



# OOG VOOR OGEN

VISUEEL FUNCTIONEREN, DROGE OGEN EN DE ZIEKTE VAN PARKINSON

DR MIRJAM VAN TILBORG  
OPTOMETRIST

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VISUEEL FUNCTIONEREN, DROGE OGEN EN DE ZIEKTE VAN PARKINSON

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## GOEDE NACHT BETERE DAG



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## OOGGEZONDHEID

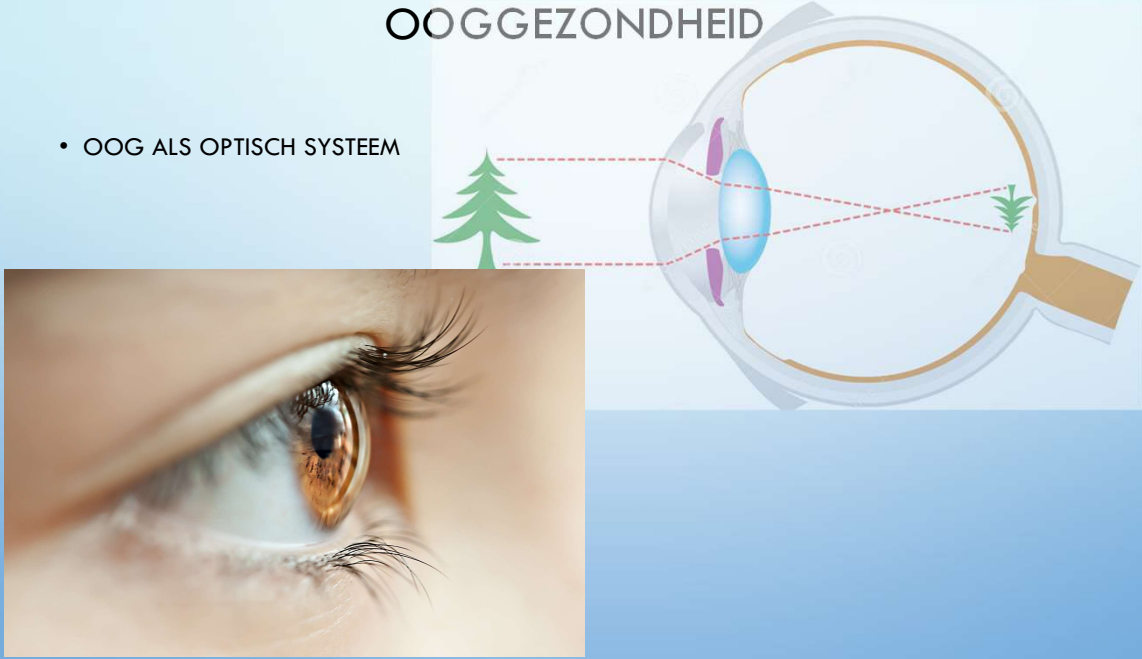
HOE ZIT DAT OOK AL WEER MET DE OGEN?

- OOG ALS OPTISCH SYSTEEM; ANATOMIE VAN HET OOG
- OOGPROBLEMATIEK
- OOG MET PATHOLOGIE

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## OOGGEZONDHEID

- OOG ALS OPTISCH SYSTEEM



The diagram illustrates the eye as an optical system. Light rays from a tree (represented by a green silhouette) enter the eye from the left. These rays pass through the cornea and the lens, which refract them. The rays converge and focus on the retina at the back of the eye, forming a clear image of the tree. A close-up photograph of a human eye is shown in the bottom left corner of the slide.

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## OOG ALS OPTISCH SYSTEEM

- GEEN STERKTE NODIG ; EMMETROOP
- OOG IS TE LANG; BETEKENT: GOED ZIEN VOOR NABIJ EN SLECHT IN DE VERTE : MYOPIE
- OOG IS TE KORT; BETEKENT; MINDER GOED ZIEN NABIJ EN GOED ZICHT IN DE VERTE: HYPERMETROPIE
- OOG IS OUDER AAN HET WORDEN: VERMOGEN TOT SCHERPSTELLEN NABIJ WORDT MINDER; PRESBYOPIE
- HOOFDPIJNKLACHTEN EN VOOR HET GEVOEL GOED ZICHT: LATENTE HYPERMETROPIE

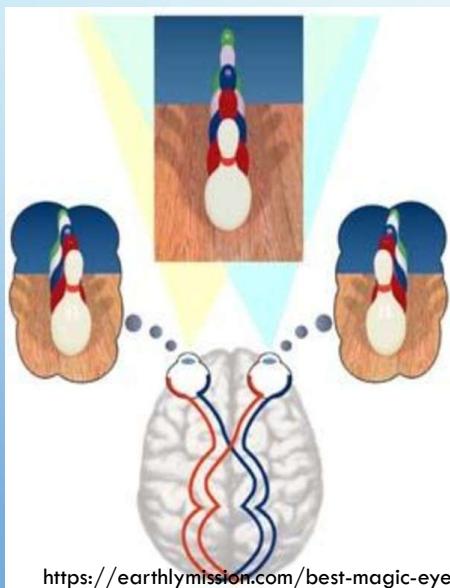
6

## OOGGEZONDHEID

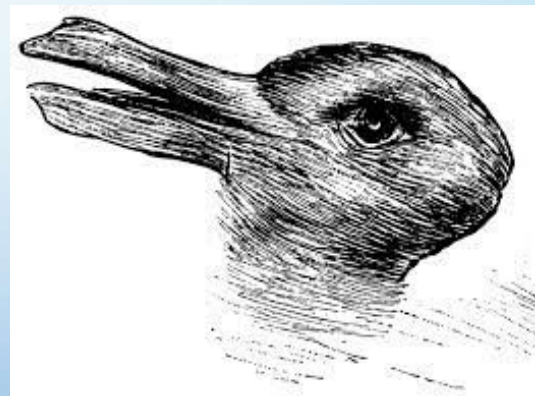
- HOE ZIT DAT OOK AL WEER MET DE OGEN?
- OOG ALS OPTISCH SYSTEEM; ANATOMIE VAN HET OOG
- OOGPROBLEMATIEK
- OOG MET PATHOLOGIE

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## OGEN EN HERSENEN DIE SAMENWERKEN



<https://earthlymission.com/best-magic-eye-stereograms-3d-viewing-explanation/>

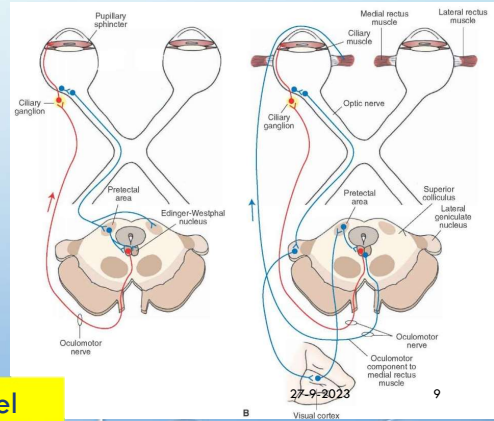
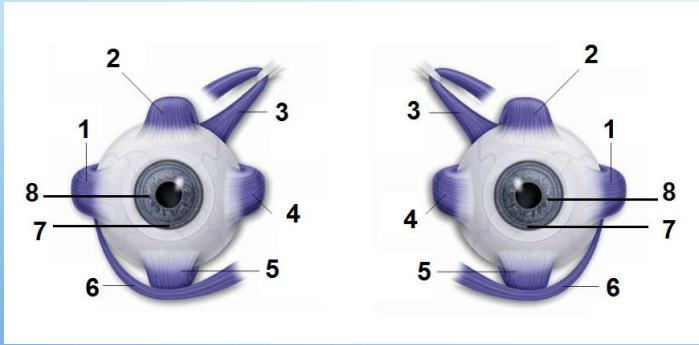


<https://www.independent.co.uk/news/science/duck-and-rabbit-illusion-b1821663.html>

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Centraal zenuwstelsel

Nabijwerk is TOP sport voor de ogen



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Centraal zenuwstelsel

Medifree.com

Squint Eye (Strabismus)

{ MediFee.com }

Normal



(Esotropia)



eye turns inwards

(Exotropia)



eye turns outwards

(Hypotropia)



eye turns downwards

(Hypertropia)



eye turns upwards

SAMENWERKING VAN DE OGEN

EN PARKINSON

KLACHTEN OVER HORZINTELE DUBBELBEELDEN



## DIEPTE ZIEN/ INSCHATTING KUNNEN MAKEN

- HET INSCHATTEN VAN EEN AFSTAND
- TRAPTREDE
- DREMPEL
- LEZEN
- COMPUTER



<https://www.homeproved.com/nl/woonadvies/artikelen/een-snelle-en-makkelijke-traprenovatie-een-trap-schilderen-doe-je-zo>

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## KLEURENZIEN OF CONTRAST GEVOELIGHEID

- VERMINDERD KLEUREN ZIEN EN CONTRAST
- OORZAAK:
- MOGELIJK SPEELT DOPAMINE IN HET NETVLIES EN DE HERSENEN HIERIN EEN ROL
- MAAR OOK LEEFTIJDGEBONDEN NORMALE OOGAFWIJKINGEN KUNNEN DIT VEROORZAKEN

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## VISUELE HALLUCINATIES

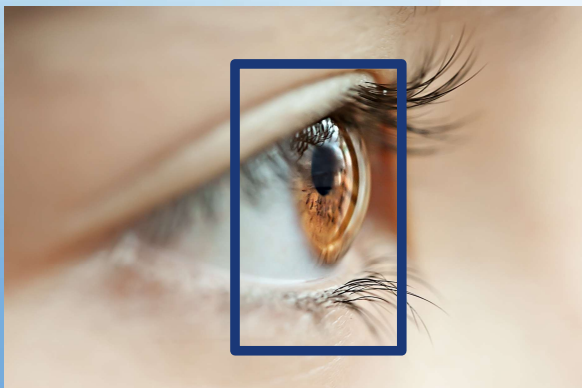
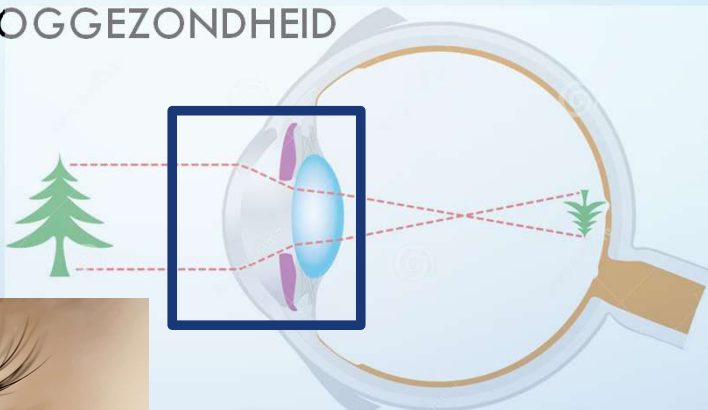


- VISUELE HALLUCINATIES: ZIEN WAT ER NIET ECHT IS
- ANDERE HALLUCINATIES KUNNEN ZIJN IETS RUIKEN, VOELEN, HOREN OF PROEVEN WAT ER NIET IS
- VISUEEL KAN DOOR VERANDERINGEN IN DE HERSENEN KOMEN, DOOR BEPAALDE AANDOENINGEN MAAR OOK DOOR (PARKINSON) MEDICATIE.
- KAN FLITSEN AAN DE ZIJKANT VAN HET GEZICHTSVELD VEROORZAKEN

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## OOGGEZONDHEID

- HOORNVLIES
- TRAANFILM
- OOGLENS



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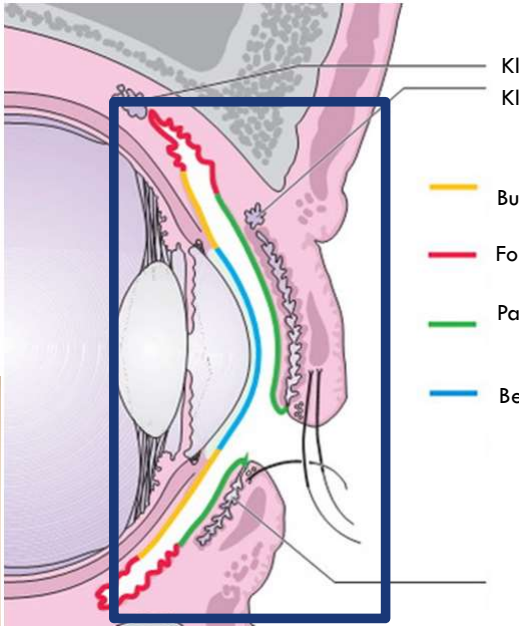
cornea



Heldere cornea en ooglens laat licht door, vrijwel zonder het licht te verspreiden (hoge orde aberraties).

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Klier van Krause  
Klier van Wolfring

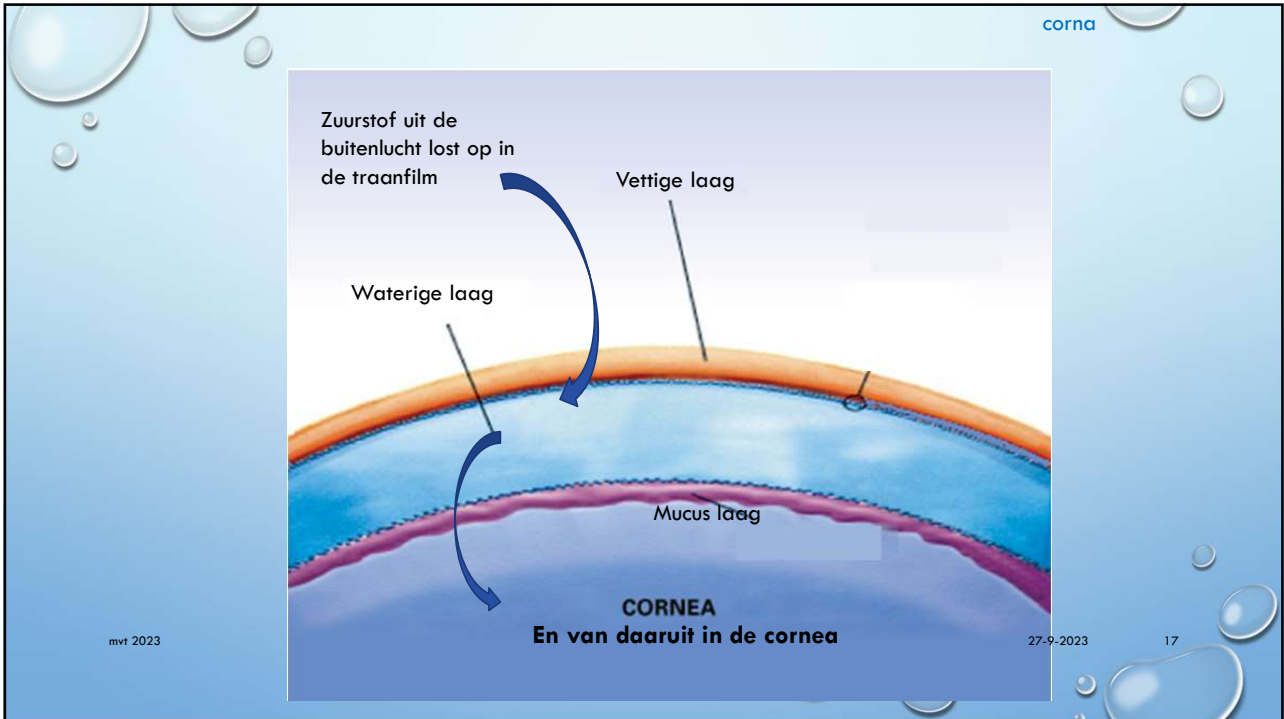
- Bulbaire conjunctiva
- Fornix (conjunctivaalzak)
- Palpebrale conjunctiva
- Bekleding van de cornea

Meibom klier

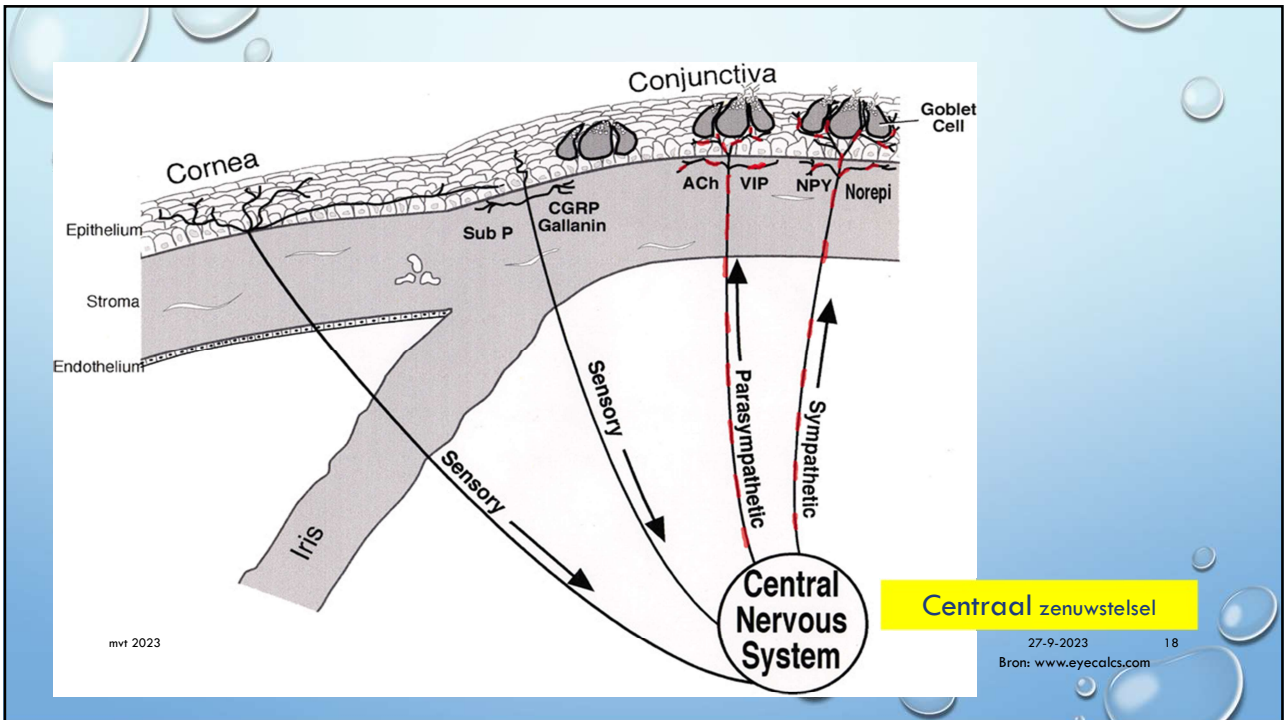
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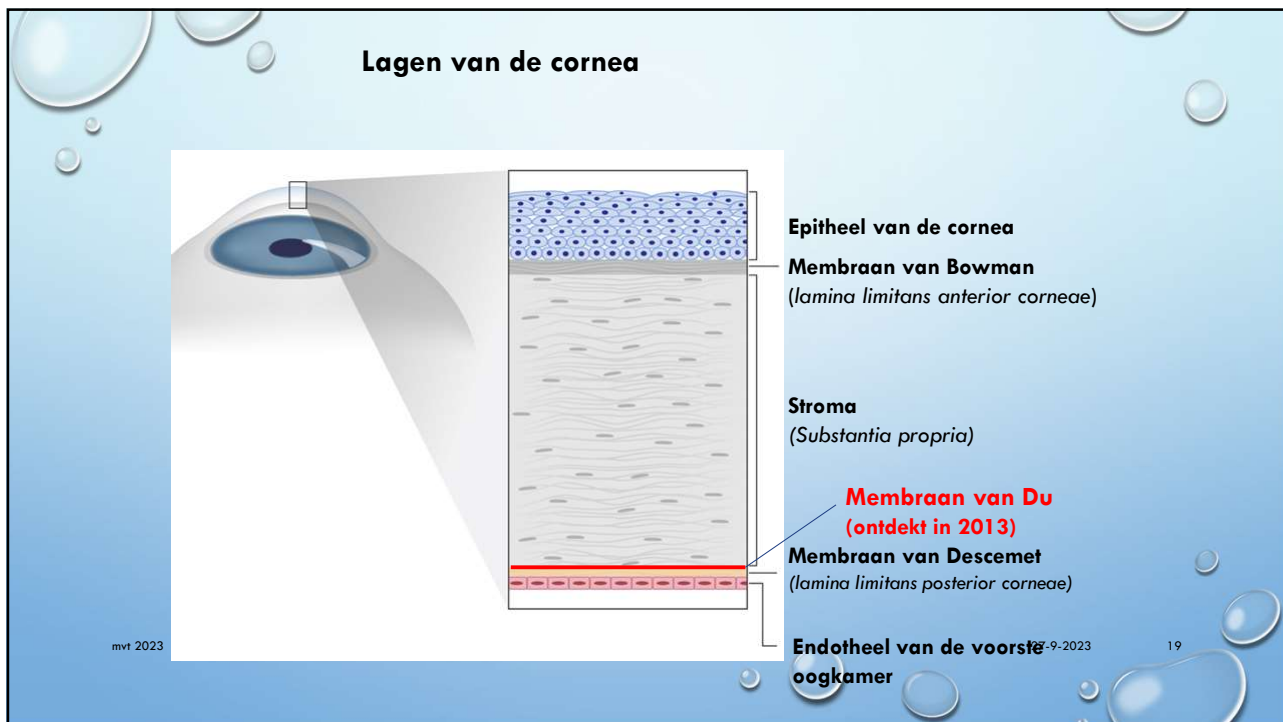




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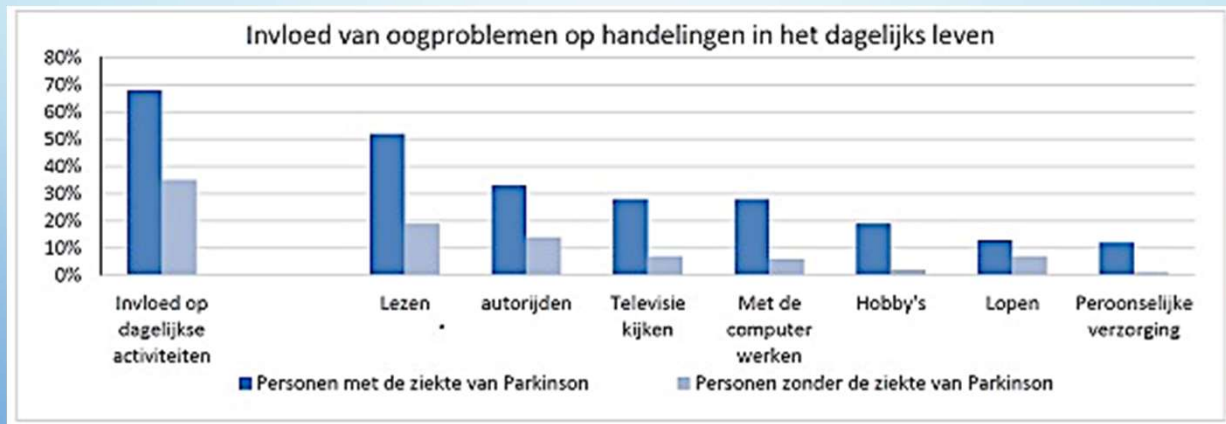
## OOGPROBLEMATIEK EN PARKINSON?

- **ONDERZOEKER: DRS. CARLIJN BORM, NEUROLOOG IN OPLEIDING, PHD "VIP-STUDIE" DR. NIENKE DE VRIES, ONDERZOEKER**
- "BIJNA ALLE DEELNEMERS (250) MET DE ZIEKTE VAN PARKINSON GAVEN ÉÉN OF MEER OOGPROBLEMEN AAN, VERGELEKEN MET ONGEVEER DE HELFT VAN DE DEELNEMERS ZONDER DE ZIEKTE VAN PARKINSON"

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## OGEN EN PARKINSON



Onderzoeker: Drs. Carlijn Borm, neuroloog in opleiding, PhD "VIP-studie" Dr. Nienke de Vries, onderzoeker

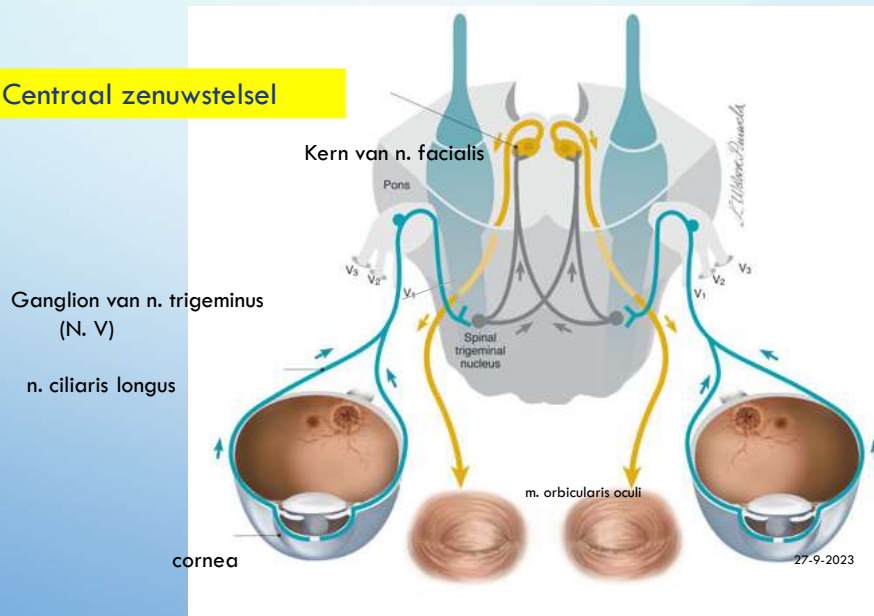
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### Cornea knipperreflex.

#### Centraal zenuwstelsel



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<https://www.brightnewme.co.uk/blepharospasm-treatment/>

## BLEPHAROSPASME

- SPASME VOORKOMEN IS LASTIG
- OM DE DUUR TE VERMINDEREN OF DE OOGLEDEN OPEN TE KRIJGEN KAN , HET HELPEN OM TE PRATEN, ZINGEN, NAAR BENEDEN KIJKEN, UITBLAZEN OF FLUITEN, ,
- DE WENKBRAUWEN OMHOOG TE TREKKEN
- OF DE SPANNING TE VERMINDEREN DOOR DE OOGLEDEN WAT NAAR DE ZIJKANTEN TE TREKKEN
- BIJ LANGDURIGE SPASME KAN BOTOX HELPEN

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## WANNEER KNIPPEREN NIET GENOEG IS

- [HTT](#)



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## WANNEER KNIPPEREN NIET GENOEG IS

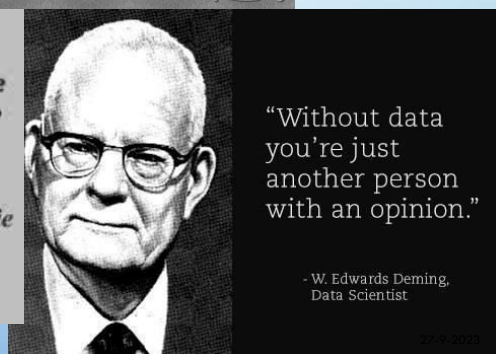
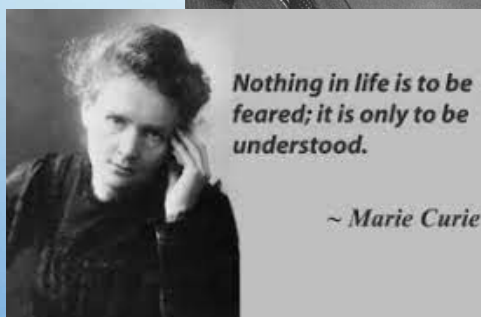
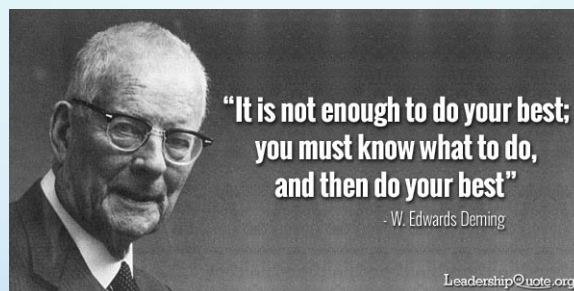
“While blinking is an aspect of eye function that's easy to overlook, it can be a revealing sign of a patient's overall ocular health”

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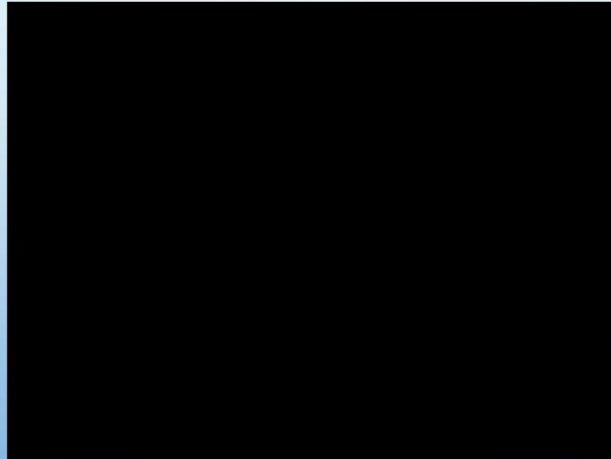


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## KNIPPERSLAG



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## IMPULSE OM TE KNIPPEREN

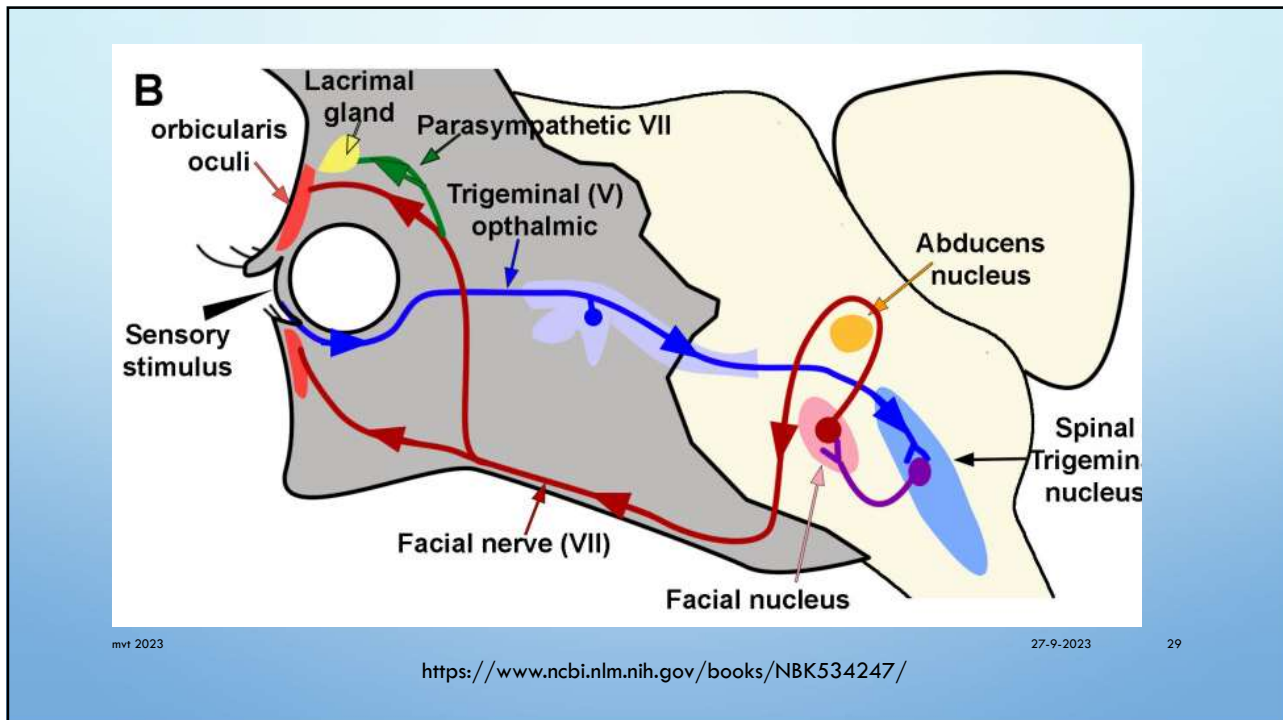
- AUTONOOM EN VRIJWILLIG
- MOTORISCHE ZENUWEN WORDEN GEÏNNERVEERD DOOR DE NERVES IN THE N VII EN N III VOOR SAMENTREKKEN VAN DE M ORBICULARIS EN LEVATOR PALPEBRAE
- OONGLID SLUITEN ONTSTAAT SPONTAAN, DOOR EEN REFLEX OF DOOR VRIJWILLIGE CONTRACTIE.
- DOPAMINE EN INVLOED OP DE KNIPPERSLAG IS NOG NIET GEHEEL BEKENT.

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## BEINVLOEDING

- ACTIEF DENKEN, MENTALE UITDAGINGEN ( SPELLETJES) WISKUNDIGE OPDRACHTEN ( HOOFDREKENEN) GEVEN EEN VERHOOGDE KNIPPERSLAG
- VERMINDERDE KNIPPERSLAG
  - DAGDROMEN
  - FOCUS/ CONCENTRATIE

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## KNIPPERSLAG EN EMOTIONELE STAAT

- VERMOEIDHEID
- EMOTIES
- FRUSTRATIE EN ANGST ( VERHOOGD)
- SCHULDIG VOELEN ( VERMINDERD)

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## KNIPPERSLAG EN INVLOED VAN OOGOPPERVLAK

- DROGE OGEN GEVEN OP TEN DUUR EEN VERMINDERDE KNIPPERSLAG
- LID WIPER EPITHELIOPATHY
- CHRONISCHE DROGE OGEN
- VEEL PIJN KLACHTEN
  
- VEEL KNIPPEREN ALS TEKEN VAN EEN ALLERGIE ( VERNALE CONJUNCTIVITIS BIJ KINDEREN)

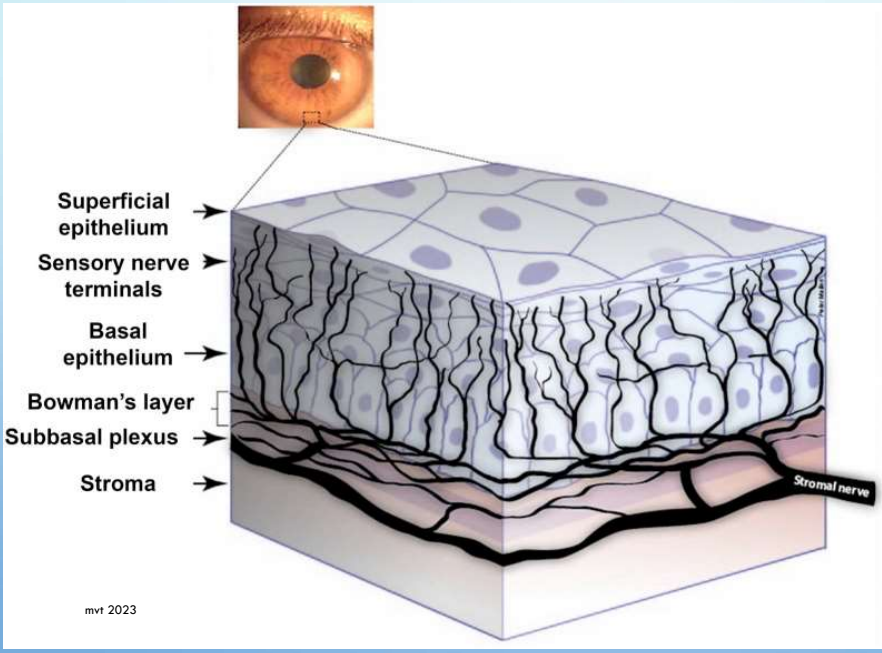
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**GEDACHTEN**

10 procent reageert op kou, verdamping van de traanfilm. Koude vloeistoffen etc

70 procent poly modal nociptors ( chemie / mechanische irritatie , warmte/ meer chronische irritatie gevoel)

20 procent reageert met scherpe pijn bij een mechanisch contact

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## CORNEA ZENUWEN ZORGEN VOOR

- WOND GENEZING
- VERLIES VAN DE ZENUWEN KUNNE ZORGEN VOOR NEUROTROFISCH KERATOPATHIE
- -VERMINDERDE CORNEA GEVOELIGHEID, TRAANFILM INSTABILITEIT, EN IN MOGELIJK CHRONISCH AANWEZIG BESCHADIGD EPITHEEL, , MOGELIJK ULCERATIE EN PERFORATIE VAN STROMA.

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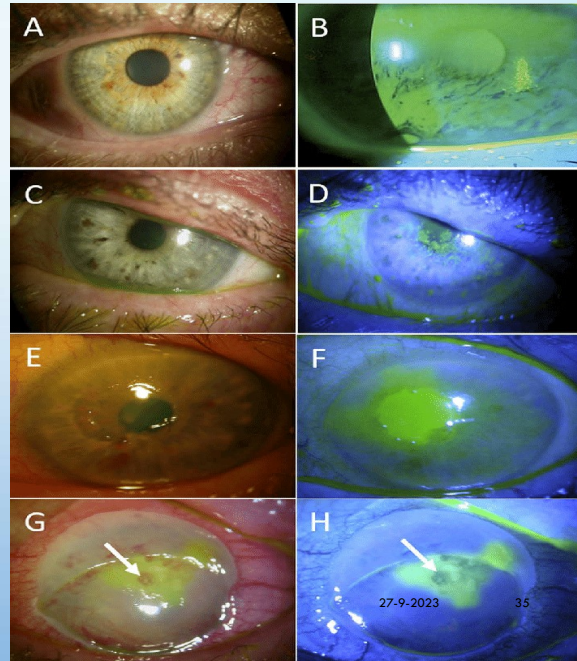
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## NEUROTROFISCHE KERATITIS

- BEGINT ZO NORMAAL.....

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## VERMINDERDE GEVOELIGHEID CORNEA

- HERPES KERATITIS
- DROGE OGEN
- KERATOCONUS
- GLAUROOM MEDICATIE
- REFRACTIE CHIRURGIE/ CATARACT CHIRURGIE
- PARKINGSON
- DIABETES

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## REFLEX KNIPPERSLAG

BESCHERMING VAN HET OOGOPPERVLAK

VERWIJDEREN VAN DEBRIS, POLLEN, STOF ETC.

ACTIEVE KNIPPERSLAG STIMULEERT DE SECRETIE VAN TRANEN, MUCINE EN MEIBOM.

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## SYSTEMISCHE AANDOENINGEN EN MEDICATIE

- ZIEKTE VAN PARKINSON
- VERHOOGDE KNIPPERSLAG BIJ MENSEN MET SCHIZOFRENIE
- MET GEBRUIK VAN ANTICONCEPTIE 32 KEER MEER KNIPPERSLAGEN?

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## VISUEEL FUNCTIONEREN EN INSTABIELE TRAANFILM

- GEEN TV KUNNEN KIJKEN
- MOEITE MET LEZEN VAN PAPIER
- MOEITE MET LEZEN VAN EEN SCHERM
- LICHTGEVOELIG
- NEGATIEVE INVLOED OP SOCIAAL EN EMOTIONEEL VLAK

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**ARVO JOURNALS**

From: Corneal Fluorescein Staining Correlates with Visual Function in Dry Eye Patients  
Invest. Ophthalmol. Vis. Sci.. 2011;52(13):9516-9522. doi:10.1167/iovs.11-8412

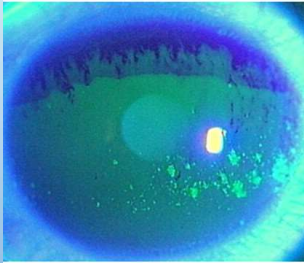
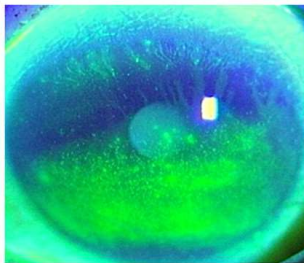
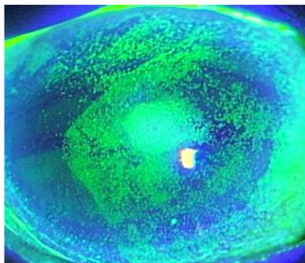
No staining of fluorescein in the central cornea	Mild staining of fluorescein in the central cornea	Severe staining of fluorescein in the central cornea
		

Figure Legend:  
Severity of epithelial damage at the central zone in the cornea.

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From: Corneal Fluorescein Staining Correlates with Visual Function in Dry Eye Patients
Invest. Ophthalmol. Vis. Sci. 2011;52(13):9516-9522. doi:10.1167/iovs.11-8412

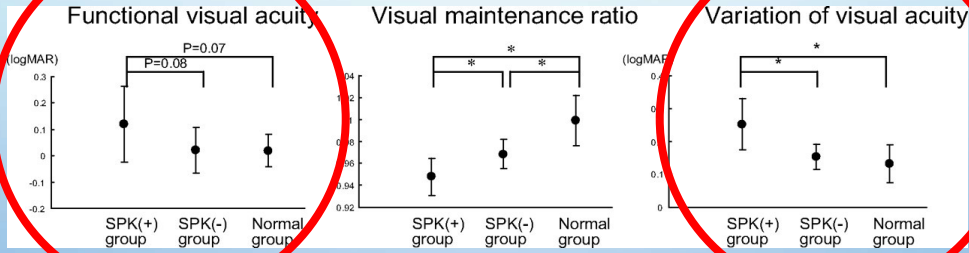


Figure Legend:

The comparison of the functional VA parameters in each group. Functional VA in the group with SPK tended to be worse compared with that in the group without SPK (P = 0.08) and in the normal group (P = 0.07). The visual maintenance ratio in the group with SPK was significantly lower than those in the group without SPK and in the normal group, and the visual maintenance ratio in the group without SPK was significantly lower than that in the normal group. Variation of VA in the group with SPK was significantly higher than those in the group without SPK and in the normal group.

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LEEFTIJD ?

Management of Postoperative Inflammation and Dry Eye After Cataract Surgery

Kamiko Kato, MD, PhD, Kazuhiko Miyake, MD, Kazuhiro Hirano, MD, PhD, and Minoru Kaido, MD, PhD

Abstract: Surgical intervention is the most effective treatment for cataracts. However, the current procedure for cataract surgery can cause inflammation and dry eye. Postoperative corneal epithelial injury (CEI) is a well-known complication that can develop after cataract surgery. CEI is a multifactorial condition that can be caused by various factors, including surgical and non-surgical factors. CEI is characterized by corneal epithelial defects, dry eye, and corneal epithelial dysfunction. CEI is a common complication after cataract surgery, and its management is important to prevent long-term visual impairment. This review discusses the pathogenesis of CEI and the current management strategies. We suggest appropriate combinations of medication that can be used to minimize these postoperative complications. Key Words: postoperative dry eye, postoperative inflammation, corneal epithelial injury, cataract surgery.

Corneal injury with intraocular lens implantation is the commonest therapy for cataracts worldwide. Through recent advances in surgical techniques and instruments, cataract surgery has become less invasive and patient satisfaction is very high. Nevertheless, there are still several complications that can develop after cataract surgery, which can reduce visual acuity and patient satisfaction. One of the major complications after cataract surgery is corneal epithelial injury (CEI), which develops from the intraocular inflammation associated with surgery.

Other postoperative complications are abnormalities of the ocular surface, such as dry eye syndrome, corneal edema, and corneal endothelial dysfunction. These complications generally develop in the most severe cases. The causes of postoperative dry eye are multifactorial, and the underlying mechanism seems to be definitively determined. There are currently no prophylactic medications that can prevent the development of postoperative dry eye. Although nonsteroidal anti-inflammatory drugs are very effective at reducing the incidence and duration of postoperative CEI, it is known that they can cause adverse side effects, including ocular surface abnormalities. Thus, postoperative medication must be carefully selected to improve ocular surface and patient satisfaction. Here, we summarize the results of our studies on postoperative dry eye and CEI that can develop after cataract surgery. We suggest appropriate combinations of medication that can be used to minimize these postoperative complications. Key Words: postoperative dry eye, postoperative inflammation, corneal epithelial injury, cataract surgery.

Received for publication June 21, 2019; accepted July 5, 2019. Published online first August 1, 2019. From the Department of Ophthalmology, Mie University School of Medicine, Mie, Japan; Department of Ophthalmology, Mie University School of Medicine, Mie University School of Medicine, Mie, Japan; Department of Ophthalmology, Mie University School of Medicine, Mie, Japan; and Department of Ophthalmology, Mie University School of Medicine, Mie, Japan. This work was supported by the Japanese Ministry of Health, Labour and Welfare. The authors have nothing to disclose. Copyright © 2019 Wolters Kluwer Health | Lippincott Williams & Wilkins. DOI: 10.1097/IJDO.0000000000000000

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Factors Associated with Dry Eye Symptoms in Elderly Koreans: The Fifth Korea National Health and Nutrition Examination Survey 2010–2012

Kyung-Jin Kim, Young-Sook Park, Seung-Ho Kim, Joo-Young Kim

Department of Family Medicine, Yonsei University College of Medicine, Seoul, Korea

Background: Dry eye disease is an aging-related ophthalmic disease that not only affects the daily activities but also causes deterioration in the quality of life. This study aimed to identify the factors associated with dry eye symptoms in elderly Koreans. Methods: We investigated 4,103 subjects (ages 70-79) and examined 1,206 aged 70 years from the Fifth Korea National Health and Nutrition Examination Survey (2010–2012). Data were analyzed using multiple logistic regression to identify the associations between dry eye symptoms and other factors. Results: The prevalence of dry eye symptoms was 17.0%. Significant risk factors for dry eye symptoms were significantly associated with female sex [adjusted odds ratio (OR), 1.04; 95% confidence interval (CI), 1.01–1.07], history of cataract (OR, 1.04; 95% CI, 1.01–1.07), corneal thickness (OR, 1.01; 95% CI, 1.01–1.01), hypercholesterolemia (OR, 1.20; 95% CI, 1.02–1.41), age (OR, 1.01; 95% CI, 1.01–1.01), and dry eye disease (OR, 1.02; 95% CI, 1.01–1.02). Conclusion: Among elderly Koreans, female sex, a history of cataract, corneal thickness, and hypercholesterolemia may be the risk factors for dry eye symptoms, whereas older duration of life may be a protective factor against dry eye symptoms. Keywords: Dry Eye Syndrome, Risk Factors, Aged, Korea National Health and Nutrition Examination Survey.

Introduction Dry eye disease (DED) is one of the most common ophthalmologic disorders. It is associated with symptoms including ocular discomfort, pain, dryness, and foreign body sensation, which can impair the quality of life of patients with the disease. The prevalence of DED has become a major public health problem. DED is a chronic disease that affects 10–30% of the population aged 50 years and older. The prevalence of DED increases with age, and it is more prevalent in women than in men. The prevalence of DED is higher in those with a history of cataract surgery, and it is associated with dry eye symptoms. The prevalence of DED is higher in those with a history of cataract surgery, and it is associated with dry eye symptoms. The prevalence of DED is higher in those with a history of cataract surgery, and it is associated with dry eye symptoms.

Received for publication June 21, 2019; accepted July 5, 2019. Published online first August 1, 2019. From the Department of Family Medicine, Yonsei University College of Medicine, Seoul, Korea. This work was supported by the Korean Ministry of Health and Welfare. The authors have nothing to disclose. Copyright © 2019 Wolters Kluwer Health | Lippincott Williams & Wilkins. DOI: 10.1097/IJDO.0000000000000000

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# WAT WETEN WE?

## Dry eye disease in the elderly in a French population-based study (the Montrachet study: Maculopathy, Optic Nerve, nuTRition, neurovAsCular and HEArT diseases): Prevalence and associated factors.

Ferrero A<sup>1</sup>, Alassane S<sup>2</sup>, Binquet C<sup>2</sup>, Bretillon L<sup>3</sup>, Acar N<sup>2</sup>, Arnould L<sup>1</sup>, Muselier-Mathieu A<sup>1</sup>, Pelissier C<sup>4</sup>, Bron AM<sup>5</sup>, Creuzot-Garcher C<sup>6</sup>.  
 Author information

### Abstract

#### PURPOSE:

To estimate the prevalence of dry eye disease (DED) in the elderly and to describe systemic and ocular factors associated with DED in a population-based study, the Montrachet (Maculopathy Optic Nerve nuTRition neurovAsCular and HEArT diseases) study.

#### RESULTS:

A total of 1045 subjects were included in the study. The mean age was 82.2 ± 3.8 years. The prevalence of DED according to symptoms, signs, or both was 34.4% [95% confidence interval (CI) 31.5-37.2], 34.5% [95% CI 31.6-37.3] and 13.0% [95% CI 10.9-15.0], respectively. Compared with men, women were more likely to self-report DED and artificial tear use, more often displayed an OSDI >22, and more often suffered from subjective and definite DED. In multivariate analysis, associated factors with definite DED were an educational level of short secondary school (to age 15 years), best-corrected visual acuity <20/60, dark iris color, systemic hypertension, and anxiolytic agent and antihistamine eye drop use.

#### CONCLUSION:

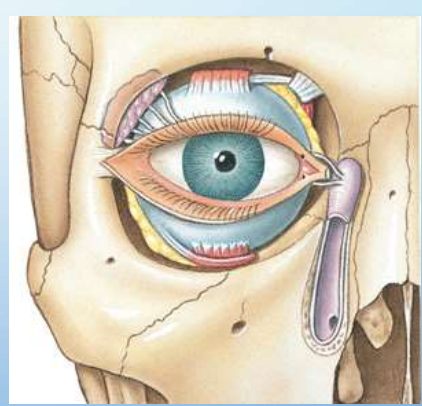
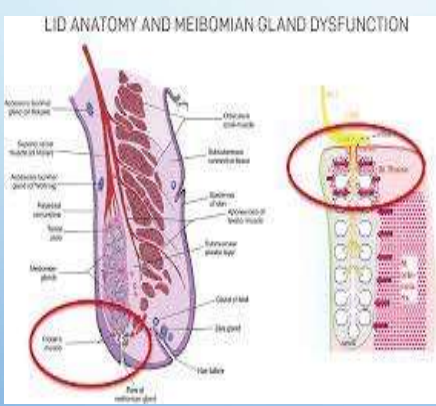
Dry eye disease is a major ophthalmologic condition with a high prevalence among the elderly. We report well-documented factors associated with DED and new associations deserving further investigation.

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- SLAAP PROBLEMEN ?
- DEHYDRATIE!
- LAGE VITAMINE D ?
- ANGST/ DEPRESSIE?
- MEDICATIE !

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## KNIPPEREN ALS KRACHT FUNCTIE

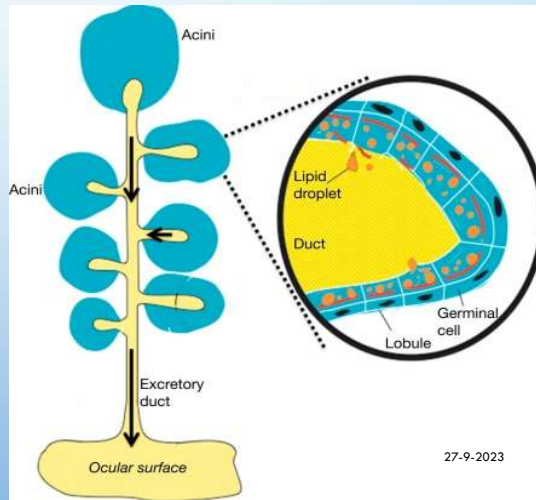
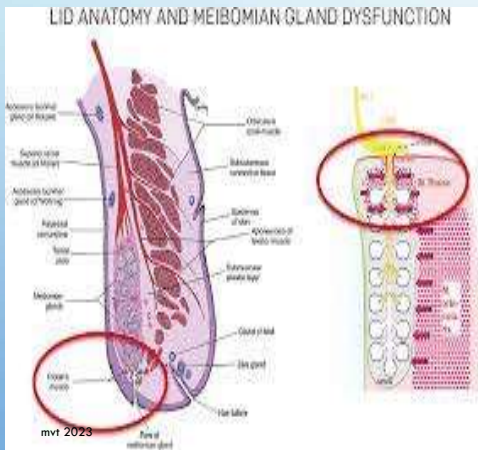


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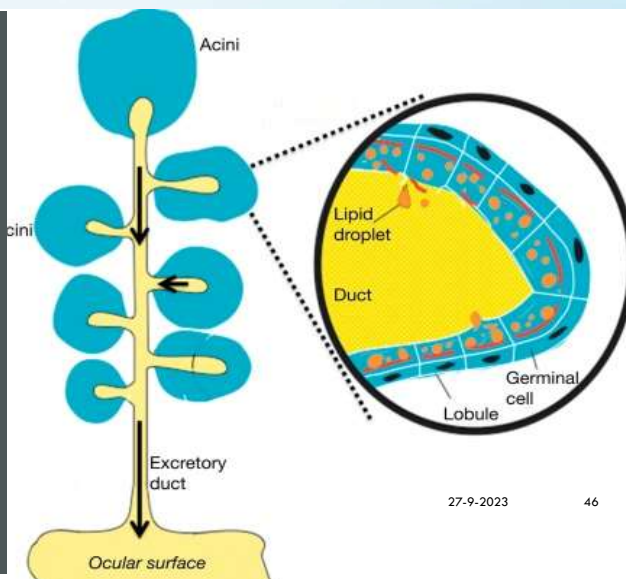
# KNIPPEREN ALS KRACHT FUNCTIE



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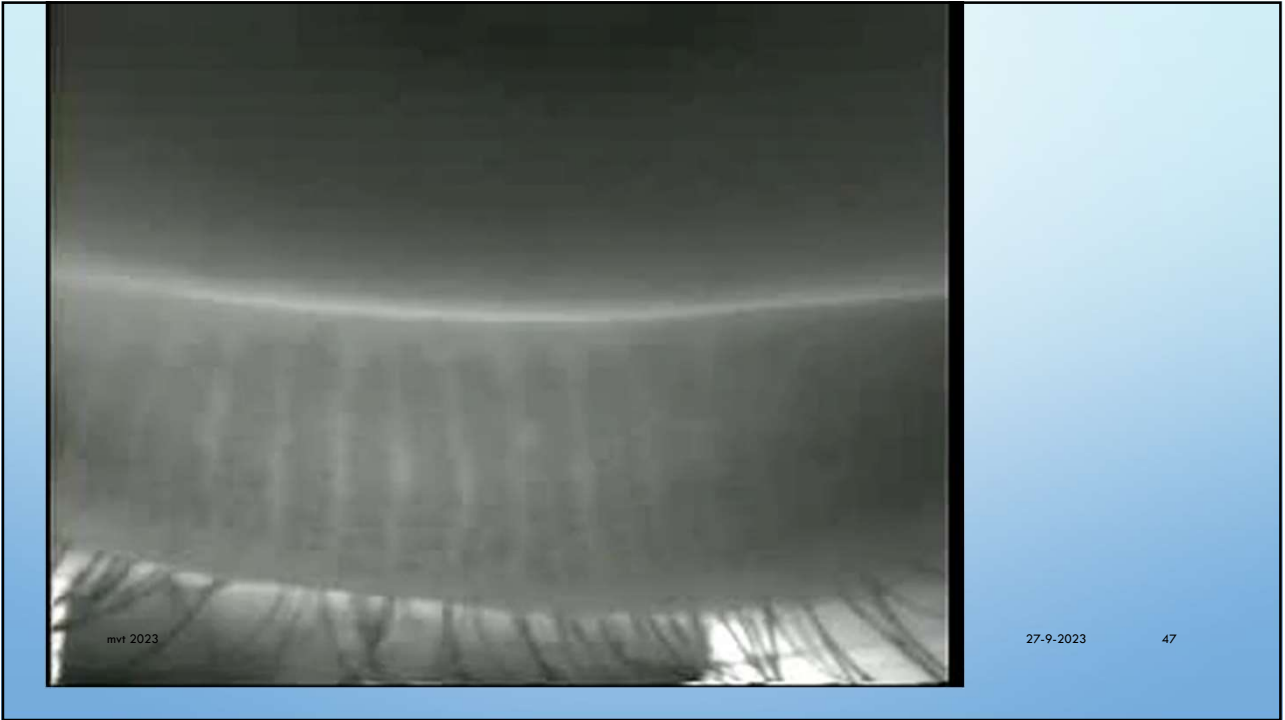
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# KNIPPEREN ALS KRACHT FUNCTIE

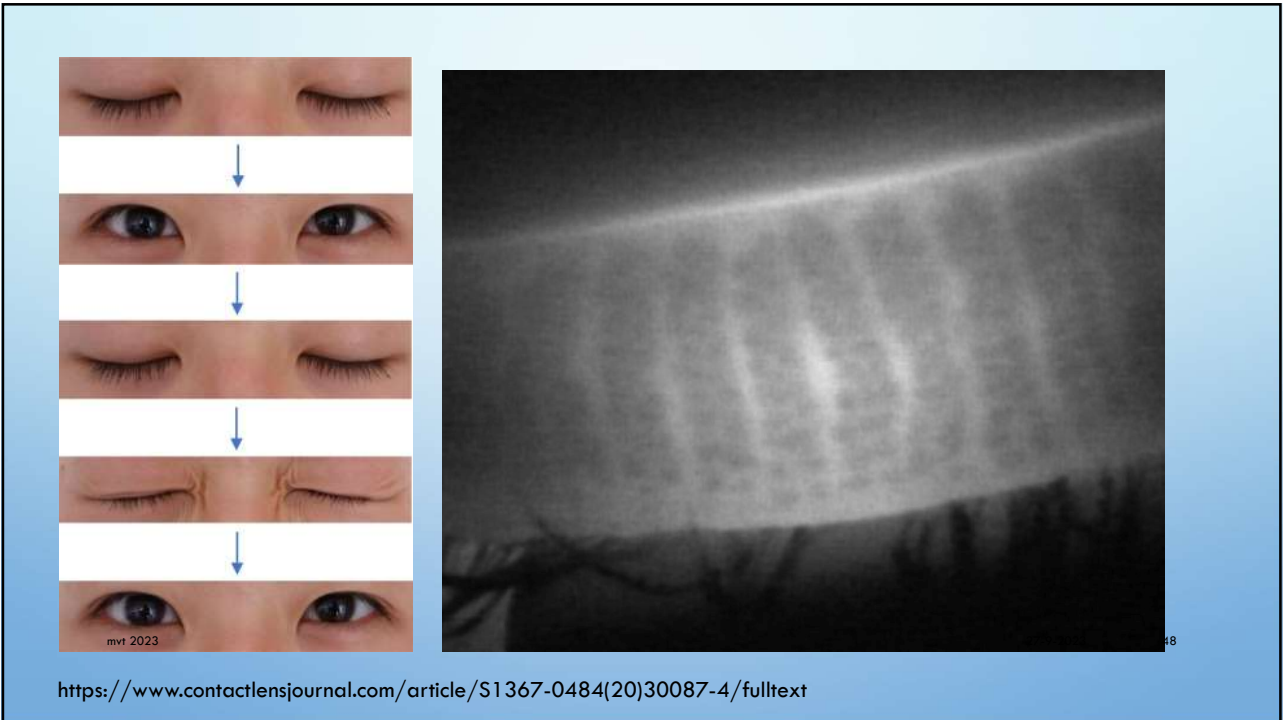


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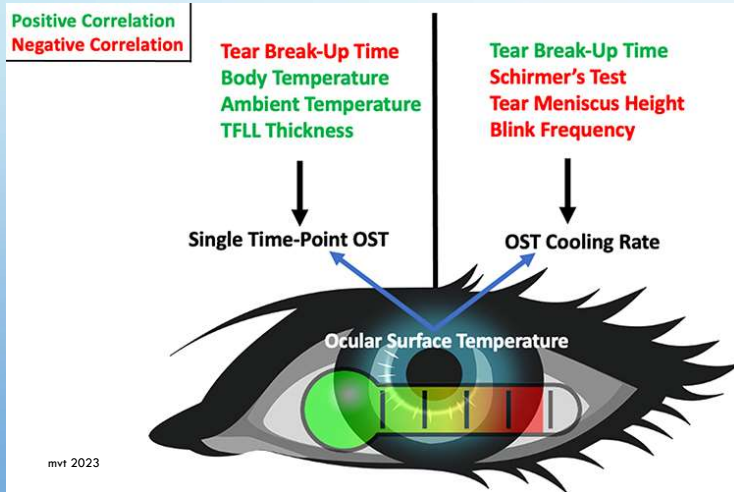
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## TEMPERATUUR CORNEA EN ADNEXA



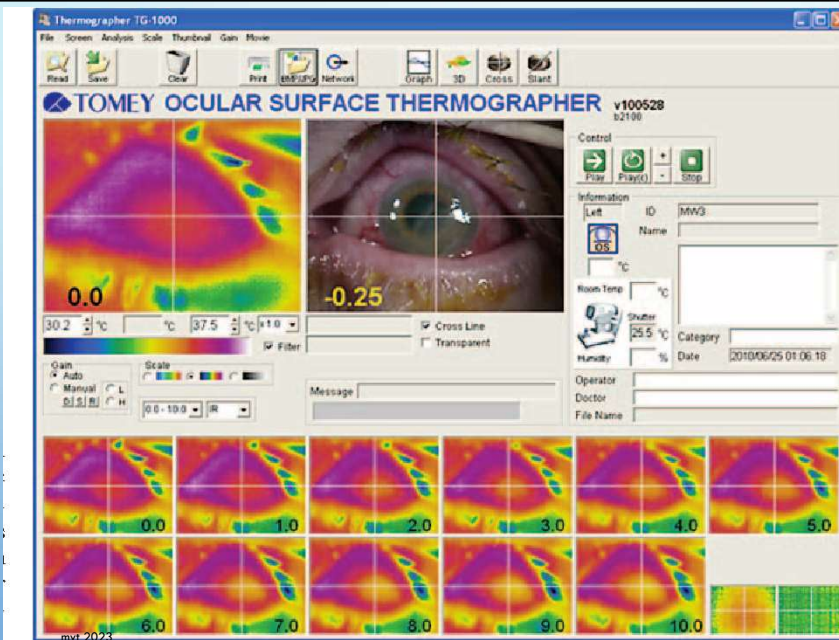
Mooie dikke lipide laag geeft een hogere oculaire temperatuur

Lage BUT en een hoge schirmer score en hoge traanmenciscus kan een grotere verandering geven aan de ocular surface temperature

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<https://www.semanticscholar.org/paper/Ocular-Surface-Temperature-Gradient-Is-Increased-in-Klamann->

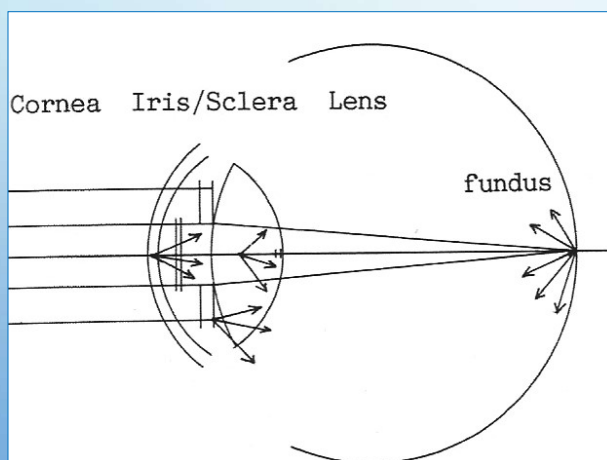
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## TRAANFILMINSTABILITEIT/ OOGDROOGTE EN KLACHTEN

- BRANDERIGE OGEN
  - GEÍRRITEERDE OGEN
  - RODE OGEN
  - DROGE OGEN
  - TRANENDE OGEN
  - VERMINDERD ZICHT
  - LICHTGEVOELIG
  - VERMOEIDE OGEN
- Hoofdpijn boven de ogen
  - Pijnlijke ogen
  - Slijmraden
  - Pijnlijke oogleden
  - Jeukend/ stroef gevoel
  - Rode ooglidranden
  - Plakkende oogleden in de ochtend

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## STROOILICHT

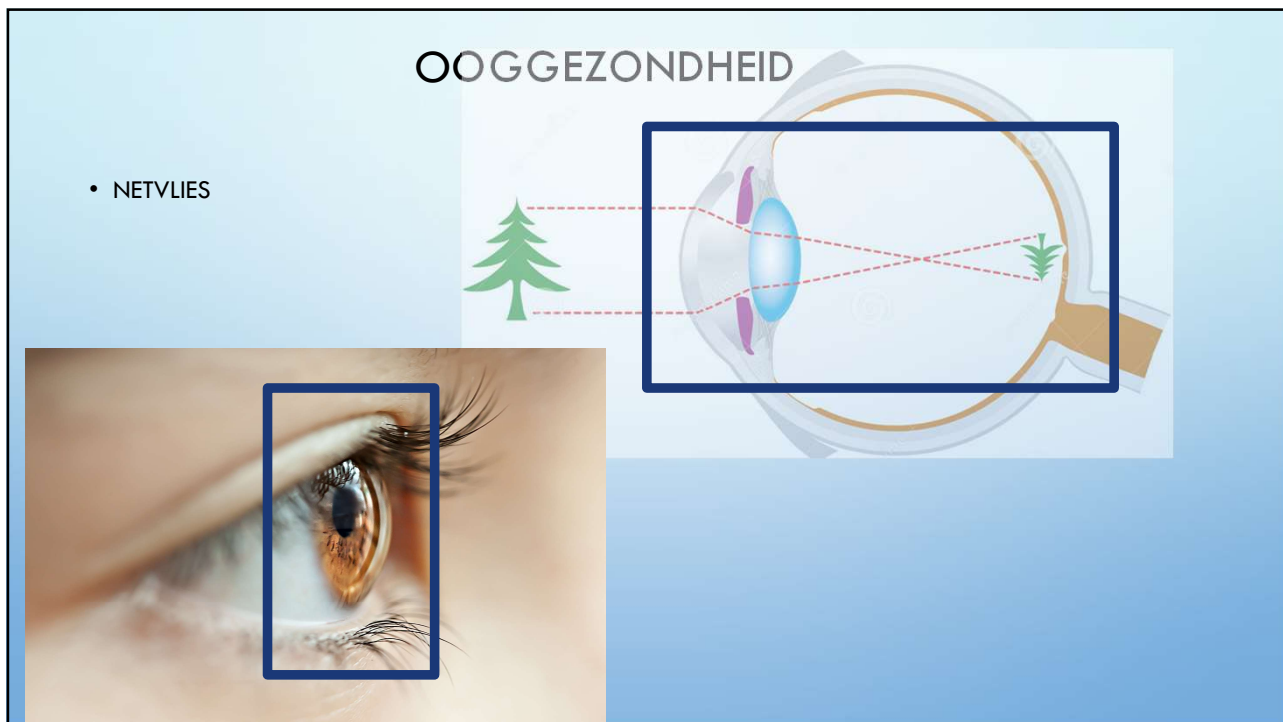


Bron: Franssen, Coppens 2007

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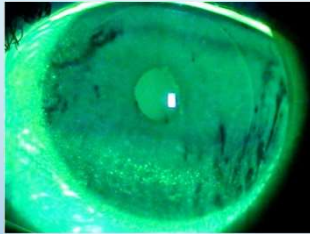


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## DROOG OOG



• [HTTP://WWW.EYEWORLD.ORG/IMAGES/NEW\\_ARTICLES/2011/04/12\\_B.JPG](http://www.eyeworld.org/images/new_articles/2011/04/12_B.JPG)

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## STABILITEIT VAN DE TRAAINFILM



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## DROGE OGEN

Survey of 589 subjects (190 with DED) (1)

Activity	Odds ratio to report problems associated with DED
Reading	3.64
Specific tasks	3.49
Using a computer	3.37
Watching television	2.84
Driving – day	2.80
Driving – night	2.20

MiljanovicBetal.AmJOphthalmol.2007;143(3):409-415.

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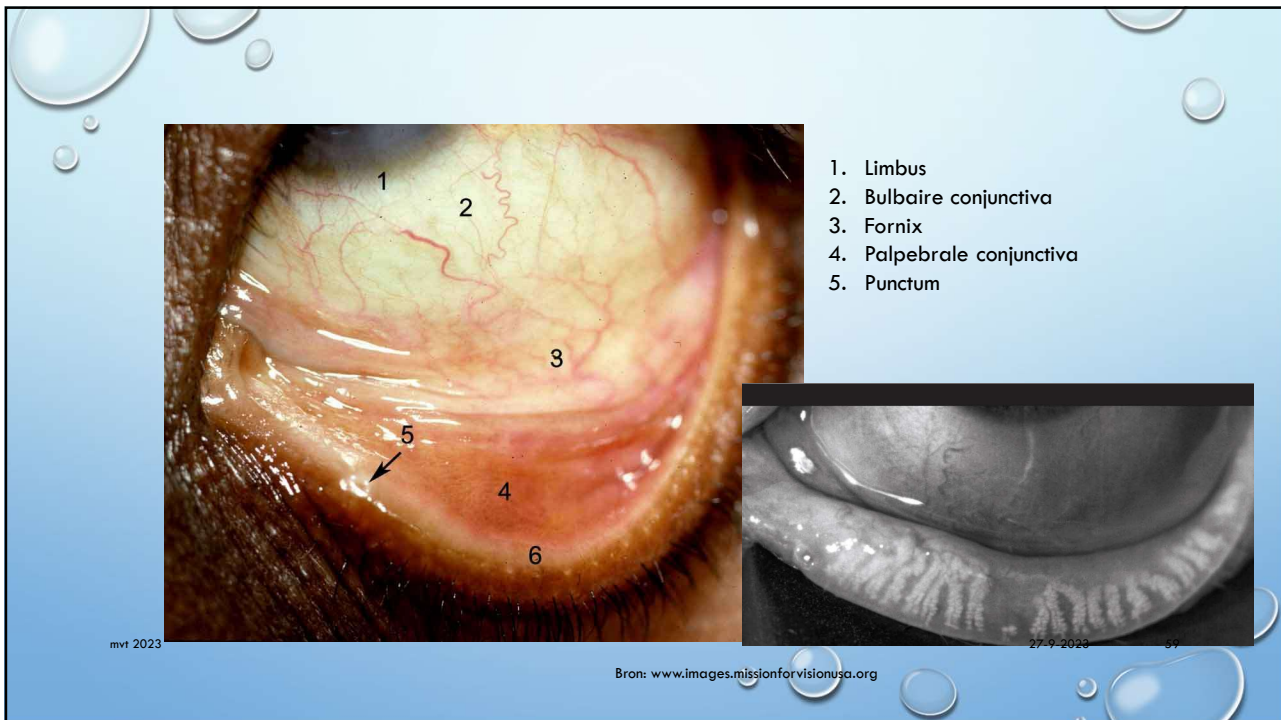
## ONVOLLEDIGE KNIPPERSLAG

- MINDER GEVOEL OM TE KNIPPEREN
- MEER OPPERVLAKE LUCHTSTROMING
- GEEN GOEDE LIPIDE VERSPREIDING
- LEZEN
- GECONCENTREERD FOCUSSEN



<https://www.allaboutvision.com/conditions/blepharitis.htm>

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## DRUPPELEN EN ZALVEN



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## KAPPENBRIL



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<https://jongsmamedical.nl/de-kappenbril-handwerk-voor-de-optimale-pasvorm/>