



**Moorfields
Eye Hospital**
NHS Foundation Trust



What's new in Digital and how can it improve your experience?

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Digital Clinical Lead, NHS England Eyecare Programme.



Two categories of digital innovation

Highly bespoke digital tools that are very specific to eyecare:

- AI algorithms to diagnose diseases of the eye, for example.

General digital tools that have surprising usefulness in eyecare:

- Augmented reality, for example.



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Parkinson's disease could be detected early with AI scans, scientists say

22 August



GETTY IMAGES

The researchers believe the eye scans could detect the disease early and hope they can be performed routinely in future

Eye scans powered by artificial intelligence (AI) could detect Parkinson's

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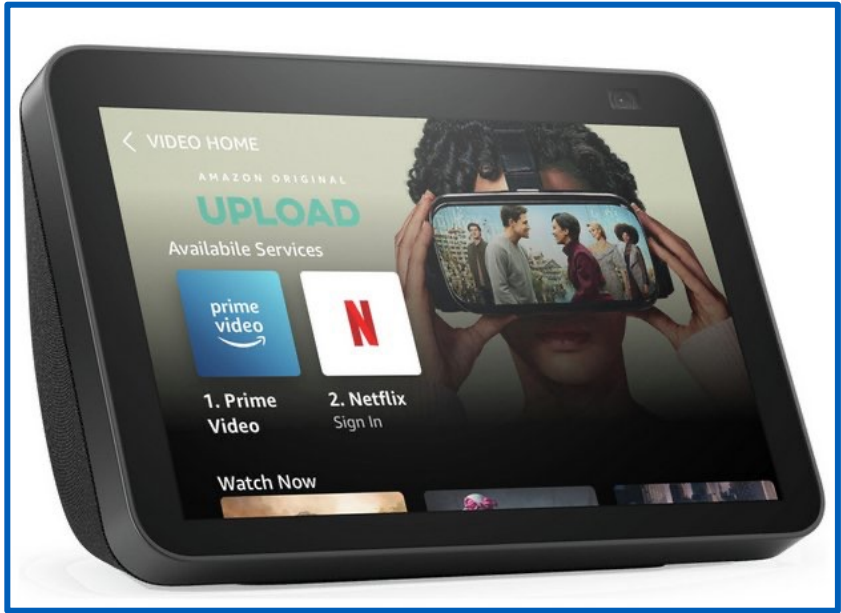
Moorfields Eye Hospital gives woman, 88, bionic eye implant

21 January 2022



MOORFIELDS EYE HOSPITAL

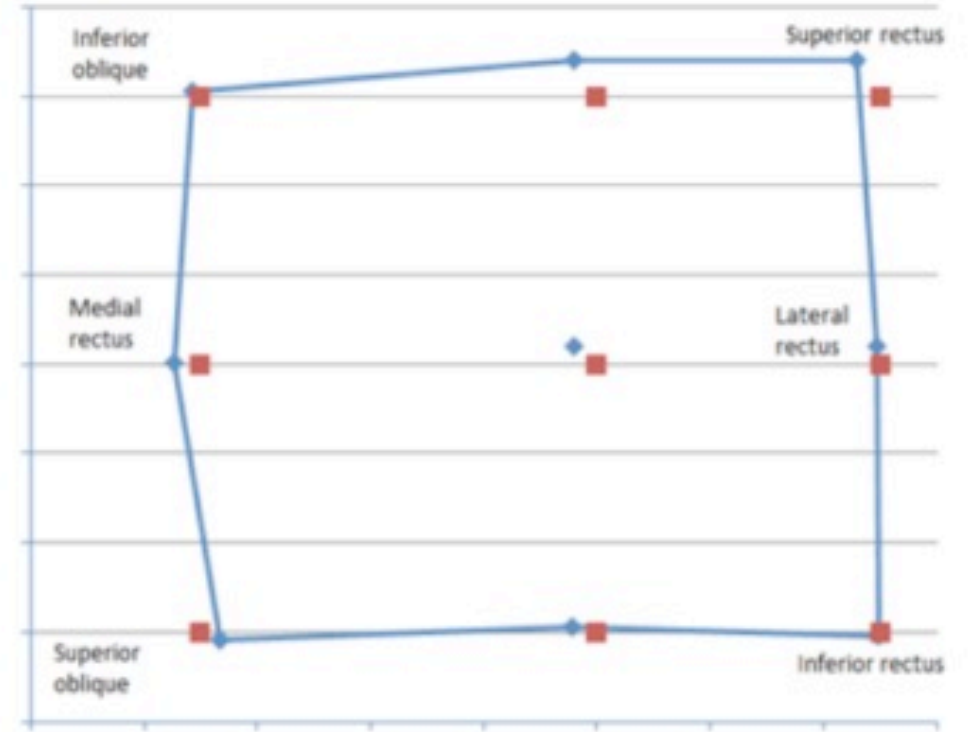
The 88-year-old grandmother of eight from Dagenham suffers from dry age-related macular degeneration (AMD)





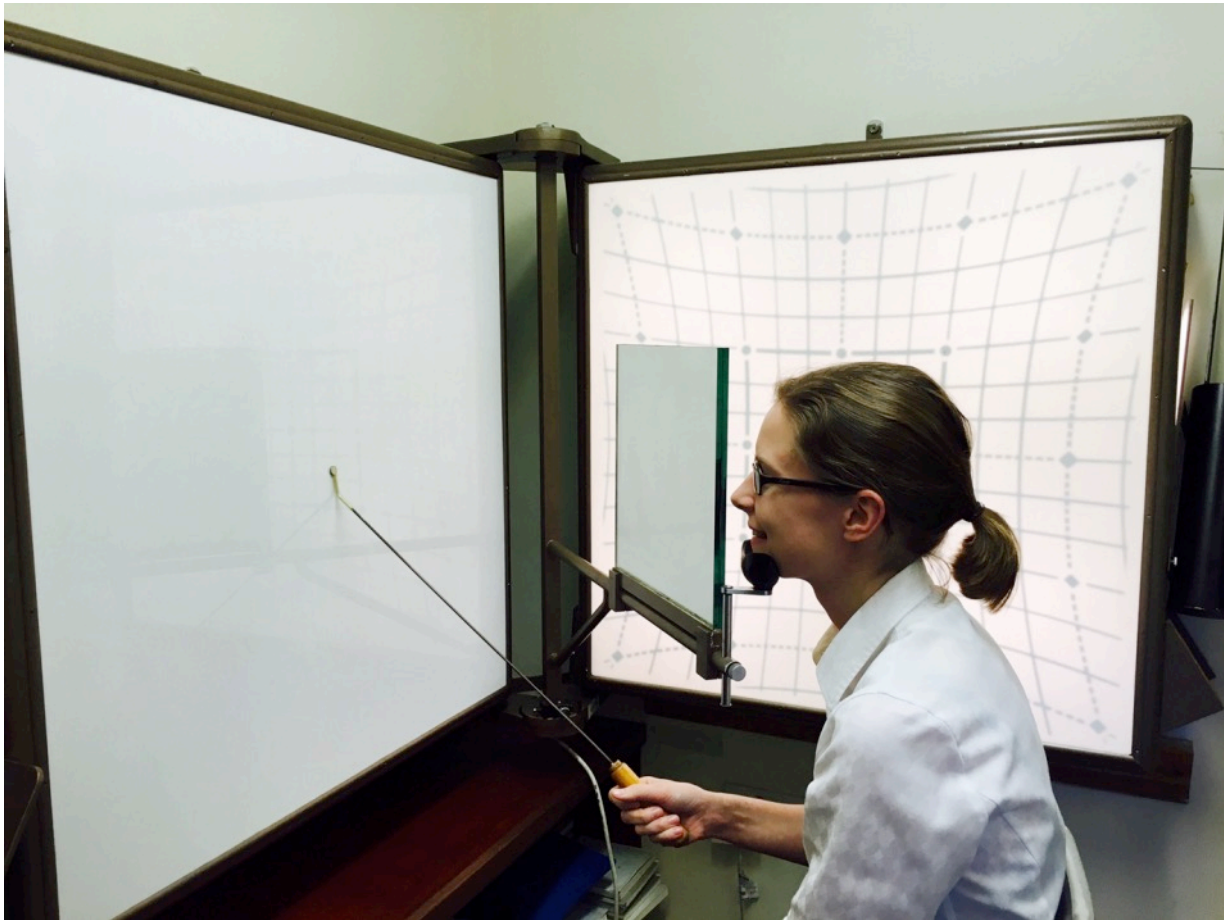
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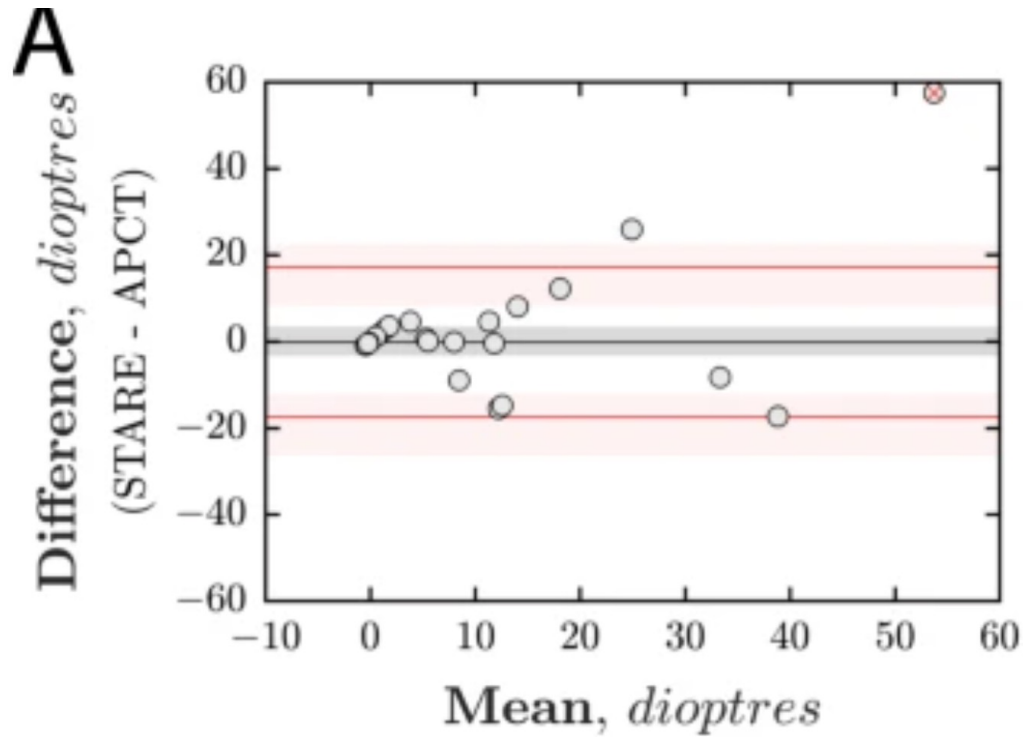
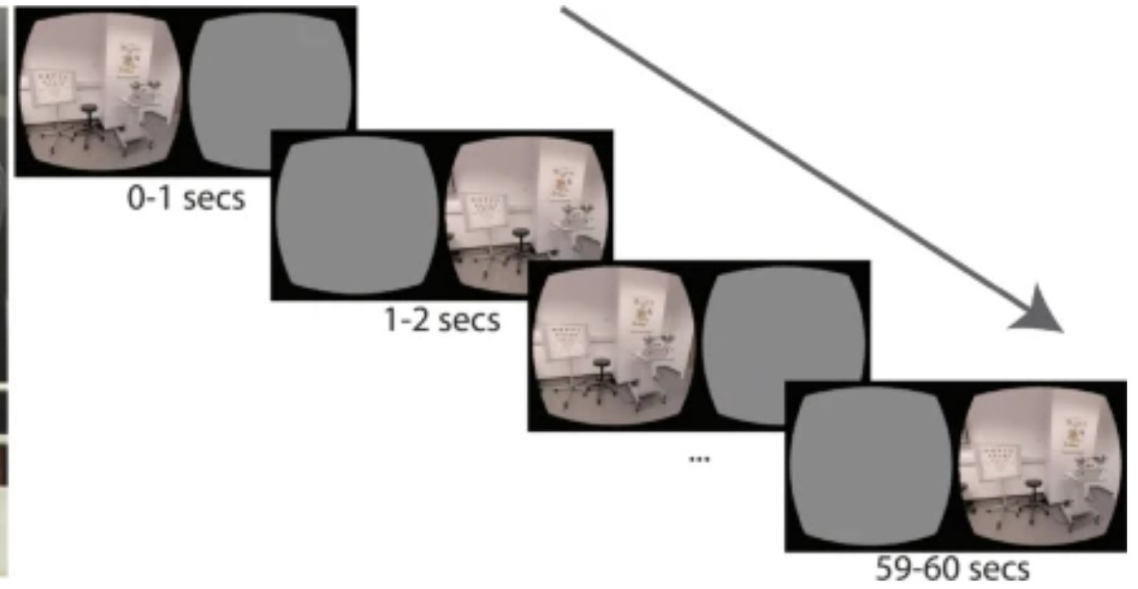
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10:45

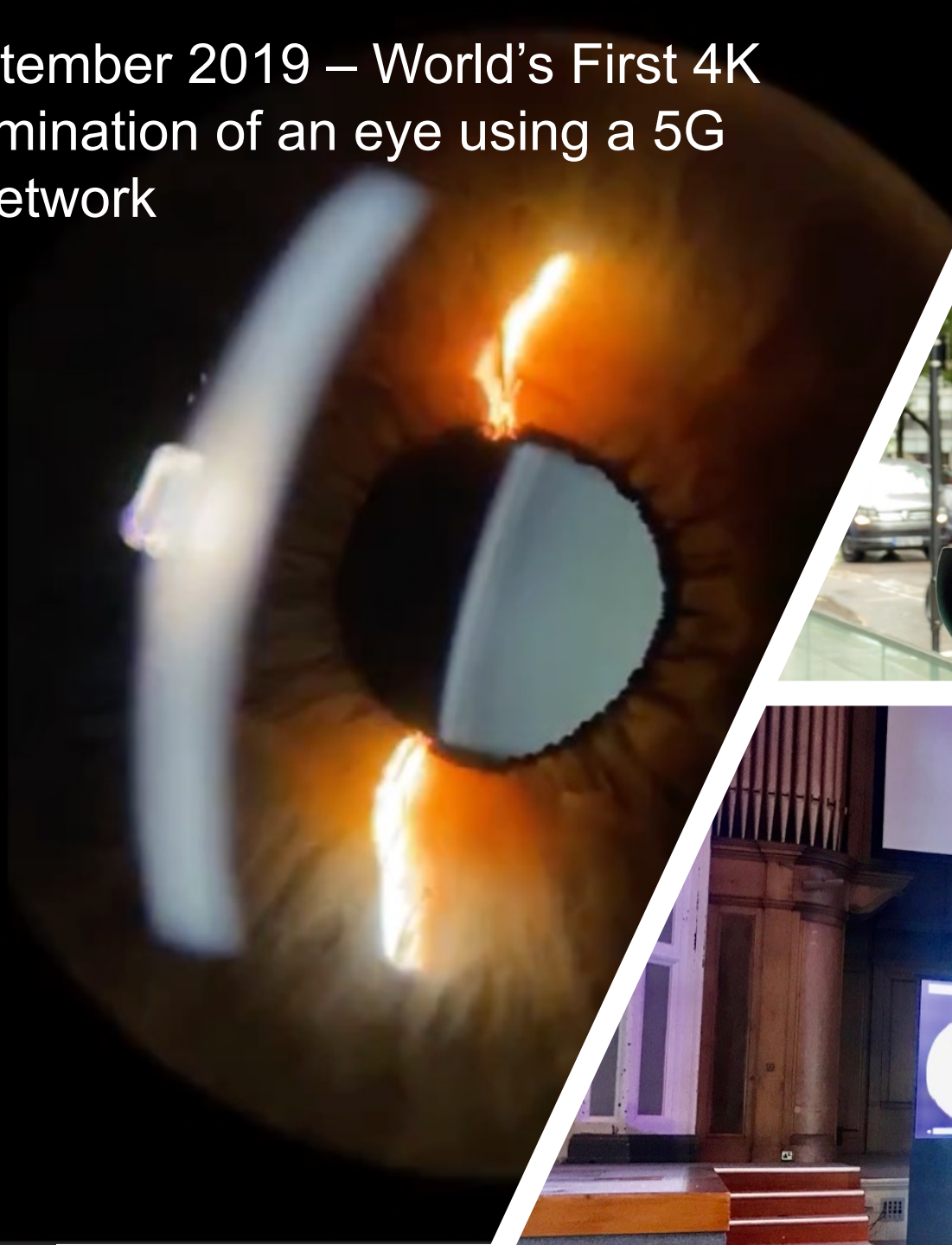


27°

Try "Alexa, show me vegetarian recipes"



26th September 2019 – World's First 4K
tele-examination of an eye using a 5G
phone network

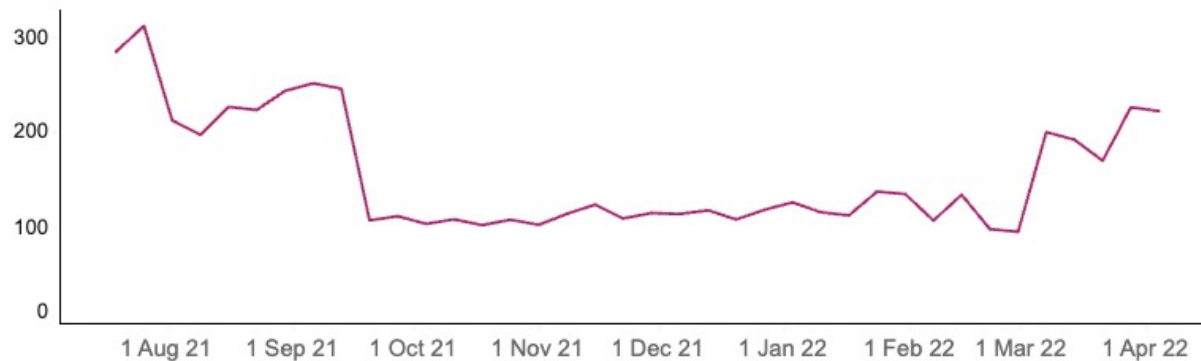




'Number of consultations' for Moorfields Eye Hospital NHS Foundation Trust

Trend Analysis

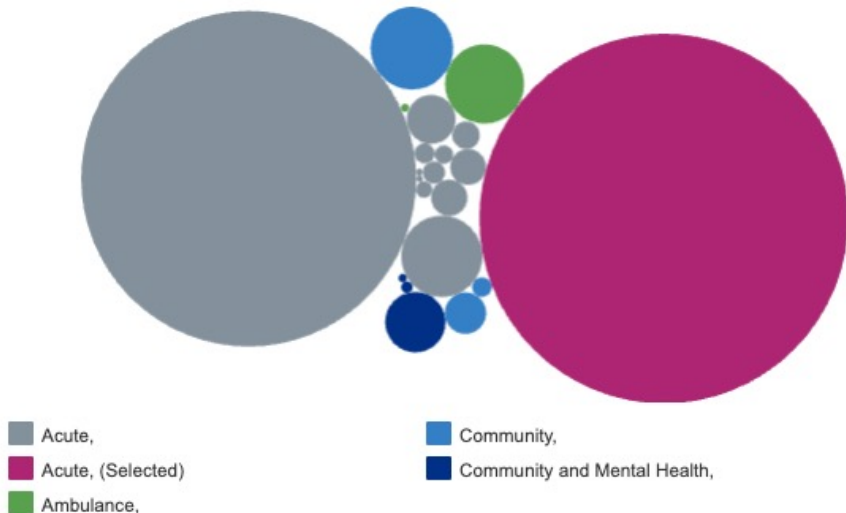
Number of consultations for clinical specialty 'Urgent and emergency care', by week
(* denotes all)



Please note: Data are only available from 1st April 2021.

By Provider Type and Provider

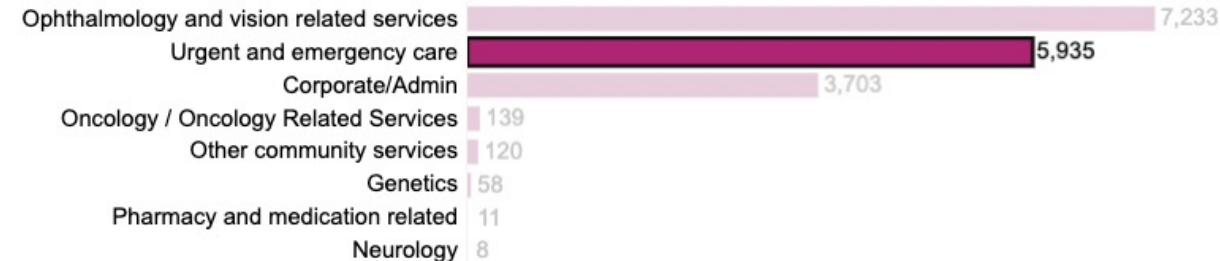
Number of consultations, for specialty 'Urgent and emergency care'



By Specialty Level

Number of consultations by specialty

For 'Moorfields Eye Hospital NHS Foundation Trust', 44.1% of total activity, is available by clinical specialty.



View by Provider

Number of consultations across all clinical specialties



Please note: The data in the dashboard represents a subset of video consultation activity. NHS England and NHS Improvement do not have access to activity data for all video consultation platforms that providers and systems are using. Please refer to the cover page for full details and notes on interpreting the data. If you have any queries or comments, please contact nhsi.OTPAlysts@nhs.net.



> [EClinicalMedicine](#). 2021 Apr;34:100818. doi: 10.1016/j.eclinm.2021.100818. Epub 2021 Apr 5.

Safety of video-based telemedicine compared to in-person triage in emergency ophthalmology during COVID-19

Ji-Peng Olivia Li ¹ ¹, Alice A P Thomas ¹, Caroline L S Kilduff ¹ ¹, Abison Logeswaran ¹,
Rishi Ramessur ¹, Anton Jaselsky ¹, Dawn A Sim ² ³, Gordon R Hay ¹ ⁴, Peter B M Thomas ² ³

Affiliations + expand

PMID: 33842860 PMCID: [PMC8021278](#) DOI: [10.1016/j.eclinm.2021.100818](#)

[Free PMC article](#)



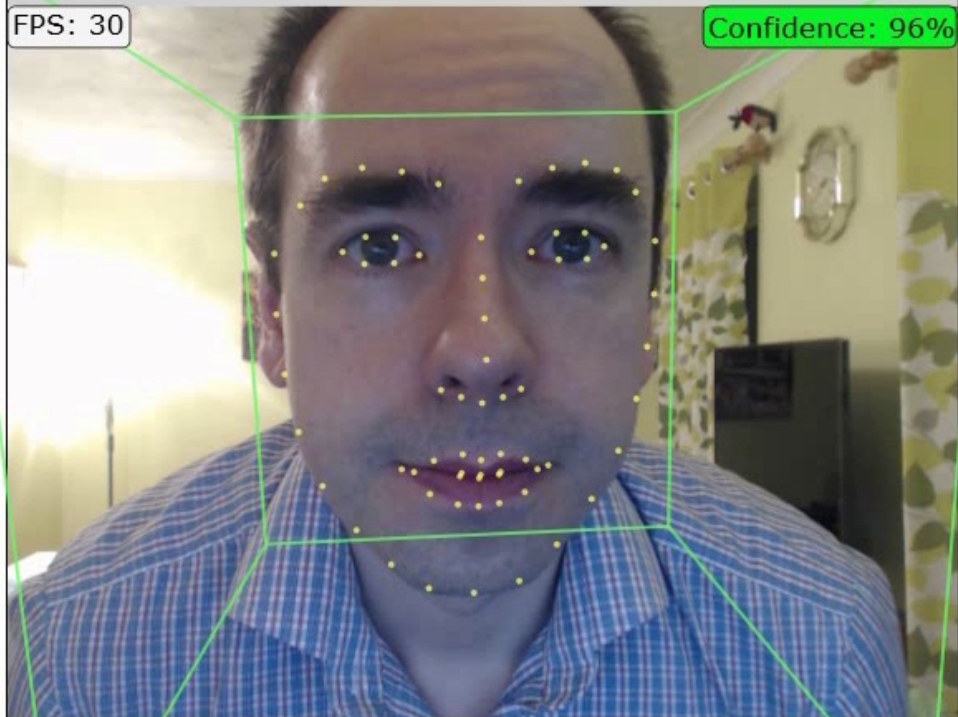
	A&E video	Outpatient video	Outpatient telephone	Total	Equivalents
Travelling distance saved (km)	246,316	241,542	926,436	1,414,294	1.8 times to the moon and back
Travelling time saved (hours)	9,983	9,604	36,837	56,424	6.4 years of life
Travelling expenses saved (£)	£68,132	£65,446	£251,020	£384,599	10.9 years of average UK salary
Volume of CO2 emissions saved (kgCO2)	21,226	20,416	78,306	119,948	51,103 litres of petrol burned

Face analysis framework

File Recording settings AU settings View

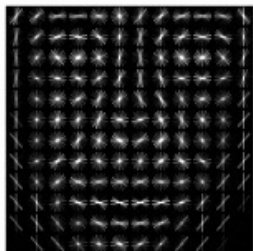
FPS: 30

Confidence: 96%



Pause Stop Reset >> 1 >> 5

Appearance features



Geometry features

Orientation

Turn: -2°

Up/down 9°

Tilt: 0°

Pose

X: -2 mm

Y: 2 mm

Z: 253 mm



Non rigid parameters

Action Units

Classification

AU04 - Brow lowerer

AU12 - Lip corner puller (

AU15 - Lip corner depres

AU23 - Lip tightener

AU28 - Lip suck

AU45 - Blink

Regression

AU01 - Inner Brow raiser

AU02 - Outer Brow raiser

AU04 - Brow lowerer

AU06 - Cheek raiser

AU09 - Nose wrinkler

AU10 - Upper lip raiser

AU12 - Lip corner puller (

AU14 - Dimpler

AU15 - Lip corner depres

AU17 - Chin Raiser

AU20 - Lip Stretcher

AU25 - Lips part

Cambridge Face Tracker - Head Pose Experiments

FPS: 30

Confidence: 0%



Record trial: 0

Start new subject

Pause

Take a screenshot

Mirror image

Head Orientation

Turn: 23° Right

Up/down: 21° Up

Tilt: 3° Left

Gaze Orientation

Left/right: 0° Straight

Up/down: 0° Straight

Pose

X: -196165

Y: -147124

Z: 3065086



Hi, I'm MAIA - Moorfields Artificial Intelligence Assistant. I'm here to answer your questions about Moorfields or common eye conditions, help you with your visit, or anything else I can. I'm still learning, so I might not always get it right, but I'll learn from my mistakes. Now, ask me a question!

Type a Message





⚡ GPT-3.5

✦✦ GPT-4

ChatGPT **PLUS**

Come up with concepts

for a retro-style arcade game

Tell me a fun fact

about the Roman Empire

Make up a story

about Sharky, a tooth-brushing shark superhero

Write an email

requesting a deadline extension for my project

 Send a message



ChatGPT can make mistakes. Verify important information.

ChatGPT's explanation of my sentence:

Certainly, I can help explain that in simpler terms:

"Bimedial rectus recession": This refers to a type of eye surgery. You have six muscles that control the movement of each eye. The medial rectus muscle is the one that pulls your eye inward, towards your nose. If your eyes turn too much toward your nose (a condition called "esotropia"), the surgeon can adjust these muscles to help align your eyes properly. In this surgery, the surgeon will likely make a small adjustment to the medial rectus muscles on both eyes (that's what "bimedial" refers to – both sides).

"Under GA": GA stands for "general anesthesia," which means you'll be asleep during the surgery and won't feel anything.

"Target end of 5PD of esotropia": PD stands for prism diopters, a unit of measurement used to describe the angle of eye deviation. The goal of the surgery is to leave a very slight amount of esotropia, which is when the eyes turn inward. Having a small amount of esotropia (5PD) remaining might be beneficial for certain reasons, such as providing comfortable binocular vision. Your doctor has determined that this specific amount is the target for the best surgical outcome for your situation.

In summary, your doctor is planning to perform a surgery on both of your eyes to correct them turning too much inward. The surgery will be done while you're asleep, and the aim is to adjust the position of your eyes so that they'll only turn slightly inward after the procedure. This slight inward turn is measured as 5PD and is considered a desired outcome to help your eyes work together better.

So, what's coming next?

- **We will see an explosion in specialist digital clinical solutions becoming available in the next 5 years.**
- **Simultaneously, consumer technology will grow in capability, and even outperform gold-standard clinical practice.**
- **The critical aspect will be the “service” that surrounds our use of technologies. They won’t fit neatly in traditional models of care, so we need service as well as technological innovation.**