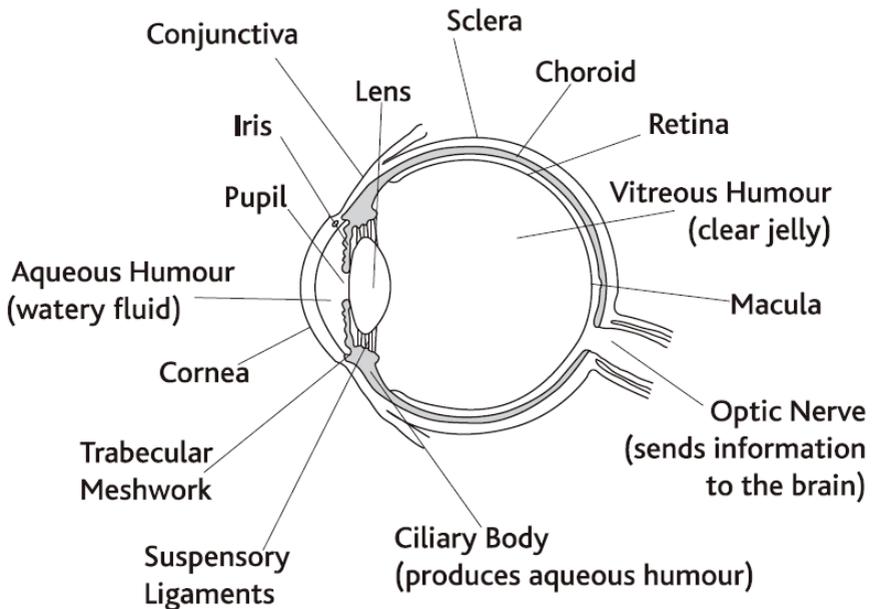


Glaucoma



What is glaucoma?

Glaucoma is the name for a group of eye conditions in which the optic nerve is damaged at the point where it leaves your eye.



Your eye needs a certain amount of pressure to keep the eyeball in shape so that it can work properly. A layer of cells behind the iris (coloured part of your eye) produces a watery fluid, called aqueous. This aqueous fluid passes through the pupil to leave your eye through a series of tiny drainage channels called the trabecular meshwork.

If there is resistance to the flow of the aqueous fluid out of your eye, the pressure will rise. This may occur as a result of aging or damage to the cells in the trabecular meshwork or blockage with iris tissue causing a rise in intra ocular pressure and subsequent damage to the nerve.

The aqueous fluid has nothing to do with tears and eye pressure is largely independent of blood pressure.

Raised eye pressure may cause damage to your optic nerve. You may not be aware of the nerve damage as it is being caused, and once the damage has occurred it is irreversible.

Are there different types of glaucoma?

Yes. There are two main types.

- **Primary open angle glaucoma (chronic)**

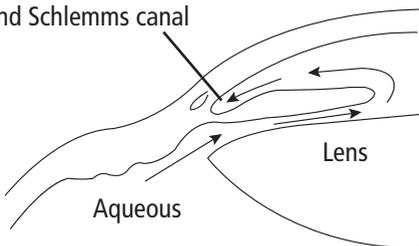
This is the most common type of glaucoma. Gradual blockage of the drainage channels causes a slow painless rise in your eye pressure. This in turn damages the nerve of sight (optic nerve) at the back of your eye, causing gradual loss of peripheral vision.

- **Acute (sudden) glaucoma**

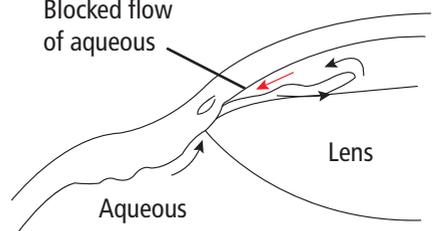
In acute glaucoma there is a sudden complete blockage of the drainage channels by the iris. This causes a sudden large rise in the pressure in your eye. This is called closed angle glaucoma (see diagram). This may be quite painful and if not treated promptly will cause permanent damage to your sight.

Glaucoma may also be caused by another eye condition (known as secondary glaucoma), or rarely it may occur in children because of abnormal eye development.

Normal flow through trabecular meshwork and Schlemms canal



Blocked flow of aqueous



How common is glaucoma?

In the United Kingdom, some form of glaucoma affects about 2 in 100 people over the age of 40, but this risk increases with age.

Primary open angle glaucoma

Why have I got primary open angle glaucoma?

In most cases we do not know why people develop glaucoma. It often runs in families (genetic factors), and it becomes increasingly common as people get older, because age affects the cells where the aqueous fluid drains out, and/or the blood circulation to the optic nerve. Short sighted people are more prone to glaucoma and those of certain racial types, such as people of African origin, have a higher risk of developing glaucoma and developing it at an earlier age.

If you have glaucoma you should advise your close relatives (parents, siblings and children) to have an eye test regularly. If your children are over 40 they are entitled to a free eye test by their optician every year.

What are the symptoms?

None. Open angle (chronic) glaucoma has no symptoms until the very late stages. It can only be diagnosed by measuring the intra-ocular pressure, examining the optic nerve at the back of your eye, and checking your peripheral visual field with specialist equipment. It is invariably your optician who finds signs of glaucoma at a routine sight test, and it is therefore important that everyone visits their optician for a sight test every two years or, if a close relative has glaucoma, annually once you are over the age of 40. Left untreated, glaucoma will gradually damage your peripheral sight, and in very advanced cases your eye may become blind.

How is it treated?

In most cases effective treatment prevents the disease from progressing. Chronic glaucoma is usually treated with eye drops to reduce the pressure in your eye. You will need to attend the hospital regularly to check that the treatment is effective. Your clinic appointment should last between 30 minutes and 2 hours, dependent on the number of tests performed, but sometimes the clinics are busy and delays are unavoidable.

At each appointment your sight will be tested, and your eye pressure measured. At some appointments you will be asked to have your optic nerve photographed and visual fields tested. These tests may need to be arranged on a different day.

On some clinic visits the doctor may need to dilate your pupils to check the back of your eyes. In this case it is best not to drive to the appointment as your sight may be blurred for a few hours afterwards. This is very likely to happen on your first clinic visit. Please ask your specialist if it is alright to drive to your next appointment. If it is difficult for you to attend the hospital at any time, please discuss this with your doctor and we will try to make your appointments more convenient.

Eye drops

Treatment to lower the pressure is usually started with eye drops. These act by either reducing the amount of fluid produced in your eye or by opening up the drainage channels to help aqueous fluid flow out of your eye. It is very important that you do not forget your eye drops, so it is worth getting into a routine. Eye drops usually need to be continued for life.

You may find the eye drops become uncomfortable or you may develop an allergy (red sore eyes) to them between your appointments. If this occurs, please contact your GP or the eye department for further advice. Unless clearly stated by your eye specialist, use your eye drops as normal on the day you attend the eye clinic.

How do I use my eye drops?

When putting in the drops, try not to touch your eye, lashes or skin with the end of the dropper:

1. Wash your hands.
2. Sit or lie down with your head supported.
3. Look up and put a drop inside the lower lid.
4. Always wash your hands afterwards.
5. If you take more than one type of drop, it is important to leave five minutes between each differing drops to prevent the second one washing out the first.

6. If you take a drop more than once a day spread the dose over the day. For example, if twice a day try to use the drop at the same time morning and evening, ideally 12 hours apart.

If you have any problems with instilling your eye drops please speak to a staff member at the eye unit. There are special eye drop dispensers to help you hold your eye drop bottle. Your GP, pharmacist or a clinic staff member can supply you with one if you ask. A leaflet explaining 'How to use your eye drops' is also available at the eye unit.

Are there any alternatives?

In about 5% of patients the eye drops do not control the eye pressure adequately. In this case your specialist may suggest either laser treatment or an operation called a trabeculectomy to improve the drainage of fluid from your eye. Information about this procedure is given in a separate booklet. Your specialist will discuss which is the best method in your particular case.

Can primary open angle (chronic) glaucoma be cured?

Although damage already done cannot be repaired, with early diagnosis, careful regular observation and treatment, damage can usually be kept to a minimum, and good vision can be enjoyed indefinitely. As glaucoma cannot be assumed to be always stable it is very important that your eyes are examined by a specialist at regular intervals. If you are unable to keep your next appointment please contact the hospital to rearrange the date. If your appointment also includes a visual field test, please ensure you rebook this appointment as well. Occasionally the hospital may need to postpone your appointment by a few weeks. If you are concerned by any delay please contact your consultant's secretary, but if you have new or progressing symptoms please also consult your GP.

What is ocular hypertension?

This is when there is high pressure in the eye without any signs of damage to the optic nerve. Depending on how high the pressure is and the risk of you developing glaucoma, your specialist may advise you to simply have your eyes monitored either in the hospital eye unit or by your optometrist. Alternatively if there is concern that you are at increased risk of developing glaucoma, your specialist may advise you to take drops to reduce the risk of damage occurring.

What is a glaucoma suspect?

This is when it is difficult to be certain whether you have early glaucoma. In this case your optician will refer you to the hospital and the specialist will discuss with you whether you need monitoring or need to start treatment.

Acute glaucoma

What are the symptoms?

A sudden increase in eye pressure, which may be very painful. The affected eye becomes red, the sight deteriorates and may even black out. You may also have nausea and vomiting. In the early stages you may see misty rainbow coloured rings around white lights.

You may have a series of mild attacks of 'misty' vision with coloured rings seen around white lights with some discomfort in the eye, often occurring in the evening. If you think that you are having mild attacks you should contact your optician, who will usually know whether you are at risk of developing acute glaucoma.

How is it treated?

If you have an acute attack, you will need to be referred to the eye casualty straight away, so that the pressure in your eye can be reduced with appropriate medication. When the pain and inflammation have gone down, your specialist will probably suggest laser treatment (laser iridotomy). This is a procedure carried out as an outpatient where the doctor makes a small hole in your iris with a laser, to improve the drainage flow of your eye. Usually the doctor will also advise you to have the same treatment on the other eye, because there is a high risk that it will develop the same problem.

Can acute glaucoma be cured?

If diagnosed and treated quickly there may be almost complete and permanent recovery of vision. Delay may cause loss of sight in the affected eye. Occasionally the eye pressure may remain a little raised and treatment is required as for chronic glaucoma.

Will I be able to drive?

Most people can still drive if the loss of visual field is not advanced. Everyone who is diagnosed with glaucoma affecting both eyes, must inform both the Driver and Vehicle Licensing Authority (DVLA) and their insurance company of their diagnosis. To assess possible damage to your peripheral vision you will need a special test to see whether your sight meets the standards of the DVLA. Please ask your specialist about this.

What if my sight cannot be fully restored?

Much can be done to help you use your remaining vision as fully as possible. Ask your optician or optometrist about low vision aids and whether you are eligible to be registered as sight impaired. Registration opens the door to expert help and sometimes to financial benefits.

Further information

Further information and support is available from:

www.glaucoma-association.com

www.patient.co.uk

www.rnib.org.uk

If you would like this leaflet in large print, braille, audio version or in another language, please contact the General Office on 01872 252690

