assessed with the use of eight different contrast sensitivity tests at optimal focus and at positive and negative defocus. These results will be related to the higher order aberrations of the eyes.

Doel van het onderzoek

Higher order aberrations, like spherical aberration, decreases visual performance.

Onderzoeksopzet

N/A

Onderzoeksproduct en/of interventie

Best corrected visual acuity was determined with an ETDRS chart and the spherical aberration (SA) was measured with a wavefront analyzer (WASCA version 1.26.3, Asclepion Meditec, Jena, Germany).

The contrast sensitivity is measured with two computerized tests:

1. One with vertical sine-wave gratings (1.5-12 cpd) generated on a CRT (Cambridge Research Systems, Rochester, UK; Von Bekesy tracking method);

2. The Holladay sine-wave (1.5 -18 cpd) modulated circular lines (HACSS) (M&S Technologies, Skokie, Illinois, USA), and with six contrast sensitivity chart tests:

1. Pelli Robson contrast sensitivity test;

2. low contrast ETDRS-like optotype chart 2.5%;

3. Low contrast ETDRS-like optotype chart 10%;

4. Edge contrast sensitivity test: GECKO;

5. Edge contrast sensitivity test: GECKO-100;

6. Vector Vision. Contrast sensitivity is measured in mesopic (3 cd/m2) and photopic (160 cd/m2) conditions, using only the dominant eye.

Tests were performed at optimal refractive state of the eye and at a variety of defocus situations(-2D to 2D).

Contactpersonen

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Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

No ocular pathology.

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Refractive correction larger than +/- 2 D;

2. Cylindrical correction larger than 1.5 D;

3. Cylindrical axis more then 20º from the horizontal or vertical axis.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Gerandomiseerd
Blindering:	Open / niet geblindeerd
Controle:	N.v.t. / onbekend

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	01-07-2005
Aantal proefpersonen:	48
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	17-11-2006
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL799
NTR-old	NTR812
Ander register	: 1
ISRCTN	ISRCTN66724598

Resultaten

Samenvatting resultaten
N/A