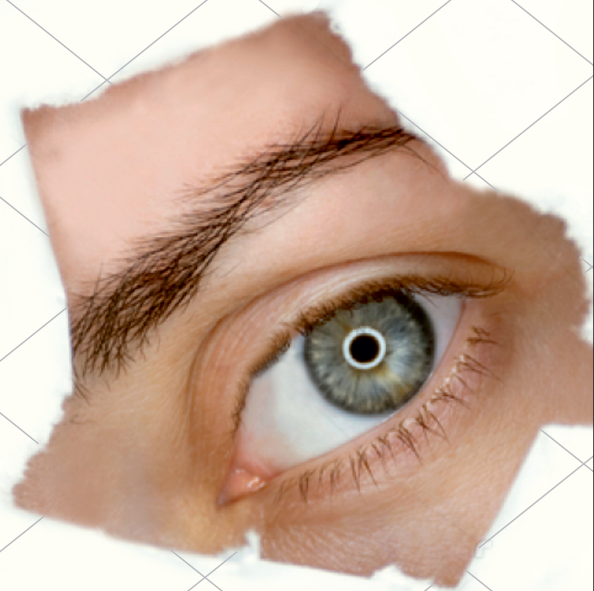


BEAT INVISIBLE GLAUCOMA¹



GLAUCOMA

The Silent Thief of Sight



Shree
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Netralaya

Super Speciality Eye Care



Our Services & World Class Facilities

Cataract | Glaucoma

Lasik | Cornea

Oculoplasty | Pediatric

Ophthalmology

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Diopsys ERG / VEP



Shree Ramkrishna Netralaya
Super Speciality Eye Care

**BLADELESS CATARACT
BLADELESS LASIK**

**WE ARE THE FIRST
EMPANELLED
HOSPITAL TO HAVE IT**

Shree Ramkrishna Netralaya

Super Speciality Eye Care

**SRN - Dosti Imperia
Ghodbunder Road, Thane**

Dosti Imperia Shopee,
1st floor Unit No. 1-4 & 8,
Manpada. Ghobunder Road,
Thane (W) 400 607

Time : Monday to Saturday
9.00 am to 8.00 pm

Time : Sunday 11.00 am to 2.00 pm

**SRN - Makhmali Talao,
Thane (W)**

'A' Wing Shree Balaji Apt,
1st Floor, Near Makhmali
Talao, L.B.S. road,
Thane (W) 400 601

Time : Monday to Saturday
11.00 am to 8.00 pm
Sunday Closed

**Saidhan Hospital
Eye Care - Mulund**

Ground Floor, Vidhata Apt.,
V. B. Phadke Marg.,
Mulund (E) 400 081

Time : Monday to Saturday
9.00am to 11.00am & 6.00pm to 8.00pm
Sunday Closed

**SRN - Seawoods (w)
Navi Mumbai**

Shop no. 1/2, The Residence,
Sector 46A, Plot no.4, Opp. More
Super Market., Seawoods (West)
Navi Mumbai - 400 706

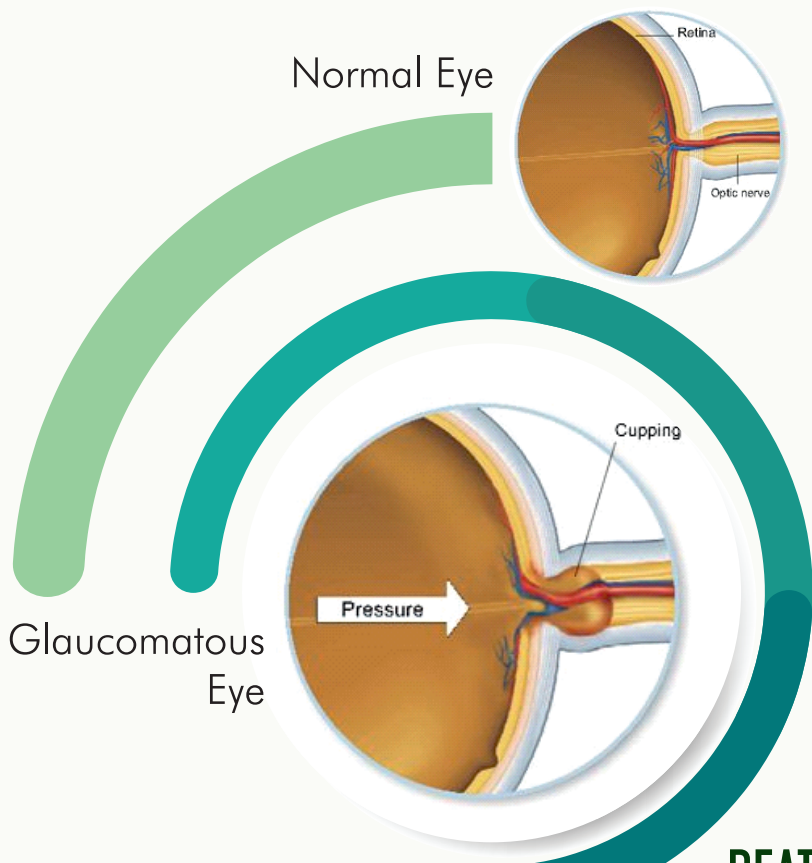
Time: Monday to Saturday
11.00 am to 8.00 pm
Sunday Closed

For Appointment
85120 43333 | 022-3535 2555

WHAT IS GLAUCOMA?

- Glaucoma is the name given to a group of related eye diseases where the optic nerve is being damaged. Found at the back of the eyeball, the optic nerve is pretty important – it carries all the signals from your eyes to your brain..

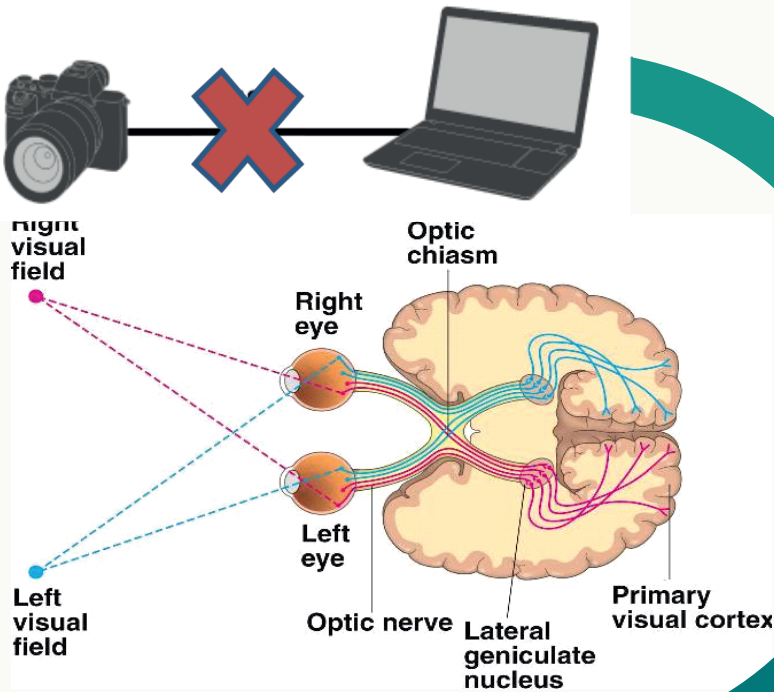
Optic nerve connects the eye to the brain and carries the signals that our eye sees.



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EYE WORKS LIKE CAMERA

- When you take a photograph from camera, you connect to the computer to download picture through cable. If the cable is cut, then the image will not get downloaded.
- In Glaucoma too similar thing happens.
- Due to increased Eye pressure the optic nerve is damaged, and the image gets blacked out.



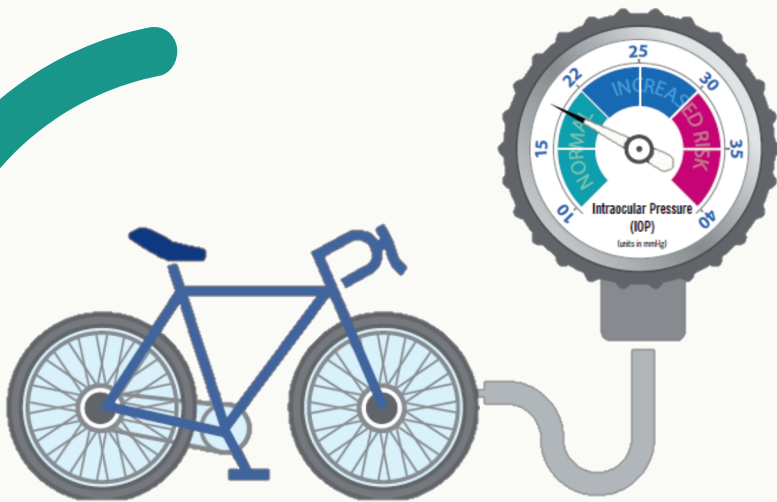
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WHAT IS EYE PRESSURE OR IOP ?

- Similar to the air pressure in a car or cycle tire, In Eyes also, the right amount of internal pressure is essential for safety & performance.

Normal intraocular pressures average between 12-22 mm Hg. The “mm Hg” refers to millimeters of mercury, which is a scale for recording the eye pressure.

$IOP > 22\text{mmHg} = \text{Greater Risk}^1$

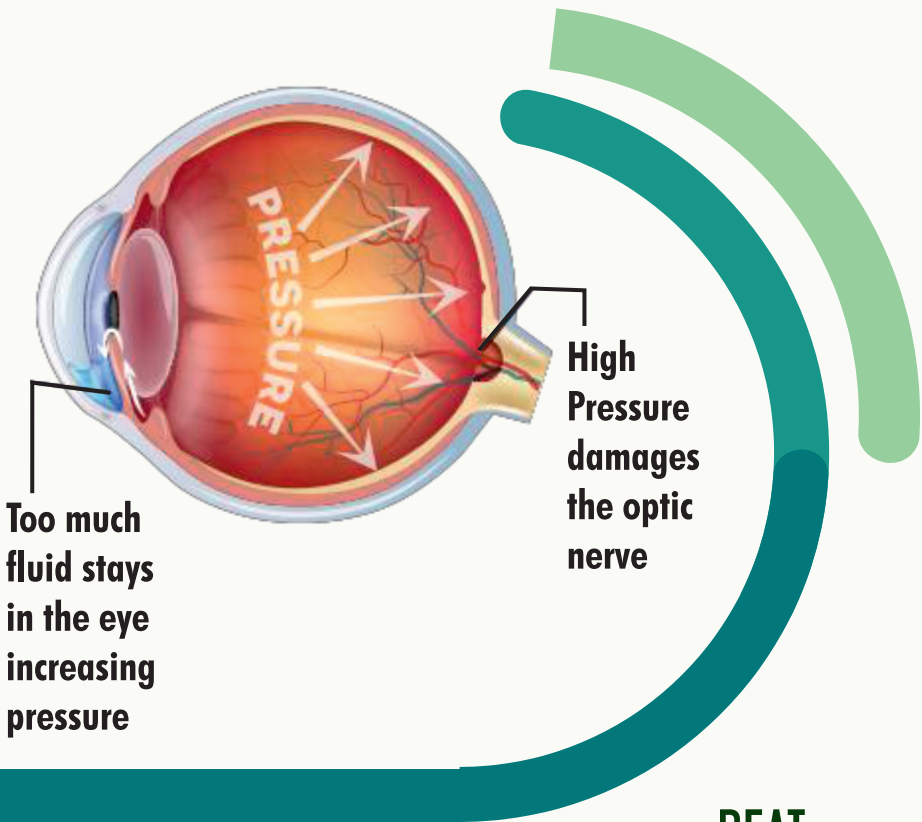


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WHAT IS EYE PRESSURE OR IOP ?

- A little bit of eye pressure or IOP (Intra Ocular Pressure) is essential for good eye health. Without any pressure, the eye would collapse like a tyre with a puncture

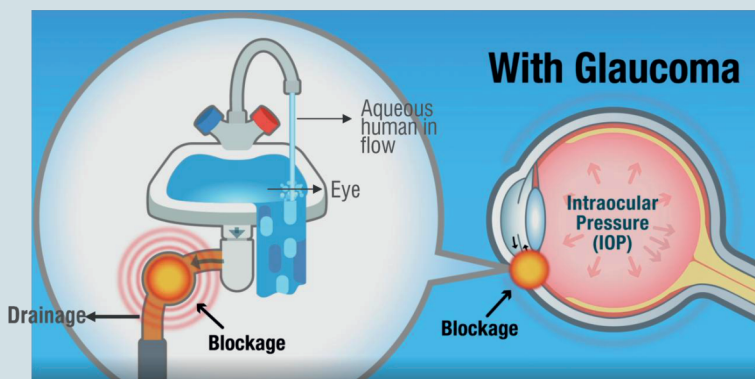
That's why the eye has a pump that produces a very small amount of fluid, which circulates from behind the iris to the drainage channels in front of it.



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HOW IS IOP BUILDS UP ?

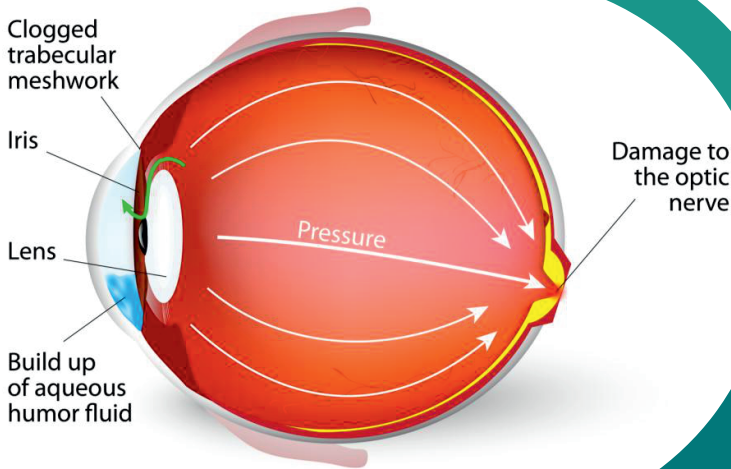
- Aqueous humor (AH) is the fluid which fills the front half of the eye
- This is similar to how a sink works, the faucet lets in the Aqueous humor & drain remove it. This allows consistent IOP keeping the shape of the eyeball perfect & your vision normal.
- But in Glaucoma the Faucet let in too much of AH or the drain becomes clogged which builds up the intra ocular pressure (IOP)



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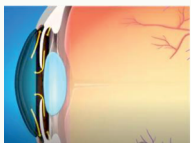
HOW IOP RISE DAMAGES THE OPTIC NERVE ?

- Since the eye is in a bony socket inside the skull there is only that much space for the eye to expand or bulge
- The only outlet is at the back where the optic nerve & retinal vein exit and the retinal artery enter
- Hence, all the pressure is put at that point (Optic cup) hence the damage occurs at that point

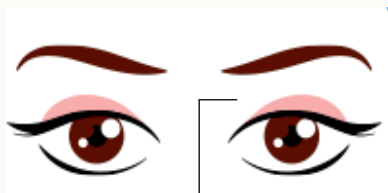


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WHAT IS THE CAUSES OF GLAUCOMA ?




https://www.youtube.com/watch?v=_VtFBnexqm0&feature=emb_logo

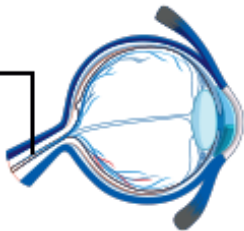


- There is a small area at the front of the eye, called the anterior chamber, which is filled with a clear fluid called the aqueous humor.

- 
- This fluid has a dynamic flow, it is produced and drained continuously, maintaining volume and pressure in the eye stable.

- 
- If this fluid is unable to drain, it adds pressure to the optic nerve and ultimately causes damage to optic nerve, albeit typically painless and gradual.

Optic nerve



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WHAT ARE THE SYMPTOMS OF GLAUCOMA

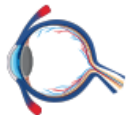
Generally, there are no symptoms related to glaucoma.

- In certain cases like angle closure glaucoma, increased intraocular pressure include the following:
- Blurred vision
- Severe eye pain
- Headache
- Rainbow-colored halos
- around lights
- Nausea
- Vomiting
- Colored rings around lights
- Eye redness



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GLAUCOMA PROGRESSION:

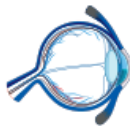


Glaucoma



vision

- In its early stages, **Glaucoma** has no symptoms, and **vision** remains normal.

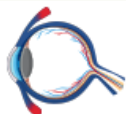


Optic nerve



blank vision

- The **optic nerve** becomes more damaged, **blank spots** in the field of **vision** begin to show up.



Glaucoma



vision

- You won't find these **blank spots** in your everyday activities until the **optic nerve** gets seriously weakened & those spots get big.



- As the fibers of the optic nerve die, it results in **blindness**.

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Different Types Of Glaucoma

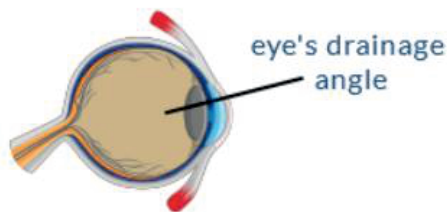
Primary open-angle Glaucoma:

open-angle



- In this case, the angle between the iris and the cornea (transparent part of the eye) is open and there is no block to drain the fluid.

- The eye's drainage becomes less effective over time and slowly raises the pressure inside the eye which can damage the optic nerve.



- The optic nerve becomes sensitive to even normal eye pressure in some patients and is at risk of damage. Treatment is required to avoid any more loss of vision.

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DIFFERENT TYPES OF GLAUCOMA

Closed-angle Glaucoma:



- Many eyes are shaped too close to the drainage angle, with the iris (colored portion of the eye).

- Often tiny & farsighted eyes the iris can be drawn into the drainage angle & completely blocked.



- The fluid can not leave the eye, the pressure inside the eye is increasingly rising up & causing a serious, closed-angle attack.

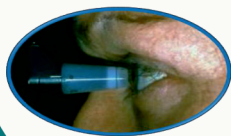
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HOW IS GLAUCOMA DIAGNOSED

- Regular glaucoma check-ups include two routine eye tests: tonometry and ophthalmoscopy. However, To be safe and accurate, five factors should be checked before making a glaucoma diagnosis:

EXAMINING...	NAME OF TEST
The inner eye pressure	Tonometry
The shape and color of the optic nerve	Ophthalmoscopy (dilated eye exam)
The complete field of vision	Perimetry (visual field test)
The angle in the eye where the iris meets the cornea	Gonioscopy
Thickness of the cornea	Pachymetry

- Why Are There So Many Diagnostic Exams?**
- Diagnosing glaucoma is not always easy, and careful evaluation of the optic nerve continues to be essential to diagnosis and treatment. The most important concern is protecting your sight. Doctors look at many factors before making decisions about your treatment

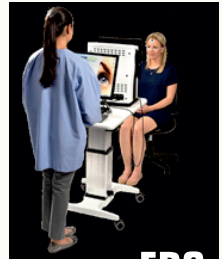
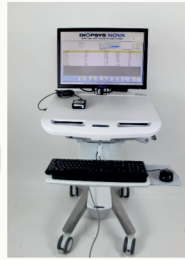
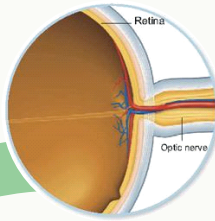


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DIAGNOSTIC TESTS FOR GLAUCOMA

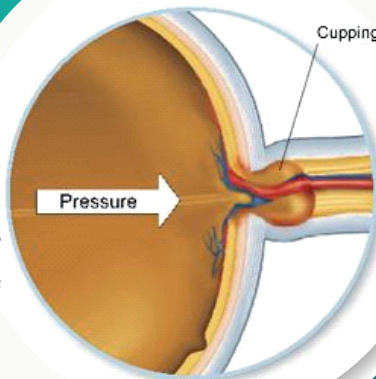
- Electoretino Gram (ERG) ERG measures electrical response of retinal cells upon stimulation by light source It helps in detecting subtle changes in glaucoma progression even before the clinical changes It is a standard OPD procedure done after dilating the eyes, electrodes are placed on each end of the eye and one in forehead. During the test patient has to look on a screen with different amoun of light.

Normal Eye



ERG

Glaucomatous Eye



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HOW IS GLAUCOMA TREATED?

- Glaucoma damage is permanent—it cannot be reversed. But medicine and surgery help to stop further damage. To treat glaucoma, your ophthalmologist may use one or more of the following treatments.



- Medications:

Glaucoma is usually controlled with eye drops taken daily. Used every day, these eye drops lower eye pressure

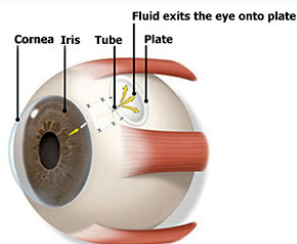
- Laser Surgery:

Laser treatments may be recommended for different types of Glaucoma. Laser surgery can slightly increase the outflow of the fluid and stop fluid blockage.



GLAUCOMA SURGERY

- Ahmed Glaucoma Valve AGV is a glaucoma drainage implants used in surgical management. It is a tiny device implanted inside the eye to decrease the intra ocular pressure. It is done in glaucoma cases that does not respond to medications.



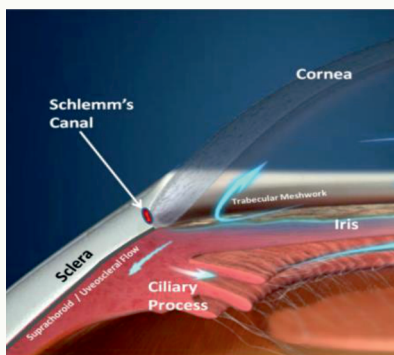
A glaucoma drainage implant creates a new way for aqueous fluid to drain from the eye.

AGV

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MICRO INCISION GLAUCOMA SURGERY (MIGS)

- It is an advance method done in mild to moderate glaucomatous eye and in patients in tolerant to eye drops.
- In MIGS a tiny stent is gently inserted inside the eye creating an opening thus decreasing the eye pressure. The stent inserted cannot be seen or felt
- It has high efficacy can be done along with the cataract surgery, has rapid recovery due to minimal disruption and higher safety



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WHO ARE AT THE RISK OF GLAUCOMA?



People Age of 40 years or above



Are users of steroids for long duration



Have high myopia (severe nearsightedness)



Have high blood pressure or diabetes



Have family history of Glaucoma



Have thinning of the optic nerve



Have high IOP



Have had an eye injury

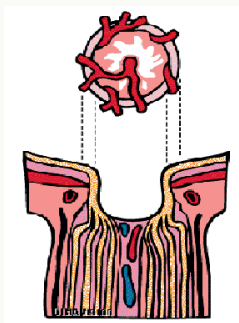
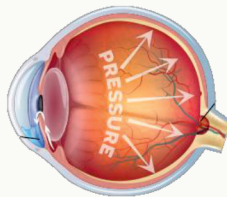


Have thin central corneas high IOP

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GLAUCOMA IN A NUTSHELL

- To summarize, glaucoma is a disease where, some patients, could have high IOP or as in some cases, have what we consider normal IOP
- Due to IOP there is a damage to the optic nerve
- Optic nerve damage leads to visual field loss



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WHAT YOU NEED TO DO?

IF YOU ARE


- over 40 years of age
- Myopic
- Have been using steroids over long term
- Anyone in your family suffering from glaucoma

Please get our eyes tested without fail every 6 months – 1 year

IF WE ARE A GLAUCOMA PATIENT

- Use the medications that Dr has prescribed you regularly, without fail
- You should periodically get a check up done every 6 months or as per the Dr advise
- You should also take your family members for a check up, as glaucoma is hereditary

Vision lost cannot be regained but further loss can be stopped by appropriate treatment



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GLAUCOMA SIMULATOR – EFFECT ON VISION

<https://youtu.be/XI0hETne28c>



IOP MAINTENANCE & FLUID DRAINAGE

<https://www.youtube.com/watch?v=zK59qtCJeeM>



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