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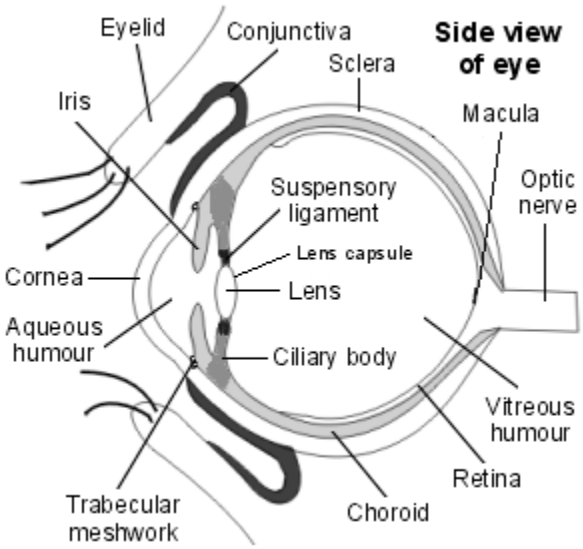
Open Angle Glaucoma

Glaucoma is an eye condition where the nerve at the back of the eye (the optic nerve) is damaged. This can lead to loss of vision. In most cases, the damage to the optic nerve is due to an increased pressure within the eye. There are different types of glaucoma.

- **Primary open angle glaucoma** (also called chronic glaucoma) is the most common type. This develops slowly so that damage to the nerve and loss of sight are gradual. The term 'open angle' refers to the angle between the iris and sclera which is normal, in contrast to:
- **Acute angle closure glaucoma** where the angle is narrowed. This is uncommon. In this condition there is a sudden increase in the pressure within one eye. The eye quickly becomes red, painful, and the vision blurs.
- **Secondary glaucoma** is caused by various other eye conditions which can cause a rise in the pressure within the eye. For example, glaucoma may develop as a 'secondary' complication to some eye injuries.

This leaflet deals only with primary open angle glaucoma.

The eye and aqueous



Aqueous is a fluid made by cells of the ciliary body. This fluid fills the front of the eye and the outward pressure maintains the shape of the eye. The fluid drains from the eye into the bloodstream through the sieve-like trabecular meshwork. This is near the base of the iris. There is constant production and drainage of aqueous fluid.

What happens in primary open angle glaucoma?

In primary open angle glaucoma (just called 'glaucoma' from now on) there is inadequate drainage through the trabecular meshwork. The reasons are not fully understood. The increased pressure in the eye can damage the optic nerve (the main nerve of sight) and lead to permanent patches of vision loss. In some cases this can eventually lead to total blindness.

What is the difference between increased eye pressure & glaucoma?

If your eye pressure is high you have a much increased risk of developing glaucoma and visual loss.. However some people have an increased eye pressure with no ill effect to the optic nerve (known as ocular hypertension).

1 in 4 people with glaucoma have eye pressures in the normal range (normal pressure glaucoma) when the optic nerve is damaged by relatively low eye pressures. Other factors such as a poor blood supply or severe short sightedness may make the optic nerve sensitive even to modest pressure.

Who gets primary open angle glaucoma?

In the UK, about 1% over 40 have glaucoma. It becomes more common with increasing age. Glaucoma can affect anyone, but it is more common where there is:

- family history of glaucoma
- very short sight
- diabetes
- African or Afro-Caribbean descent.

What are the symptoms of primary open angle glaucoma?

People with glaucoma do not notice problems until severe damage has occurred. Central vision is spared until relatively late in the disease.

Who should be tested for glaucoma?

Eye checks are particularly important if you are in any of the 'at risk' groups listed above. The eye check will detect early signs of glaucoma before any significant vision loss occurs. The eye test normally includes:

- measuring the eye pressure
- checking the optic nerve appearance
- assessing the field of vision

What is the treatment for primary open angle glaucoma?

The aim of treatment is to lower the eye pressure which will reduce the risk of further damage to the optic nerve. The target eye pressure will vary from case to case and partly depends on the original pre-treatment pressure. Your ophthalmologist will advise. Eye pressure can be lowered in various ways:-

Eye drops

Different eye drops work better in some people than in others. Some drops are not suitable if you have asthma. Side-effects vary between the types of drops. If the first does not work well, or does not suit, another may work fine. In some cases, two types of drops are needed to keep the eye pressure low. It is vital to use your drops exactly as instructed.

Surgery

An operation called trabeculectomy creates a channel from the front of the eye to just under the conjunctiva forming a new drainage channel for the aqueous. With all operations, there is a risk of complications including infection, bleeding and scarring. The operation may have to be repeated in some cases because some scar tissue forms at the site of the channel and prevents it working to drain the aqueous. Cataract surgery is frequently required in the years after trabeculectomy.

Laser treatments

A laser can treat the trabecular meshwork and improve the drainage of the aqueous. Another technique reduces the amount of aqueous that is made by partial ablation of the ciliary body.

Driving and glaucoma

If you are a driver and have glaucoma in both eyes, the law says that you must inform the Driver and Vehicle Licensing Authority (DVLA). You will need to have a special field of vision test to check on how severely your vision is affected. In most cases, vision is not affected too severely and after assessment most people will still be allowed to drive.

The patient group is the International Glaucoma Association
Web: **www.glaucoma-association.com**