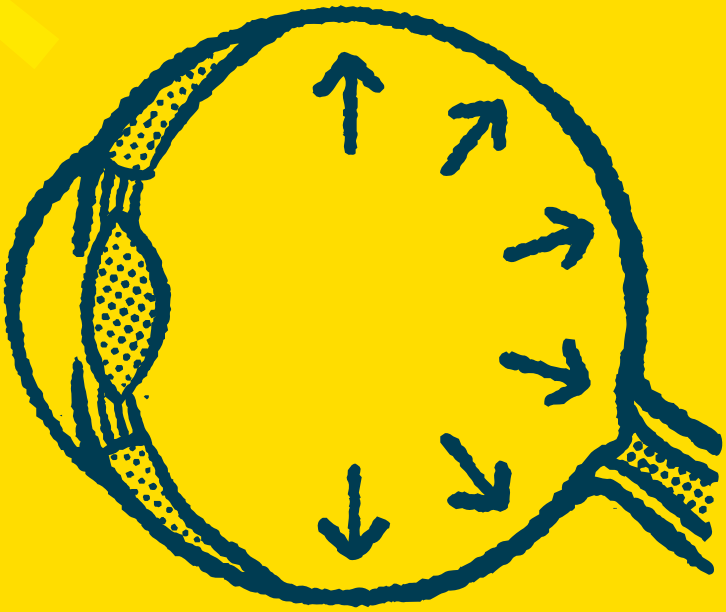
Glaucoma UK

Primary open angle glaucoma



Glaucoma UK helpline

If you have questions about anything to do with glaucoma, contact our helpline on:

01233 648 170

Monday to Friday 9.30am to 5.00pm

Calls are charged at your standard network cost.

Other ways to find out more

Email: **helpline@glaucoma.uk**

Visit our website: **glaucoma.uk**

Help us keep our services free

Glaucoma UK is the UK's only charity solely focused on ending preventable vision loss from glaucoma. Everyone who needs help and information about glaucoma should be able to get it for free. That's why there's no charge for our booklets and services. We rely on donations, and every contribution truly matters.

If you'd like to contribute to the cost of this booklet or help fund our services, please go to **www.glaucoma.uk/donate** or call **01233 648 164**. We really could not continue without our amazing supporters. Thank you.

Contents

Key points

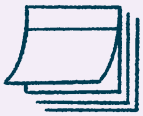
Primary open angle glaucoma (POAG) is the most common form of glaucoma in the UK. POAG is sometimes called chronic open angle glaucoma or just open angle glaucoma.

In POAG, fluid cannot drain properly out of your eye. Eye pressure goes up, damaging the nerve that takes information from your eye to your brain.

POAG can lead to vision loss, but with treatment most people with POAG keep good vision.

POAG can run in families. If you have POAG, tell your family so that they can get their eyes checked.

The most common treatments for POAG are eye drops or laser treatment.



Protect your vision by using any prescribed eye drops every day and going to all your eye clinic appointments.

Talk to your eyecare professional about any side effects you get.

What is glaucoma?

Glaucoma is a group of common eye diseases where your optic nerve has become damaged.

Your optic nerve connects your eye to your brain, so damage to this nerve affects your vision. How glaucoma affects vision is different for each person, but most people keep good vision.

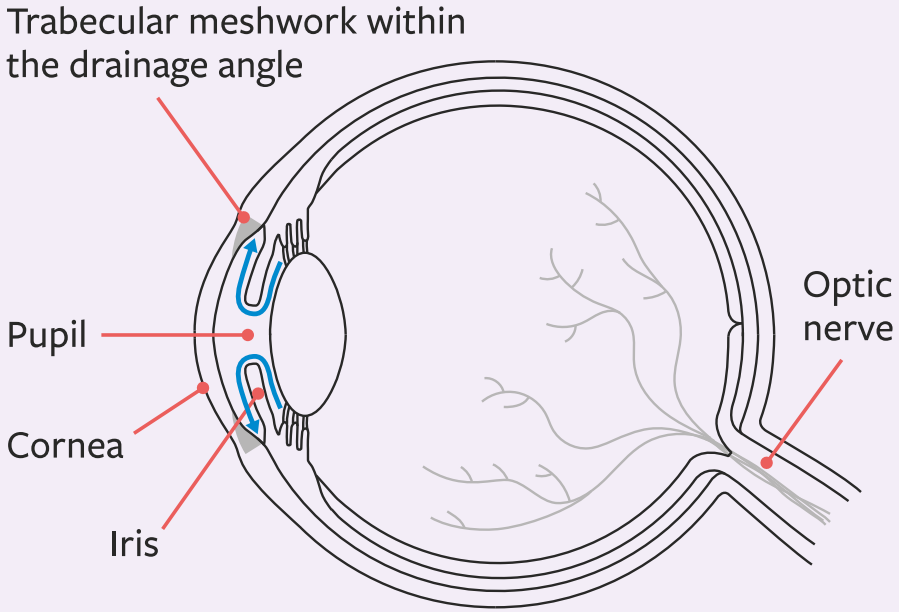
What is primary open angle glaucoma?

Primary open angle glaucoma (POAG) is the most common type of glaucoma in the UK.

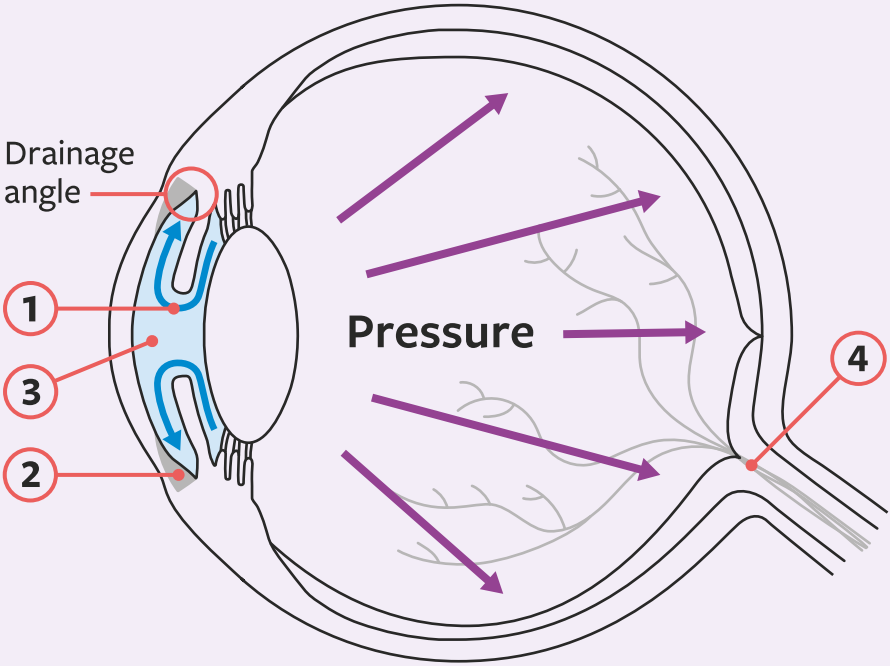
In POAG, fluid builds up inside your eye. This increases pressure and damages your **optic nerve**. This pressure is called eye pressure or intraocular pressure (IOP).

The front of your eye contains a watery fluid called **aqueous humour**, **aqueous fluid** or just **aqueous**. Aqueous helps your eye keep its shape and brings nutrients to the front of your eye. Aqueous is made inside your eye and drains out through tiny drainage channels called the **trabecular meshwork**.

▼ **Structure of eye showing flow of aqueous**



▼ How eye pressure builds up and affects your optic nerve



1. Aqueous flows through the pupil

2. Poor drainage of aqueous through the trabecular meshwork

3. Too much aqueous stays in the eye, increasing pressure

4. Increased pressure damages the optic nerve

In POAG, your drainage channels are open but do not work well. Aqueous builds up inside your eye, and eye pressure rises. High eye pressure can damage your optic nerve by pressing on the nerve or restricting its blood supply.

You can have glaucoma damage to your optic nerve even if your eye pressure is in the 'normal' range. This is a variant of POAG known as normal tension glaucoma. The causes of normal tension glaucoma are not fully understood.

POAG starts slowly and without symptoms. Most people with POAG get no pain and are unaware of vision loss, particularly in the early stages. POAG usually affects both eyes, although one may be more affected than the other.

How might glaucoma affect what I see?

Glaucoma affects everyone differently. People who notice glaucoma vision loss often describe blurry or misty patches in their vision.

Most people cannot tell they have glaucoma.

Glaucoma vision loss usually happens slowly and starts in off-centre (peripheral) vision.

Central vision is generally clear for much longer. You use central vision for detailed tasks like reading, watching TV and looking at faces. You use peripheral vision for driving, getting around and seeing things at the edge of your vision.

Your two eyes work together. If you have a gap in your vision in one eye, your other eye might make up for it. You might only notice misty or blurry patches when you close one eye. Even then, your brain might fill in the gaps, so what you see looks complete.

▼ Examples of what you might see if you have full vision, moderate glaucoma and advanced glaucoma

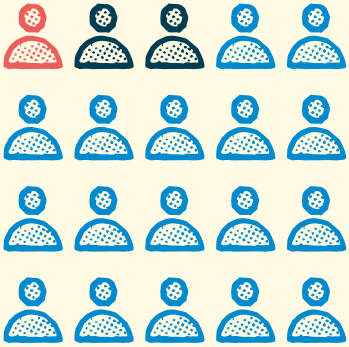
Most people with glaucoma keep good vision for life.

If your glaucoma does lead to vision loss, you might start to notice for example that:

- You trip over things on the floor
- You find it harder to see things with poor colour contrast
- It's harder or takes you longer to find what you're looking for
- Cars seem to suddenly appear from nowhere
- It's harder to see in the dark

Most people do not go blind with glaucoma.

On average across all forms of glaucoma, out of 20 people with glaucoma:



Only around **one** develops severe vision loss.

Around **two more** develop vision loss that affects day-to-day activities like driving.

Around **seventeen** barely notice vision loss.

These numbers might be better or worse for some forms of glaucoma.

Thanks to modern treatments, fewer people lose their vision due to glaucoma now than in the past. Most people who have severe vision loss due to glaucoma were diagnosed late or had other underlying health or eye conditions.

It's unusual to lose all vision due to glaucoma. But because vision loss is possible, it's important to go to all your eye clinic appointments and to use any treatment as prescribed.

Who gets primary open angle glaucoma?

Anyone can develop primary open angle glaucoma (POAG), but some things increase the risk.

Risk factors for POAG:

POAG is more common amongst older people.

Around 1 in 50 people aged over 40 years has POAG,

compared to around 5 in 50 aged over 80 years

If you have a close blood relative (sister, brother, parent or child) with glaucoma, you're up to 10 times more likely to develop it than the general population.

If you're of African Caribbean origin, you may be up to four times more likely than people of European origin to develop POAG. The disease also tends to develop at a younger age and be more severe in people of African Caribbean origin.

Make sure you tell your family about your glaucoma so they can get their eyes tested. If they're 40 years or over and live in the UK, they can have a free eye test. Everyone in Scotland can have free eye tests.

What tests will I have?

You'll have several tests for glaucoma.

You may have had some of these tests during routine visits to your local high street optician.

How well can you see detail at a distance?

This is called visual acuity.

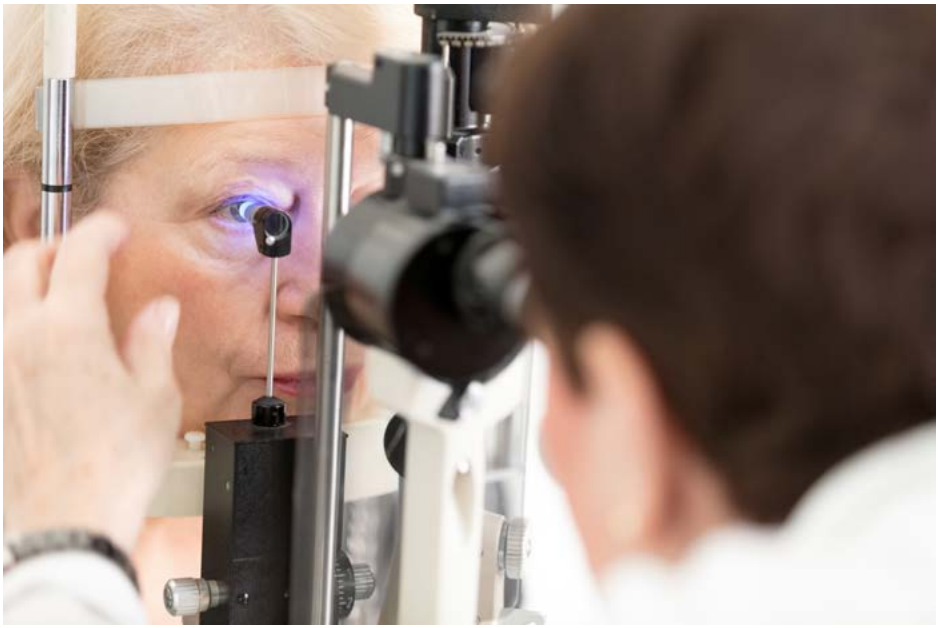
Where can you see things? If you look at something straight ahead and keep your eye still, how far up, down, left and right can you see? Are there patches of vision loss?

This is called your visual field. If you have glaucoma, you'll have patches of vision loss, usually starting in your peripheral (off-centre) vision.

◀ **Example of a visual field test machine**

What's your eye pressure?

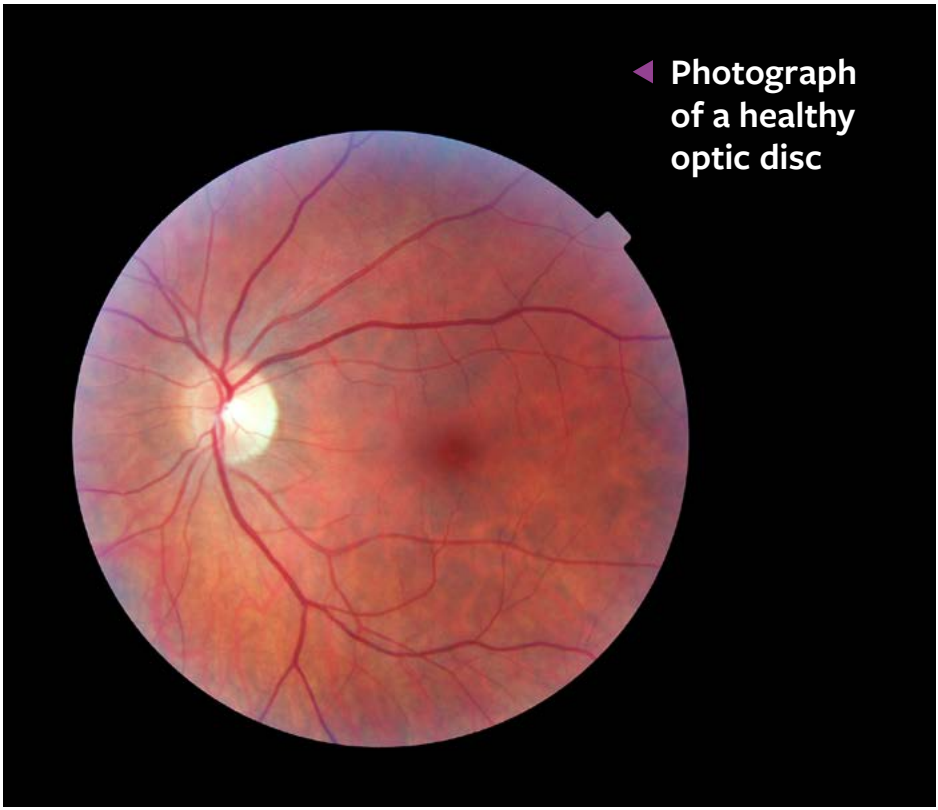
If your eye pressure is high, you're more at risk of glaucoma.



▲ Eye pressure test

Are there any signs of possible damage to your optic nerve where it leaves your eye (the optic disc)?

Your eyecare professional may scan or photograph the back of your eyes so that there's a record to compare against at future appointments. Signs of possible damage to your optic disc could be glaucoma.



Photograph of a healthy optic disc

Other tests you may not have had at routine visits to your local high street optician.

For example:

How thick is your cornea (the clear window at the front of your eye)? The thickness of your cornea helps the eyecare professional make sense of your eye pressure.

What does your drainage angle look like? Can aqueous flow freely through your eye and drain away? This check is called gonioscopy. In open angle glaucoma, your drainage angle is open.

These tests may be done by an optometrist, nurse or other eyecare professional.

An optometrist is an eyecare professional trained to check eye health and measure vision. An ophthalmologist checks the test results. An ophthalmologist is a doctor specialising in eye and vision care.

The ophthalmologist will tell you if you have glaucoma. If you do, they should tell you what type it is and how much vision loss, if any, you have. They'll talk to you about your treatment options and answer any questions you have.

Sometimes, test results are inconclusive and the ophthalmologist needs more information to decide whether you have glaucoma. If so, they'll ask you back for another appointment to repeat the tests. They might say that you have suspected glaucoma. This might happen if your results are borderline, for example if your eye pressure is a bit high or your optic disc looks like it might have early signs of damage.

If you have glaucoma, you'll need to have regular appointments to check your eyes and how well treatment is working for you.

These follow up appointments may be at a hospital or in a community setting such as a high street optician or GP practice.

What treatment might I have?

Treatments for primary open angle glaucoma (POAG) aim to lower eye pressure, which helps stop or slow glaucoma.

There are lots of treatment options for POAG.

Your eyecare professional will suggest treatment based on your test results and the type of glaucoma you have. They'll also take account of other things like your health, your age and your preferences.

But treatment does not cure glaucoma, and any vision loss from glaucoma is permanent. This can be difficult to come to terms with.

Our helpline is there for you to talk through how you're feeling as well as the practical side of things.

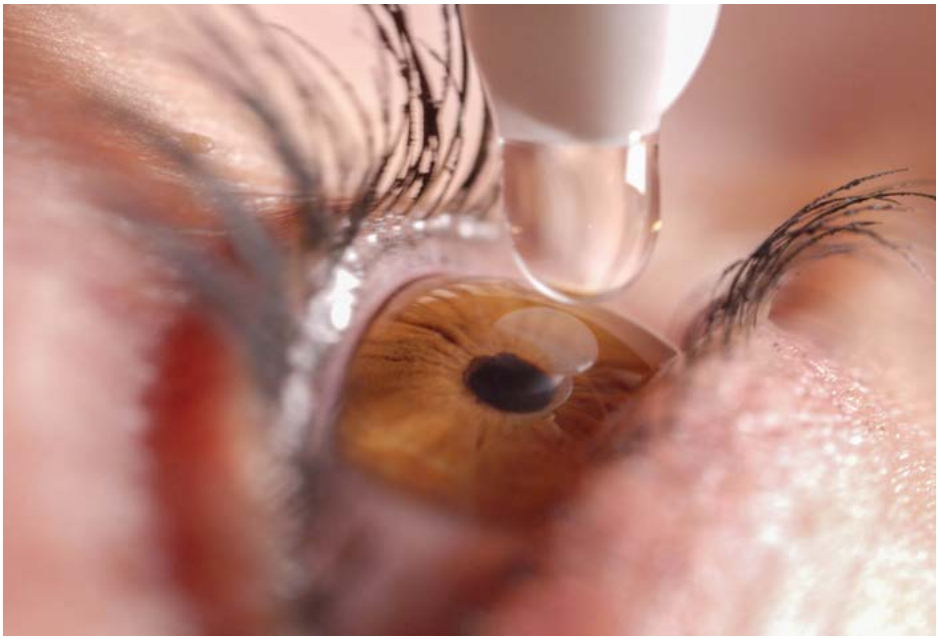
01233 648 170

Monday to Friday 9.30am to 5.00pm

Eye drops

Eye drops are a common treatment for POAG. Some eye drops reduce how much aqueous your eye makes. Others help aqueous drain out of your eye.

If your eyecare professional asks you to use eye drops, you'll usually need to use them every day for life. You may need to use one or more kinds of eye drops.



Like all medicines, eye drops can have side effects. Red, sore or itchy eyes are common side effects of using eye drops. If you get side effects talk to your eyecare professional. Ask about using preservative-free eye drops or if another treatment may be suitable. Try using lubricating eye drops to soothe your eyes. Keep using your eye drops unless your eyecare professional tells you to stop.

If you get side effects that worry you, contact your eye clinic as soon as you can.

Putting your eye drops in every day is one of the most important things you can do to protect your vision.

Laser treatment

Laser is often used to treat POAG. The most common laser treatment for POAG is selective laser trabeculoplasty (SLT).

The eyecare professional points a laser beam at your drainage channels (known as the trabecular meshwork) to help the flow of aqueous out of your eye. Most people find it painless. It takes around 10 minutes per eye and is done at the eye clinic.

SLT typically lasts for a few years. After that the effects can wear off. When it stops working so well, you can usually have SLT again.

▲ **An example of SLT treatment.** Photograph provided by and used with permission from Zeiss, www.zeiss.co.uk

Minimally invasive glaucoma surgery (MIGS)

In minimally invasive glaucoma surgery (MIGS), your eye doctor puts a tiny device or makes a small cut into your eye's drainage channels. This helps aqueous drain out of your eye.

Your eye doctor may suggest MIGS if:

- your eye pressure is too high even after laser treatment or eye drop;
- you struggle with eye drops;
- you're having cataract surgery.

MIGS is minor surgery with fewer risks and faster recovery than other forms of glaucoma surgery. But MIGS tends to lower eye pressure less.

Surgery

Most people with POAG will not need surgery, but if your glaucoma is severe or getting worse, your eye doctor might recommend it.

The most common type of surgery for POAG is called a trabeculectomy. Another type is tube or shunt surgery. Surgery creates a new route for aqueous to drain out of your eye.

Glaucoma surgery is effective at lowering eye pressure, but like all surgery it comes with some risks. Talk to your eye doctor about the pros and cons for you.

No treatment

You may decide against having any treatment even if your eyecare professional recommends it. **This increases your risk of vision loss due to glaucoma.**

Whether or not you have treatment, you should go to follow-up appointments and routine eye tests.

What if my eye pressure stays high?

There are lots of treatments for glaucoma. For most people, there is at least one that will lower eye pressure.

If one treatment fails to lower your eye pressure, your eyecare professional may try another. It may take time to find the right one for you. As your glaucoma changes, the best treatment for you may also change. Everyone is different.

Is it okay to drive with glaucoma?

Driving is important to many people, but you need to be safe on the roads.

You must tell the DVLA (in England, Scotland or Wales) or the DVA (in Northern Ireland) if:

You drive a car or motorcycle, and you have glaucoma in both eyes.

You drive a bus, coach or lorry, and you have glaucoma in one or both eyes.

The DVLA or DVA will ask you to take a special visual field test at a high street optician. This test checks you meet the minimum vision standards for driving.

Most people with glaucoma meet the minimum vision standards for driving.

You should also check with your motor insurer whether you need to tell them about glaucoma.

Further help and information from Glaucoma UK

We offer other free information booklets on a range of topics, including:

- **Different types of glaucoma**
- **Treatments such as eye drops, laser treatments and surgery**
- **Driving and glaucoma**

For a full list of available booklets and to order or download them, visit our website or contact our helpline.

As well as our information booklets, helpline and website, there are lots of other ways we can help you to live well with glaucoma.

Some examples of our services are:

- **Buddy scheme**
  If your eyecare professional recommends laser treatment or surgery, we can pair you up for a chat with someone who's already had the treatment.
- **Glaucoma support groups**
  Find out more about glaucoma, share information, and ask questions. Visit our website or call our helpline to see if there's a group near you and to find out about online groups.
- **Health Unlocked**
  Join our online forum and talk to other people with glaucoma. Visit **healthunlocked.com/glaucoma-uk** to get involved.

For more information, to get involved or to give us feedback contact our helpline, visit **www.glaucoma.uk/more** or scan the QR code.

About Glaucoma UK

Glaucoma UK is the charity for people with glaucoma. We raise awareness of the risks of glaucoma, and offer help and support to people living with the disease.

We fund high-quality research into prevention, diagnosis, treatment and, hopefully one day, a cure. We also work with professionals to influence policy and practice with the goal of improving services. Our aim is to end preventable glaucoma vision loss.

Raising awareness

Helping people understand why they may be at risk of glaucoma.

Providing support

Ensuring people can access reliable help and advice when and how they need it.

Influencing policy and professional practice

Advocating for glaucoma patients with those who develop policy, commission services and deliver care.

Supporting research and development

Funding high-quality research into glaucoma prevention, diagnosis, treatment and cure.

Keep in touch

We'd love to keep in touch.

Visit our website to sign up for our email newsletter to hear more about our work and how we can help you.

Join Glaucoma UK

Join Glaucoma UK and become a member of our supportive glaucoma community.

You'll receive exclusive benefits, including our magazine full of news and information about glaucoma.

Find out more at **www.glaucoma.uk/membership** or call **01233 648 164**.

Disclaimer

The information in this booklet was correct at the time of last review and is intended as a general guide only. Always ask an eyecare professional or doctor for advice specific to you.

A list of sources is available on request.

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Next review due July 2028.

With thanks to our contributors and reviewers

- Professor Augusto Azuara-Blanco, Professor of Ophthalmology, Queen's University Belfast
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