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Access to Care: MedTech as Equalizer

How we make it possible at PeriVision

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Our vision at PeriVision

We make eye testing accessible to everyone – everywhere!
Glaucoma – the silent thief of sight

- Chronic eye disease damaging optic nerve
- Caused by high intraocular pressure (not always!)
- Irreversible vision loss
- No symptoms, no pain!
- Leading to total blindness if not treated timely
Glaucoma – global healthcare burden

0 Cures – lifelong chronic disease

#1 Cause of irreversible blindness

80M Patients globally

50% Cases undetected (90% in LMICs)
Glaucoma prevalence is higher in LMICs

1.9% prevalence

2.4% prevalence

3.4% prevalence
90% undiagnosed
Glaucoma as a global healthcare burden

Example of UK

- 2M People at risk of blindness
- 600K People waiting for eye appointments
- 64% Delayed appointments
- 44% Increase in demand by 2035

Glaucoma diagnosis & prognosis

- **Tonometry** – Intraocular pressure
- **Perimetry** – Visual function
- **Optical Coherence Tomography** – Retinal thickness
Perimetry
Integral part of glaucoma management

Perimetry setup

Perimetry test

Visual field
Perimetry – costly and tedious
The most hated examination in ophthalmology

- Stationary
- Dedicated room & assistant

- Long & tedious procedure
- Uncomfortable

- Unreliable/noisy data
- Limited insight

Resource-intensive procedure with low patient compliance leading to both limited capacity and low quality data.
Inefficient workflow leads to inequality/bias in glaucoma management

- Low quality data
- Limited accessibility to eye care
- Misrepresentation of ethnic groups in normative databases

Patients are not treated timely, adequately and fairly.
PeriVision: introducing VR/AI-based perimetry

- **VR eye test platform** connected to the cloud for decentralized & efficient clinic workflows
- **AI co-pilot** using holistic patient data for better diagnostics & prognostics
- **Cloud-based clinician app** allowing clinicians to reach data from anywhere, anytime
We optimize clinical workflow end-to-end using AI

DATA ACQUISITION

Reducing examination time

Screening/Diagnosis

Detecting early glaucoma cases

PROGNOSIS

Predicting disease progression

Less fatigue & higher quality data

Increased detected cases

Timely treatment
We aim for higher efficiency & access with cloud-based portable solution

- Portable
- No dedicated room
- Eye tracking & virtual assistant
- No assistant
- Less cost & small footprint
- More test availability
Clinical research showed improved data quality & workflow

Same diagnostic accuracy
Lower test-retest variability
70% less examination time

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“*I found the system easy to use*, in % of respondents

“I dare to use the VR glasses myself to measure the field of view without outside help”, in % of respondents

Source: Kucur et al. 2020, Stapelfeldt et al. 2021; PeriVision NHS SBRI online survey
PeriVision is boosting efficiency in glaucoma care

+30%
Additional patient volume with PeriVision estimated by eye doctors

-65%
Technician time for visual field with automation / VR assistant

-99%
Space requirement for visual field test with portable headset

95%
Patients perceiving system as easy to use driving higher compliance

Sources: PeriVision market study (N = 32); PeriVision analysis of NHS procurement challenge data; Kucur et al. 2021
Perimetry is the first step towards multi-testing platform
PeriVision creates new care pathways bringing fairness in clinical practice and research.
PeriVision’s concrete steps towards more accessible glaucoma care

- National procurement challenge for remote glaucoma monitoring by NHS
- Pilot showcase for remote clinical trials with relevant industrial partners
- Exploring remote glaucoma management in 250+ elderly homes in the US

PeriVision, working with the West of Scotland Innovation Hub

Validation of remote perimetry workflow for glaucoma monitoring

In November 2022, PeriVision was selected to participate in a national procurement challenge for glaucoma monitoring by NHS Scotland funded by the Scottish Government Chief Scientist Office. The aim is to develop and implement remote patient monitoring (RPM) concepts to ease pressure on the NHS and prepare for national procurement in two phases.

We reimagine eye care to save precious eye sight
Thank you.