

How do eye drops/medicines treat Glaucoma?

The first attempt to control glaucoma is made with eye drops alone or in combination with oral pills. These medicines act by lowering the eye pressure either by decreasing the production of aqueous fluid within the eye or by improving the flow through drainage channels.

Various combinations of eye drops may be given to control the eye pressure depending on the type of glaucoma and systemic condition.

These medicines should be put at regular intervals as advised by the doctor and should not be stopped without consulting him. A time-to-time evaluation of eye pressure and other tests are crucial to monitor the status of glaucoma.

What is the role of laser in Glaucoma?

Laser surgery may be adequate for some types of glaucoma. In open-angle variety, trabeculoplasty is done where the drainage angles are treated by a laser to increase the outflow of aqueous fluid and lower the eye pressure. In narrow-angle glaucoma, a hole is made in the iris – peripheral iridotomy, to restore the flow of aqueous fluid to drainage angles.

What type of surgery is done for Glaucoma?

It is a microscopic filtering surgery-trabeculectomy where a small drainage channel is created for the fluid to leave the eye to lower the eye pressure. It is done under local anaesthesia, and the patients need to be in the hospital for a couple of hours only.

Usually, the surgery is done when medicines and laser do not control eye pressures. In few situations, an operation can be the primary mode of treatment, for example, inability to put the eye drops regularly, advanced glaucoma, combined cataract & glaucoma, etc. Whatever may be the approach, the objective of the treatment is to lower eye pressure to a level at which optic nerve damage and loss in vision & visual field do not develop or worsen.

Maintaining normal eye pressure means that present treatment is adequate but does not say glaucoma is cured. The success of the treatment depends on early diagnosis, timely intervention, and regular follow-ups. People over forty years of age should get their eye pressures checked once every two years.

We at Max Eye Surgery & Advanced Laser Centre, advice all our patients to maintain the glaucoma file comprising of periodic check-ups, as the future treatment depends on closely monitoring the changes occurring in your eye. The key to preventing blindness from glaucoma is conventional treatment and follow-up.

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Don't let Glaucoma blind your vision



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What is Glaucoma?

Glaucoma is a disease where the pressure of the eye becomes high damaging the nerve fibres that form the optic nerve. This nerve carries the visual information from the eye to the brain, and therefore, any damage to the nerve fibres causes defects in the optical area and results in decreased vision. If not treated in time, this may even lead to blindness.

How does this pressure build?

Usually, an eye has a certain pressure - 11 to 21 mm Hg (like a balloon filled with water), which is required for the eye to function healthily. A fluid called aqueous humour, which is continuously formed and drained out from the eye throughout life, creates this pressure. Any disturbance in maintaining this delicate balance leads to high pressure, which in turn damages the nerve fibres.

Does Glaucoma cause blindness?

Glaucoma is a common cause of blindness across the world. In our country alone, the prevalence of glaucoma is estimated to be 4% in people of over 30 years of age. The main reason behind many people acquiring this disease is that it is 'silent' and mostly does not have symptoms in early stages. By the time patients report with visual complaints, the damages, which have already occurred in the eye, are irreversible. Most of the cases are picked up on a routine eye examination by an eye surgeon. Though the disease is blinding, it is treatable if detected early.

How can Glaucoma be treated?

The cure for glaucoma means keeping the eye pressure within normal range and stop further deterioration using eye drops, laser or surgery. This literature will help you in understanding the disease better.

What are the symptoms of Glaucoma?

The symptoms of glaucoma vary, depending on its type. These broadly rely on the exit channels for fluid inside the eye situated at the angle of the anterior chamber of the eye.



OPEN-ANGLE GLAUCOMA is the silent chronic variety. It does not have any symptoms in early stages and is mostly picked up during a routine eye examination by the eye surgeon. Later, there can be a feeling of heaviness in and around the eyes, headache, and frequent change in spectacle number or even inability to see specific areas in the field of vision around us.

NARROW-ANGLE GLAUCOMA can cause acute pain, redness, headache or seeing coloured rings around light bulbs. These symptoms are more during the evening or in dim-light because the pupil dilates, leading to compromised exit channels for fluid to drain out and results in high pressure inside the eye.

SECONDARY GLAUCOMA can occur due to various causes like injury, inflammation, tumours of the eye, haemorrhage, drugs (steroids), etc. They can be present with any of the above symptoms.

CONGENITAL GLAUCOMA is a condition where the exit channels are poorly formed since birth. Due to high pressure, the cornea becomes opaque, and eye may gradually become large. The child might complain of a decreased vision, glare, and watering or enlarged eye. This requires immediate treatment.

How does high-pressure affect vision?

High pressure leads to poor blood circulation, damaging nerve fibres that form the optic nerve, which carries visual impulses from the eye to the brain. Initially, there are corresponding areas of loss in the visual field, and gradually it progresses to a marked decrease in vision. Rarely, even the average pressure level may adversely affect the eyes of some people who are susceptible to optic nerve damage due to abnormal blood flow, which is called 'normal tension glaucoma.' Here it is the nerve-head-disc and visual field changes, which decide the course of treatment, and what pressure is healthy for you.

What is the difference between cataract (Safed Motia) and Glaucoma (Kala Motia)?

Cataract is caused due to the opacity in the lens of the eye, which does not allow the image to be correctly focussed on the retina whereas glaucoma is due to the rise in pressure of the eye, which damages the optic nerve fibres. Loss of vision is recovered in cataract by surgery (Phacoemulsification with intraocular lens implantation) while the visual loss in glaucoma is permanent. Sometimes a patient can have both cataract and glaucoma.

Who are the people at risk of Glaucoma?

Diabetics | Spectacle wearers - Myopia/Hypermétropia | Steroid users | Family history of glaucoma | Thyroid diseases | Other eye diseases, e.g. Uveitis, vitreous haemorrhage, major eye surgery, etc | Eye injury

What tests are done to diagnose Glaucoma?

It is not enough to record only eye pressure to diagnose glaucoma.

Once a patient is suspected to have glaucoma, we study angles of the eye, optic nerve, and visual fields. All these are required by the eye surgeon to establish a complete picture of the type and nature of glaucoma.

At Max Eye Surgery & Advanced Laser Centre, the primary workup of a patient includes:

APPLANATION TONOMETRY - It is the most accurate method to measure intraocular pressure.

OPHTHALMOSCOPY - To assess the changes in the anterior visible portion of the optic nerve, seen through the pupil.

GONIOSCOPY - To study the details of exit channels for eye fluid situated at the angle of the anterior chamber.

COMPUTERISED PERIMETRY OR VISUAL FIELDS CHARTING - To detect a loss in visual field corresponding to the nerve fibre damage. This is a very sophisticated test, which shows the changes in both qualitative & quantitative manner and is very crucial for further treatment and to study the progression of the disease.

Disc or Fundus Photographs may be taken to assess the changes in optic nerve head and retinal nerve fibre layer for detailed objective analysis and further comparisons.

Above tests need careful analytical assessment for baseline treatment and future management. Since glaucoma is a progressive disease, a long-term careful follow up is required where these tests are repeated and compared to the previous reports. If any progression in the damage is noted, then the treatment is modified.

Is Glaucoma curable?

Mode of treatment includes eye drops, medicines, laser or surgery. These do not cure the disease but treat the condition by preventing further damage. Hence, early detection is of utmost importance. It is a condition that needs long-term follow-up, mostly lifelong. The treatment is modified based on a time-to-time evaluation of the disease status.

What is the treatment for Glaucoma?

The treatment is aimed to keep eye pressure in normal range. For any individual, the standard or 'target pressure' is different, which is decided by the eye surgeon after studying the reports of all tests mentioned above. The lowering of eye pressure is achieved by eye drops or medicines alone or in combination with a laser procedure. If the above does not control the eye pressure, then surgery is required. The modality of treatment is decided by factors like type & stage of glaucoma, the damage already done at the time of presentation, response to prior therapy, patient's ability to put medication regularly, etc.