

# YOUR EYES



European Forum  
Against Blindness  
E F A B



## Better sight manual





EUROPEAN COALITION FOR VISION  
*Better Eye Health For Europe*



Schweizerischer Berufsverband  
für Augenoptik und Optometrie  
Société Suisse pour  
l'Optique et l'Optométrie



The Charity for People with Glaucoma  
Established 1974



European Forum  
Against Blindness



E F A B

# For Your Eyes Only

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## Introduction

People often value their eyesight as the most important of the senses. Yet every year many people suffer loss of vision that could have been prevented or treated.



Over half of all sight loss could be prevented or treated. This means that millions of people every year could avoid losing their most precious sense.

This happens for many reasons. Some people believe, if they can see well, that they have healthy eyes. They may not notice a gradual change in their vision. Others believe changes in vision are just down to age while some think visual problems will go away on their own.

The fact is many eye problems only give symptoms (signs you have a problem) when they have been present for a while and when irreversible damage may already have been done.

So this booklet was created to help people better understand the most common eye disorders and more importantly to remind us all that:

- Regular eye checks are a vital part of our general healthcare.
- Eye tests are not just about glasses. Sometimes poor sight may be due to something else that needs medical investigation.
- No matter how small an eye problem seems, always visit a qualified eye care professional for advice sooner rather than later.

While there is no substitute for regular eye tests, certain eye conditions have characteristic signs and symptoms that if you experience or notice, you should have your eyes checked.

The good news is that many eye problems can be prevented or treated and the sooner you take action, the better your eyesight will be. Ignoring the problem can be the worst thing to do. Together, by sharing knowledge and seeking advice, we can reduce the number of people who lose their sight.

## Preventing vision loss

### Myopic Myth?

***Wearing glasses tends to weaken the eyes.***

**They don't.** People who have been able to read easily close up without glasses may find that they cannot do so as they get older (past 40). As they begin to need stronger and stronger glasses, they may assume that wearing glasses has 'ruined' their eyes. In fact, they are experiencing a normal condition called presbyopia – the inability of the ageing eye to focus on near objects.

Children are usually diagnosed with near sight (myopia) between the ages of 8 and 12. There is a natural progression in their myopia and a need for a stronger correction over the next few years. These children, as well as near sighted adults, may believe that glasses have weakened their eyes when their lens prescription needs to be made stronger. Glasses, however, do not weaken eyes; they are simply aids to improve vision.

### Glasses (Spectacle) Correction

The most common vision-related symptom that people experience is blurred vision. For example, if you suffer from blurred vision when watching TV, driving or reading a book, this might mean that you need spectacles or contact lenses but equally it could indicate an underlying eye condition that needs attention (especially, if the blurred vision appears suddenly).

Other symptoms requiring prompt attention are pain in the eye (especially if eyes are also red), double vision, flashes and

floaters in your vision. If you experience any of these, do not delay, visit your eye care professional.

It is very common for people to require glasses because the eye has a 'refractive error' that needs correction to give clear vision. There are two main types of refractive error;

- longsightedness (hyperopia) and
- short-sightedness (myopia).

A third element of refractive error, called 'astigmatism' can also be present along with long- and short-sightedness. All these refractive errors can be corrected with glasses or contact lenses or laser.

Moreover, in middle age (age 45+), the ability of the eye to focus on close objects decreases causing problems with near vision. This is a normal process called presbyopia. People start to require extra refractive lenses on top of any other correction. This may be a multifocal, varifocal or bifocal addition or a pair of reading glasses for near work. Sometimes if you are myopic, you may start to find it more comfortable to take off your usual glasses to read.

Looking after your eyes in an industrial or agricultural workplace may require eye protection from foreign bodies. Your employer has specific responsibilities in this respect and you should speak to your HR Department if you feel that you require specific or updated eye protection (goggles, visors, etc). Once provided it is your responsibility to always wear them and to remind colleagues to do so (see Accidents and Prevention for further information).

Computer screen users regularly complain of tired eyes or blurred vision when working. A specific pair of video display unit (VDU) spectacles can offer greater comfort for prolonged VDU use and under EU law should be part or fully funded by your employer.

## Myopic Myth?

***Wearing glasses too much will make the eyes 'dependent' on them.***

**False.** Refractive errors (near-sightedness, far-sightedness, or astigmatism) change as people get older. Many variables come into play, but most of this change would continue whether wearing glasses earlier or later or more or less. Wearing glasses does not make the eyes get worse.

## Eye injuries

The saying goes 'accidents happen' and indeed they do. Most parts of our eye are very sensitive to injury, so it is important to avoid injuries in the first place.

When you get a knock on the arm, or cut your finger, your skin may bruise or scar. In the long run there may be no sign you ever had an accident. However, with eyes it can be very different. Scars can impair your vision and heavy blows can permanently damage the structures of your eye, leading to immediate problems with vision or increasing your risk of long term complications.

We can sometimes find ourselves about to use a drill or play a game of squash without ever thinking of goggles.

Here are some common examples of when considering eye protection before you do activities can save your sight.

- **Cutting materials:** Debris can fly off in all directions. High speed debris hitting the eye can cause pain and also damage vision. Wear the correct safety goggles.
- **Using chemicals:** Splashes from chemicals can quickly cause immense damage to structures of the eye. Using

appropriate eye protection can reduce this risk. Likewise, if you get any liquid (other than clean water) in the eye, irrigating (washing out) it immediately can minimise damage. Use copious amounts of saline or clean (ideally bottled) water for several minutes and then immediately seek advice from an eye care professional.

- **Playing sport:** Squash is a particularly risky sport when it comes to eye injuries. Because the ball is small, it can fit into the gap between the bone structures that protect your eyeball. Squash injuries cause great damage to the eye, sometimes resulting in permanent loss of vision. Wearing the correct eye protection would avoid this and yet allow you to enjoy the sport. Ask your local eye care professional for advice on eye protection for any sport.

We never know an accident is about to happen, so we have to plan to reduce risk. Think about how you and your eyes may be at risk when you take part in all activities.

Speak with your local eye care professional about eye protection and advice. These simple steps could save your sight.



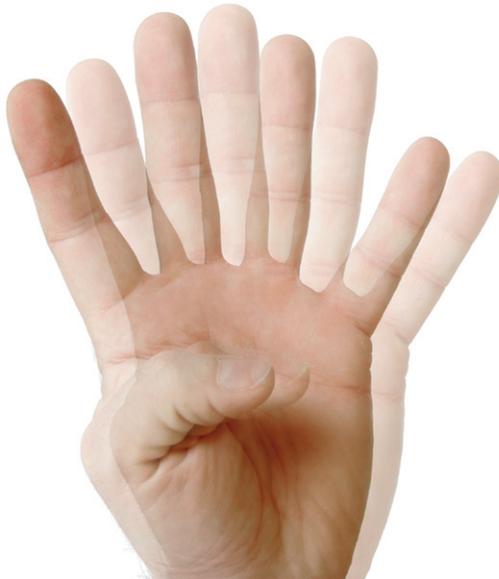
## Reducing the risk of driving accidents

As well as injury to the eye, it is important to remember that our eye health and vision can also impact the health and wellbeing of others. This is particularly true when driving, as having good vision can help reduce the risk of road accidents. It is important to have regular eye exams and to wear glasses or contact lenses when they are advised. Something as simple as wearing glasses can help you avoid an accident and save lives.

## Flashes and floaters

Floater drift in the vitreous jelly in front of the retina.

Most people will experience floaters at some time in their lives but they do get more common with age. They are usually harmless bits of protein floating in the vitreous gel but if



they increase in number or your vision is affected, see an eye specialist. (See also sections on retinal detachment and macular hole).

Floater can cause 'shadows' on the retina which swirl around infuriatingly as you move your eyes. Worse still they seem to have a mind of their own and no matter how you look they float back into view. Lying on your back looking at a light ceiling is perfect for noticing 'floaters'.

### ***What causes them?***

Usually, the vitreous gel has pulled away from the back of the eye, sometimes dragging away some of the cells from the retina. It is called posterior vitreous detachment (PVD) and is more common with ageing. Flashing lights may occur when the outer part of the vitreous humour pulls on the light-sensitive tissue of the retina. The pulling stimulates the retina, causing your brain to interpret it as a light signal.

Floater are also more common in short-sighted people.

## **Retinal detachment**

The retina needs a blood supply to survive and work properly, so if a retinal detachment is not detected and treated quickly it can result in the loss of some or all the vision in your eye.

In severe cases it is like a sheet of wallpaper sliding away from a wet wall.

***If you have a sudden onset of any of the symptoms associated with retinal detachment such as floaters, flashing lights and/or a dark shadow across your vision in one or both eyes, you should see your eye health care professional as soon as possible.***

## ***What happens in the eye?***

Most retinal detachments happen because a tear or hole in the retina allows fluid to leak between the retinal layers and this then causes the retina to detach.

Holes in the retina can occur because of changes that happen as you age, whereas tears happen because the retina has been pulled and torn.

Tears can be caused by, for example, a blow to the eye or if the vitreous gel suddenly becomes detached from the retina (known as acute posterior vitreous detachment – PVD. Most gradual PVD does not result in retinal detachment).

Diabetic retinopathy can result in fibrous scar tissue forming inside the vitreous and on the surface of the retina. This scar tissue can then pull on the retina causing a detachment.

## ***Who is at risk?***

Retinal detachment only occurs in about 1 in 10,000 people each year. It is even rarer under the age of sixteen and most commonly happens to people aged between 60 and 70 years.

There is a higher risk if you have:

- Retinal tears.
- Macular holes (see page 12).
- Severe short sightedness.
- Blows to the eye.
- Family history of retinal detachment.
- People who have had eye surgery.

What to watch out for:

- **Flashing lights.** There is no way you can tell whether flashing lights are caused by your vitreous or by a retinal tear. If you suddenly experience flashing lights you should have your eye examined by an eye care professional ideally within 24 hours.
- **Floaters.** A recent dramatic increase in the number of floaters or showers of dust-like floaters could be a sign that changes are happening at the back of the eye.
- **Dark shadow.** If your retina does detach then it can't work properly any more. You will see this as a dark shadow in your vision. (You can better assess this if you cover one eye.) If more of your retina detaches then the shadow will move towards the centre of your vision. If you experience a dark shadow moving up, down or across your vision you need to attend your local eye clinic as soon as possible and certainly within 24 hours.
- **Blurring of vision.** Your vision can gradually become blurred for many reasons, you should see an eye care professional if it persists.

### ***What can be done about it?***

Usually a laser is used. This causes very small burns in the area around your retinal hole or tear which prevent it expanding into a detachment. Less commonly used today is a technique involving freezing a tiny area of the retina around your retinal tear or hole.

Full retinal detachment itself can also often be treated. The treatment involves an operation to reattach the sensory retina. The sooner treatment is carried out, the better the results. If retinal detachment is not treated then you will lose all the vision in the affected eye.

## Common causes of vision problems

### Age-Related Macular Degeneration (AMD)

Macular degeneration is painless and, as it creeps up on you, most people don't realise there is a problem until they notice difficulty reading or driving.

It is particularly dangerous because you tend to lose sight of what is right in front of you: 'central vision'. Although central vision is diminished, the vision around the centre is not damaged by AMD, this means it is still possible to see objects outside the area affected. Some people call this 'side vision'.

You do not go completely blind and there is more good news...

#### ***How do you know if your eyes are affected?***

There may be nothing to notice until the disease is quite advanced, so regular eye checks are a good idea.

In the early stages you might notice a slight blurring. This can get progressively worse, not least with print seeming less sharp and sometimes blind spots. Eventually, it is impossible to read straight on and people try to use their 'side vision' by flicking their eyes back and forth.

#### ***What goes wrong?***

The back of the eye (the retina) picks up the light entering the eye and sends the 'view' down the optic nerve to the brain which 'sees' what you are looking at. Human beings are most interested in what is directly in front of us so the retina is most sensitive to light in the middle, central part called the macula.

## Myopic Myth?

***Reading in poor light or prolonged reading of very fine print will ultimately harm your vision.***

**False.** Although reading in dim light is unwise because it may cause your eyes to feel tired or uncomfortable, it can't hurt your eyes. Similarly, reading small print or reading extensively cannot cause damage to the eyes. This is true even for people who already have poor vision. The eyes are meant to be used!

Problems with this part of the eye come in two main forms:

- Dry macular degeneration (also called non-neovascular) comes on much slower so is usually diagnosed later as people tend to 'get used' to the loss of sight and put it down to getting older.
- Wet macular degeneration (also called neovascular) affects your vision more quickly than dry macular degeneration.

Fortunately by far the most cases of macular degeneration are dry.

### ***How common is it?***

- People over 50 are most likely to suffer from age-related macular degeneration (AMD). Around one third of people over 75 years have early signs of AMD, and of those about 7% will be severely affected. Around 14 million people in Europe suffer from poor vision as a result of this increasing problem as we all live longer.
- Currently more women suffer from AMD but as we all live longer the number of men affected by AMD is likely to increase.

- Smoking is associated strongly as a risk factor for developing AMD. Stopping smoking can reduce your risk of AMD and sight loss.
- Macular degeneration in young people is rare, and is usually caused by a genetic condition.
- AMD is the leading cause of poor vision. Severe AMD on both eyes can leave you legally blind but most people will have enough peripheral vision to continue their daily activities.

### ***Eye opener***

Mix a cup of blueberries with a cup of yogurt for breakfast in the morning. Blueberries are one of the richest fruit forms of antioxidants, and a study published in The Archives of Ophthalmology found that women and men who ate the greatest amount of fruit were the least likely to develop age-related macular degeneration (AMD), the leading cause of blindness in older people.

### ***What can be done about AMD?***

In recent years there have been very positive advances in the treatment of wet-AMD. This means it is even more important than ever, that if you experience the symptoms of wet-AMD, you visit an eye care professional straight away. Today, there are new drugs known as anti-VEGF treatments and these can not only stop progression of wet-AMD in many people but, in some cases, may even help restore some of the lost vision. However, treatment must be started as soon as possible to minimise the risk of permanent sight loss.

Whilst there is no current treatment for dry-AMD, it is important to have regular eye exams. Your eye care



professional will be able to monitor your dry-AMD and give advice on vision correction. In addition they will be able to update you on current research and risk factors that may help reduce the risk of your dry-AMD developing into wet-AMD.

### ***Treatments for wet-AMD***

Wet-AMD is caused by new blood vessels that leak. Argon laser was once used for its treatment. This was surpassed by photodynamic therapy which then became the predominant treatment choice.

Since the launch of the first licensed anti-VEGF (anti-vascular endothelial growth factor) drug therapy in 2006 in the United States, the treatment goal has shifted to actually improving vision in a significant proportion of patients by reversing vision loss. Anti-VEGF treatment, given by injection in the eye, works by stopping new blood vessels from forming and leaking, and has become the standard-of-care in the treatment of wet AMD.

## Cataracts

Clouding of the lens in the eye most often comes on with ageing and is very common in later years. Around half of people over 80 either have a cataract or have received treatment for one.

### *The lens*

Most of the job of focussing is done by the front of the eye (cornea) but the fine tuning, especially in close-up, is done by



a crystalline lens which adjusts the focus of the eye to give a clear image on the back of the eye (retina). This lens must be perfectly clear.

### ***What causes cataracts***

There are many types of cataract and they can occur for different reasons. Here are the main types:

- **Age-related cataract.** This is by far the most common cause of cataract.
- **Secondary cataract.** Cataracts can form after surgery for other eye problems, such as glaucoma. Cataracts also can develop earlier in people who have other health problems, such as diabetes. Cataracts are sometimes linked to steroid use.
- **Traumatic cataract.** Cataracts can develop after an eye injury, sometimes years later.
- **Congenital cataract.** Some babies are born with cataracts or develop them in childhood, often in both eyes.
- Long exposure to strong sunlight (for example, in fishermen, postal workers and farmers).

### ***How does it affect vision?***

While the cataract is developing, you may not notice any changes in your vision. Cataracts tend to ‘grow’ slowly, so vision gets worse gradually. Over time, the cloudy area may increase in size and vision may get duller or blurrier.

As the clear lens slowly colours with age, your vision gradually may acquire a brownish shade. At first, the amount of tinting may be small and may not cause a vision problem. Over time, increased tinting may make it more difficult to drive, read and watch TV. (After treatment you might discover that ‘black’ pullovers and socks turn out to be blue!)

During middle age, most cataracts are minor and do not affect vision. It is after age 70 that most cataracts make their presence felt. Watch out for:

- Headlights, lamps, or sunlight appearing too bright or with a halo.
- Poor night vision.
- Double vision or ghosting of images in one eye.
- Having to change your glasses or contact lenses frequently. (In the early stages of cataracts you might actually find that reading without glasses becomes possible for a period.)

### ***What helps to prevent it?***

- Wearing sunglasses, particularly wraparounds, and a hat with a brim to block sunlight may help to delay cataracts.
- Quit smoking.
- Good nutrition with plenty of green leafy vegetables, fruit, and other foods with antioxidants may help reduce the risk of age-related cataract.

### ***Treatment***

Treatment is generally excellent. Have regular eye checks. Eye care professionals will pick it up very easily and quickly. Surgery is likely to be required if the cataract intrudes on your quality of life affecting everyday activities, such as driving, reading, or watching TV. You and your eye care professional can make this decision together. Once you understand the benefits and risks of surgery, you can make up your own mind about whether cataract surgery is right for you. In most cases, delaying cataract surgery will not cause long-term damage to your eye or make the surgery more difficult. You do not have to rush, or be rushed, into surgery.

## Myopic Myth?

***A cataract must be 'ripe' before it is removed.***

**No.** With older surgical techniques, it was considered safer to remove a cataract when it was 'ripe' but with today's modern surgical procedures, a cataract can be removed whenever it begins to interfere with a person's lifestyle.

### ***Cataract surgery***

If you have cataracts in both eyes that require surgery, the surgery will be performed on each eye at separate times, depending on the institution. (Some offer both on the same day.)

Some people who need cataract surgery also have other eye conditions, such as age-related macular degeneration or glaucoma. If you have other eye conditions in addition to cataract, talk with your doctor. Learn about the risks, benefits, alternatives, and expected results of cataract surgery.

After the natural lens has been removed, it is usually replaced with an artificial lens inside the eye, called an intraocular lens (IOL).

An IOL is a clear, plastic lens that requires no care and becomes a permanent part of your eye. You will not feel or see it. Light is focused clearly by the IOL onto the retina, improving your vision. Depending on the type of IOL, you may or may not require glasses afterwards.

Cataract removal is one of the most commonly performed operations. It is also one of the safest and most effective

types of surgery. In more than 90 per cent of cases, people who have cataract surgery have better vision afterward. But there can be problems both during and after surgery – we're all different and no surgery comes with a guarantee.

## **Myopic Myth?**

### ***Using computers can damage your eyes.***

**No.** Working on laptops, computers or video display screens will not harm your eyes. However, when using a screen for long periods of time, just as when reading or doing other close work, you blink less often than normal. Reduced blinking makes your eyes dry, which may lead to the feeling of eyestrain or fatigue.

## **Diabetic Retinopathy**

Damage to the back of the eye (the retina) from high blood sugar levels is a common problem for people with diabetes. If it is not treated, it can lead to blindness so it is important to keep diabetes under tight control.

Everyone with diabetes who is 12 years old or over should have their eyes examined once a year for signs of damage.

### ***What goes wrong?***

Cells in the retina pick up light and send 'vision' to the brain. Like any other part of the body, it needs a constant blood supply. Over time badly controlled diabetes can block the blood vessels which supply the retina or make them 'leaky'. Sometimes the tiny blood vessels actually grow out of the retinal surface blocking light getting to the cells beneath them. In the end, these changes to the back of the eyes can lead to damage to vision and even to blindness.

### ***Eye openers***

- The human eye blinks an average of 4,200,000 times a year.
- Each eyelash lives about five months.

Diabetic macular oedema (DMO) is the most common cause of visual impairment for people with diabetic retinopathy. It is characterised by leakage from the blood vessels in the macula, the central portion of the retina. As this part of the eye is responsible for sharp central vision, it can lead to significant visual impairment.

### ***How do you know it is happening?***

The brain is very good at ‘filling in the gaps’ so most people don’t realise there is a problem until it has become serious enough to cause things like:

- Shapes floating in your field of vision (floaters)
- Blurred vision
- Reduced night vision
- Sudden loss of vision in one eye or both.

Generally, this means there is already damage taking place. You need to see your doctor as soon as possible for treatment.

### ***Retina screening in people with diabetes***

Regular checks each year are vital and can save your sight, especially if the problem is caught early. The longer you have diabetes the greater the risk of retinal damage.

The checks are simple, quick and painless. The pupil is dilated with eye drops. (This can cause blurred vision anyway so do not drive from the test centre). Using a special ‘telescope’

and/or photography, the back of the eye can be seen easily and checked for any damage.

### ***What can be done about it?***

There are treatments but their success will depend on how seriously the retina is damaged.

Early stages can be treated by better diabetes control. More serious damage may need laser surgery or special eye injections to prevent any further loss of vision. This is a painless way of tiny pinpoint burning of the 'leaky' or wrongly growing blood vessels.

### ***Can it be prevented?***

Yes, mainly by controlling diabetes and treating any high blood pressure. So therefore it is important to:

- Lose weight (if recommended by your healthcare professional).
- Eat a healthy, balanced diet.
- Avoid using too much salt when preparing food and do not add more when eating.
- Attend your annual screening appointment.
- Inform your GP or eye care professional if you notice any changes to your vision immediately (do not wait until your next screening appointment).
- Take your medication as prescribed.
- Exercise regularly.
- Not smoke.

### ***Eye opener***

Tears are drained through the tear ducts, small drainage holes that connect the eye lids to the inside of the nose. This is why when you cry, sometimes your nose runs too.



## Glaucoma

Glaucoma can occur when the normal outflow tubes within the eye become slightly blocked. This prevents eye fluid (aqueous humour) from draining properly and the pressure within the eye rises. This intraocular pressure (IOP) cannot be allowed to rise too high as it will damage the optic nerve.

Although glaucoma often affects both eyes, usually in varying degrees, one eye may develop glaucoma quicker than the other.

If left untreated, glaucoma can cause blindness. But if it is diagnosed and treated early enough, further damage to vision can normally be prevented.

### ***Eye opener***

Tears are not all the same. They are a mixture of different solutions and this mix changes depending on what the tears are for.

Emotion, peeling onions or an injury, such as a poke in the eye, will cause the body to produce lots of extra ‘watery’ tears. These tears are designed to wash away anything that may be in the eye.

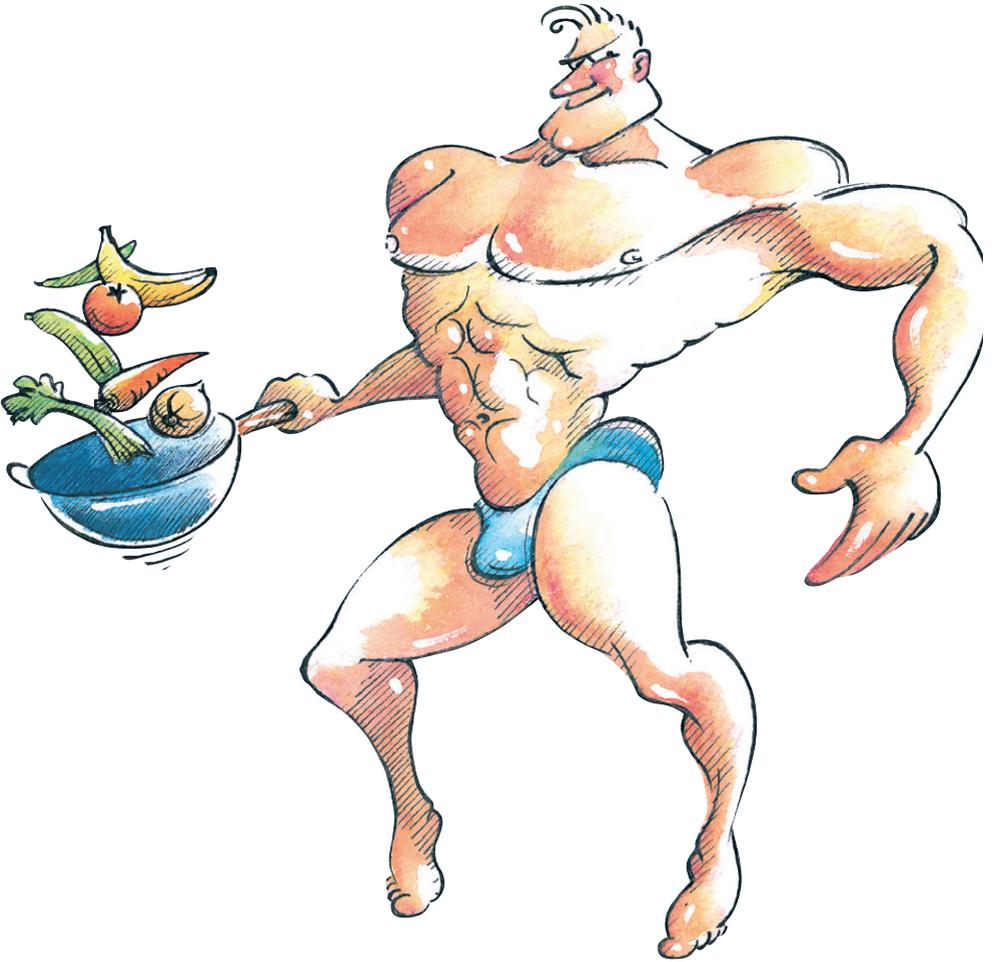
### ***Types of glaucoma***

There are three main types of glaucoma:

- **Primary open-angle glaucoma.** This is the most common type of glaucoma and develops very slowly. Most people do not realise it is happening so regular checks are important.
- **Primary angle-closure glaucoma.** This is rare. It can develop slowly (chronic) or rapidly (acute) with a sudden, painful build-up of pressure in the eye.
- **Secondary glaucoma.** This occurs as a result of an eye injury or another eye condition, such as uveitis (inflammation of the middle layer of the eye).

Amongst white Caucasian Europeans, one person in 50 (above 40 years old) and one person in 10 (above 75 years old) have primary open-angle glaucoma. People of African-Caribbean origin are considerably more likely to have glaucoma and it may come on earlier and be more severe.

The other types of glaucoma are much less common.



## ***Treatment***

Glaucoma can be treated with eye drops, laser treatment or surgery. However, early diagnosis is important because any damage to the eyes cannot be reversed. Treatment aims to control the condition and minimise any future damage.

Regular appointments with an eye care professional will help to ensure that any signs of glaucoma can be detected early. Without treatment, glaucoma can eventually cause blindness.

Eyes need a certain amount of pressure to keep the eyeball in shape so that it works properly. However, if the optic nerve comes under too much pressure, its blood supply can be blocked, causing permanent damage. A great deal will depend on the pressure level and how long it lasts along with any other problems with the optic nerve at the time. A layer of cells behind the iris (the coloured part of the eye) produce a watery fluid called the aqueous humour. This helps keep the various parts of the eye in good condition but if it fails to drain away through the tiny drainage channels called the trabecular meshwork, it will result in an increase in pressure.

### ***Primary open angle glaucoma (POAG)***

This is not only the most common form of glaucoma, it can also creep up on you with a slow but steady rise in pressure. Your eye may seem perfectly normal and your eyesight will seem to be unchanged – because when the pressure starts to build up it doesn't cause you any pain even though the optic nerve is being damaged. When part of the field of vision in one eye is damaged, the other eye may “fill in” the gap if the damage has not occurred in the same part of the field of vision in both eyes.

Patients will experience blurred and misty patches in their visual field with missing parts near to the centre of vision. The visual field defects are irreversible and will worsen if left untreated. Exceptionally patients will report a tunnel effect with blurred edges in advanced glaucoma.

Only regular eye tests can detect glaucoma before you notice any change to your vision.

### ***What increases the risk?***

- **Age.** POAG is much more common in later years.
- **Family history.** The closer the relative who suffered from glaucoma the greater the risk. If your parents or other close family were affected you need regular check-ups even though there is no guarantee you will develop the condition yourself.
- **Short sight (myopia).** The worse this is the higher the risk.
- **Medical conditions.** Diabetes, heart diseases, high blood pressure and hypothyroidism may all increase risk so need regular checking along with eye examinations.
- Being of African Caribbean origin

### ***Checking it out***

Eye specialists will either perform these simple tests or refer you on for them. They are straightforward and painless.

- Examination of the back of the eye (retina), especially the area around the optic nerve (optic disc).
- Measurement of pressure using a special instrument called a tonometer. This involves a machine which uses a few puffs of air in each eye to record the pressure.
- Checking visual field. This involves being shown a sequence of spots of light on a screen. It helps pick up any sign of early defects.

## ***What can be done about it?***

The main treatment for POAG aims to reduce eye pressure. Some treatments also aim to improve the blood supply to the optic nerve but all of them can only stop further damage so early detection is vital.

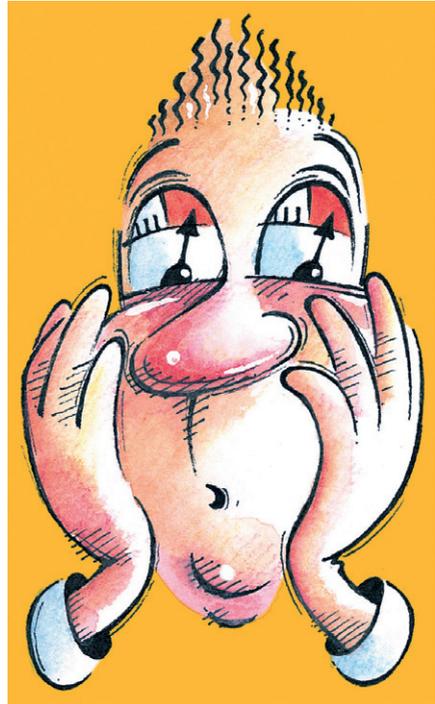
The most common treatment is eye drops. These reduce the amount of aqueous produced and will generally deal with smaller pressure rises. They will prevent any further damage if used as directed and not stopped unless advised to do so.

For more serious rises in pressure, especially if it comes on quickly, laser treatment can help improve the drainage of the aqueous and reduce pressure.

Laser treatment sometimes needs repeating. It is a minor surgical procedure performed under local anaesthetic as an outpatient.

## ***Surgery***

If eye drops and laser treatment cannot lower eye pressure and keep it stable then surgery may be considered (a trabeculectomy). Only five per cent of people with glaucoma require this surgery which creates a new, drainage channel in the eye and lowers pressure.



## ***Primary angle closure glaucoma***

Much less common than POAG, acute angle closure glaucoma happens when there is a sudden and more complete blockage to the flow of aqueous fluid from the eye. This is nearly always very painful and causes permanent damage if not treated promptly.

In acute angle closure glaucoma, the pressure in the eye rises rapidly. This is because the outer edge of the iris and the front of the eye (cornea) come into contact, which stops the aqueous fluid from draining away through the trabecular meshwork as normal. This can happen in one or both eyes but it is rare for both eyes to have an attack at the same time.

Watch out for:

- At first, misty rainbow-coloured rings around white lights.
- Severe pain in the affected eye. This is impossible to miss but can be put down to sinusitis or even a bad headache.
- 'Red eye'.
- Rapid loss of vision.
- Feeling very sick (nauseous).

***Acute glaucoma is an emergency and needs to be treated quickly if sight is to be saved.***

### ***What can be done about it?***

Getting it sorted as soon as possible is essential and will almost always give complete and permanent recovery of vision. Go to a hospital emergency centre (A&E).

Laser or surgery of the iris will relieve the pressure immediately. The unaffected eye is sometimes also treated as there is an increased risk of another attack.

## Getting the best from your eye care professional

Regular eye checks will help protect your vision from conditions which are either preventable or treatable. Some eye problems creep up on you unnoticed, so it's important to visit your eye care professional regularly even if your vision seems fine.

Eye examinations are painless and you can ask questions about your eyesight, particularly if you are worried over something you have noticed. To help you gain the most from your eye examination here are some tips:

- Don't be afraid to ask questions.



- Write down any questions, symptoms or problems with your eyes. Even things which might seem ‘silly’ may give clues to what is happening.
- Write a list or bring along any medicines you’re taking (including ‘herbal’ and medicines bought from your pharmacist).
- It’s very important to tell your eye care professional about any eye problems your close relatives may suffer from, especially glaucoma, macular degeneration or if they are diabetic and it affects their vision.

Some eye problems only happen when you are doing something which triggers them. For example:

- Glare when driving or a bright ‘halo’ around lights.
- Difficulty with night driving such as rainbow colours around lights or difficulty seeing any distance ahead.
- Eye-strain or headaches when using a computer, mobile devices or whilst reading.
- Some jobs or hobbies may need eye protection or benefit from better eyesight. Your eye care professional can tailor solutions for you, such as safety glasses for sports or DIY jobs. Contact lenses can give better vision where spectacles are impossible. Magnification can help with many hobbies and close-up work.

The most important thing to remember is that your eye care professional is there to help. You should always feel comfortable to go back and follow up on any concerns or questions you may have. Your eye care professional will be more than happy to help even after your eye examination. Always go back if you have any problems and be certain to return at the review date your eye care professional recommends.

## REASONS TO SEE YOUR EYE CARE PROFESSIONAL

- You have diabetes.
- A member of your close family has glaucoma.
- Good eyesight is vital for safety at your work.
- Your vision is clear one minute, fuzzy a few hours later.
- There is a frustrating dark or empty patch at the centre of your vision.
- You are bumping into people.
- You can only see straight ahead.
- Straight lines appear wavy.
- You see a lot of “flashes and floaters”.
- A dark curtain has settled across your vision.
- You have sudden eye pain, redness, nausea and vomiting.
- You need to squint or look slightly to the side to see ahead.
- Your vision is blurry, with ‘halos’ around lights.
- You have dry irritated eyes.
- You have double vision, double images or “ghost” images.



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