alzheimer
nederland

DIRECTIONS

ZonMw

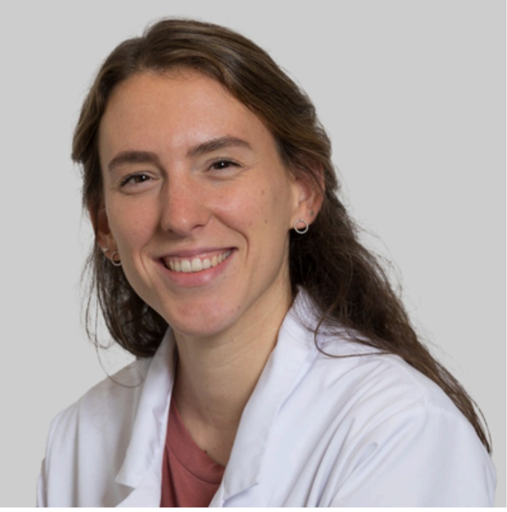
Ontwikkeling van dementie vriendelijke oogzorg en optimale thuisomgeving voor visuele activiteiten

HOGESCHOOL
UTRECHT

HIER KOMT
ALLES SAMEN

alzheimer nederland

DIRECTIONS



ZonMw

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dr. Arjan Keuken
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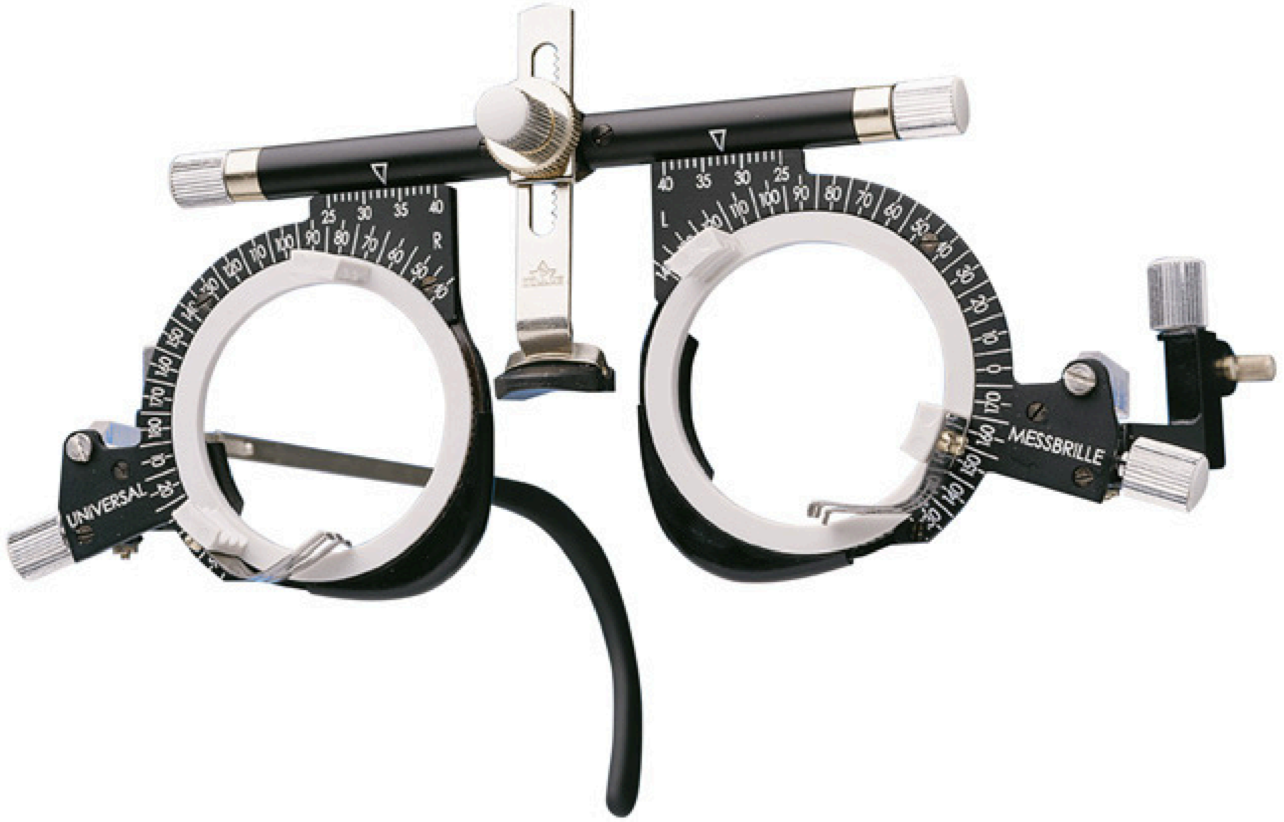
Anne Erren, master student

Verbeteren van visueel fucntionerenbij mensen met dementie

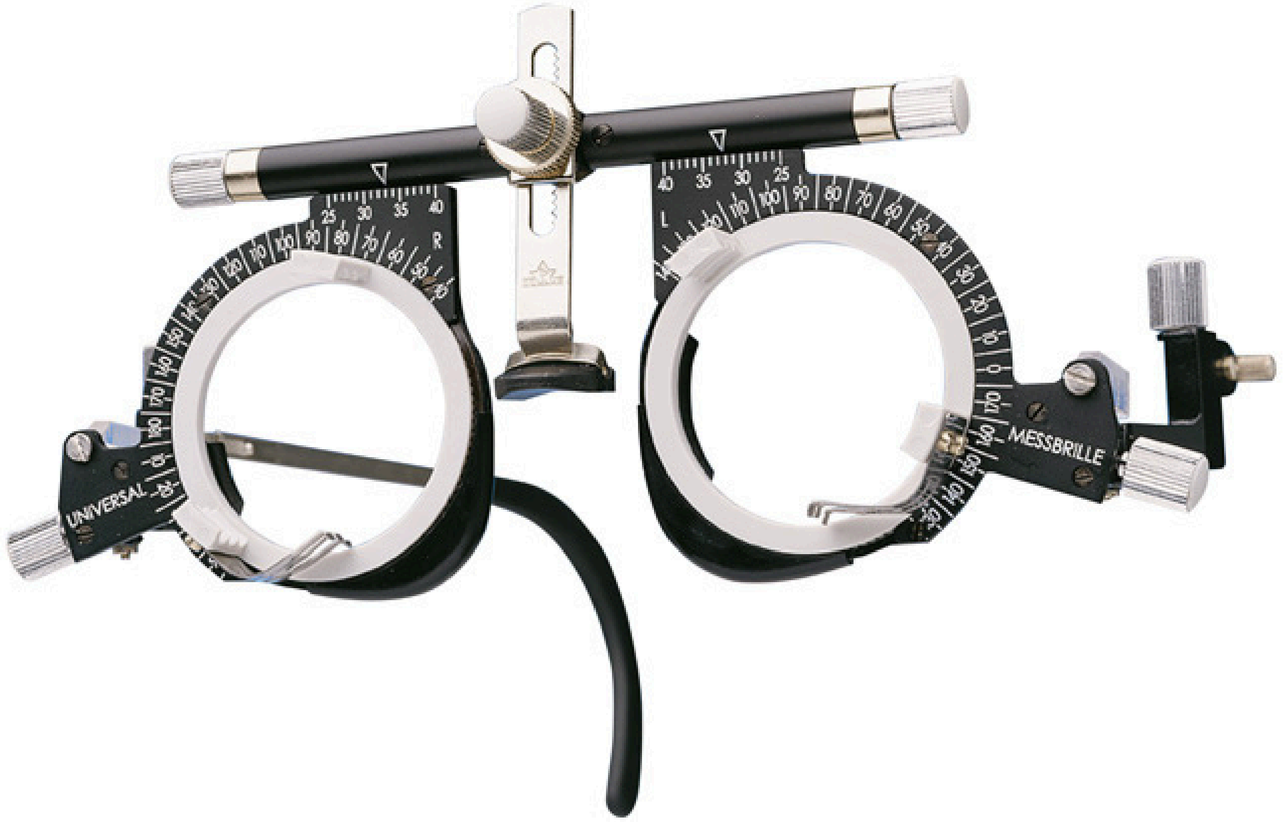
Directions:
Development of dementia friendly eyecare and optimal indoor environment for visual activitiies

Visuele functie



Visuele functie:
Dit verwijst naar de fysiologische capaciteit van de ogen en het visuele systeem om visuele prikkels waar te nemen en te verwerken.
Het omvat vaardigheden zoals gezichtsscherpte (scherpte van het zien), gezichtsveld (omvang van het zicht), kleurwaarneming, contrastgevoeligheid, dieptewaarneming en oogbewegingscontrole.

Functioneel zien



Functioneel zien houdt niet alleen rekening met de visuele functie, maar ook met factoren zoals **visuele verwerkingsvaardigheden, visuele aandacht, visueel geheugen** en het vermogen om visuele informatie te integreren met andere zintuiglijke input.

Dit heeft betrekking op het praktisch gebruik van het zicht in dagelijkse activiteiten en taken.
Het gaat erom hoe effectief iemand zijn of haar visuele vaardigheden benut om de omgeving te verkennen, objecten en **gezichten te herkennen, te lezen, te schrijven** en andere **dagelijkse activiteiten** uit te voeren.

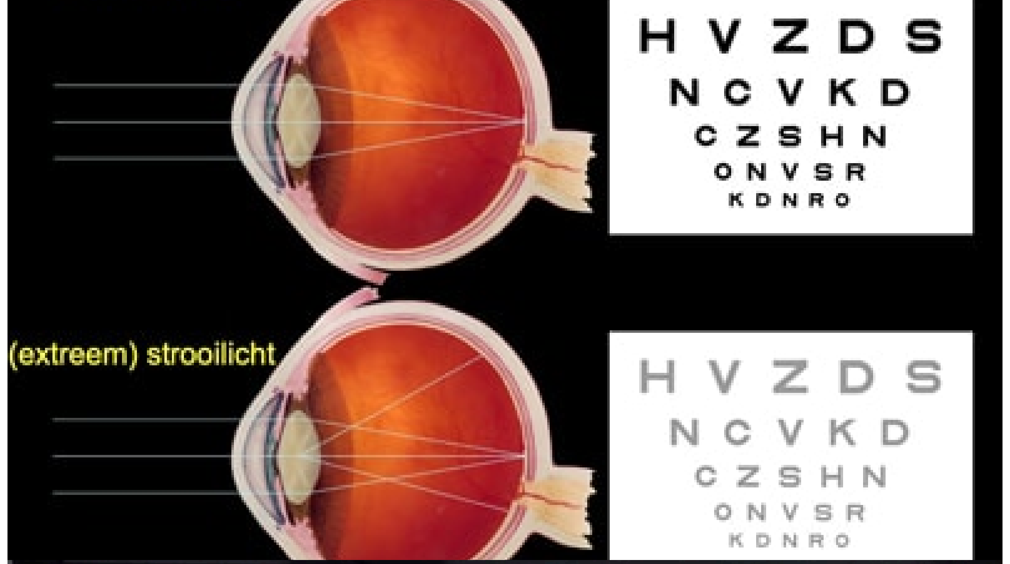
Functioneel zien beoordelen

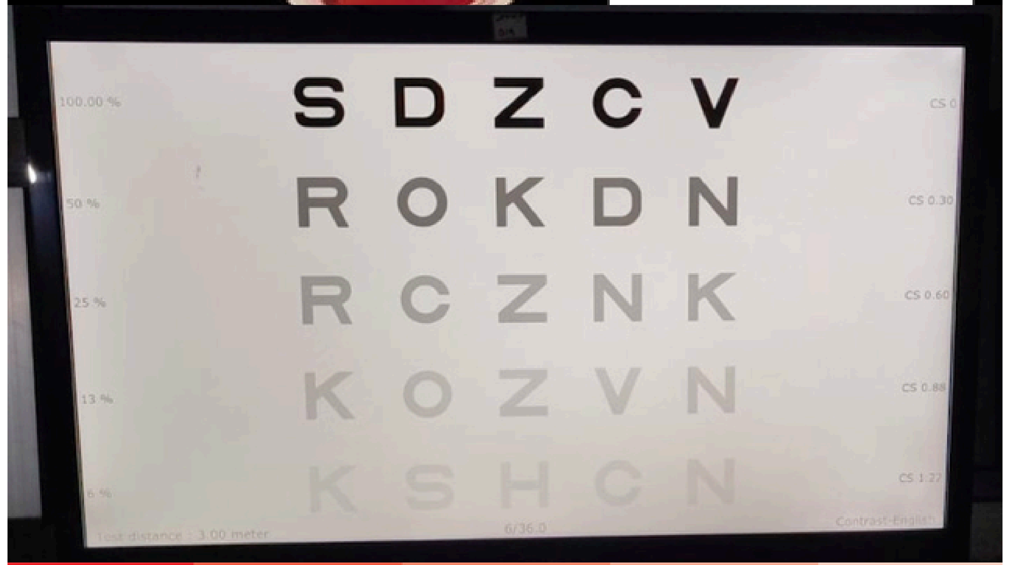
- Het beoordelen van functioneel zien omvat het evalueren van hoe goed iemand specifieke visuele taken in realistische situaties kan uitvoeren en kan met name relevant zijn in gevallen van visuele beperkingen of neurologische aandoeningen die het zien beïnvloeden.

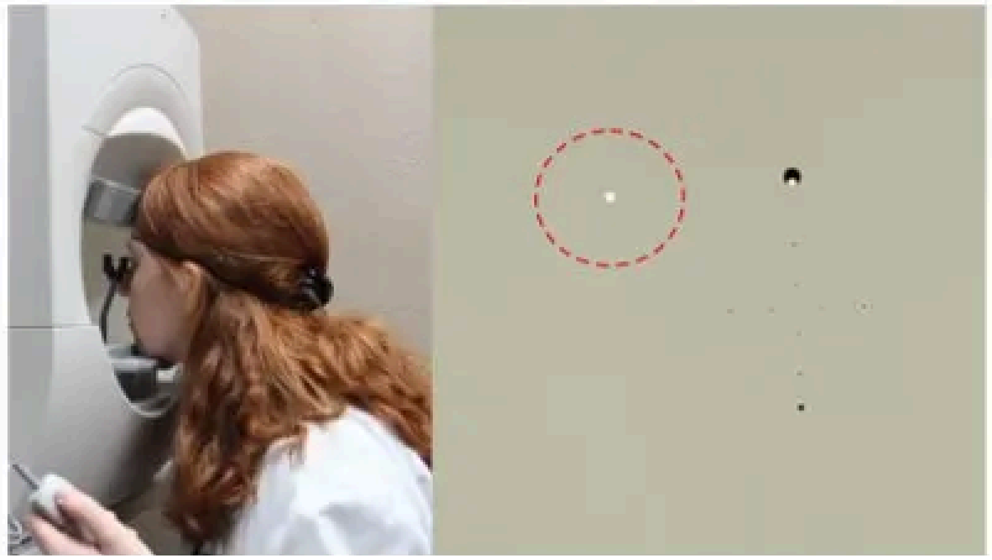
Normaal verouderend oog

Cataract
Leeftijdsgebonden maculadegeneratie (LMD)
Diabetische retinopathie
Glaucoom

Normaal fysiologisch verouderingsproces
- Contrast
- Verblinding (glare)
- Kleur
- Reactietijd
- Gezichtsveld verandering door pathologie







Top image:
dr T van den Berg
Digital image depicting Pelli-Robson contrast sensitivity chart Contributed by Dr Kirandeep Kaur, MBBS
https://shannon-brinkley.mykajabi.com
Visual field ; What is glaucoma? (lariaeyecare.com)

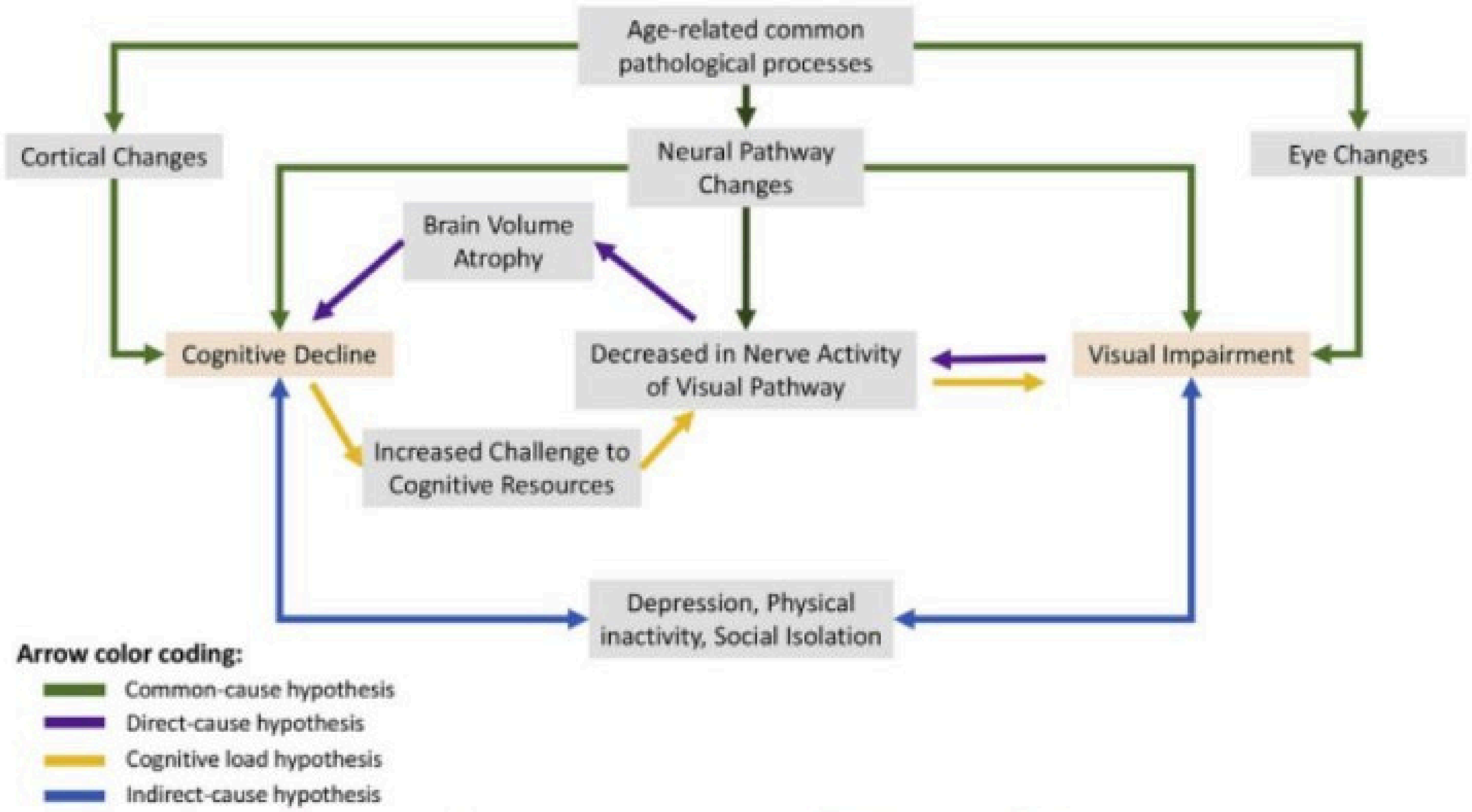


Figure 5. Diagram showing a framework of potential mechanisms explaining the bidirectional relationship between visual impairment and cognitive impairment. The purple pathway represents the direct-cause hypothesis, in which impoverished visual input secondary to visual impairment leads to decreased nerve activity of the visual pathway. This cascade leads to neuropathologic and structural changes such as brain volume atrophy, thereby resulting in cognitive impairment.

1. The Bidirectional Relationship between Vision and Cognition
Vu, Tai Anh et al. Ophthalmology, Volume 128, Issue 7, 981 - 992

Low technological sensory support seems to have a positive impact on quality of living.

- Powell, D.S., Reed, N.S.: Sensory loss rehabilitation among people with dementia: a low-risk strategy to enhance quality of life. 5, (2024). https://doi.org/10.1016/j.lanhl.2024.100640

Vision loss and the risk of dementia

Vision loss has been highlighted as a risk factor for dementia. Correcting vision loss can help to manage the risk.

Does vision loss increase the risk of dementia?

Uncorrected vision loss increases a person's risk of developing dementia. The more severe vision loss a person has, the higher their risk of dementia.

However, this only applies to people with uncorrected vision loss. Research shows that those who have corrected vision loss do not have an increased risk of developing dementia.

As people get older vision problems become more common. These include conditions like being nearsighted or farsighted, and eye

Vision loss now recognized as modifiable risk factor for dementia

October 21, 2024

Contact: Jon Meerdink (meerdink@umich.edu)

ANN ARBOR — An influential medical research report now recognizes vision impairment as a modifiable risk factor for dementia, a significant development in the ongoing work of both vision health and cognitive health professionals.

The 2024 Lancet Commission report included vision impairment among its modifiable life course risk factors for dementia, grouping it with other factors that can be addressed either medically or socially.

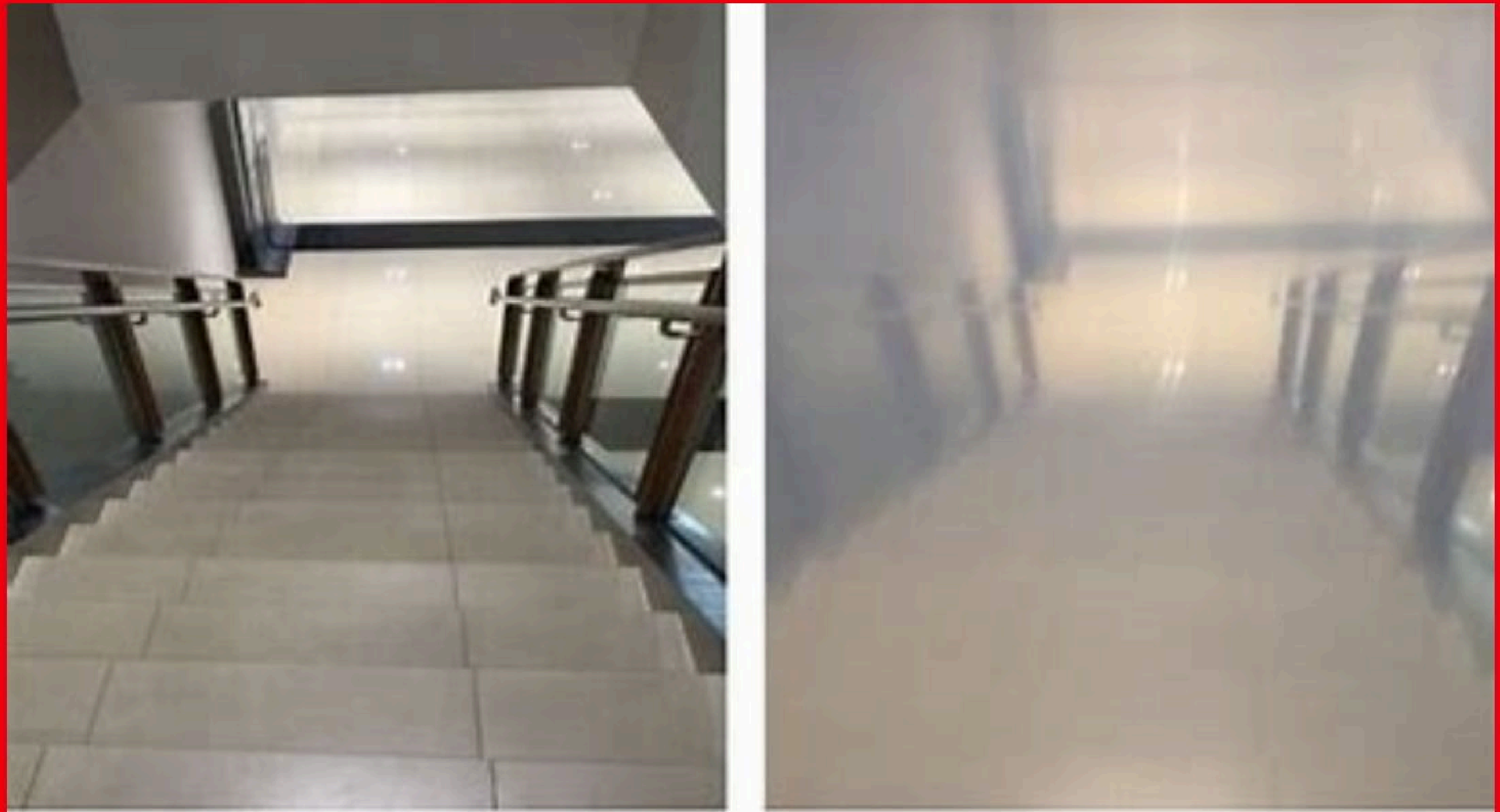
"We were very pleased to see in the Lancet Commission's 2024 update that vision loss was included among the 14 modifiable life course risk factors that they cite," said Dr. Josh Ehrlich, an ophthalmologist and population health researcher at the Institute for Social Research's Survey Research Center and the Medical School's Department of Opthamology & Visual Sciences.

Different types of vision loss have different *dementia risk profiles*

The National Health and Aging Trends Study evaluated more than 2,700 individuals over age 65. After gathering several vision and cognitive measures on each person, the researchers calculated population attributable fractions (PAFs). A PAF is the proportion of disease cases in a population that can be attributed to a specific risk factor. The PAF of prevalent dementia from at least one type of vision impairment was 19%, reported lead author Jason Smith, ScM from Johns Hopkins University Bloomberg School of Public Health.

Rather than only measuring near vision, the researchers also tested distance vision and contrast sensitivity. Contrast sensitivity measures the ability to distinguish between subtle differences in brightness or contrast. A lower score may mean someone is less able to see in low-light conditions or distinguish between shades of gray.

The study reported that contrast sensitivity impairment had the highest PAF (15%) compared to near vision (9.7%) and distance vision (4.9%) impairments. This is higher than in some previous



Normal Vision | Vision with reduced Contrast Sensitivity

HOGESCHOOL UTRECHT

DIRECTIONS

Veroudering ooglens- Monet 1899-1922

Hajar R. Monet and Cataracts. Heart Views. 2016 Jan-Mar;17(1):40-1. doi: 10.4103/1995-705x.182650. PMID: 27293531; PMCID: PMC4879806.

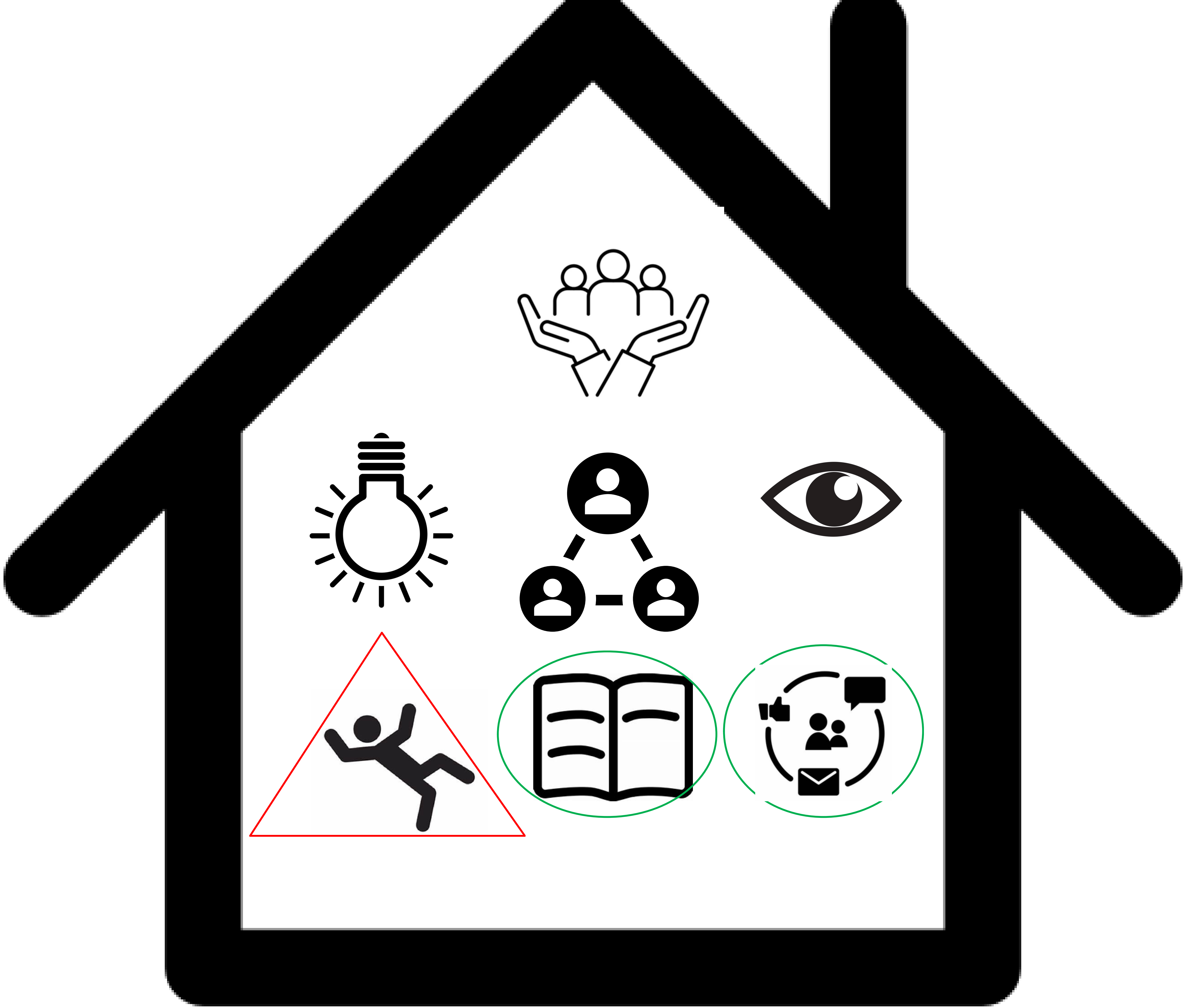
Diagnose stellen/ monitoren

Diagnose stellen/ monitoren

Functioneel zien

Onderzoek hierna kan resulteren is

Verbetering van de binnenomgeving
Ondersteuning dagelijkse activiteiten/hobby's
Ondersteuning fysieke activiteiten
Risicobeperking (vallen)
Beter lichtontwerp / architectuur



Waarom

Sociale interactie
Dagelijkse activiteiten
Visuele activiteiten
Veiligheid

Objectiveren
Begrijpen wat gezien wordt
Aanpassingen thuis
Vroegtijdige operatief ingrijpen?

Directions

FOCUS

Om visuele prestaties te begrijpen, moeten visuele testen ook opnieuw worden ontworpen of geëvalueerd gelet op de behoeften en capaciteiten van mensen die met dementie leven (PLwD).

Dank u voor uw aandacht

Directions:
Development of dementia friendly eyecare and optimal indoor environment for visual activities

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