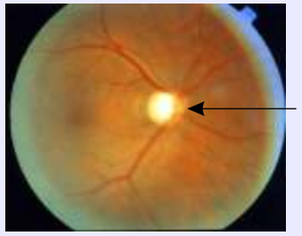
FUNDUS PHOTOGRAPH



Optic Nerve in Glaucoma

How is Glaucoma treated?

Glaucoma is usually controlled with eye drops which are generally taken several times a day, sometimes in combination with pills. These medications decrease eye pressure, either by slowing the production of aqueous fluid within the eye or by improving the aquebus flow leaving the drainage angle. For these medications to work, you must use them regularly and continuously. As with any medication, it is important to tell all your doctors about the eye medications you are using. Also, regular follow-up and eye examination is very important to check control / progression of the disease.

Laser surgery may be effective for different types of glaucoma. The laser is usually used in one of two ways:
1) In **open-angle glaucoma**, the drain itself is treated. The laser is used to enlarge the drain (trabeculoplasty) to help control eye pressure.
2) In **angle-closure glaucoma**, the laser creates a hole in the iris (iridotomy) to improve the flow of aqueous fluid to the drain.

Operative surgery like TRABECULECTOMY may sometimes be needed to control glaucoma. This surgery is performed using miniature instruments to create a new drainage channel for the aqueous fluid to leave the eye. The new channel helps to lower the pressure.

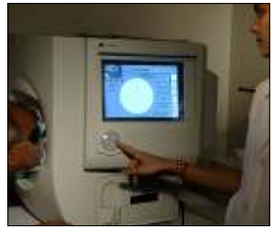
Perimetry

Testing the field of vision is very important for management of glaucoma. Nowadays it is tested by computerised static field analyser machine like Humphrey Perimeter. The first test usually is not reliable as it requires learning process. . Baseline test of Perimetry should be done for every patient suspected of glaucoma. Serially done perimetry is helpful in evaluation of progress of glaucoma. Glaucomatous fields show areas of depressed light sensitivity.

OCT

OCT and/or HRT helps in structural evaluation of optic nerve. It measures the thickness of retinal nerve fibre layer. It uses laser, digital photography and advanced softwares. Serial OCT/HRT helps in evaluation of progress of glaucoma.

HUMPHREY PERIMETER



(ZEISS STRATUS OCT)

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GLAUCOMA

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Glaucoma is a general term for a group of eye diseases that, if left untreated, will elevate pressure inside the eye, ultimately causing optic nerve damage. This damage creates irreversible loss of vision. Glaucoma is a disease of the optic nerve. The optic nerve carries the images we see from our eye to the brain. It is like an electric cable containing a huge number of wires.
Glaucoma earned its reputation as a "sneaky thief of sight" because many times there are no early visual symptoms alerting one to the presence of the disease. By the time someone determines their vision is changing, it is too late, and irreversible damage has already occurred. If caught early though, glaucoma can be successfully treated with medication. Regular preventive eye examinations are important to help to detect this disease in its early stages.

What causes Glaucoma?

Clear liquid, called the aqueous humor, flows in and out of the eye. This liquid is not part of the tears on the outer surface of the eye. The flow of aqueous fluid would be similar to having a sink with the faucet turned on all the time. If the "drainpipe" gets clogged, water collects and pressure builds up. If the drainage area of the eye is blocked, the fluid pressure within the inner eye may increase, which can damage the optic nerve.

There are many different types of Glaucoma, but there are two major types: open angle and closed angle.

Chronic open-angle glaucoma is the most common type of glaucoma. Over 90% of adult glaucoma patients have this type. It occurs when the drainage angle of the eye becomes less efficient or "clogged" and pressure within the eye gradually increases. In open-angle glaucoma, the angle where the iris meets the cornea is as wide and open as it should be but it malfunctions. In this type of glaucoma, there are no early visual symptoms and if not detected in time, it can cause irreversible damage to the optic nerves.

Closed-angle glaucoma or acute glaucoma is the type of glaucoma which occurs when the drainage canals of the eye become blocked suddenly causing eye pressure to build up rapidly.

In any type of glaucoma, raised pressure inside eyeball causes damage to fibers of the Optic Nerve. This results into loss of vision.
Glaucoma frequently affects more than one member of the family and manifests itself only after the age of 40. There are subsets of glaucoma which appear as congenital and are seen in infancy and as juvenile glaucoma

Secondary glaucoma can result from an eye injury, inflammation or tumor, intake of steroid drugs for long period or in advanced cases of cataract or diabetes.

Low tension or normal tension glaucoma occurs when the optic nerve is genetically weak and even normal or low eye pressure is capable of causing damage.

What are the Symptoms of Glaucoma?

In chronic form of glaucoma, usually patients have no complaint in early stage or sometimes he may feel heaviness, headache or have frequent change of spectacles. Only in advanced stage he will experience reduced field of vision. In this type of glaucoma, patient usually feels sudden attack of moderate to severe pain in and around eye with blurring of vision and rarely vomiting also. Sometimes patient may notice colorful circular halos around point source of light (e.g. Electric Lamp)

Normal Eye | **Early Glaucoma** | **Advanced Glaucoma**

Who is at risk for Glaucoma?

You are at risk for glaucoma if you:

- Are over the age of 40 and do not have regular eye exams
- Have a family history of glaucoma
- Have diabetes, myopia or high blood pressure
- Suffer morning headaches or migraines
- Experience recurrent blurry vision
- See haloes around lights at night
- Notice your peripheral (side) vision is decreasing or difficulty in night vision.
- Experience pain around your eyes after watching TV
- Have used steroid drugs (orally or inhaler) for any length of time
- Are of African-American or Asian-American descent

How is Glaucoma detected?

Regular eye examinations by your Ophthalmologist are the best way to detect glaucoma. As a medical eye doctor, your Ophthalmologist can detect and treat glaucoma. Various tests e.g. complete eye examination, optic nerve evaluation; intraocular pressure checkup, visual field charting (perimetry) and many other objective tests help to diagnose the glaucoma even in very early stage. OCT or HRT helps in evaluating optic nerve