

GLAUCOMA

Part I

This is an introductory brochure about Glaucoma. Glaucoma is a common eye disease. About 2 per cent of people over 50 years of age are affected.

There are different types of glaucoma. The most common type of glaucoma is called open angle chronic glaucoma, usually just referred to as glaucoma. The other types are rare.

Glaucoma usually has no symptoms until the late stage of the disease so the affected person is not aware sight is gradually being lost.

Peripheral vision, that is, what is seen "out of the corner of the eye", is lost first. It occurs so slowly it is not noticed.

Lost sight cannot be restored. Glaucoma is usually diagnosed at a routine examination by an optometrist,

general practitioner or eye specialist (ophthalmologist).

The diagnosis is made by assessing:

1. Appearance of the optic nerve. The optic nerve end (disc), is visible by looking into the eye with instruments. It may be photographed for a permanent record. Tissue of the nerve is lost in glaucoma and it appears "cupped". The ophthalmologist assesses the amount of cupping.
2. Measurement of eye pressure.
3. Charting of peripheral vision (perimetry). Perimetry is done with a sophisticated computer program of small light flashes which test the peripheral vision.

Careful observation and testing may detect patients who could develop glaucoma later in life.

When the ophthalmologist suspects glaucoma the patient should be seen at

regular intervals to detect further changes.

There is treatment for glaucoma. With treatment and careful follow up, loss of vision can be slowed or prevented.

Initial treatment is eye drops. There are several different types and some people may need more than one type of drop.

Laser treatment is sometimes used. Surgical treatment is employed when other treatment fails.

A great deal of research is continuing to try to find better ways to treat or prevent glaucoma.

Glaucoma only rarely causes total blindness. Most patients who follow their treatment carefully, retain most of their sight.

Glaucoma is a complex disease and there are other pamphlets which explain more. If you have finished reading this please give it to a friend who may not have had a glaucoma test recently.

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Part II

THE APPEARANCE OF THE OPTIC NERVE

The appearance of the optic nerve, when viewed by the ophthalmologist with special instruments, has a pink healthy appearance.

When glaucoma is very advanced, the nerve is pale and the surface is excavated, or "cupped".

There are various degrees of cupping. The ophthalmologist examines the appearance to judge the progression of glaucoma.

To make things more difficult, some people have an optic nerve which is cupped, but which is normal for that particular person.

Hence, the optic nerve assessment requires skill and experience.

MEASUREMENT OF EYE PRESSURE

The normal eye has a pressure slightly greater than atmospheric pressure. If it did not, the eye would collapse and not function as an optical device.

In 70% of patients with glaucoma, the ocular pressure is above normal.

In the other 30%, the ocular pressure is in the normal range but the glaucoma process may still cause loss of vision.

The ocular pressure is measured in the eye clinic by a small device which touches the eye momentarily.

Recordings of the pressure at each visit allow the ophthalmologist to judge whether the pressure is elevated and whether treatment is required.

CHARTING THE PERIPHERAL VISION (PERIMETRY)

The peripheral vision, or side vision, is assessed by a special instrument.

Each eye is tested separately, The patient looks at a centre target, a series of light flashes appear in various areas of the visual field, and this results in a map which is printed for the ophthalmologist.

Hence, optic nerve appearance, eye pressure and peripheral vision are the main factors which allow the ophthalmologist to decide whether the patient:

1. Has glaucoma
2. May develop glaucoma in the future
3. Does not have glaucoma

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Part III

GLAUCOMA TREATMENT

The main treatment for glaucoma is the use of eye drops.

There are several different groups of eye drops, and in each group there is more than one product, sometimes made by different companies.

The ophthalmologist will select the most appropriate drug based on its effectiveness and the potential for side-effects.

Sometimes only one eye requires treatment, and sometimes both.

Occasionally, when both eyes require treatment, the ophthalmologist commences drops in only one eye so that its effectiveness can be compared with the untreated eye.

Generally speaking, when a patient is commenced on eye drop treatment, it is lifelong. Therefore, the commencement of treatment is an important decision for both the patient and the ophthalmologist.

Eye drops are usually effective in controlling the pressure. With time the drops may become less effective and additional drops or other treatment may be needed.

At an appropriate time after commencing drops, the ophthalmologist will assess the intraocular pressure to determine whether the drops should be continued or changed.

Often the ophthalmologist will set a "target pressure". This is the pressure which he believes will stop further change.

The target pressure depends on a number of factors, such as the pressure before treatment, how much the disc is cupped and how much visual field is lost.

If the first eye drops do not achieve the target pressure the ophthalmologist may add another type of eye drop to the treatment.

The way drops are inserted is important. Glaucoma 4 brochure explains how to do this correctly.

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Part IV

HOW TO INSERT EYE DROPS

Drops contain sophisticated drugs in a very low concentration.

To work the drug has to penetrate to the inside of the eye.

The objective is to have the drop in contact with the surface of the eye for five minutes.

This allows the drop to "soak in".

To achieve this the face should be horizontal. You can do this by putting your head well back while sitting in a chair. However, it is much better to lie on your bed or a sofa.

Have your face parallel to the ceiling. Hold the bottle one inch from the eye.

Squeeze the bottle so a drop falls into the nose corner of the eye. The drop will then run into the eye.

It is alright to blink but do it gently so the drop is not squeezed out.

Try to keep the drop in the eye for 5 minutes. It will "soak in" better, and will be more effective.

You can also place your finger on the nose end of the lower eyelid. This blocks the tear duct and stops the drop going into the nose.

If you are using more than one type of drop you can put the next one in five minutes after the first one

If you miss with a drop it is alright to put a second one in.