Understanding

# Glaucoma

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## RNIB's Understanding series

The Understanding series is designed to help you, your friends and family understand a little bit more about your eye condition.

Our booklets are available in print, audio and braille. To request these formats, contact our Helpline or visit **shop.rnib.org.uk**

## RNIB Helpline

Call: **0303 123 9999**

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# What is glaucoma?

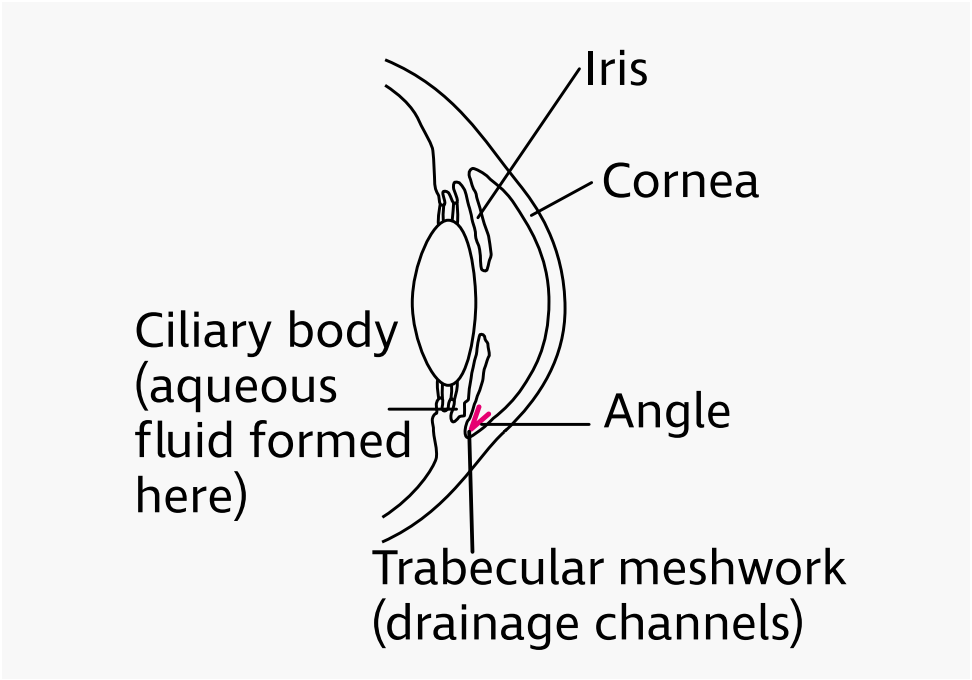
Glaucoma is the name given to a group of eye conditions where there is damage to your optic nerve, usually due to raised eye pressure.

## How the eye works

The anterior chamber of your eye (front chamber inside your eye) is filled with a watery fluid called the aqueous humour. This fluid maintains the eye pressure, which keeps the eye nourished and in the right shape. Your eye pressure is known as your intraocular pressure (IOP). Eye pressure is not connected to your blood pressure in any way. The aqueous fluid, which is inside your eye, is different from your tears.

Aqueous fluid is made by the ciliary body, which sits behind the coloured part of your eye (the iris). It flows through the pupil and drains away through a spongy network of pores called the trabecular meshwork. The meshwork sits in the angle where your iris meets the cornea (the clear front surface of your eye).

Usually, the amount of aqueous fluid made is the same as the amount that drains away. This keeps your eye at the correct pressure. The normal range of eye pressure is roughly between 10 to 21 mmHg




(mmHg stands for millimetres of mercury and is the measurement used for eye pressure).

If the fluid cannot drain away as fast as it's made, your eye pressure will rise. This pressure can cause damage to your optic nerve at the point where it leaves the back of your eye. This damage is called glaucoma. Your optic nerve is important for sight because it carries the signals from your eye to your brain to allow you to "see" the world around you.

It's also possible to develop glaucoma even when eye pressure is within the normal range. This can be because the optic nerve is more fragile or sensitive than usual.

## How can glaucoma affect my sight?

If there is damage to your optic nerve, blind spots can begin to form in your vision. Sight loss usually affects your side (peripheral) vision first. Often there are no symptoms unless the condition is advanced.

Without treatment, glaucoma can cause:

- Difficulty seeing contrast. It may be harder to see objects that are similar in colour to their background.
- Poor night vision. You might find it difficult to see or get around in dim light.
- Reduced side vision. You may miss things in your side vision.
- Finally, if left untreated, your central vision may be affected too, causing blind spots to appear when you look straight ahead.

If glaucoma is not treated or is poorly controlled, it can eventually lead to complete loss of sight (blindness). However, **with treatment, most people with glaucoma keep good vision for life.**

Once sight loss occurs, it can't be reversed. There are currently no treatments which can repair the damaged nerve. This means that it's vital to detect and treat glaucoma early to prevent optic nerve damage in the first place and to avoid sight loss.

# What are the main types of glaucoma?

## Primary glaucoma

Primary glaucoma occurs on its own, without a known cause and isn't caused by any other eye condition.

- **Primary open angle glaucoma** where damage to the optic nerve occurs slowly over a long period of time due to your eye pressure increasing to more than 21mmHg. This is the most common type of glaucoma.
- **Normal tension glaucoma** when an eye pressure of less than 21mmHg still causes damage to the optic nerve.
- **Primary angle closure glaucoma** is when the angle, where the aqueous fluid drains from the eye, narrows or closes. It can be chronic (gradual onset) or acute (where the eye pressure rises to a very high level, very suddenly).

This booklet will provide information about primary glaucoma.

## Secondary glaucoma

Secondary glaucoma occurs because of another eye condition, an eye injury, or medication. Some things which can increase eye pressure and lead to secondary glaucoma include:

- Pigment dispersion syndrome and pseudo-exfoliation, where pigment or flakes block the trabecular meshwork.
- Uveitis (inflammation inside the eye)
- Steroid medication
- Abnormal blood vessel growth at the iris known as neovascular glaucoma. This can happen in conditions such as diabetic retinopathy or retinal vein occlusion.

Treatment for secondary glaucoma is aimed at reducing eye pressure as well as treating the underlying cause or eye condition.

## Childhood glaucoma

Glaucoma which affects babies and children is rare. It can happen when the aqueous drainage system hasn't developed properly before birth, or because of another eye condition or problem with eye development.

**Glaucoma UK** have further information on secondary and childhood glaucoma. Their contact details are at the end of this booklet.

## Who is at risk of getting glaucoma?

Anyone can develop glaucoma, but some things can put you at higher risk. These include:

- **Your eye pressure (IOP):** People with eye pressure over 21 mmHg are at greater risk of developing primary open angle glaucoma. It's not known why some people have a higher eye pressure and you cannot control your eye pressure yourself.
- **Your age:** Glaucoma is more common as you get older. It occurs in up to two in 100 people over the age of 40, increasing to up to seven in 100 people over the age of 70.
- **Your sex:** Primary angle closure glaucoma is two to three times more common in women.
- **Your family history:** You're at higher risk of primary open angle glaucoma if you have a close blood relative with glaucoma. Your risk is eight times higher if a sibling is affected and about twice as high if a parent is affected. If you have glaucoma, let your close family members know. If they're over 40, they should have a free NHS eye examination every year with their optometrist (optician).

- **Your race:** Primary open angle glaucoma is two to three times more common in people with African Caribbean ethnic backgrounds. It's also more likely to develop earlier in life – before the age of 40. There is a chance that it may develop more quickly. Being of East Asian origin can increase your risk of angle closure glaucoma.
- **Your eyesight prescription:** Being short-sighted (myopia) can increase your risk of developing primary open angle glaucoma. Angle closure glaucoma is more common in people who are long-sighted (hypermetropia).
- **Diabetes:** Having diabetes can increase your risk of developing primary open angle glaucoma by two times.
- **Steroid medication:** Glaucoma can be a complication from long term use of steroid medication.

## How is glaucoma diagnosed?

Signs of glaucoma are commonly picked up at routine eye tests with an optometrist (optician). They may use several tests to check for glaucoma:

- **Examining your eye** using a bright light to check for any changes to your optic nerve at the back of your eye. Sometimes, they may also take a photograph. They can also look at the angle at the front of the eye to check if it is open or closed.
- **Eye pressure (IOP) measurement**, known as tonometry. This may be done with a quick puff of air, a tiny probe that briefly touches the eye, or with numbing drops followed by a gentle touch with a small tool, which gives the most accurate reading. Eye pressure can vary during the day, so your optometrist may want to repeat this test on another day or time if they are concerned.
- **Visual fields test** checks for missing areas or blind spots in your side vision. During this test, you look at the centre of a screen and press a button each time you see a small flash of light in your side vision. Each eye takes about 10minutes. It can be hard to concentrate, and some days your test results will be better than others, so you may be asked to repeat this test.

- **Optical coherence tomography (OCT)** is a scan that takes detailed images of the optic nerve and the back of your eyes. It can show any damage to the optic nerve and can be used to monitor subtle changes over time. It can also be used to assess the drainage angle of your eye.

You can have glaucoma even with normal eye pressure, so all test results are considered together.

If your optometrist has any concerns about the test results, depending on where you live, they may:

- repeat certain tests, such as eye pressure or visual fields on a different day.
- refer you to another specialist optometrist for further tests.
- refer you to the hospital eye clinic to see an ophthalmologist (hospital eye doctor).

The specialist optometrist or hospital eye clinic may carry out additional tests, such as:

- **Corneal thickness (pachymetry)** measures how thick your cornea is. Knowing this can help with the accuracy of your eye pressure readings. Thicker corneas can make eye pressure measure higher than it is.

- **Examination of the front chamber (gonioscopy)** checks the drainage angle in your eye (the area where the aqueous fluid drains out). A mirrored lens is used to see if there is enough space for the aqueous fluid to drain properly or whether there is anything blocking that area.

All the test results are reviewed together to assess whether you have glaucoma or not. It is common for results to vary, so tests may need to be repeated before decisions on diagnosis or treatment are made.

## What is a 'glaucoma suspect'?

You may not be diagnosed with glaucoma straight away, but some test results may show that you're at risk of developing it. You may be told that you are being monitored as a 'glaucoma suspect'. This means that you don't currently have glaucoma but need to be monitored to check for any changes.

Being a glaucoma suspect does not mean you will definitely develop glaucoma. The risk depends on many factors and more tests over time will show if anything is changing. Your eye health will usually be monitored over several visits. The results of this monitoring will show if you have glaucoma.

If you are told you **do not** have glaucoma after being monitored as a glaucoma suspect:

- you will be discharged back to your usual optometrist.
- you should continue having regular eye tests with them as frequently as they advise so that any future changes can be detected.
- take any previous results or clinic letters to your regular eye tests.

If tests show that you **do** have glaucoma:

- you will be given a treatment plan by an ophthalmologist (hospital eye doctor).
- they will explain your type of glaucoma and how it's affecting your vision.
- they can answer any questions you have about your glaucoma and treatment and tell you how you will be monitored.

It's important that glaucoma is diagnosed as early in its stages as possible, so that treatment can be started to prevent sight loss in the future.

# Primary open angle glaucoma (POAG)

Primary open angle glaucoma is the most common type of glaucoma in the UK. It's also known as chronic open angle glaucoma which means the damage to your optic nerve and changes to your sight happen very slowly over time.

## What are the symptoms of open angle glaucoma?

You can't 'feel' primary open angle glaucoma. It doesn't cause any symptoms, and the eye pressure doesn't cause any pain. You may not notice any changes in your vision because glaucoma affects your peripheral vision (side vision) first. Your peripheral vision is less sensitive than your central vision, making it harder to notice early changes. As a result, your vision can be gradually damaged without you being aware of it.

Because you may not notice a problem until your glaucoma is more advanced, it's important to have regular eye examinations as this is the only way to know if you have it. Your optometrist will let you know how often you need to have an eye test based on your age, family history and other risk factors. The earlier your glaucoma is picked up and treated, the more your sight can be protected.

Primary open angle glaucoma usually affects both eyes, but one eye may be affected more than the other.

## What is the treatment for primary open angle glaucoma?

All treatment for glaucoma aims to lower your eye pressure to prevent damage to your optic nerve and your sight. Damage to the optic nerve can occur at different eye pressures among different people. Even if your eye pressure is at a normal level to begin with, treatment will still be aimed at lowering this pressure to a level which is safe for you – this may be called your 'target eye pressure'.

Your eyecare professional will explain your treatment options. If you need help deciding about treatment for open angle glaucoma, the NHS provides a decision support tool available on the link below: **bit.ly/NHSOpenAngleGlaucoma**

## Eye drops

Eye drops are the most common treatment for glaucoma. For many people with glaucoma, this is all the treatment they will ever need. But these drops will need to be used long term or for life.

There are different types of eye drops for glaucoma. They all reduce the amount of aqueous fluid in the eye. This lowers eye pressure and so reduces damage to the optic nerve. The eye drops work by either reducing the amount of aqueous fluid that your eye makes, or by helping the aqueous fluid drain away better.

The type of eye drops that you'll be prescribed will depend on your individual medical history. Your eye pressure will be monitored at regular check-ups to make sure the drops are working.

It may take time to find the right drop or combination of drops to control your eye pressure. If you've just started using eye drops, or if you have recently changed your type of eye drops, your eye pressure would normally be checked within a few months of starting the new drops to find out how well they're working.

Taking the drops will not cause any change in your sight, so it can be difficult to understand why you need to put them in every day. Your drops are preventing any future damage to your sight so it's very important to keep using them. If you don't use your drops then your eye pressure will remain too high and damage your optic nerve, which will cause you to lose your sight.

More information about taking eye drops can be found in the Living Well section.

## SLT laser treatment

When you are first diagnosed with primary open angle glaucoma, laser treatment is now usually offered as the first treatment option. You may be given eye drops to use short term to control your eye pressure while waiting for the procedure.

Laser treatment may also be recommended if you have been using eye drops for some time, but your eye pressure is still not well controlled.

The type of laser treatment used is called 360° Selective Laser Trabeculoplasty (SLT). 360° SLT is a gentle laser that is applied to the trabecular meshwork to make it work and drain fluid better, lowering your eye pressure. Your ophthalmologist will explain the laser treatment including the risks and benefits so that you can decide if it's right for you.

- SLT is done in the outpatient clinic.
- You will have drops put in the eye that make your pupil very small.
- Your eye will be numbed using anaesthetic drops and a special contact lens placed on your eye.

- You will be asked to place your chin on the chin rest of the machine.
- The laser will be applied in short pulses for around 10-15 minutes. You may notice clicking sounds and see some flashes in your vision. It is not painful, but it may feel a little uncomfortable.
- After the treatment, your eye pressure will be checked. You may be given drops to use at home for around five days to help the eye recover from the treatment.

- You'll usually be seen for a follow up about a few weeks later.
- It can take up to eight to 12 weeks after the laser treatment for your eye pressure to stabilise.

SLT may lower your eye pressure enough by itself, or you may need eye drops as well. If you need eye drops, you may need fewer than you'd have needed without SLT, or you may not need them as soon.

You may need to have SLT repeated if it works well to start with, but the effect wears off over time.

If you choose not to have SLT, or if you're told SLT is not suitable for you, you'll be prescribed eye drops to control your eye pressure.

## Surgery

Most people with glaucoma will not need surgery. It is usually considered in a small number of people, where eye drops or laser treatments have not worked in controlling the eye pressure, or when glaucoma is advanced.

If surgery is recommended, your ophthalmologist will explain the surgery options that are suitable for you and the risks and benefits of surgery. Ask them any questions or concerns you have about surgery.

**Trabeculectomy**
The most common surgery for glaucoma is called a trabeculectomy. It lowers eye pressure by creating a new permanent drainage channel for the aqueous fluid to drain away.

During the surgery, a tiny opening is made in the sclera (the white of your eye). This allows the aqueous fluid to drain out into a small pocket, called a bleb, which sits on the surface of your eye, hidden under your upper eyelid. The fluid is then absorbed naturally back into your bloodstream. Anti-scarring medicine is applied during surgery to stop the new opening from closing-up.

After surgery, you'll have regular check-ups at the eye clinic for several weeks. At these visits, the ophthalmologist may remove or adjust stitches to fine-tune the eye pressure or give anti-scarring treatment.

**Aqueous shunt surgery**
This surgery involves putting a tiny device, called a shunt or tube, inside the eye. Its job is to drain the aqueous fluid out of the eye into a small 'bleb' on the surface of the eye. The shunt or tube bypasses the eye's normal drainage system and allows more aqueous fluid to leave the eye, and this lowers the eye pressure.

**MIGS – minimally invasive glaucoma surgery**
MIGS is the name for a group of treatments that use tiny implants, devices, or special techniques to help lower eye pressure. They work by improving how the aqueous fluid drains away. These procedures use very small cuts and delicate instruments, which are designed to be less invasive than traditional glaucoma surgery.

Glaucoma UK have more information on the different types of surgery for glaucoma. Their contact details are at the end of this booklet.

**After surgery**
For some people, the eye pressure comes down enough after glaucoma surgery that they no longer need eye drops in that eye. Some people will need to have ongoing treatment to keep their eye pressure under control. This might be

- eye drops.
- laser treatment, such as SLT or cyclodiode laser which is used when other treatments have not worked and targets the ciliary body to make less aqueous fluid.
- further surgery.

Even if you don't need further treatment, you'll still be monitored regularly.

## Normal tension glaucoma

Normal tension glaucoma occurs when your eye pressure is within normal range but causes damage to your optic nerve.

It's not entirely known why some people's optic nerve becomes damaged even though their eye pressure is at a normal level. It's thought that perhaps some people's optic nerve may just be weaker or have a more fragile blood supply and be unable to cope with an eye pressure within the normal range.

Normal tension glaucoma is treated in the same way as primary open angle glaucoma by lowering your eye pressure to a level which is right for you, to protect your sight. You can read about these treatments in the section above.

## Ocular hypertension (high eye pressure)

Some people naturally have eye pressure above the normal range, but this pressure doesn't cause any damage to their optic nerve. This is described as ocular hypertension rather than glaucoma.

Different people can have different optic nerve strengths, and some people's optic nerves stay healthy at higher-than-normal eye pressures.

If you have an eye examination and your eye pressure is higher than 24 mmHg, you may be referred for more tests. These tests will check whether this higher eye pressure is likely to cause any problems to your optic nerve.

You may be diagnosed with ocular hypertension. This means that the pressure in your eye is high, but it is not causing any damage to your optic nerve. A high pressure may be completely normal for your eye.

If you have ocular hypertension, it can increase your risk of developing glaucoma, so this needs to be monitored. Sometimes you may be offered SLT or prescribed eye drops to help reduce your eye pressure and reduce your risk of developing glaucoma. If this is the case, you'll be followed up regularly to monitor your eye pressure.

You may be discharged if you don't require treatment for your ocular hypertension. However, it's important for you to visit your optometrist regularly for your eyes to be checked so that any future changes can be picked up. They will be able to tell you how often you should have your eyes checked.

## Primary angle closure glaucoma

Angle closure glaucoma happens when the drainage angle of the eye closes or narrows. Angle closure glaucoma can be chronic or acute.

- Chronic angle closure glaucoma develops slowly. Some eyes naturally have a narrower drainage angle. This smaller angle can slow down the drainage of fluid, causing fluid to build up and eye pressure to slowly rise. Over time, it can damage the optic nerve. It usually has no symptoms but can be noticed when your eyes are examined.
- An acute angle closure happens when the drainage angle closes suddenly. This stops the aqueous fluid draining away altogether and causes your eye pressure to rise very high very quickly. This can cause sudden symptoms.

## What are the symptoms of angle closure glaucoma?

Chronic angle closure glaucoma usually has no symptoms.

Sometimes people with angle closure glaucoma get a series of mild attacks in the early stages. Symptoms can include:

- Misty vision
- Seeing rainbow-coloured rings around white lights
- Eyes feeling achy especially in the evenings

If you have any of these symptoms, it's important to see your optometrist as soon as possible.

An acute angle closure usually has no warning. It usually affects only one eye at a time and it's rare for both eyes to have an acute angle closure at the same time.

**Symptoms can include:**

- a very painful eye, or headache around the affected eye
- a red eye
- blurred vision
- nausea or being sick
- seeing haloes around lights

If you experience symptoms of an acute angle closure, it's important to go to A&E or eye casualty immediately.

## Being referred for angle closure glaucoma

When you have an eye test, your optometrist may find that you have narrow angles. For most people, this is not usually a problem. Your optometrist will check for other signs of glaucoma, such as raised eye pressure or changes to the optic nerve. If these signs are present, your optometrist will refer you to the hospital eye clinic for treatment for chronic angle closure glaucoma.

Sometimes, your optometrist may refer you for treatment even if there are no signs of glaucoma. This is because certain things might:

- increase the chance of an acute angle closure, such as being very long sighted, having a family history of angle closure or taking certain medications.
- have a greater impact if an acute angle closure were to happen, for example if you only have one good eye

If you have an acute angle closure, you'll go to the hospital (A&E or eye casualty) immediately to have emergency treatment.

## What is the treatment for angle closure glaucoma?

Treatment for an acute angle closure is given immediately at the hospital to bring down the very high eye pressure quickly and prevent permanent sight loss. The treatment is usually a combination of eye drops and tablets, injections or drips. These treatments reduce your eye pressure quickly and ease the pressure and pain. If an acute angle closure is treated quickly, it can usually be brought under control within a few hours. Your eye becomes more comfortable, and your sight can recover to some degree.

Once your eye pressure is safe, a laser treatment called laser peripheral iridotomy is usually done by an ophthalmologist at the eye hospital. This makes a tiny hole in the iris (the coloured part of your eye) to help prevent another acute angle closure. It is normally carried out on both eyes to prevent it happening in either eye in the future. It's generally a straightforward procedure from which people recover quickly, and the holes can't be noticed by other people.

Laser peripheral iridotomy is also used as a treatment in people with narrow angles and additional risk factors.

Treatment for chronic angle closure glaucoma is usually either:

- Laser peripheral iridotomy, or
- Cataract surgery or clear lens exchange. This replaces the natural lens in your eye with an artificial one. Because the new lens is thinner than your natural one, there's more space in your eye. This allows your drainage angle to open and lower your eye pressure.

You may also need eye drops to manage glaucoma long-term.

## Living well

Most people with glaucoma will retain good vision with the right treatment if it is detected early. Having glaucoma may mean you need to make a few changes to your everyday life to prevent sight loss. For many people, this includes using eye drops daily and for most people having to attend regular eye clinic visits.

## Keeping to your treatment

The most important thing you can do to protect your sight is to keep to the treatment that has been recommended for you. For many people with glaucoma, this involves putting in eye drops daily for life. It's important to remember to use your drops regularly as prescribed, to prevent glaucoma from getting worse and causing damage to your sight.

When you're first prescribed eye drops, you should be given instructions on:

- how to put them in correctly
- how many times a day you need to use them and when
- how to store them
- what aids are available which may make putting the drops in easier

- if you are prescribed more than one drop, how long to leave in between each type of drop.

There are different techniques that you can use to instil your drops. Some helpful guides:

**Easy read: Putting in your eye drops Glaucoma UK**

**glaucoma.uk/product/booklet-easy-read-putting-in-your-eye-drops/**

**How to use your eye drops – Moorfields Eye Hospital moorfields.nhs.uk/for-patients/information-hub/how-to-use-your-eye-drops**

After putting in your eye drops, gently close your eye. With a finger, press lightly on the corner of your eye near your nose for a couple of minutes. This blocks your tear duct and helps keep the eye drop in your eye where it's needed. If you're not sure whether the drop has gone into your eye, it's ok to put another one in. If you use more than one type of glaucoma drop, you'll usually be advised to leave around 5 minutes between each one. If you use glaucoma drops and dry eye drops, wait around 15 minutes between each one.

Contact your eye clinic as soon as you can if your eye drops are causing you any problems. Side effects can include eye irritation, change in iris colour, or redness, and some drops aren't suitable for people with certain underlying health conditions. Preservative-free drops may be an option if you're sensitive to any of the preservatives added to the drops. You can also ask about using lubricating eye drops, ointments or gels to keep your eyes feeling comfortable. The risk of side effects is very small compared to the risk of losing your sight if you don't use the drops. You should keep using your eye drops unless told to stop by your eyecare professional.

Dry eye is very common in people taking glaucoma drops. More information about managing dry eye can be found in our booklet Understanding Dry eye available via our website or Helpline.

If you struggle to squeeze the bottle or aim the drops accurately, there are lots of aids that can help. Some aids help to hold the bottle steady above your eye; others can help make squeezing the bottle easier. Speak to a healthcare professional such as an ophthalmologist, GP, nurse, pharmacist or optometrist about which aids suit your prescribed bottle.

You can use the Patient Eye Drop Assessment form using the web address that is provided below to record how you use your drops and note any concerns. Take it to your appointment so your eyecare professional can answer your questions.

**bit.ly/ GlaucomaPatientAssessmentProformaPDF**

Glaucoma UK have more information about the different types of glaucoma drops, how to put them into your eye, tips for managing your drops and aids that can help. Their contact details are at the end of this booklet.

## Attending your appointments

It's very important to attend all your appointments to make sure your eye pressure stays stable. Changes in eye pressure have no symptoms, so regular checks are the only way to confirm your treatment is working. It also gives you a good opportunity to ask your eyecare professional any questions you may have about your glaucoma treatment.

Depending on where you live and how stable your glaucoma is, you may be seen at a hospital eye clinic or by a specialist eyecare professional in the community.

How often you need to be seen depends on how well your treatment is working. At your appointment, ask your eyecare professional when they recommend your next check-up should be. The timing can vary. For example, if you've just started new eye drops, they may want to see you sooner to check how well they're working. If your glaucoma is stable, your appointments might be further apart. Note the suggested timeframe and if you don't get an appointment within it, contact your eye clinic to follow up.

At your regular follow up appointments, you will usually repeat many of the tests that were done when you were first diagnosed. These tests help check if your glaucoma has changed since your last visit. Tests may be carried out by a specialist optometrist, ophthalmic technician or an ophthalmologist. The results will then be reviewed by the ophthalmologist or eyecare professional who will discuss them with you, either in person or remotely and let you know if any changes to your treatment are needed.

## Lifestyle factors

You can carry on with everyday activities such as reading, watching television and using the computer – these things will not make your glaucoma worse.

There have been several studies carried out into how certain lifestyle factors may affect eye pressure and glaucoma.

Certain activities such as weightlifting, head down yoga positions, or playing wind instruments have been found to increase eye pressure temporarily. But there's no evidence to show that this worsens glaucoma in the long term. A high caffeine intake has also been connected to an increase in eye pressure and possible increased risk of glaucoma. So drinking tea and coffee in moderation may help. Speak to your eyecare professional if you are concerned about any activities affecting your eye pressure or glaucoma.

Research is ongoing into whether certain supplements may help support eye health in glaucoma, but evidence is limited. Nicotinamide, a form of vitamin B3, is one supplement currently being studied. Early findings suggest it may help protect the optic nerve, and a large clinical trial is under way. Speak to your eyecare professional first before taking any supplements for your glaucoma.

The general advice about having a balanced diet rich in fruit and vegetables can help your overall general health and eye health. Also keeping active, exercising and not smoking can help keep your body and eyes healthy. The most important

thing you can do to protect your eyes from sight loss due to glaucoma is to keep to any medical treatment that has been prescribed for you.

## Driving

You must tell the Driver and Vehicle Licensing Agency (DVLA in England, Scotland and Wales) or the Driver and Vehicle Agency (DVA in Northern Ireland) if you have glaucoma in both eyes. If you drive a bus, coach or lorry, you have to tell them if you have glaucoma in one or both eyes.

Many people with glaucoma can carry on driving, but this depends on how much of their peripheral vision has been affected. The DVLA or DVA will ask you to have a special visual field test at a high street opticians to check if your peripheral vision meets their standards. They may also ask you to have these tests regularly to assess if it's safe for you to continue to drive. You should also check with your motor insurer whether you need to tell them about glaucoma.

You do not have to let the DVLA know if you have ocular hypertension.

## Glaucoma and cataract surgery

Many people who have glaucoma can still have cataract surgery safely. Cataract surgery can't restore any sight already lost because of glaucoma. But it can let more light into the eye, which often helps you make the most of your vision.

When deciding on cataract surgery, your ophthalmologist will:

- assess the type and stage of your glaucoma.
- check how stable your eye pressure is.
- consider the impact of your cataract on your daily life.

If glaucoma is early or well controlled, then cataract surgery can be straightforward. For more advanced cases, or where the eye pressures are not very well controlled, then eye pressure changes during or after surgery may carry a higher risk of worsening vision, so extra precautions may be needed. In some cases, your ophthalmologist might recommend combining cataract surgery with a glaucoma procedure (MIGS) to help manage your eye pressure more effectively.

Your ophthalmologist will explain the options and help you decide what is safest and most suitable for you.

## Further help and support

If glaucoma is picked up and treated early, you may not experience much of a change to your vision. With treatment, most people with glaucoma will keep good vision.

Some people may have more advanced vision loss due to glaucoma. With the right support, you can live confidently and independently with your condition. You may not need all this support right now, but you can access further support at any time you need it.

### Making things easier to see

If you do have some sight loss, there are a lot of things you can do to make the most of your remaining vision. This may mean making things bigger, using brighter lighting or using colour to make things easier to see. Call our Helpline or go to our website for our booklet on Making the most of your sight.

### Low vision

A low vision assessment can help you make the most of your vision. A low vision practitioner can explore visual aids or techniques that can help you. This might be with magnifying glasses or aids, or by helping you learn ways of using your vision, called

vision strategies. Ask your eye clinic or optometrist about having a low vision assessment.

## Eye Care Liaison Officer (ECLO)

Your eye clinic may also have a sight loss adviser. This advisor may be known as either the Eye Care Liaison Officer (ECLO), the Vision Support Officer or the Early Intervention Support Officer and they are on hand to provide you with further practical and emotional support about your eye condition or sight loss. To find out if your eye clinic has an ECLO, you can call our Helpline.

## Certification and registration

If glaucoma has caused a lot of sight loss, you can ask your ophthalmologist to check if you meet the criteria to be certified as sight impaired (partially sighted) or severely sight impaired (blind). Certification depends on how much your vision has been reduced. Being registered can help you access support from social services to stay independent.  Sometimes registration can make you eligible for certain financial concessions. Even if you're not registered, a lot of this support is still available to you. More information about certification and registration can be found on our website, or by calling our Helpline.

## Independent living

You can contact your local social services directly for help and support with staying independent. Vision rehabilitation teaches practical skills on daily living at home and safe ways to get around to give you more confidence when you are out.

## Emotional support and counselling services

It's completely natural to be worried or anxious when you've been diagnosed with glaucoma and it's normal to find yourself worrying about the future and how you will manage with a change in your vision. It can sometimes be helpful to talk about these feelings with someone outside of your circle of friends or family. At RNIB, we can help with our telephone Helpline and our Sight Loss Counselling team. Your GP or social worker may also find a counsellor for you if you feel this might help.

## Connecting with others and support for your eye condition

Sometimes, it can help to connect to people with the same eye condition. The following organisations support people with glaucoma:

**Glaucoma UK** provides help, information and support to anyone affected by glaucoma including a helpline, support groups and a buddy scheme. Find out more about the many ways they can support you at every stage of your glaucoma journey.

**Tel: 01233 648 170**
**Email: helpline@glaucoma.uk**
**Web: glaucoma.uk**

## Finding out about research

If you would like to find out more about research into glaucoma, the following links may be helpful. You can also ask your eyecare professional about any research that may be happening into your eye condition. It's important to talk to your ophthalmologist first if you are considering taking part in any trial.

**Research Opportunities at Moorfields (ROAM)**
**research.moorfields.nhs.uk**

**Be Part of Research**
**bepartofresearch.nihr.ac.uk**

## Further information and support

**RNIB Helpline**
We're here to answer any questions you have about your eye condition or treatment. If you need further information about glaucoma or on coping with changes in your vision, then our Helpline is here for you.

Call: **0303 123 9999**
Email: **helpline@rnib.org.uk**
Or say, **"Alexa, call RNIB Helpline"** to an Alexa-enabled device.

Our opening hours are weekdays from 9am – 6pm.

You can also get in touch by post or by visiting our website:

**RNIB The Grimaldi Building**
**154A Pentonville Road**
**London**
**N1 9JE**
**rnib.org.uk**

## We value your feedback

You can help us improve this publication by letting us know what you think.

- Is this booklet useful, easy to read and understand?
- Is there anything missing?
- How clear, relevant and helpful did you find the images and diagrams?
- How could we improve it?

Send your comments to us by emailing us at **eyehealth@rnib.org.uk** or by writing to:

**Eye Health Information Service**
**RNIB**
**The Grimaldi Building**
**154A Pentonville Road**
**London, N1 1JE**

## Information sources

RNIB and The Royal College of Ophthalmologists do all we can to ensure that the information we supply is accurate, up to date and in line with the latest research and expertise.

This publication uses information from:

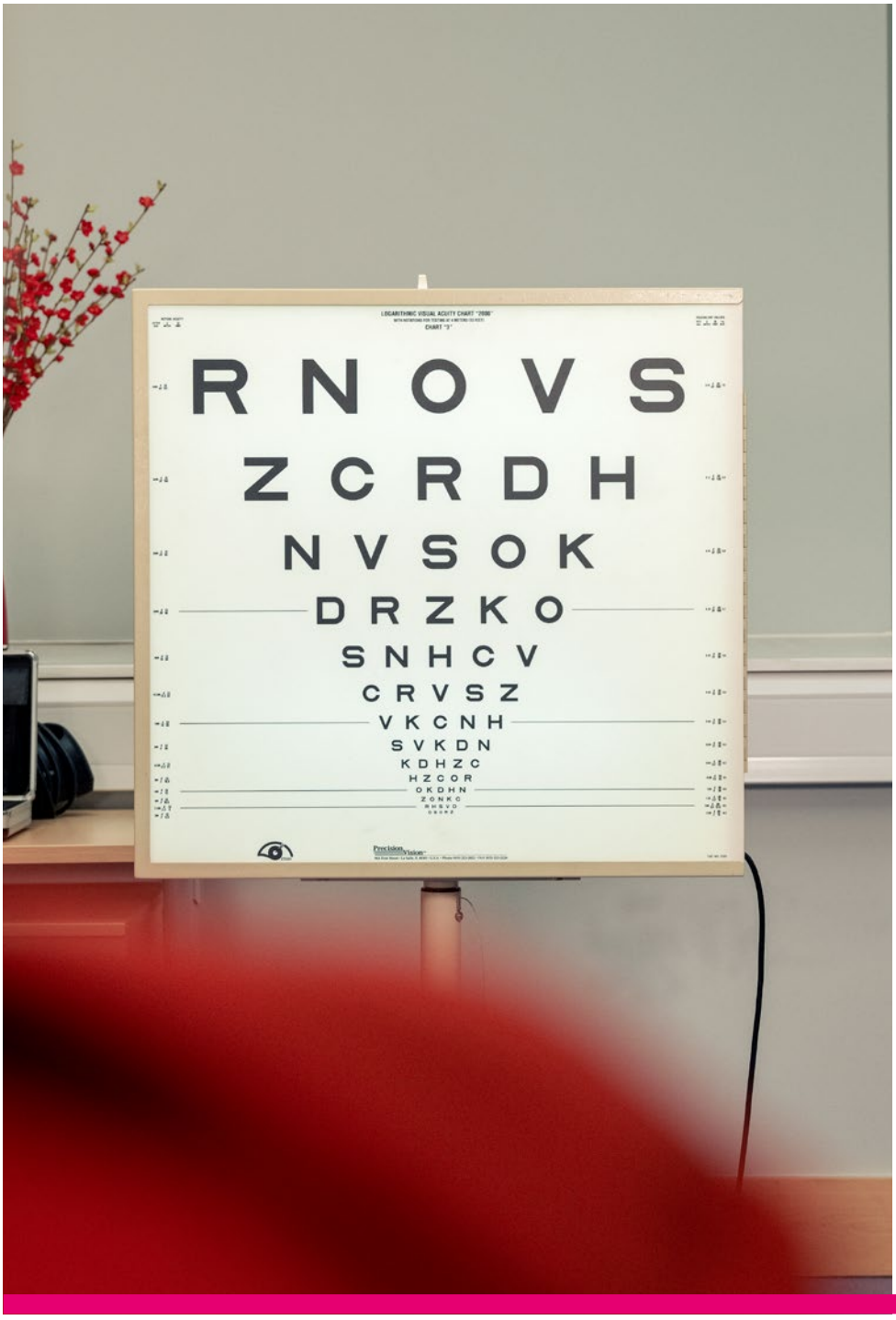
- The Royal College of Ophthalmologists' guidelines for treatment
- clinical research and studies obtained through literature reviews
- specific support groups for individual conditions
- medical textbooks
- RNIB publications and research.

For a full list of references and information sources used in the compilation of this publication, email **eyehealth@rnib.org.uk**

## About The Royal College of Ophthalmologists

The Royal College of Ophthalmologists champions excellence in the practice of ophthalmology and is the only professional membership body for medically qualified ophthalmologists.

The College is unable to offer direct advice to patients. If you're concerned about the health of your eyes, you should seek medical advice from your GP or ophthalmologist.
**rcophth.ac.uk**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## RNIB Helpline

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Email: **helpline@rnib.org.uk**

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This booklet has been produced jointly by RNIB and The Royal College of Ophthalmologists.

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