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Glaucoma – Patient Information

What is Glaucoma?

Glaucoma is a common eye disease that affects 2% of people over the age of 40. It is due to an imbalance between production and drainage of a clear fluid in the eye called the aqueous humor. Glaucoma is characterised by a rise in eye pressure. As the pressure rises the optic nerve is damaged and becomes 'cupped'; as the optic nerve becomes damaged the peripheral vision is lost. Generally the pressure rises slowly, but in some patients it can rise suddenly due to blockage of the drainage channels.

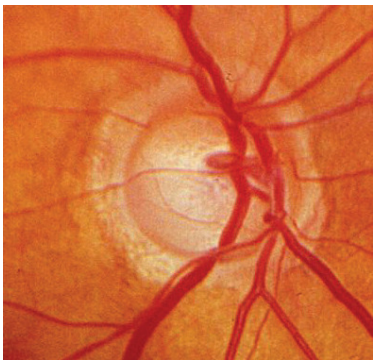
How do you measure pressure in the eye?

The pressure in the eye is measured with a puffer (pneumatic) by the optician or with a blue light tests (tonometry) by the ophthalmologist. The blue light method is more accurate and gives slightly lower levels than the puffer.

How do you measure the optic nerve?

The optic nerve can be assessed during eye examinations. The result is recorded as the cup (damaged nerve) to disc (total nerve) ratio. A cup to disc ratio of 0.2 is good where as a cup to disc ratio of 0.9 is bad.

The disc can also be measured by laser scanners, such as the Heidelberg Rodenstock Tomograph (HRT) and the Optical Coherence Tomograph (OCT). Laser scans are particularly helpful in patients with early glaucoma.



An optic nerve with glaucoma,

note the central pale area

How do you assess the peripheral vision?

The peripheral vision is assessed by an automated visual field analyser. This is a computer that projects a series light dots of light throughout the visual field. During the test it is important to concentrate and to keep the eye stable by looking at the dot in the center. The print out can help determine whether there has been significant loss of visual field. I recommend a Humphries visual field analyser.

How do you treat Glaucoma?

Glaucoma is treated in three ways, firstly by taking drops, a secondly with a laser, and finally with surgery. The drops will be prescribed by your doctor and it is important to continue their use until you are asked to stop them.

Are there any risks with Glaucoma drops?

As with any medication there are some risks: B-blockers such as Timolol and Betaxolol can cause shortness of breath or slow the heart; those such as Brimonidine may cause dry mouth, headache, or fatigue. Xalatan or Lumigan (prostaglandin like drugs) may cause a mildly red eye, a change in iris colour, growth of eye lashes, shortness of breath and allergy. With time all drops become less effective and additional drops may be necessary.

What types of Laser are there?

There are two types of laser treatments; Argon Laser Trabeculoplasty (ALT) and Selective Laser Trabeculoplasty (SLT). Both aim to improve the outflow from the eye and may benefit patients who have difficulty in applying drops regularly. The main risk with laser is a relatively high failure rate after two years.

What types of Glaucoma surgery are there:

Trabeculectomy, Deep Sclerostomy and Drainage Tube Surgery are all used to control pressure in the eye. For more information please click on this link. These tend to be reserved for severe cases.