

# Glaucoma

Glaucoma is the name for a group of diseases that can lead to damage of the eyes optic nerve and result in blindness. In the UK, about one per cent of people over 40, and about five per cent of people over 65 develop glaucoma. But through early detection and with proper treatment, satisfactory sight can usually be preserved indefinitely.

Your eye needs a certain amount of pressure to keep your eyeball in shape so that it can work properly. In some people, the damage is caused by raised pressure. Others may have an eye pressure within normal limits but damage occurs because there is a weakness in the optic nerve. In most cases both factors are involved but to a varying extent.

## What is pressure in the eye?

Eye pressure is not to be confused with blood pressure. Certain tissues within the eye, such as the lens, are nourished by a fluid called aqueous humour. This fluid is made in the eye and circulates around the channels near or towards the front of the eye. Normal eye pressure is when the amount of fluid produced balances the amount draining away. If too much fluid is produced or the fluid cannot escape then the pressure in the eye rises.

## Why can increased eye pressure be serious?

If the optic nerve comes under too much pressure then it can be injured. How much damage there is will depend on how much pressure there is, how long it has lasted, and whether there is a poor blood supply or other weakness of the optic nerve. A really high level of pressure will damage the optic nerve immediately. A lower level of pressure can cause damage more slowly, and sight would be lost gradually if not treated.

## Are there different types of Glaucoma?

There are four main types of Glaucoma.

**Chronic Glaucoma** - The most common, when the drainage channels become blocked slowly over many years. The eye pressure rises very slowly and there is no pain to show there is a problem. But the field of vision gradually becomes impaired.

Once damage is done it cannot be repaired. However with early diagnoses and regular check ups and treatment, damage can be kept to minimum

**Acute Glaucoma** - This happens when there is a sudden and more complete blockage to the flow of the fluid to the eye. This is because the narrow angle closes to prevent fluid getting to the drainage channel. The eye becomes red, vision deteriorates and you may even faint. You may also experience nausea and vomiting. In the early stages you may see coloured rings around white lights. This can be very painful and will cause permanent damage if not treated promptly. In some cases Acute Glaucoma does not always cause sudden pain. You can have a series of mild attacks, often in the evening. There may be some discomfort in the eye, coloured lights around a white light, and hazy vision. If you experience either of these systems you should contact your Doctor.

**Secondary Glaucoma** - Two other main types of glaucoma occur when a rise in eye pressure is caused by another eye condition. This is known as secondary glaucoma. Secondary glaucoma can develop as a complication of other medical conditions. They are sometimes associated with eye surgery or advanced cataracts, eye injuries, certain eye tumours, or uveitis (eye inflammation). Pigmentary Glaucoma occurs when pigment from the iris flakes off and blocks the meshwork, slowing fluid drainage. Neovascular Glaucoma is linked to diabetes.

**Congnital Glaucoma (Buphthalmos)** - Over 80% of cases are diagnosed in the first three months of life. Due to an abnormality of the angle of the anterior chamber, blocking drainage.

### What Are The Tests?

As glaucoma becomes much more common over the age of 40 you should have a regular eye test at your opticians, who will then carry out further tests.

**Viewing** - The optic nerve can be viewed by shining a light from a special instrument into your eye.

**Pressure Test (Tonometry)** - Either a gentle puff of air is blown against the eye by using a special instrument or the eye will be numbed by drops and a small instrument is gently placed against the eye where the examiner will be able to measure the pressure.

**Field Test** - A sequence of spots of light are shown on a screen and you are asked to say which ones you can see.

### What is the treatment for Chronic Glaucoma

The treatment aims to reduce the pressure in the eye, either by helping fluid to drain out of your eye or by reducing the amount of fluid produced. You will need to go to a hospital for your treatment. Usually treatment is started using eye drops. If this does not help, surgery may be considered, using either a laser or by an operation called trabeculectomy. Your specialist will discuss with you which is the best method in your particular case.

### **What Is The Treatment for Acute Glaucoma?**

Once damage is done it cannot be repaired. However with early diagnosis and regular check-ups and treatment, damage can be kept to a minimum. If you have an acute attack you need to go to hospital immediately so that the pain and pressure in the eye can be relieved. Drugs will be given to improve the drainage system in the eye and reduce the production of aqueous liquid.

If treated promptly an acute attack can usually be brought under control within a few hours, the eye will become more comfortable and your sight will start to return. When the inflammation and pain has reduced, the specialist will advise on treatment. This entails making a small hole in the outer border of the iris to relieve the obstruction, and enable the fluid to drain. Usually this is done by a small operation or laser treatment.

However, delay can cause loss of sight in the affected eye. Treatment may be required if the eye pressure remains a little raised and would then be treated as chronic glaucoma.

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

Although anyone can get glaucoma, some people are at higher risk than others.

**Age** - One per cent of people over the age of 40 may be affected. 5 per cent of people over the age of 65 may be affected.

**Race** - If you are of African origin you are more at risk of chronic glaucoma and it may come on earlier and be more serious. Ensure you have regular eye checks.

**Family History** - If you have a mother, father, brother or sister who has glaucoma, then you should have an eye test regularly, especially if you are over 40.

**Short Sighted** - People who are short sighted are more prone to glaucoma.

**Diabetes** - Diabetes is believed to increase the risk of developing this condition.

### **Would I Be Able To Drive?**

If the loss of visual field is not advanced, most people can still drive. To assess damage to peripheral vision a field test will be carried out. You will be given a field test. You will be shown a sequence of spot lights on a screen and asked to say which you can see. This will enable the specialist to identify if you have any blind spots and see whether your sight meets the standard set out by the Driver and Vehicle Licensing Authority. Ask your specialist about this.

### **What Happens If My Sight Cannot Be Fully Restored?**

Early detection and prompt treatment usually prevents or slows further damage by glaucoma. There are many aids and equipment to help you utilize your remaining vision. You should ask your specialist or optician about Low Vision Aids and whether you are eligible to register as partially sighted or blind. Registration enables you to get expert help and sometimes financial benefits.