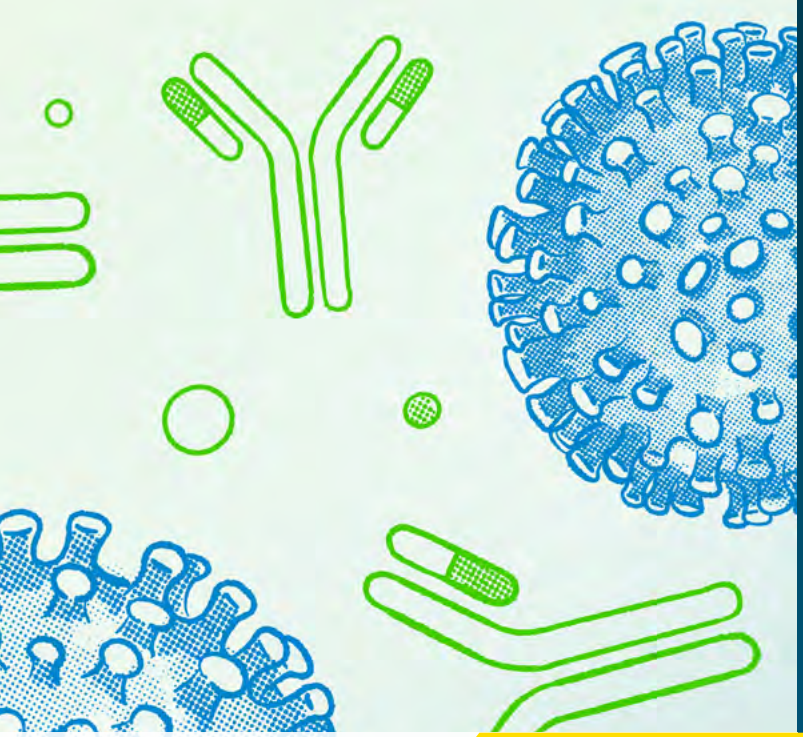
Insight

The official membership magazine of Glaucoma UK

WINTER 2025

Harnessing the power of the immune system: can an antibody help against glaucoma? Page 28

Glaucoma UK



Contents

Welcome 3
News 4
Talking glaucoma 14
Research 22
Your view 36
Supporter news 42
Supporting you 56

Cover story:

Harnessing the power of the immune system: can an antibody help against glaucoma?

page 28

Glaucoma UK
Woodcote House,
15 Highpoint Business Village
Henwood, Ashford, Kent TN24 8DH

Glaucoma helpline: 01233 648 170
General enquiries: 01233 648 164
Email: info@glaucoma.uk
Website: www.glaucoma.uk

Glaucoma UK is the operating name of the International Glaucoma Association, a charity registered in England & Wales No. 274681, in Scotland No. SC041550

Rachel Nunn, Head of Communications

Welcome

As we welcome the new year, we bid farewell to a momentous one—the 50th anniversary of our charity. A heartfelt thank you to everyone who participated in last year's activities, whether by proudly wearing your pin badge, introducing a friend or family member to the charity, taking on a fundraising challenge, or supporting in other ways.

You are all incredible, and we're pleased to share some of the highlights from the year on page 44.

Although there was much to celebrate last year, we were deeply saddened by the loss of an important figure at the charity, our Patron Dame Maggie Smith, who had been with us since 2012. Our thoughts are with Dame Maggie's family and friends as we move into the new year without her.

Thank you to everyone who responded to my call for ideas and submissions for Insight magazine. We have been busy planning the content for the year ahead and are excited to include many new topics you have requested. If you have more suggestions, please do get in touch by emailing insight@glaucoma.uk or calling us.

On a personal note, I'm delighted to share that this magazine reaches you just a few weeks before I hope to welcome a baby into my family. As a result, I will be taking temporary leave from the charity and will not oversee the production of the next few editions. However, I'm thrilled to say that my brilliant colleagues will take turns in the editor role, ensuring a dynamic and exciting year ahead. I look forward to receiving the magazine at home, just like you.

Finally, all that remains to say is a very happy New Year from all of us. We hope this year brings you joy and good health. If you face any challenges with your glaucoma, please remember that we are here to support you in any way we can.

News

In remembrance of Dame Maggie Smith, Patron of Glaucoma UK

Rachel Nunn, Head of Communications

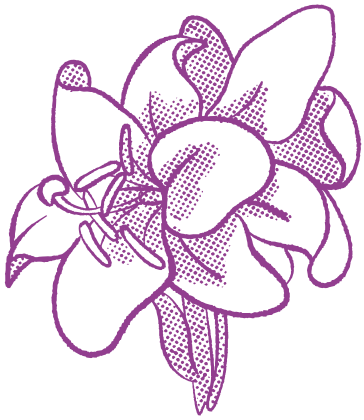
We are deeply saddened to hear of the passing of Dame Maggie Smith, a beloved icon of stage and screen, and patron of Glaucoma UK.

Dame Maggie became patron of our charity in 2012, when we were known as the International Glaucoma Association (IGA). Her patronage marked a significant moment in our charity's history. At the time, our then Chief Executive, David Wright, expressed his gratitude, saying, "I'm enormously grateful to Dame Maggie for agreeing to be our patron. Glaucoma is so important and so often overlooked, and the value that someone of her standing can bring to the IGA is incalculable."

Throughout her time with us, Dame Maggie was an advocate for our cause. Only recently, she helped us mark our 50th anniversary, expressing her gratitude to our supporters with a special message: "To all those of you who have supported Glaucoma UK, you have helped the charity to touch lives and fund research. I send you our heartfelt thanks."

Reflecting on her loss, our Chief Executive, Joanne Creighton, shared, "It is with great sadness that we have heard of the death of our patron, Dame Maggie Smith. We are indebted to Dame Maggie for her patronage of our work to raise awareness of glaucoma and support those living with the disease. We are also grateful for the great joy she brought to audiences old and young through her extraordinary performances on stage and screen. The thoughts of us all at Glaucoma UK are with Dame Maggie's family and friends at this very sad time."

Dame Maggie's legacy will live on through the countless lives she touched, both through her brilliant artistic contributions and her dedication to important causes like ours. She will be deeply missed.



> **Dame Maggie's legacy will live on** through the countless lives she touched, both through her brilliant artistic contributions and her dedication to important causes like ours

Save the date for our 47th Annual Lectures and AGM

Richenda Kew, Executive PA

We are delighted to invite you all to our charity's 47th Annual General Meeting (AGM) and Annual Lectures, which will be held on Thursday 13 March 2025 at the Coin Street Neighbourhood Centre in London. For those not able to attend in person, the event will also be available online via Zoom.

Although we will be hosting this event once again at Coin Street, we will be gathering in the lower suite instead of the top floor. Taking your feedback into consideration, we are going to try out this alternative suite within the building, and we are hopeful that it will prove to be more conducive to everyone's needs.

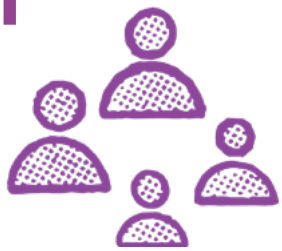
Our AGM will begin at 1.00pm followed by the annual lectures at 2.00pm. We are delighted that Professor David (Ted) Garway-Heath, the Glaucoma UK Professor of Glaucoma and Allied Studies at UCL, will be joining us once again to give an update on his research. We are also very excited to announce that the recipient of our 50th anniversary Pitts Crick Research Fellowship will be invited to tell us all about their three-year glaucoma research project. So do come along and be among the first to meet them.

Following the Annual Lectures, there will be an opportunity to ask any questions you may have, relating to either the speaker presentations or the work of Glaucoma UK. We plan to end, as always, with a drinks reception and the chance for you to meet others living with glaucoma or share your thoughts and experiences with us.

The event is open to all and free to attend but booking is essential, so please call us on 01233 648 164, Monday – Friday, 9.00am – 5.00pm or email me at r.kew@glaucoma.uk to book your place and for more information. Guests are welcome to bring companions and guides.

We are looking forward to seeing familiar faces and welcoming new friends as we gather to celebrate the past, present, and future of Glaucoma UK.

> The event is open to all and free to attend but **booking is essential**



Venue Information

Coin Street Neighbourhood Centre
108 Stamford Street, Lambeth, London, SE1 9NH

Travel Information

Given the central location and potential traffic, we recommend using public transport to reach the event, where possible.

Rail

The nearest Railway Stations are Waterloo and Waterloo East, both approximately 450 metres from the Coin Street Neighbourhood Centre. These stations are linked, providing step-free access throughout, though please be aware of steep ramps at Waterloo East.

Underground

The nearest underground station is Waterloo, servicing the Bakerloo, Jubilee, Northern, and Waterloo and City Lines, all within a convenient 550 metres from the Coin Street Neighbourhood Centre. Note that only the Jubilee Line offers step-free access.

Car

If you're driving, keep in mind that the Coin Street Neighbourhood Centre is within the Congestion Zone on Stamford Street (A3200). There's a public car park underneath the Centre with direct access and a lift to street level.

Roclanda: the first new class of glaucoma eye drop in nearly 30 years

Conchita Landa-Font, Training and Engagement Officer, and **Professor Anthony Khawaja**, Honorary Consultant Ophthalmic Surgeon and Professor of Ophthalmology

> “Roclanda **works in a different way** to other eye drops for glaucoma

In October 2024, something happened in the UK which had never happened before. The National Institute of Health and Care Excellence (NICE), which approves medicines for use in the NHS in England and Wales, published their approval for a new type of glaucoma drop. The last time a new class of eye drop for glaucoma was introduced was around 1996, pre-dating the formation of NICE.

The new drop is called Roclanda, and it contains a new type of drop called netarsudil. It also contains latanoprost, which many of you may be familiar with. Netarsudil is from a family of drugs called Rho-kinase inhibitors. They work by improving the flow of fluid out of the eye. Roclanda is made by the pharmaceutical company Santen.

Who is Roclanda for?

You may be prescribed Roclanda if all of the following apply:

- You have open angle glaucoma or ocular hypertension;
- Other eye drops, in particular prostaglandin analogues such as latanoprost, haven't reduced your eye pressure enough;
- Other combination drops haven't worked well enough;
- You can't use a combination drop containing a beta-blocker.

What are the potential advantages of Roclanda?

Roclanda works in a different way to other eye drops for glaucoma. It improves outflow of fluid through the trabecular meshwork, the main drainage channels out of the eye. Other eye drops work by reducing production of fluid or improving drainage through other routes. Therefore, Roclanda might work well for people who have tried other eye drops unsuccessfully, or who need treatment to lower their eye pressure further.

Roclanda also only needs to be used once a day. This makes it easier for people to manage their eye drops successfully – it's easier to remember to take one eye drop once a day, than to take different eye drops at different times.

What are the possible disadvantages of Roclanda?

As with all treatments, Roclanda comes with the risk of some side effects. The most common side effect is a painless red eye. People using Roclanda may also see faint lines appear in their cornea, called corneal verticillata. As with all eye drops, some itching and discomfort is possible. As the drop also contains latanoprost, the common side effects of prostaglandin analogues such as a darkening of the iris, and longer and thicker eye lashes, are possible.

Is this the solution we've all been waiting for?

At Glaucoma UK, our vision is an end to preventable sight loss from glaucoma. A new type of effective treatment is always a good thing, especially a low-risk eye drop that only needs to be taken once a day. That gives patients more choice and makes it more likely that people will find a treatment that works for them. As more people start to use Roclanda, in the UK and elsewhere, our understanding of who benefits will improve further.

It's unlikely to be the silver bullet, but it's always helpful to have more tools in our armoury in the fight against glaucoma.

If you have any questions about your eye drops or would like more information about Roclanda, please contact our helpline by emailing **helpline@glaucoma.uk** or calling **01233 648 170**.

Glaucoma UK's annual Ramadan campaign: What it is and why we do it

Rachel Nunn,
Head of Communications

Each year during Ramadan, Glaucoma UK runs an information campaign aimed at providing eye health guidance to the Muslim community observing this holy month. Ramadan is a time of reflection, fasting and spiritual connection for millions of Muslims, and Glaucoma UK's campaign seeks to ensure that individuals with glaucoma are supported in safely managing their glaucoma medication during fasting periods.

What is the Ramadan information campaign?

The campaign is designed to inform and support glaucoma patients who may have concerns about adhering to their treatment plans while fasting. As many of you will be aware, glaucoma often requires consistent medication administration in the form of eye drops. During Ramadan, many people with glaucoma may have questions about whether their medication could break their fast or how to adjust their routines to maintain both spiritual and physical health.

Through community engagement, accessible resources and collaboration with healthcare professionals, the Ramadan information campaign provides culturally sensitive advice tailored to the unique needs of Muslim glaucoma patients. The campaign offers guidance on topics like the permissibility of eye drops while fasting, best practices for medication scheduling and strategies to protect eye health throughout Ramadan.

Why we do it

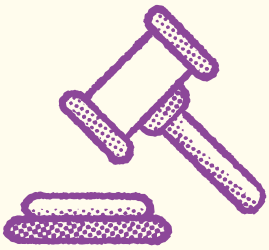
The campaign reflects Glaucoma UK's commitment to inclusive healthcare support. By providing clear and accessible guidance, the campaign empowers individuals to make informed decisions that observe their religious commitments without compromising their health. Ultimately, this initiative aims to prevent avoidable vision loss in the Muslim community, fostering awareness that protects vision and enables a healthy observance of Ramadan.

> The campaign reflects Glaucoma UK's commitment to **inclusive healthcare support**

For more information about this campaign and resources, please visit our website: **glaucoma.uk/ramadan**

Deafblindness in Scotland: a journey towards recognition

Lisa Lee, Training and Engagement Officer



More than 30,000 people are thought to live with deafblindness in Scotland, and this number is set to rise as the population ages. However, unlike other parts of the UK and many European countries, Scotland does not currently recognise deafblindness as a distinct disability and therefore the specialist support that is required for people with this condition is not available. This year, some important progress has been made to change this.

Deafblindness is diagnosed when a person has both vision and a hearing impairment. Often when people have either sight loss or hearing loss, the other sense can compensate. This is not the case for people who are deafblind. All deafblind people experience life differently. They may each communicate, receive information and navigate the world differently from one another. How a person lives can be affected by many factors, including:

- The severity of their deafblindness
- Their age when they become deafblind
- Any other health or social needs they have.

> A crucial step in recognising, diagnosing and supporting deafblindness is **a legal definition**

A crucial step in recognising, diagnosing and supporting deafblindness is a legal definition. There is currently no legal definition of deafblindness in Scotland. The World Health Organisation (WHO), uses the Nordic definition of deafblindness which states:

"Deafblindness is a combined vision and hearing impairment of such severity that it is hard for the impaired senses to compensate for each other. Thus, deafblindness is a distinct disability. To varying degrees, deafblindness limits activities and restricts full participation in society. It affects social life, communication, access to information, orientation, and the ability to move around freely and safely. To help compensate for the combined vision and hearing

impairment, the tactile sense becomes especially important."

Scottish charity, Deafblind Scotland has worked with partners to create a Declaration. This calls for the formal adoption of the Nordic definition of deafblindness. It also calls for the human rights of deafblind people to be protected, through six specific commitments.

They are:

- Inclusive education (making sure that all deafblind people have access to high quality, accessible education).
- Access to information and communication (making sure that deafblind people have access to information they want and need in a way that is accessible to them, and that they are able to respond).
- Support services, habilitation and rehabilitation (making sure that all deafblind people have access to the help, support and equipment needed to allow them to achieve their full potential).
- Participation in decision making (making sure that all deafblind people are part of decisions that affect their lives).
- Public awareness and advocacy (raising awareness of deafblindness to try and overcome any stigma and encourage inclusivity).
- Partnerships and collaboration (professional organisations committing to work together in the best interests of deafblind people). On 5 August 2024, Deafblind CEO Isabella Goldie and Annabelle Ewing MSP met with the Minister of Mental Health, Wellbeing and Sport, Maree Todd MSP. As a result, the Minister has expressed her interest in supporting the deafblind community by adopting the Nordic definition of deafblindness. She is looking at how existing guidance in England and Wales could be rolled out across Scotland nationally.

The progress is a positive step for deafblind people in Scotland. Deafblind Scotland have suggested these next steps to the government. They aim to to create greater equality for deafblind people in Scotland:

- Adopt the Nordic definition of deafblindness.
- Work with deafblind people to develop specific pathways for assessment, identification and intervention.
- Develop training around deafblindness and make sure assessment is carried out by specially trained staff.
- Create a centralised system of notification for deafblind people.

If you would like to find out more, you can visit the Deafblind Scotland website:

dbscotland.org.uk/defining-deafblindness

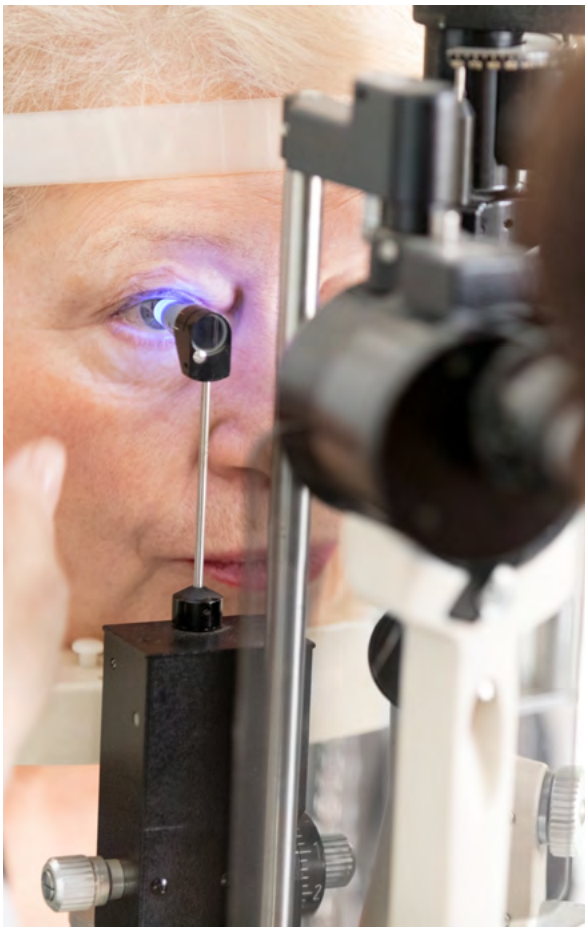
Talking glaucoma

Member requested article

What do mercury and sound have to do with glaucoma?

Liz Ball, Health Information Manager

Eye pressure and visual field tests are the most common ways to check how glaucoma is developing and how well treatment is working. But the results can be mystifying, not least because they use strange units: millimetres of mercury and decibels.



What's mercury got to do with eye pressure?

One of the most important measurements for people with glaucoma is eye pressure. Keep that under control and you can probably protect your vision.

The engineers among you, or those who remember their school physics lessons, might remember that pressure is normally measured in pascals. But your eye pressure results are always given in a weird unit: mmHg, or millimetres of mercury. Why?

This apparently strange unit dates back to the 17th century when the Italian physicist Torricelli invented the mercury barometer to measure the pressure of the air. His barometer consisted of a long vertical tube, closed at the top, containing mercury. The bottom of the tube was open, resting in a reservoir for the mercury. Torricelli realised that the mercury didn't all run out of the tube because its weight was balanced by the air pressure pushing down on the reservoir. He found that air pressure could hold up a column of mercury about 760 mm tall. The exact height rose and fell when the air pressure changed with the weather.

Mercury was ideal because of its unique properties. It's a very dense, heavy metal that is liquid at room temperature and with its silvery colour is easy to see in a glass tube. When Torricelli tried to do the same thing with water, his tube had to be 11 metres long, so it wasn't very practical!

> “Eye pressure results are always given in a weird unit: mmHg, or **millimetres of mercury**

Unfortunately, mercury is also toxic: people exposed to significant quantities of mercury often became mentally ill. For example, historically, hat-makers used mercury to felt the wool to make hats, hence the Mad Hatter in Alice's Adventures in Wonderland. There are now strict regulations about its use, and you'll no longer find mercury barometers on sale.

The chemical symbol for mercury is Hg. This comes from the Latin word for it: hydrargyrum, meaning liquid silver. So millimetres of mercury is written as mmHg.

> Surely decibels are used for sound? **What have they got to do with vision?**

As science has become gradually more metric and standardised, the pascal is used more than older units such as mmHg. However, we still find mmHg used in eye pressure measurements and other medical settings, such as blood pressure, probably because the numbers are more accessible (an eye pressure range of 10–21 mmHg equates to 1300–2800 pascals). It's also because changing the units to pascals would require changing all the results in patient records, papers and machine configurations over many years, for no real benefit.

What have sound levels got to do with visual field?

Another key measurement for your glaucoma is your visual field test results. As well as looking at the changing pattern of visual loss, you might see your result given in terms of how much vision loss you've experienced overall. That's presented in decibels. Surely decibels are used for sound? What have they got to do with vision?

Without delving too far into the (genuinely!) fascinating history and maths behind how things are measured, we just need to understand why decibels are useful for light and sound levels and that is all about how we perceive them. Decibels (dB) are widely used in science for describing ratios between measurements of quantities such as light and sound levels. In the case of sound, the number of decibels tells us how much louder a sound is than the faintest a human ear can detect. A motorbike is around 100 dB, while conversation is typically between 50 and 65 dB.

People can see a wide range of brightness, but our perception is non-linear. The

brighter a light is, the greater any change in brightness must be to notice the difference. A candle makes a big difference in a dark room but makes no noticeable difference outside on a sunny day. Similarly, the louder a sound, the greater any change in volume must be for us to notice it. A ticking clock can seem loud in a quiet room but unnoticeable against a jet engine.

During a visual field test, the machine is comparing the dimmest light someone can detect with the brightest light the machine can produce. We use decibels to measure this comparison. The same unit is used for vision and sound because we're measuring how we sense things. As the environment becomes louder, or brighter, we need a greater change to be able to detect that change.

While it might seem odd that eye pressure is measured in such an old unit of pressure and that visual fields are measured in the same way as sound levels, there are good, practical and pragmatic reasons for it. The important thing is that millimetres of mercury and decibels give eyecare professionals and people with glaucoma the information they need.

“The important thing is that millimetres of mercury and decibels give eyecare professionals and people with glaucoma **the information they need**

The **ups and downs** of eye pressure

Liz Ball, Health Information Manager

Everyone's eye pressure goes up and down, and this is perfectly normal. If you were to measure your eye pressure several times a day every day you'd get lots of different readings. So how much can and should we rely on one-off eye pressure test results?

Each time you blink, your eye pressure briefly rises. Adults blink an average of 14–17 times a minute. That's 14–17 little spikes in eye pressure every minute. Blinking is important: it helps spread tears. Tears help keep the surface of your eye healthy.

> Some activities **increase eye pressure** for a short time

Some activities increase eye pressure for a short time. These include yoga poses where your head is lower than your heart, playing a brass instrument or lifting weights. When you finish the activity, eye pressure comes back down within a few minutes.

In contrast, for most people exercise such as walking or jogging lowers eye pressure for a short time. Note that jogging may raise eye pressure for people with some eye conditions such as pigment dispersion syndrome.

Eye pressure is usually highest at night and early in the morning. It falls as the day goes

on. This might be because you lie down at night and are upright and active in the day.

Time of year also affects eye pressure. Eye pressure tends to be higher in winter than summer. The bigger the change in weather between summer and winter, the bigger the change in eye pressure.

Eye doctors don't fully understand why eye pressure varies by season, though some research suggests that heat and sunlight exposure may influence hormones and blood flow, affecting eye pressure.

Seasonal fluctuations in eye pressure can differ from one person to another. For example, the change may be less for people with normal tension glaucoma than for people with other kinds of primary open angle glaucoma. The difference may be greater for people using beta blocker eye drops such as timolol than for people using other kinds of eye drops. And it may be greater for people with dry eye disease. More research is needed to confirm and understand this.

How much do these ups and downs in eye pressure matter?

Our eyes are fine with changes in eye pressure within a limited range. But that range may be different for everyone. If your optic nerve is susceptible to damage, the range it can cope with may be smaller.

Short-term changes in eye pressure are less likely than long-term changes to cause damage.

Most people don't need to avoid activities that raise eye pressure for a short time. But you should check with your eyecare professional, especially if you do this kind of activity a lot.

Most people don't need to worry about changes in eye pressure in the day or between seasons. In fact, some research suggests that summer's reduction in eye pressure helps protect your optic nerve. Long, hot, sunny summers may be good for your glaucoma.

> “Most people **don't need to worry** about changes in eye pressure in the day or between seasons

Eye pressure tests tell you what your eye pressure is at one moment in time. Lots of things can affect the result: time of year, time of day, how you travelled to your appointment and so on.

That's why eyecare professionals might not worry too much about a one-off low or high eye pressure test result. If they're unsure, they might repeat the test after you've sat quietly for a few minutes. They might arrange an early follow-up appointment to check on it. Combining eye pressure test results with other measures such as visual field helps them to judge how much a change in eye pressure matters. They're most likely to be concerned if your eye pressure goes up and stays up across two or more appointments.

Eye pressure is important, but measuring it only gives a snapshot. It's good to be a little skeptical and think about the wider context.

Member requested article

Two good to be true?

Sharon Beckett, Professional Engagement Manager

We're delighted that one of our members asked about double vision and what it is following a previous edition of Insight. The medical term for double vision is diplopia.

It can be scary when something is wrong with your eyes, and that includes diplopia. Even though diplopia can be a sign of something serious, it is almost always a short-term problem. We recommend that you talk to an optician or your eye doctor if you notice changes in your vision including diplopia. They may refer you to an orthoptist, someone who specialises in the muscles around the eye.

Diplopia may make you more susceptible to falls and, in some cases, it may not be safe to drive as depth perception can be decreased.

There are two major categories that double vision normally falls into. Monocular diplopia is the most common (and usually least serious) type. This is when you have double vision even when you close or cover one of your eyes. The second is binocular diplopia, which is double vision that occurs when both of your eyes are open.

Sometimes your diplopia might also be categorised as either vertical or horizontal depending on where the extra image appears to you.

Diplopia is more common as people age, and people with some brain conditions may be more likely to have these extra images.

What is causing the diplopia?

Although diplopia usually is not a serious or life-threatening symptom, it is always important to check it out. This is because although it presents as additional images in your vision, it might have been caused by problems in your brain, spinal

cord, muscles, thyroid or nerves. Tests might include blood tests, a computed tomography (CT) or magnetic resonance imaging (MRI) scan and taking a clear history about when it occurs.

Your doctor or optometrist will want to know when the double vision started and whether you have had a head injury, fallen or passed out. You may be asked whether it is worse when you're tired and whether you tend to tilt your head to one side. You may be compensating for the extra images without realising it.

As you might expect, diplopia can also be caused by issues in your eyes. The most common is strabismus. This is where your eyes aren't properly aligned so each eye is seeing a slightly different perspective. But astigmatism (where your cornea is an irregular shape), short- or long-sightedness, cataracts and dry eye disease can also be factors. More unusual conditions such as proptosis (where the eyes are bulging) or keratoconus (where the cornea bulges into a cone shape) can also cause diplopia.

What treatments are available?

Different treatments will be appropriate depending on what is causing the diplopia. In some cases, the diplopia will be temporary and will resolve without treatment. If your double vision persists, there are treatments, and these might include:

- Prisms of increasing strength can be put into glasses, with or without prescription. Where prisms no longer correct the image, surgery may be offered.
- For children where the strabismus is identified early enough, a patch may be worn to encourage the muscles to correct the problem.
- Surgery may be offered if eye muscles have been affected through an injury.
- Medications can be used, for example to control diabetes or avoid stroke.
- Surgery or medicine can correct thyroid problems.

Should I go to Accident & Emergency (A&E)?

Although diplopia is not usually serious, there are times when it can indicate something life-threatening like stroke or brain injury. If you have had a major head injury or if you have double vision that is unexpected you should go to A&E. Other symptoms of stroke might be dizziness, slurring your speech, confusion, general muscle weakness.

Coping with diplopia

As someone who understands glaucoma, you probably already have an eye examination regularly. At those appointments, discuss any diplopia symptoms you have. If you wear glasses or contact lenses, it is important to have the right prescription. Don't wait for symptoms or eye problems to get worse before you have your eyes checked.

Glaucoma UK's helpline is on hand if you need support or information, and can be contacted via **01233 648 170** or **helpline@glaucoma.uk**

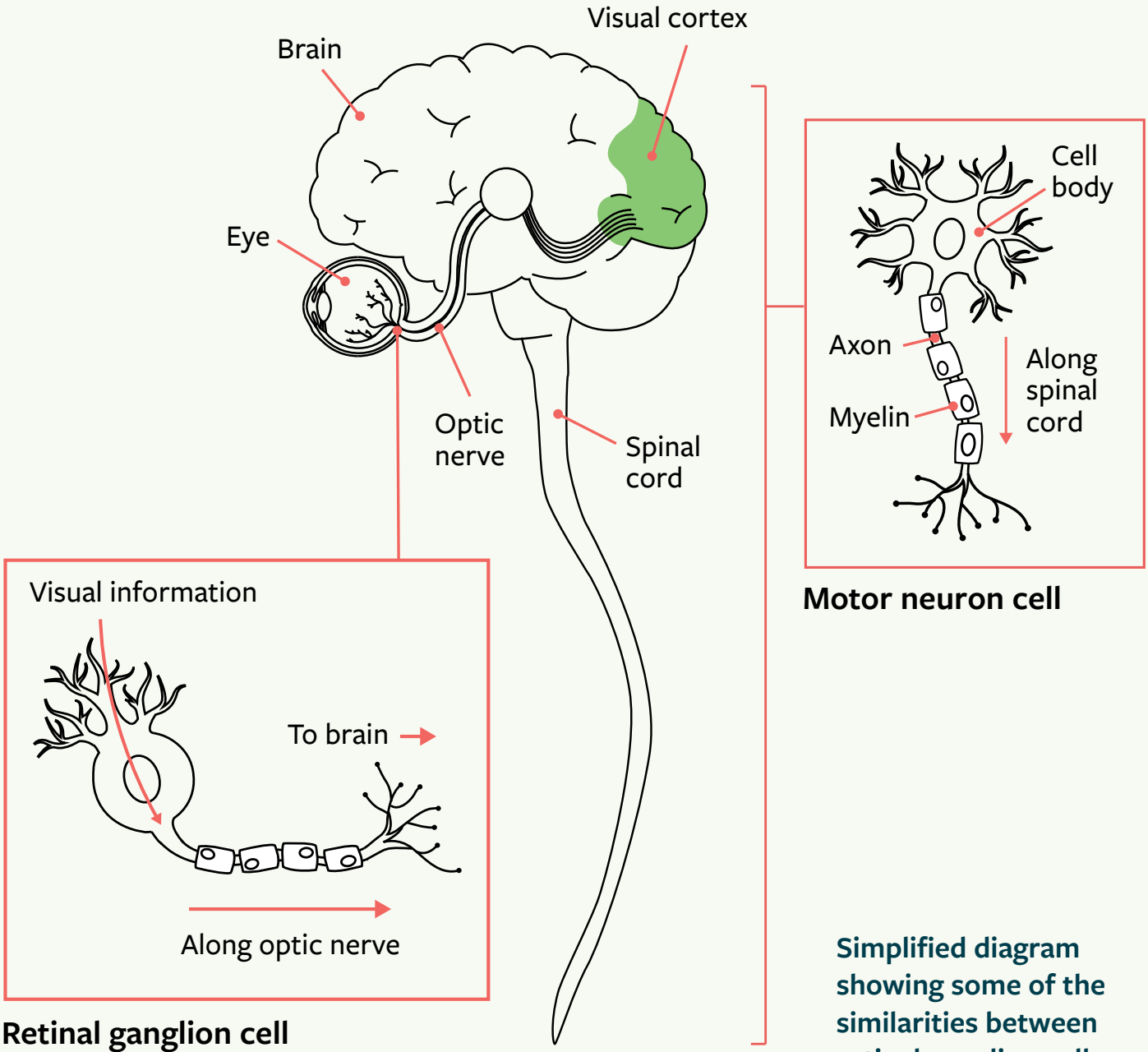
Research

It's all about the connections: the intriguing links between glaucoma and spinal cord injury research

Joanna Hodgkinson, Head of Research

On first glance, it might seem like researchers into glaucoma and spinal cord injuries would be unlikely bedfellows. However, there are significant overlaps in the two areas of research, and healthy collaborations between the fields. This is because both conditions involve damage to the nervous system, and researchers are investigating how to restore function to those damaged nerves.

> If we can **protect retinal ganglion cells,** we can prevent vision loss due to glaucoma



Simplified diagram showing some of the similarities between retinal ganglion cells and motor neuron cells

Glaucoma research: protecting the nerve cells

As many of you will know, glaucoma is a disease where the optic nerve, which sends signals from the eye to the brain, becomes damaged. Research into glaucoma is revealing many factors which might contribute to this nerve damage – mitochondrial dysfunction, inflammation and scarring are all topics of articles in this section.

Relatively recently, researchers have also started exploring neuroprotection, or protecting the nerve cells from damage. Retinal ganglion cells, which are crucial in sending the signal from the eye to the brain, are the most common target. If we can protect retinal ganglion cells, we can prevent vision loss due to glaucoma. To prevent damage, researchers need to know the mechanisms behind the damage in the first place, and what's happening within cells to cause this.

> Glaucoma and spinal cord injuries both involve **damage to nerve cells**

A bit about spinal cord injuries

The spinal cord runs up your back, sending and receiving signals between the body and the brain. If the cord is damaged, through disease or injury, those signals can't travel properly. This can lead to loss of motor control, feeling and bodily functions below the level of the damage.

When spinal cord injuries (SCI) occur, the body responds by generating inflammation in the area, and some of the cells die through a controlled process called apoptosis. These make the initial damage worse, further contributing to loss of function.

The particular cells most affected by SCI are like the retinal ganglion cells, because they're relatively long cells, which send signals to or from the brain. They share many structural similarities such as a long cell body wrapped in fatty sheaths called myelin (to support the transmission of nerve signals) and many connections to other cells. They're both cells within the central nervous system, or CNS (the brain and spinal cord). We also have the peripheral nervous system, which connects the CNS to the rest of the body (see diagram on p23).

Research into SCI is heavily focused on neuro-regeneration, which looks at repairing and restoring damage to the spinal cord cells. In lots of ways that's similar to neuroprotection, because both involve damage to nerve cells, and either undoing that damage, or stopping it in the first place.

Nerve cell renewal

One of the specific challenges with nerve cells in the CNS is that they don't regrow if they're damaged. Compare that to skin cells. If you cut yourself, your skin will regrow to cover the cut (possibly with some scar tissue). The nerve cells in your skin should recover too. Your body is also constantly replenishing the blood – in fact, all your blood cells are completely renewed every couple of months! But if a nerve cell in the CNS is damaged, neither the cell nor the surrounding tissue has the capacity to regrow that cell.

This renewal could involve special cells called stem cells. They're undifferentiated, meaning they haven't turned into a specialised cell such as a red blood cell, skin cell or neuron. SCI researchers are looking at harnessing stem cells, creating new nerve cells to replace the damaged ones. But this comes with its own set of challenges, such as how to re-create the connections the previous cell had, or how to direct its growth all the way from the site of damage to the brain. Bear in mind, the complex machinery which supported this growth when the original cell developed (for example as an embryo) no longer exists.

Shared goals

So, glaucoma and spinal cord injuries both involve damage to nerve cells. The causes and locations of the damage might differ, but the cells involved are similar. Therefore, researchers in both fields are seeking to understand how and why neural damage occurs and find similar therapies to prevent it. They want to prevent the death of nerve cells and identify substances that can protect nerve cells or make them more resilient if damaged. Teams are also looking at repairing damaged nerve cells, for example finding chemicals which can stimulate repair mechanisms or harnessing stem cells to re-grow nerve cells.

Aside from direct damage to nerve cells, there are also cellular processes happening within glaucoma and spinal cord injuries which contribute to the progression of each. For example, an unhelpful immune response can cause inflammation which further damages cells. Therefore, understanding and managing that immune response can protect cells. Similarly, mitochondrial dysfunction, which limits the cells' ability to produce energy, occurs within both glaucoma and SCI. So again, if we can improve mitochondrial function, that could have benefits for both glaucoma and SCI.

Shared learnings

Because of all these overlaps, researchers in both glaucoma and SCI often work together. They share what they've learnt, whether that's in experimental techniques, understanding of cellular mechanisms, or possible new therapies. For example, it's possible that the large-scale research looking at vitamin B3 within glaucoma care, to restore mitochondrial function and protect nerves, could have learnings for spinal cord injury researchers.

Researchers into glaucoma have an advantage over spinal cord researchers: the nerves they're looking at are directly visible within the eye. The nerves in the spinal cord are enclosed within the backbone. That means they're hard to image and monitor. Spinal cord researchers don't have access to non-invasive, widely available ophthalmology technology such as OCT to visualise damage. That means there are active collaborations between spinal cord researchers and glaucoma researchers (or others looking at the optic nerve), knowing the learnings from the optic nerve are likely to translate to spinal cord work.

The future...

The ultimate aim of treating both glaucoma and spinal cord injuries is to restore the function of damaged nerves—to regain the ability to send and receive signals between the eye or the body and the brain. Unfortunately, this goal remains some way off. We have yet to discover ways to fully restore the function of and connections between nerve cells. However, many hands make light work. By sharing knowledge, learning from one another, and working towards common goals, we hope researchers in both glaucoma and SCI fields can discover insights, techniques, and treatments faster. And who knows? Perhaps the next big breakthrough in glaucoma research could help someone walk again.

Our Future Health

We are a partner of the **UK's biggest health research programme**

Joanna Hodgkinson, Head of Research

We're delighted to announce that we're now an affiliate charity of Our Future Health, which aims to be the UK's biggest health research programme.

What is Our Future Health?

You may have heard of Our Future Health, and you may even be participating in it. It's a research programme which is designed to help everyone live longer and healthier lives. It's seeking to discover and test more effective approaches to prevention, earlier detection and treatment of diseases.

They're hoping to recruit up to five million adult volunteers across the UK, and have recently reached the incredible milestone of one million volunteers. Those volunteers provide

Images courtesy of Our Future Health

health information about themselves, including blood samples, data such as height and weight, and give permission to access their health records. The blood samples provide the researchers with information about the volunteer's genes. Researchers will be able to use this rich data set to make new discoveries about human health and diseases. For example, they could identify people at risk of developing diseases such as Alzheimer's, cancer and diabetes and then use the information to test possible new diagnostic tests or treatments.

Why is it relevant to people with glaucoma?

Our genes are an important factor in glaucoma. The data collected about participants in Our Future Health could be used by glaucoma researchers to better understand which genes cause glaucoma, and who is most at risk of developing the disease. In the future, people who are at increased risk of developing glaucoma could be told about this. This information could be used to support earlier diagnosis, for example through targeted campaigns to encourage them to get their eyes tested, or screening programmes for certain groups of people. The information could also be useful for improving treatments, for example by seeing if there are links between the success of different treatments and someone's genes. That information could be helpful for people with glaucoma, and their eye specialist, to decide on the best treatment option for them.

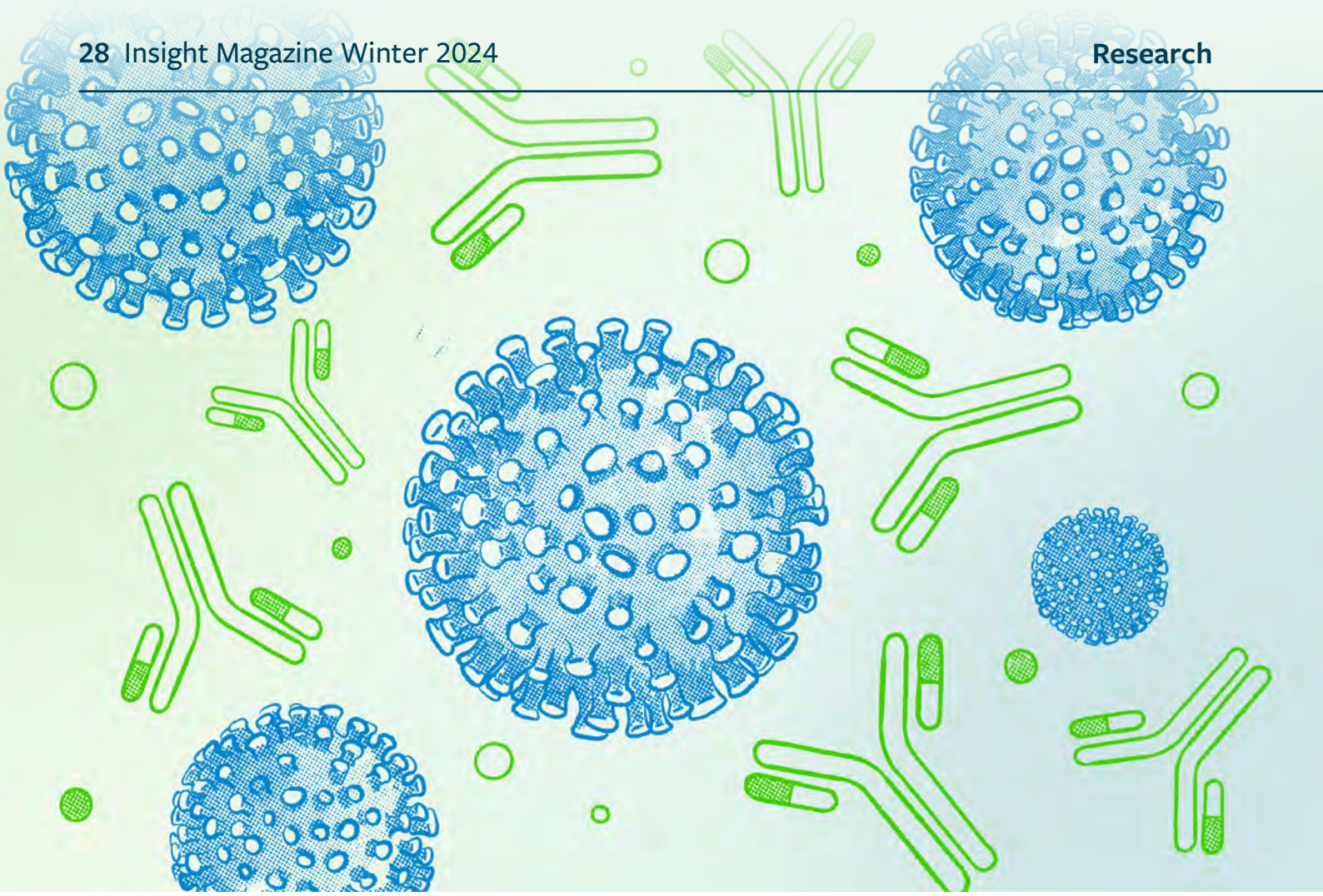
What does affiliate charity mean?

As an affiliate charity, we're now a partner of Our Future Health. We've agreed that we'll support one another, for example by sharing expertise and information, and by raising awareness of each other's research programmes where appropriate. For example, Our Future Health are doing some interesting and exciting work to ensure their volunteers are truly representative of the UK population. We hope to learn from this and their successes to help us reach the people most at risk of glaucoma sight loss.

Can I take part?

You can take part in Our Future Health if you're 18 or over and live in the UK. This includes anyone who has a medical condition or lives with a disability. You may have received something from Our Future Health already, such as a letter or email. Alternatively, you can sign up by visiting **ourfuturehealth.org.uk**. You will need to complete a questionnaire about your health and lifestyle, and then book an appointment at a nearby clinic. During the appointment you'll provide a blood sample and have some physical measurements taken. Currently, most of the clinics are in England, but they've just opened some in Scotland and Wales and they're planning the roll-out in Northern Ireland. If there's not a clinic near you yet, you can still complete the lifestyle questionnaire, and you will be notified when an appointment near you becomes available.

For more information or to take part, visit the website:
ourfuturehealth.org.uk



Harnessing the power of the immune system: can an antibody help against glaucoma?

Joanna Hodgkinson, Head of Research

We were thrilled to award two projects under our joint award with the Royal College of Ophthalmologists this year. One of the recipients was Dr Victoria McGilligan at the University of Ulster. Her project, which will receive £99,918 from Glaucoma UK, is titled "A novel bispecific antibody therapy targeting the NLRP3 inflammasome for glaucoma." Our Head of Research, Joanna Hodgkinson, spoke to Vicky to learn more.

> Depending on how the research pans out, **the new therapy might prevent glaucoma from developing, or stop progression**

Can you explain briefly what your project is about?

We're interested in finding a new therapy for glaucoma. Depending on how the research pans out, the new therapy might prevent glaucoma from developing, or stop progression. We're testing an antibody called InflaMab. Antibodies are made naturally by our immune system to help fight against foreign bodies such as bacteria or viruses which might cause disease. But we can also use them as really specialised drugs. We can make them outside of our bodies in the lab, to target a particular molecule which we think is causing a disease.

In this particular project we're targeting inflammation in the eye. We know that inflammation in the retina (the back of the eye) is significant in glaucoma. We want to try to dampen that inflammation by using our new antibody. The first step is to grow specialised cells associated with glaucoma in the lab and expose them to inflammation. We will then apply the antibody and see whether the antibody can inhibit the inflammation.

If that's successful, we'll then move into testing on rats. That's obviously more similar to human eyes. We want to see if the antibody can inhibit the inflammation in rats' eyes. We're hoping to prevent the death of the retinal ganglion cells (RGCs), which are involved in sending the signal from the eye along the optic nerve to the brain. If we can preserve the RGCs, in theory, we can protect the vision of people with glaucoma.

What difference are you hoping it might make to our members and people with glaucoma?

There's a long process involved in developing a new drug. It's often described as technological readiness level, and it goes from zero to eight. This funding has been really amazing, because it will probably get us from a four or five (validating the technology in a lab or environment) to six or seven (demonstrating the technology and developing a prototype).

We're hoping that ultimately we might be able to develop a new treatment, that works in a different way to just lowering pressure in the eye. We know that inflammation in the eye is associated with raised eye pressure, although we don't know what's causing what. Either way, though, we know we need to address the inflammation to protect vision, because there's some evidence that inflammation begins in the optic nerve before the loss of the retinal ganglion cells.

When might we expect to see some of your results?

We're hoping to start our project in January. After eight weeks, we would hope to have the first set of results, confirming that the antibody can inhibit inflammation in cells in a lab. If all goes well, at the end of the 18-month project, we will have evidence that the antibody inhibits inflammation in the retina of rats' eyes.

What would be next steps for the research, if all goes well?

Then we would start investigating other issues, such as toxicology and safety studies, probably in other rodent models. We also need to be sure we can scale up the manufacturing and make enough of the drug. If we can't make enough of it, we haven't got a viable product. If all that works, we'd start looking at clinical trials, starting with whether it's safe for humans. There are still a lot of steps to go before we might have a new treatment for glaucoma, or even before we test it in patients.

Can you tell us how you came into glaucoma research, and a bit about you?

I'm an immunologist. I started working as a research associate at Ulster University in 2012, looking at dry eye and herpes simplex keratitis. I was offered the opportunity to do a research sabbatical at the Schepens Eye Research Institute in Boston in the USA. So I spent a year there working with experts in glaucoma. That's when I learned about the importance of this target we are trying to inhibit. We at that time were the first to identify it in the conjunctiva of the eye and have recently identified it in the retina and optic nerve head in human eyes, which is more relevant to glaucoma.

When I came back to the UK, I worked for a therapeutic antibody development company and I became really interested in antibodies. So when I got my current post at Ulster, I was interested in this knowledge about glaucoma, the substances involved in inflammation, and antibodies. So I applied for some internal funding to make an antibody for this inflammation. And the group back in Boston showed some positive results in cell culture models. And here we are.

I'm passionate about immunology and inflammation, because it controls so much in the body. It's how we get sick, and how we heal. I am very lucky to work with a great team of PhD students and postdoctoral researchers as well as brilliant world-leading collaborators. I look forward to hopefully sharing some positive findings with everyone soon.

> “I look forward to **hopefully sharing some positive findings with everyone soon**

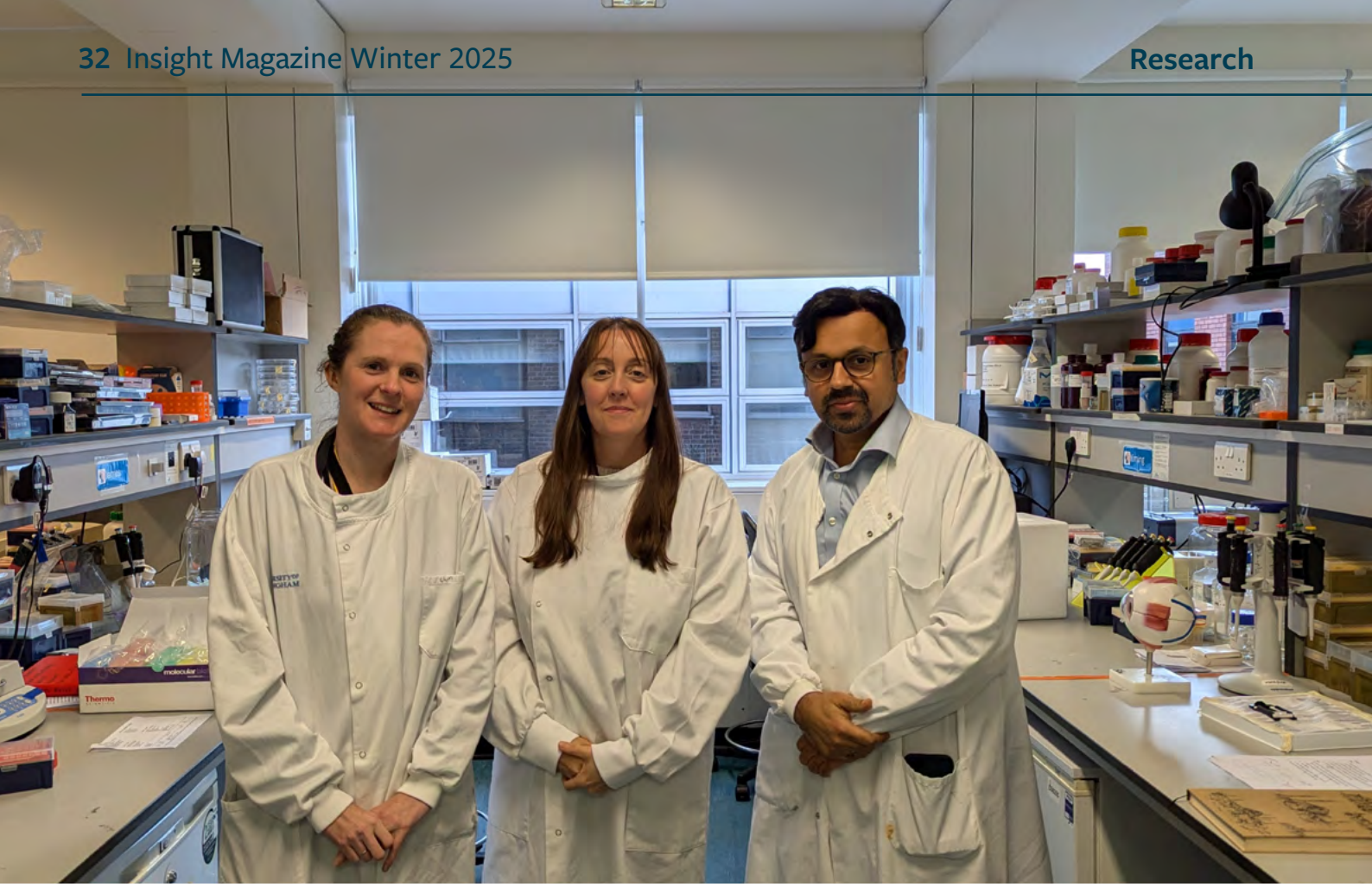
Take part in glaucoma research

Would you like to help improve glaucoma care and treatment, by participating in research?

You can see if there are projects near you, learn about the benefits of taking part in research and keep in touch with our latest work.

Visit our new-look webpage:

glaucoma.uk/take-part-in-research



Modulating the matrix: can we treat glaucoma by reducing scarring in the drainage channels of the eye?

Joanna Hodgkinson, Head of Research

The other recipient of our joint award with the Royal College of Ophthalmologists was Dr Lisa Hill from the Department of Biomedical Sciences at the University of Birmingham. We awarded just under £100,000 for her project titled Modulating the matrix: A novel eye drop therapy for primary open angle glaucoma. Our Head of Research, Joanna Hodgkinson, spoke to Lisa and her two co-applicants, Dr Hannah Botfield and Mr Imran Masood, to learn more about the project.

Can you explain briefly what your project is about?

Lisa Hill (LH): We're hoping to develop a new treatment to tackle one of the underlying causes of primary open angle glaucoma. We're developing some molecules which we hope will reduce scarring in the trabecular meshwork. The trabecular meshwork is an important part of the drainage system in the eye. There's evidence that scarring in the meshwork happens in glaucoma and stops or slows the normal drainage processes. As a result, the pressure increases, and the nerve cells get damaged.

In this project, we'll grow some cells from the meshwork in the lab and introduce some molecules which cause the cells to scar up and stop working properly. That's mimicking glaucoma. Then we'll put our new therapy onto the cells to see if it reduces scarring.

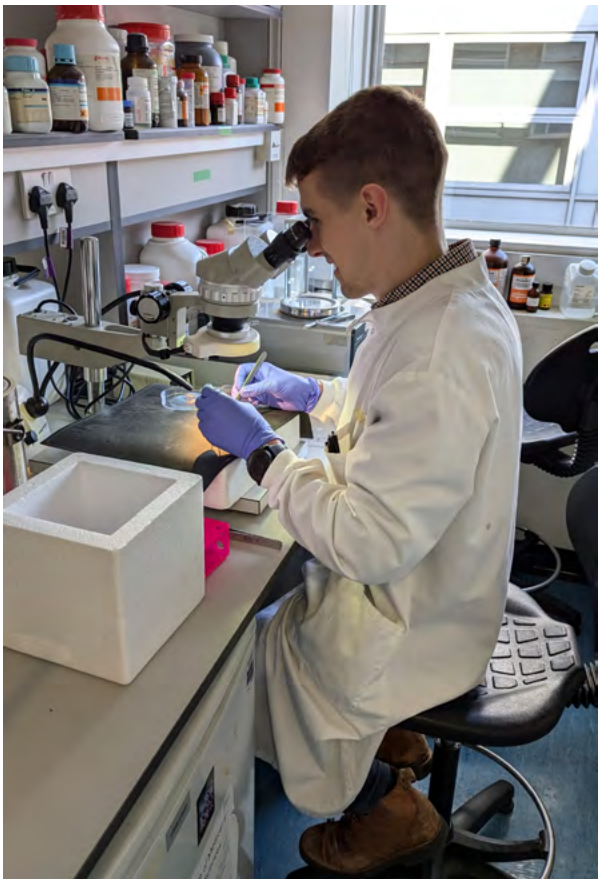
The next stage will be to use a rodent model in which rats with glaucoma are given our new therapy to see if we can treat the disease in the eye. We'll look at tissues in the front of the eye, to see if a reduction in scarring improves the drainage through the trabecular meshwork. We'll also look at whether the pressure inside the eye is reduced, and finally, we will investigate if our treatments can protect the nerve cells in the retina from dying.

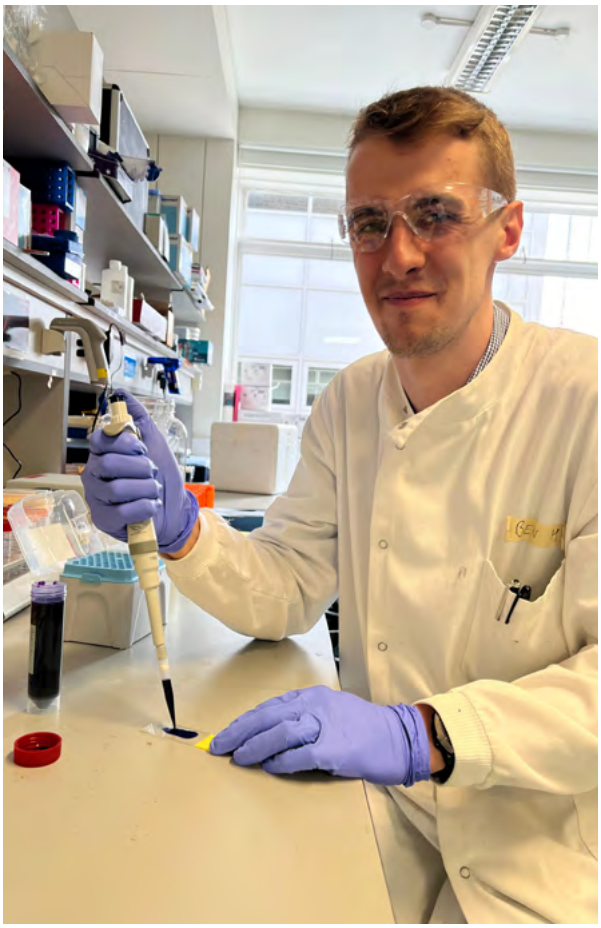
Most treatments for glaucoma lower the eye pressure, but they don't really treat the root cause. This project is targeting the processes which are leading to glaucoma developing in the first place.

What difference are you hoping it might make to our members and glaucoma patients?

Imran Masood (IM): Glaucoma is a lifelong condition, so when someone is diagnosed with

> “We're hoping to **develop a new treatment** to tackle one of the underlying causes of primary open angle glaucoma





All photos in this article courtesy of Lisa Hill

the disease, they have a lifetime of treatments ahead of them, whether that's eye drops, laser or surgeries. As Lisa said, the current treatments lower eye pressure but don't treat the underlying issue causing glaucoma. Most of the current eye drops either reduce production of fluid or divert the drainage through an alternative route. It's possible both mechanisms are unhealthy for the eye long-term. In addition, eye drops affect the front surface of the eye. So, we have patients with a symptomless condition, and we're giving them symptoms such as sore eyes. It's not an ideal way to treat a disease!

This new therapy might address the underlying causes of the raised eye pressure. We hope it will reduce the scarring and reverse some of the changes caused by the scarring. It may alter the natural progression of the disease, meaning people need fewer eye drops, and potentially less surgery in the future.

The trabecular meshwork should act as a little pump, pumping the fluid out of the eye in concert with the heartbeat. We think that in glaucoma, some scarring happens which increases the stiffness of the meshwork. If the meshwork becomes stiffer, it can't pump effectively, so the pressure inside the eye increases and the optic nerve is damaged. We hope our new therapy will stop that scarring and return the meshwork to a healthy state.

When might we expect to see some of your results?

Hannah Botfield (HB): We're hoping the first stage of the project, looking at cell samples, will take around six months. We'll be seeing how the therapy gets into the eye and where it goes. Then we'll test it in our animal models, where we see how the therapy travels through the eye. We'll find out whether it improves drainage, lowers eye pressure and protects

the nerves. That will take around 12-18 months. We hope to present the data to patient groups and at conferences, as well as publishing it.

What would be next steps for the research, if all goes well?

LH: This is a pilot grant for us to test our new treatment. The next steps would need a larger grant, probably government funding from UK Research and Innovation. There are certain steps we need to go through to test formulations and toxicity in other preclinical models. Then we'd work with our translational teams to help with commercialisation before we can get to clinical trials.

IM: When we move onto clinical trials, first we'll test our treatment in healthy people to check there aren't any adverse effects. Then we'll see if there is a therapeutic benefit in people with early glaucoma or ocular hypertension, to see whether the pressure in the eye is lowered. The whole process would take at least 10 years before a new treatment might be available for patients, and even then, we'd keep investigating it, so we understand more about how it works and who benefits.

LH: There are a lot of benefits from this initial project funding from the Royal College of Ophthalmologists/Glaucoma UK. For example, we'll be employing a post-doctoral researcher, so we're developing new research talent, we'll be able to file patent applications, which will help us get more funding and get industry involved. Even though it's a small grant, there are a lot of opportunities and impacts from it.

Can you tell us how you came into glaucoma research, and a bit about you?

LH: My PhD was looking at trabecular meshwork dysfunction in glaucoma. I thought it was amazing that this little bit of tissue in the front of the eye had such an important function. My lab was good at translational research, making sure findings could be applied and used in the real world. We created some preclinical models for studying the trabecular meshwork, but I wanted to work with human tissues and understand the human impact, and that's how Imran and I started working together. I was shocked to learn there were no treatments to address this underlying issue with glaucoma.

HB: Lisa and I worked together on our PhD – I was looking at fluid dynamics in the brain. We found similarities between the brain and the eye, and the anti-scarring therapies were similar.

IM: Throughout my medical training I was always interested in science and worked in labs whenever I could. When I started working in Birmingham as a consultant, I met Lisa and we started working together. I've just started my PhD, even though I'm about halfway through my career as a glaucoma consultant. This work has driven me to do some formal research, to gain more credibility as an academic. We're bringing together our expertise – me as a surgeon operating on the outflow pathways and Lisa as a scientist studying them. It's a partnership that's greater than the sum of its parts.

LH: I think it's really important that we engage with patients, that they know what we're doing and we hear their voice. Whatever we make must be useful for them. If people want to get in touch with me to support our research, I'd be delighted – my email address is **l.j.hill@bham.ac.uk**.

Your view

Sonia Booth,
Glaucoma UK member

> Being in the garden or stomping off for a walk has always been **my way of managing stress**

Photos courtesy of Sonia Booth

Sonia's story: my garden (rescue) and me

Having lived with stable, well-managed glaucoma since my mid-20s, I just got on with life. That thought was always there in the back of my mind though: "What happens if the drops stop working?"

Rationally I knew that with regular checks and daily drops the chances are that it would be fine for many years to come, and I was right. Skip forward 20 plus years and all was well. I had an active lifestyle in the outdoors and always enjoyed gardening; an interest that developed in my teens. Little did I know then just how important my garden would become.

During lockdown, I was so thankful for my garden. When I moved to Shaftesbury in 2008, it was a sad patch of grass and concrete pavers. That winter, I got so depressed because I had left a lovely cottage garden in my previous house. In 2009 my garden was made over, and I felt so much happier. I find plants calming, being in the garden or stomping off for a

The views in this section of the magazine are those of the author(s) and do not necessarily reflect the views of Glaucoma UK. If you have been affected by any of the issues discussed, please call the helpline on **01233 648 170** or send an email to **helpline@glaucoma.uk** for support and advice.

walk has always been my way of managing stress.

Then, on the morning of 6 July 2021, I received a phone call from my glaucoma consultant that changed my life forever. My virtual clinic results from the previous week showed a catastrophic change to the optic nerve which was now very thin, and I must inform the DVLA.

In 2017, I was diagnosed with Sjogren's Syndrome, which destroyed my tear ducts by late 2019. This led to ongoing eye infections that had to be managed remotely during lockdown. It's possible that Sjogren's caused these issues, or it just happened as I have had glaucoma for over 20 years—we shall never know.

After I had filed that DVLA form it really hit home and I just fell apart. I didn't know what to do. Here I was at 52, working for myself, very independent and living on my own in a rural town. In December 2019, I had full visual fields and stable glaucoma. A year and a half later, I have advanced glaucoma and am facing the prospect of not being able to drive on top of everything else.

For weeks I could not function. I just sat in the garden, not reading or playing with my phone, just sitting and staring. It was the only place I felt vaguely calm. I had Selective Laser Trabeculoplasty (SLT) that summer, but it did not work and in November 2021, I was referred to Moorfields Eye Hospital.

Given the complicated and advanced nature of my glaucoma with Sjogren's and the need to be able to wear scleral lenses for pain and keratitis management, a Paul Glaucoma Implant was proposed.

After the surgery in March 2022, I was more or less grounded and, as a result, I was in the garden a lot, pottering about. I was getting so frustrated at the loss of depth perception. Unable to see contrast and not seeing things until I hit them or tripped over them made garden tasks more difficult and time-consuming. This extended to all aspects of my life.

I knew I had to adapt the garden to make it easier for me to maintain. Before my Moorfields referral, I had got quotes from local contractors to do some work but decided to postpone. I was not robust enough to try and manage garden contractors as well as my business and my recovery.

During that summer I had come in from the garden, popped the TV on to watch something and it was a Garden Rescue repeat. That sowed the seed; I wonder if they are still making it after the lockdowns? I researched BBC take part and drew a blank, so went to Facebook and clicked "follow."

In September 2022 I became registered sight impaired, and my driving licence went. Another dark cloud descended upon me and once again I retreated to my garden. Attempts to start wearing my scleral over the top of the implant was not going well and in October 2022 we started the long (and still ongoing) process of being fitted for an impression scleral at Moorfields.

One November morning I picked up my phone and saw a Facebook notification. Garden Rescue applications were open - hurrah! My application went in and in early January 2023, I got a phone call from the director, and eventually I got through the audition process all the way to the end.

The whole joyous experience is a memory to treasure forever. My garden will become more and more important as my world becomes darker, and I never imagined I would have a garden as amazing as the one I now have, future-proofed to adapt with me and my failing sight over the years.

I am for the most part a positive and determined person, but I would not be human if I did not have those days of being terrified of what the future holds and if I will be strong enough to face it. But none of us know what the future holds, do we?

All I can do is try my best to live in the now, forge a new life in my smaller world, and do as much as I can for as long as I can. One certainty I do have is that a lot of the strength I need for the daily battle with my glaucoma and Sjogren's comes from the time spent in my beautiful (Garden Rescue) garden.

> “All I can do is try my best to **live in the now**

You can watch Sonia's garden transformation on **Garden Rescue** via **BBC iPlayer**. It's featured in **Series 9, Episode 18**.

“It is nice to know that you are not alone”: Matthew’s story

When I was diagnosed with open-angle glaucoma during a routine eye test in April 2021, I didn’t think much of it. I wasn’t too concerned and didn’t fully grasp what the diagnosis meant for my future. At the time, I received very little information and wasn’t sure what to expect. My maternal grandmother had developed glaucoma in her late 90s, which entitled me to free eye tests, but I didn’t understand much about the disease.

Matthew Weale,
Glaucoma UK member

> Living with glaucoma has had a **massive impact on my life**

My glaucoma is only in my left eye, and there are no signs of glaucoma in my right eye. Although I have a family history of glaucoma, doctors suspect that mine was caused by a head injury I had when I was 12 years old. Since then, I have also experienced migraines. In the months leading up to my glaucoma diagnosis, I was admitted to hospital three times with stroke-like symptoms which were ultimately diagnosed as a type of migraine. Luckily, since starting treatment for my glaucoma and bringing my eye pressure under control, these symptoms have not returned.

The diagnosis itself was quick. In 2022, I was with the NHS for regular monitoring, but there was significant delay in being seen, which led to an emergency admission.

Although the pandemic didn’t affect my diagnosis or treatment directly, I believe the initial delays

Photos courtesy of Matthew Weale

for monitoring and treatment within the NHS certainly had an impact on my vision.

Living with glaucoma has had a massive impact on my life. I had to give up my job as a sales manager, as well as hobbies that I loved, such as performing in a party band and playing football. I was also a competent driver, covering up to 100,000 miles per year with work, but now I only drive short distances in daylight. Since my diagnosis, I've struggled with anxiety and depression. I've been on many types of treatment, including eye drops, Selective Laser Trabeculoplasty (SLT), Cyclodiode laser treatment, trabeculectomy, numerous needling procedures and a Baerveldt implant.

My message to others is that there are many different types of glaucoma, and it seems that everyone responds differently to the treatments. I feel there is still a lot to learn, and I appreciate that my case is complex. But I think it is really important to help in any way I can to advance research and understanding of this disease. I found Glaucoma UK when I was searching for a glaucoma forum. I then joined the Glaucoma UK community on HealthUnlocked, which I really like. I have since used the helpline when surgeries were getting on top of me and the advisors were reassuring. I have never used the buddy scheme, although I have volunteered for it. I think it is nice to know that you are not alone.

To spread awareness of the disease, I have set up my own YouTube channel called 'Glaucoma Pirates' with the sole purpose of sharing my story in the hope that it might help others who are going through similar experiences.

My wife and children have been extremely supportive, but they would say that I'm not the same happy-go-lucky person I was before. I have let my close relatives know about the increased risk of developing glaucoma, which worries me slightly, but I'm glad that they will get free eye tests.

To anyone who has been newly diagnosed with glaucoma, my advice is to always follow doctors' orders, attend appointments regularly and take eye drops exactly as prescribed. Even though I'm having a rough ride, I'm so grateful for the care I have received throughout.

Visit Matthew's Youtube channel at

youtube.com/@GlaucomaPirates

Supporter news

Pitts Crick Research Fellowship: where have we got to?

Joanna Hodgkinson, Head of Research

One of the most exciting parts of our 50th anniversary as a charity was launching our very first research fellowship. That's a three-year grant, awarded to a promising glaucoma researcher, to help them look into an important area of research as well as supporting their budding career.

Our members and supporters have been a huge part of this, through your incredibly generous donations. We set an ambitious fundraising target of £50,000 to support this project, and we're getting closer by the day. Thank you so much to everyone who has supported our campaign, no matter how much you have given us. We're so grateful to you all.

By the time you read this, in early 2025, we will hopefully have awarded the grant. However, due to the timelines involved in publishing Insight, I'm writing this in early November, while the applications are being reviewed. We thought you would want an update on where we are, and the next steps.

We received seven full applications, which all proposed fascinating and useful research projects. Examples include:

- Improving our understanding of the genetic risks of developing glaucoma;
- Investigating the activity of nerve cells within the retina;
- Creating advanced data models to enable personalised medicine.

We were pleased with the breadth of applications, as we had interest from doctors, optometrists and scientists from across the UK.

With the project being part of our landmark 50th anniversary celebration, it's especially important to us that the research we fund has a lasting impact on glaucoma care. Therefore, the decision-making process is rigorous and time-consuming. We're convening a panel comprising doctors, optometrists and scientists, all with experience in running significant glaucoma research projects. We also have patients represented.

Each will review the applications using a standardised form, which assesses the project on criteria such as:

- Is the proposed research addressing a significant issue in glaucoma?
- Have the researchers made a compelling case for how their research will answer the question?
- Could the research improve the lives of people with glaucoma?

We also want to ensure the researcher we fund will be a supportive and engaging ambassador for Glaucoma UK. Therefore, the last step in the process will be for shortlisted candidates to meet with Glaucoma UK staff. We want the spirit of our founder Ronald Pitts Crick to live on, with a Fellow who supports our charity and works to improve the lives of people with glaucoma.

As soon as we've confirmed the recipient of our Fellowship, and managed the contract, we will announce the news, including to our members and everyone who has supported our fundraising efforts. We also plan to invite the recipient to our AGM and annual lecture in March, so our members will be amongst the first to meet our new Fellow!

Although our 50th anniversary year is sadly over, our fundraising efforts continue, and this Fellowship will cost at least £200,000 over the next three years. If you would like to support our work, please consider donating, by visiting **www.glaucoma.uk/donate** or calling **01233 648 164**.

Thank you for all you do!

Natallie Hoare, Head of Fundraising

Looking back at 2024, our 50th anniversary year, we are truly grateful for every contribution you've made.

Whether you ran marathons, cycled the length of the country, wore a pin badge, donated to our Fellowship Appeal, bought Christmas cards, played the lottery, became a new member or renewed your membership, or something else every effort has been special.

Here's a collage of photos showcasing the incredible ways you've supported Glaucoma UK. Your dedication makes all the difference.

We're proud to have you in our community. Thank you for everything you do.


YOU'VE GOT THIS!
KEEP GOING
BEN + KATY
Glaucoma UK
Glaucoma UK
Celebrating 50 years 1974 - 2024
"I will... run to prevent glaucoma sight loss."
"I will...
50 years
Glaucoma UK
Celebrating 50 years 1974 - 2024
"I will...

An afternoon tea and a lasting legacy: The Gayler family's tribute to Glaucoma UK

Natalie Smith, Supporter and Membership Officer

At Glaucoma UK, we are deeply moved by the generosity of supporters who honour their loved ones and help raise vital funds. Recently, Erica Gayler and her family raised £230 For Glaucoma UK at a special afternoon tea in memory of Erica's late mother-in-law, Elizabeth Gayler. Elizabeth lived with glaucoma for many years, and her family has chosen to continue her legacy by supporting our mission.

Photos courtesy of Erica Gayler

This event follows an incredible collection at Elizabeth's funeral in 2023, where the Gayler family raised over £1,000 for Glaucoma UK, demonstrating their ongoing commitment to our cause. We are grateful for their dedication to helping to fund research, support for those living with glaucoma and raising awareness, knowing that their kindness will have a direct impact on those affected by glaucoma.

Erica hosted the afternoon tea to introduce Elizabeth's friends and neighbours to her granddaughter, Elsie Elizabeth Gayler, named in honour of her great-grandmother. Family and friends gathered in Erica's Garden, enjoying delicious homemade cakes as five-month-old Elsie charmed everyone with her joyful smiles. The event beautifully blended memories of Elizabeth with hope for the future, bridging generations in a way Elizabeth would have cherished.

We were pleased to hear the Gayler family were able to hold such a heart-warming event in honour of Elizabeth, and we were so grateful for the donations they raised. Their contributions could help fund research to improve glaucoma treatments, expand public knowledge about the disease or provide vital support, bringing us closer to better outcomes for those affected now and in the future.

Supporting Glaucoma UK and building awareness for the future

Inspired by the Gayler family's story, we encourage others to consider supporting Glaucoma UK in ways that honour their own families. Whether through a donation, raising awareness, or learning more about eye health and the importance of early detection, every action contributes to the fight against glaucoma. By educating future generations, we can work together to protect the sight and well-being of those we love.

We extend our sincere thanks to Erica, her family, and everyone who joined them in honouring Elizabeth's memory, as well as to all those who choose to support Glaucoma UK in memory of a loved one. Your support is vital to our mission, and we are grateful to be part of these meaningful legacies.

> The event beautifully blended memories of Elizabeth with **hope for the future**

A cause he truly believes in: running the 2025 London Marathon for Glaucoma UK

Natallie Hoare, Head of Fundraising

Dr Dan Lindfield, Consultant Ophthalmologist specialising in glaucoma surgery at the Royal Surrey County Hospital in Guildford, is gearing up to take on the 2025 London Marathon this April. But this isn't just any marathon—it's a deeply personal mission to raise £5,000 for Glaucoma UK, a charity that holds a special place in his heart.

"I'm running for a cause I truly believe in," Dr Lindfield shares. "Glaucoma UK has been an invaluable support to so many of my patients. They provide the resources, information, and guidance that can make all the difference in managing glaucoma effectively." He adds, "I always refer my patients to Glaucoma UK because they offer the time and expertise to answer the questions I sometimes can't during a busy clinic appointment. Their support is truly vital."

Glaucoma UK is incredibly grateful to consultants like Dr Lindfield, who take the time to share information about the charity with their patients. It's through the efforts of dedicated healthcare professionals that more people gain access to the support, community, and resources that are so crucial for managing glaucoma and improving lives.

Having recently completed the 2024 Berlin Marathon, Dr Lindfield is no stranger to endurance challenges. But this marathon is different. Every mile he runs will be for his patients and for the ongoing effort to raise awareness about glaucoma. "Early diagnosis and ongoing research are essential," he explains. "Together, we can help create a future where people with glaucoma can live well and maintain their quality of life, without fear of preventable sight loss."

Join Dr Lindfield in making a difference

Dr Lindfield's commitment shows the power of one person's effort to make a real difference. And you, too, are already a part of this effort! As a member of Glaucoma UK, your support is already helping to fund vital research, raise awareness, and provide essential resources for people living with glaucoma. But if you're looking for another way to get involved, why not join Dr Lindfield and many others in taking part in events across the UK and beyond?

Whether you choose to run, walk, or take on a different challenge, every step helps fund research, strengthen support networks, and provide the education needed to improve lives. Together, we can empower people with glaucoma to live confidently and make informed choices about their eye health. Every effort, big or small, helps move us closer to a world where preventable sight loss is a thing of the past. As a member of Glaucoma UK, you're already playing a vital role in this journey. And by donating, joining an event, or raising awareness, you make a world of difference for those living with glaucoma.

To learn more about how you can get involved, visit **glaucoma.uk/take-on-a-challenge-event** or call **01233 648 164**.

Let's cheer Dr Lindfield on as he prepares for the London Marathon. Every donation, every event, and every act of support contributes to a brighter future for people affected by glaucoma.

> Glaucoma UK has been an **invaluable support** to so many of my patients

You can make a donation to Dan on his JustGiving page:

justgiving.com/page/dan-lindfield-glaucoma

Strengthening our voice: your support makes a difference

Natalie Smith, Supporter & Membership Officer

We are always humbled by our many members who, together, amplify the voice of Glaucoma UK. The more members we have, the stronger and louder that voice becomes which helps us raise vital funds for research, awareness, and support. Most importantly, the more people who make use of our vital services, the greater the impact we can have. We hope that, as a member, you feel you benefit from the support you receive and the important work we do together.

We need your help to attract even more members to join our cause. You can make a difference by talking to those you know who are affected by glaucoma, sharing the benefits of Glaucoma UK membership with your consultant, eye clinic, ophthalmologist, or pharmacist, or asking them to display our specially designed poster to raise awareness. You could even display a poster on your local notice board in your neighbourhood. We'd be happy to provide you with copies of this poster, as well as back copies of Insight magazine, to share in your local community or healthcare settings.

If you'd like to request promotional materials, including the membership poster, please contact us at 01233 648 164 or membership@glaucoma.uk, or visit our website: glaucoma.uk/product/become-a-member

Thank you for helping us strengthen our voice, and we hope you continue to benefit from the support you receive as part of our community. Together we can make a lasting impact.

To order this poster from our website, scan the QR code or visit

glaucoma.uk/product/become-a-member

We want everyone in the UK to know about glaucoma

Help us reach them

Join us and make your voice heard
glaucoma.uk/become-a-member

Charity Registered in England & Wales no. 274681
and in Scotland no. SC041550

Glaucoma UK

A huge thank you for your **Christmas card orders!**

Natallie Hoare, Head of Fundraising

As I write this article in early November, we're thrilled to have already received hundreds of orders for our Christmas cards. Some designs are quickly selling out! We are truly grateful for your support and are delighted to see so many of you enjoying our festive designs. We hope you've found the perfect card to send your warm wishes this season.

Exciting January sale now on!

If you missed out on purchasing our Glaucoma UK cards and want to plan ahead for next Christmas, we're holding a January sale online for our remaining stock with cards reduced by 30-50%. The sale is available online, but if you have a favourite design in mind, feel free to call us to check if it's still available and place your order by phone.

Thank you for your generosity!

Your Christmas card purchases help us make a real impact, and we can't thank you enough for your continued support.

You can visit our Christmas card sale online at: glaucoma.uk/christmas-cards or call us at 01233 648 164 to check stock availability!

Christmas card competition extended!

Good news! We've extended the deadline for our Christmas card design competition to 31 of January 2025. We are absolutely delighted to have already received some truly amazing designs but with this Insight landing very close to the deadline we wanted to make sure everyone had the opportunity to enter. If you've been meaning to submit your design, there's still time! This competition is part of our golden jubilee celebrations, and we're excited to see all your creative ideas.

Designs can be submitted in any format, as long as they embrace the Christmas spirit. All entries will be judged on creativity, originality, relevance, and artistic quality.

Find out more about the competition and how to enter by visiting: **glaucoma.uk/christmas-card-competition**

Thank you for embracing our membership fee increase

Natalie Smith, Supporter & Membership Officer

At Glaucoma UK, we are incredibly grateful to our members who have embraced the increase in our membership fee to £22, introduced last year.

There are still a few members who pay by standing order or direct debit whom we have not yet contacted - if this applies to you, we apologise. If you pay by direct debit, we kindly ask that you get in touch by email or phone to confirm you're happy for us to update your payment to the new amount. For those of you that have a standing order we would ask for you to update by contacting your bank. Rest assured; we would never adjust your payment without your permission.

To confirm your increase to your direct debit, please contact us at 01233 648 164 or membership@glaucoma.uk including your membership number or postcode to help us locate your details easily.

Thank you! We appreciate your ongoing support.

Welcoming our new colleagues at Glaucoma UK!

Shinal Patel, Helpline Advisor

> I am looking forward to supporting Glaucoma UK's vision of **ending preventable sight loss**

I am excited to join Glaucoma UK as a Helpline Advisor. As a community-based optometrist who has worked for several different practices, I have always been passionate about helping people who have been impacted by glaucoma.

I am looking forward to supporting Glaucoma UK's vision of ending preventable sight loss and am deeply committed to using my skills and healthcare background to support the vital work of the charity. It is wonderful to be a part of this team and have access to resources to develop my own knowledge on glaucoma.

For the last 15 years I have been working as a self-employed optometrist at various independent practices across Essex and London. I have experience in diagnosing and managing a variety of common eye and vision care problems such macular diseases, diabetes and glaucoma.

Cooking is a passion of mine, as I love experimenting with different recipes. I also stay active through sports and fitness activities like hiking, pilates and yoga. Additionally, I find joy in reading and listening to music, which enrich my life in many ways. I love travelling, I have recently been to Japan and Vietnam, and met so many wonderful people on my travels.

Ameera Kaur Thind, Digital Communications Assistant

> My goal in this position is to **strengthen the awareness of eye health** and encourage everyone to prioritise regular eye tests

I am delighted to introduce myself as the new Digital Communications Assistant at Glaucoma UK. In this role, I will work to elevate our digital presence by delivering inspiring content.

I am passionate about contributing to the charity's vision to end preventable sight loss from glaucoma and excited to collaborate with the team on impactful communication strategies that will make a difference in people's lives. My goal in this position is to strengthen the awareness of eye health and encourage everyone to prioritise regular eye tests.

I achieved a bachelor's degree in Media and Communications, where my interest in advertising and digital marketing flourished. This passion led me to pursue a master's degree in Marketing at Loughborough University, deepening my knowledge in brand management and social media. My professional journey includes working with an education firm, where I transformed their social channels and developed a social media strategy. I also gained experience at an advertising agency, producing digital content and graphics for various international brands and managing their social media accounts.

In my free time, I produce DJ mixes, specialising in Indian music, particularly Bhangra and Bollywood hits. I also enjoy Bhangra dancing, attending classes to learn from talented individuals, whilst refining my technique and celebrating my Punjabi, Indian culture.

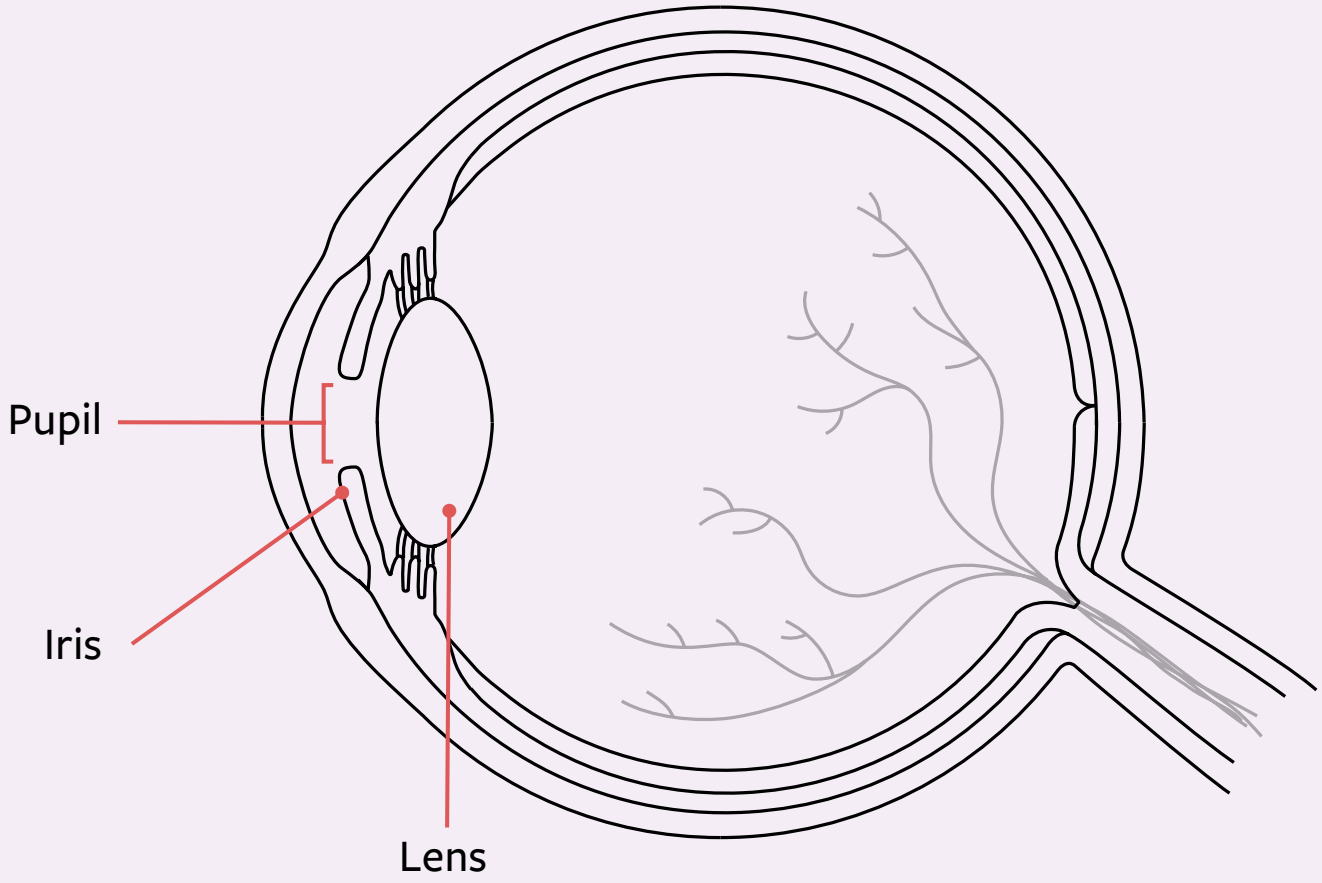
I am thrilled to be a part of Glaucoma UK and look forward to bringing fresh ideas to our communications!

Supporting you

Glaucoma and cataracts

Robyn Asprey, Development Manager (Outreach Services), and **Mr Mark Westcott,** Consultant Ophthalmic Surgeon

No sooner had I written my article in the last edition of Insight about the largest ever Digital Glaucoma Support Group (DGSG), than another one came along and broke that record! In response to many requests, we held a DGSG on cataract and glaucoma with Mr Mark Westcott. He did a great job of discussing the complicated relationship between glaucoma and cataracts. Here, we bring you the highlights from the session.



A cataract is a clouding of the natural lens. The lens is inside the eye, just behind the iris (the coloured part of the eye) and the pupil (the whole in the middle of the coloured part of the eye). With age this can get cloudy and can cause symptoms like:

- Blurred vision
- Dulling the vision
- Glare
- Shadows in the vision
- Colours losing definition
- Glasses prescription changing lots

Cataracts are usually removed by surgery where the cloudy natural lens is taken out, and an artificial lens is put in to replace it. It usually takes about half an hour and is done under local anesthetic.

> A cataract is a **clouding of the natural lens**

Cataracts are very common. The chance of developing cataract goes up steadily with age, and we also know that the risk of developing glaucoma gets higher as people get older, so it is not surprising that many people are living with both eye conditions.

There appears to be some evidence that those on long-term glaucoma eye drops may have an increased risk of developing cataract and needing cataract surgery. It may be because glaucoma drops can

> **There can be challenges** for people with glaucoma if they develop cataracts. However, **there can also be benefits** from having cataract surgery for your glaucoma

cause very low-grade inflammation which affects the lens and speeds up cataract formation.

One challenge that some people with glaucoma face is the impact of cataract surgery on previous glaucoma surgery. If you have had trabeculectomy, there is a chance of your glaucoma surgery failing. There is about a 25-30% chance of the trabeculectomy stopping working. During a trabeculectomy, the surgeon creates a bleb. A bleb is a small blister under the surface of the eye into which fluid drains with the aim of reducing the eye pressure. When cataract surgery is done, there is a risk of scarring to the bleb which can reduce its effectiveness. A tube operation may be more likely to continue to work well after cataract surgery than a trabeculectomy but there isn't a great deal of data on it.

For other people, however, cataract surgery can be used as a treatment for glaucoma. For people who have Primary Open Angle Glaucoma (POAG), research has shown that cataract surgery alone can bring the eye pressure down. There are a lot of research studies looking at this, and different studies show different reductions in eye pressure, but there is often a reduction of approximately 4 or 5 mmHg. The reason for cataract surgery lowering the eye pressure is not known for sure, but it may be because it opens up the drainage angle in the eye. Another explanation might be that the surgery can cause some low-grade inflammation. This inflammation can trigger a response in the eye that can improve the drainage pathway.

Alongside cataract surgery alone, there are glaucoma surgeries that can be combined with cataract surgery for treating POAG. Whilst most glaucoma consultants no longer combine cataract surgery and more invasive glaucoma surgery such as trabeculectomy or tube surgery, they will often do cataract surgery and a minimally invasive surgery. This may involve adding a mini stent into the front of the eye at the end of cataract surgery. There are lots of different types of stents available. These stents are quick to insert so they do not add much to the surgery time, and there is a fast recovery time too. The stents used in minimally invasive glaucoma surgery are not likely to give as big a pressure reduction as a trabeculectomy or tube surgery. However, there is now quite a lot of evidence showing their pressure reducing effects, often having a similar

effect to approximately one eye drop. This does mean that some people who would have needed glaucoma eye drops before their cataract surgery, are able to be drop free after they have recovered from surgery.

Cataract surgery can also be used to treat Primary Angle Closure Glaucoma (PACG). PACG is less common than POAG in the UK, but is more common in Asian populations and in Greenland. PACG can be caused by a thicker lens in the eye. The thicker lens can touch on the iris, blocking the flow of fluid to the front of the eye and making the natural drainage channel narrower. Traditionally PACG has been treated using a laser iridotomy. During this procedure, a laser is used to create a tiny hole in the iris, making a new path for the fluid to flow through, and helping the iris to flatten. An alternative to laser iridotomy is to have cataract surgery. This can be done even before a cataract has formed and is called a clear lens extraction. The surgery replaces the thick natural lens, with a thinner plastic one. A big, randomised control trial looked at whether laser iridotomy or cataract surgery were most effective at treating PACG. The trial found that, in comparison to a group who had been treated with laser iridotomy, those who had cataract surgery had:

- Lower eye pressure three years after surgery
- Better quality of vision
- Needed fewer glaucoma eye drops
- Needed less additional surgery
- Less need for high prescription glasses

In summary, there can be challenges for people with glaucoma if they develop cataracts. However, there can also be benefits from having cataract surgery for your glaucoma. This will depend on many things, including how advanced your glaucoma is, what treatments you have already had and what type of glaucoma you have. If you are developing cataracts, or even if you aren't yet, it is worth having a conversation with your eye specialist to find out what this might mean for you.

Our helpline is also always here if you have any concerns, and can be reached by emailing **helpline@glaucoma.uk** or calling **01233 648 170**.

If you would like to watch the full DGSG, the recording can be found in our library of previous sessions at **glaucoma.uk/support-groups**

The trouble putting in eye drops

Deborah Bott, Optometrist, PhD student (City St George's, University of London), **Liz Ball,** Health Information Manager, and **Helen Doe,** Helpline Manager

Glaucoma UK members and staff recently participated in a focus group to explore ways to help people use their eye drops effectively. Around 15 people joined the session, including individuals living with glaucoma and eyecare specialists.

This provided a range of perspectives on a common challenge: putting in eye drops. The session aimed to develop a tool to help professionals identify why someone might struggle with this essential part of their treatment.

Meet the researcher

Deborah Bott, a PhD researcher at City St George's, University of London, leads this vital research. Her work focuses on improving how people use eye drops, possibly with the help of new technology. Her research is funded by a scholarship from the College of Optometrists, and she's supported by a team of researchers including Dr Peter Campbell, Associate Professor Ahalya Subramanian, Professor David Edgar and Professor John Lawrenson.

> "We need to provide information in a digestible, relatable, and informative manner

Deborah brings 16 years of experience as an optometrist in hospitals and local high street stores. During her career, she saw first-hand the difficulties patients face in using their eye drops and the challenges eyecare professionals encounter when providing support. So, when she had a chance to do a PhD and research how technology might help, she jumped at it.

"One of the main reasons for disease progression and sight loss in glaucoma is poor treatment adherence. We need to develop evidence-based strategies to support patients in using their eye drops correctly and reduce their risk of losing sight," Deborah explained.

Treatment adherence in glaucoma means using eye drops right every time.

Understanding the challenges

Deborah's first task was to understand why people find it hard to use eye drops. She reviewed studies and research papers, interviewed a diverse group of people with glaucoma and talked to eyecare professionals. Her findings revealed several barriers including:

- A lack of understanding about glaucoma and its treatment
- Practical difficulties in administering eye drops
- Challenges in accessing prescribed medication

Time constraints during appointments often prevent eyecare professionals from providing adequate information about the disease and explaining why treatment matters.

> It was a tremendous honour to receive this award

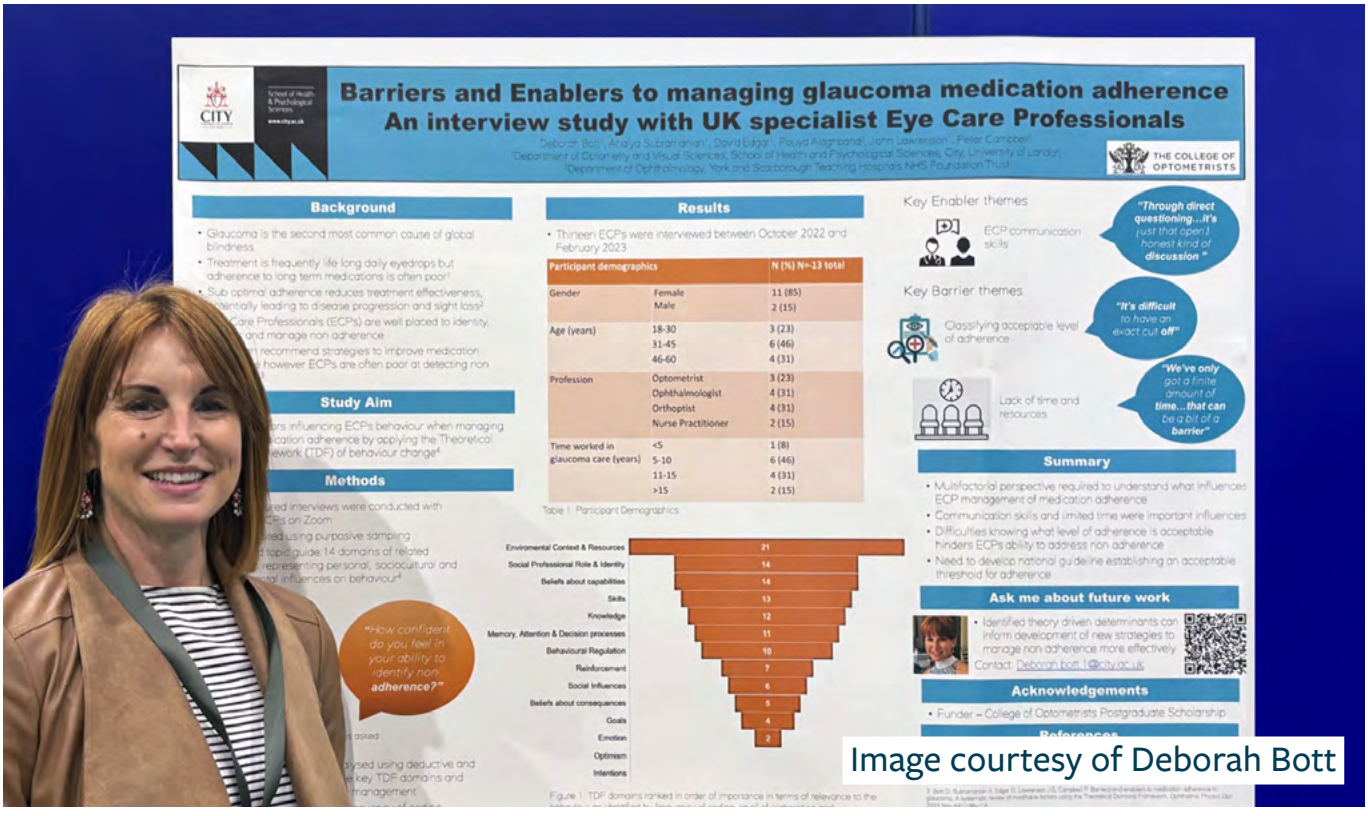


Image courtesy of Deborah Bott

"Research consistently shows that educating patients and their families is crucial for promoting adherence. We need to provide information in a digestible, relatable, and informative manner," Deborah stressed.

Deborah won the 2024 College of Optometrists Early Career Researchers Poster Competition. This was for her research on how eyecare professionals try to help people use their eye drops.

"It was a tremendous honour to receive this award. I had the opportunity to present my findings to my optometry colleagues and discuss the significance of our research for everyday practice," said Deborah.

A highlight of Deborah's research is the development of a new tool to help people use their eye drops. She designed it to adapt to meet each person's needs. It's a flow chart that asks people simple questions about using their eye drops. It gives people different information and suggests different solutions depending on the answers. She's now looking at whether parts of this could be done using technology.

"We understand that technology-based options are not suitable for everyone, so it is crucial that we offer any proposed intervention in a range of formats to ensure accessibility for all," said Deborah.

To refine the tool, Deborah hosted an online discussion group with people living with glaucoma, eyecare professionals and Glaucoma UK staff. The session used colour charts and key points to make discussions clear and productive. Participants provided valuable feedback, and the group expressed enthusiasm for further engagement.

"To increase the chances of an intervention being successful in everyday practice, it is essential to engage with those who will use the end product. Their practical experiences and feedback are vital in guiding and shaping its development. I am extremely grateful to everyone who participated in the online discussions. The insights shared were invaluable and provided a lot for my team and me to work on," Deborah said.

Deborah is now in the final months of her PhD and is busy writing up her findings. She is eager to carry on this research after finishing her PhD. She said "Having worked in practice for many years, I can clearly see the benefits of pursuing this research. It would be wonderful to develop a package of effective practical solutions and educational materials to support glaucoma patients, their families, and practitioners in managing poor adherence."

To learn more about Deborah's research, you can reach her via:

Email: deborah.bott.1@city.ac.uk

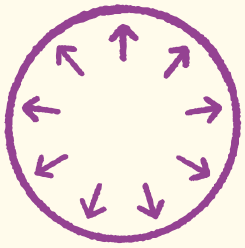
Post: Deborah Bott
City St George's, University of London
Department of Optometry and Visual Sciences
Northampton Square
London
EC1V 0HB

Phone: 020 7040 3339

Some **common confusions** about glaucoma

Liz Ball, Health Information Manager

Glaucoma is a group of diseases, not just one. This can lead to some confusion. Let's explore some common mix-ups.



"High eye pressure and glaucoma are the same thing."

Glaucoma is the name for a group of eye diseases where your optic nerve has become damaged. Glaucoma is often linked to high eye pressure because this can damage your optic nerves.

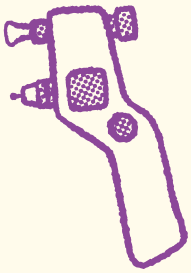
But you can have damage to your optic nerve even if your eye pressure is within the 'normal' range. This is called normal tension or low tension glaucoma.

Contrary to this, your optic nerve may be okay even if your eye pressure is high. This is called ocular hypertension. It is not glaucoma because there's no damage to your optic nerve.

"Ocular hypertension must cause sight loss or people with ocular hypertension would not need regular checkups."

In ocular hypertension, your optic nerve looks fine, and your sight's fine. But your optic nerve is coping with higher pressure. At some point, that high pressure may start to damage the nerve. If your optic nerve starts to show signs of damage, it means ocular hypertension has developed into glaucoma.

Five years after developing ocular hypertension, around 2 in 20 people have glaucoma and 18 do not. But after 20 years, around 9 out of 20 people have glaucoma and 11 do not. In other words, high eye pressure puts you at risk of glaucoma. As time goes on, this risk gets higher.

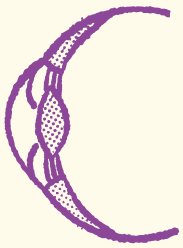


If you have ocular hypertension, you should go for regular checkups. For many people with ocular hypertension, this is enough. It means that, if glaucoma starts to develop, it's found before there is much damage. You can then start treatment.

If an eyecare professional thinks you're at high risk of developing glaucoma, they might offer you treatment to lower eye pressure. These are the same eye drops and laser treatments used for glaucoma. Treatment halves the risk of going from ocular hypertension to glaucoma within five years, from around 2 in 20 to around 1 in 20.

Ocular hypertension does not affect your vision, but it may lead to glaucoma. Glaucoma affects your vision.

"Primary angle closure and primary angle closure glaucoma are the same thing."



Angle closure is when your eye's drainage angle narrows or closes. The drainage angle is between the coloured part of your eye (the iris) and the clear window at the front of your eye (the cornea). It's where the liquid inside your eye (aqueous) drains out. In angle closure, your iris comes forward closing the drainage angle. This may happen slowly or suddenly.

As the drainage angle closes, it blocks the drainage channels. This slows or stops aqueous draining out of your eye. Aqueous builds up inside your eye and your eye pressure rises.

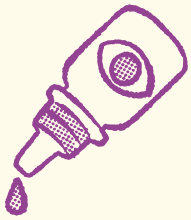
It's angle closure glaucoma if this high eye pressure damages your optic nerve. It's angle closure – not glaucoma – if it does not damage your optic nerve.

"Selective laser trabeculoplasty can treat all types of glaucoma."

Selective laser trabeculoplasty (SLT) is one of several laser treatments for glaucoma. SLT is often used to treat the UK's most common glaucoma: primary open angle glaucoma (POAG). It may also be used to treat some other variants of open angle glaucoma. In open angle glaucoma, your eye's drainage channels (the trabecular meshwork) do not work well. SLT helps them work better.

But if you have angle closure glaucoma, the problem is different: your iris is blocking your drainage channels. SLT will not help. You'll need a different treatment such as laser iridotomy to push your iris away from your drainage channels.

“If one eye drop makes your eyes sore, they all will.”

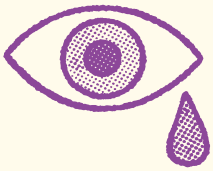


There are lots of eye drops for glaucoma. They contain different drugs and other ingredients. You’ll react differently to all of these. If one eye drop makes your eyes sore, it’s likely that another one will be okay for you.

Many eye drops contain a preservative. This is often what makes your eyes itchy. Switching to a preservative-free eye drop may help.

Talk to your eye doctor about any side effects you get from your eye drops.

“Dry eye disease and blepharitis are the same thing.”



Some treatments for glaucoma can cause dry eye disease or blepharitis. Because of this, many people with glaucoma also have one or both of these conditions.

The symptoms and causes of dry eye disease and blepharitis are similar. Both can make your eyes red, sore, itchy and watery. Both involve changes in the glands that make tears.

You have three layers of tears. The inner layer is mucous, the middle layer is watery and the outer layer is oily. The outer oily layer of tears forms a waterproof barrier that stops your tears drying up too quickly.

Dry eye disease is when you do not make enough watery tears or they dry up too quickly. That might seem strange as your eyes might be watering a lot. When your eyes are dry, a reflex reaction causes you to make more tears so your eyes water.

Blepharitis is inflammation of your eyelids, especially around the edges. The skin around the edges of your eyelids may be scaly or flaky. It can lead to blockages in the glands that make oily tears.

Most eyecare professionals say dry eye disease and blepharitis are distinct conditions. Some eyecare professionals say they’re perhaps different displays or stages of the same thing. In either case, there are differences in treatment.

The most common treatments for dry eye disease are artificial tear eye drops, ointments or gels. The most common treatments for blepharitis are cleaning your eyelids and using warm compresses to loosen blockages in the glands that make oily tears.

If you have a question about glaucoma, contact our helpline. Email helpline@glaucoma.uk or call 01233 648 170.

Our upcoming **Digital Glaucoma Support Groups**

Robyn Asprey, Development Manager (Outreach Services)

Our Digital Glaucoma Support Groups (DGSGs) cover a range of topics that we hope will be of interest to people at different stages of their glaucoma care. Below are the upcoming events:

Date	Time	Topic
27/01/2025	7.30pm	**Glaucoma Q&A**
10/02/2025	6.30pm	**What is glaucoma?**
11/03/2025	7.00pm	**A glaucoma treatment ladder**
02/04/2025	7.00pm	**All about glaucoma research**

You can view all our events on our website at **glaucoma.uk/events**, where you'll also find registration information. If you're not online, you can still join these sessions by telephone. Please call our helpline on **01233 648 170** to register for an event as a telephone user.

Nominations are open for the

2025 Excellence in Glaucoma Care Awards

This is your chance to celebrate those working in the field of glaucoma who are **making a difference.**

Is there a hospital or high street team who provided just the right information at the right time, or someone who gave you emotional support when you needed it most? How about a team who gave you sight-saving advice, a great glaucoma support group, or someone who has made a breakthrough in glaucoma research?

To find out more and download a nomination form, visit

glaucoma.uk/excellence-awards

If you prefer, you can also send us a voice note, video or picture. Please phone 01233 648 164 and speak to Carole or Sharon.

Up to **50% off** Christmas cards

Plan ahead for Christmas 2025!

Glaucoma UK

Order online

www.glaucoma.uk/christmas-cards