

YOUR EYES



Don't lose sight of
the world you live in

GLAUCOMA NZ
TO SAVE SIGHT

A Charitable Trust

The Eye

The eye captures visual information and sends it in the form of nerve impulses to the brain. The brain processes this information into the “pictures” we see.

The eye is made from soft, but strong tissues. The eye needs to maintain its shape so that it can focus light accurately. This is achieved by keeping the eye firm, like a balloon.

The fluid in the front part of the eye known as aqueous is pumped into the front part of the eye. This fluid exerts just enough pressure to keep the eye properly formed without damaging it. This means that the amount of new fluid that is constantly being pumped into the eye is balanced by the amount that is constantly draining out of the eye. Circulating around the structures inside the

The Cornea is the clear ‘window’ in the front of the pupil and with the lens focuses the image onto the retina.

The Iris is the coloured part of the eye.

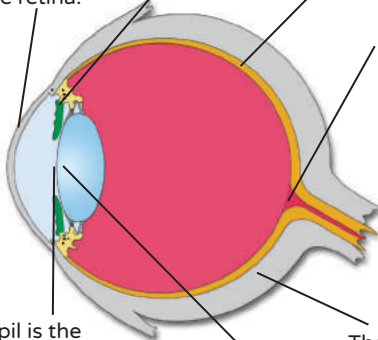
The Retina receives light and records visual messages.

The Optic Nerve carries visual messages from the retina to the brain.

The Pupil is the hole in the iris that controls the amount of light entering the eye.

The Lens focuses light onto the retina.

The Sclera is the eye’s strong outer coat.

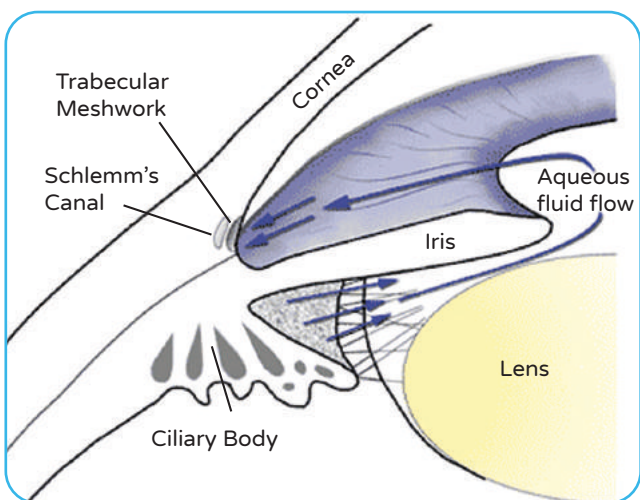


eye, the fluid is then drained through a system of microscopic pipes and a meshwork out of the eye. This drainage system is located at a place in the eye called the “angle” which is located where the iris meets the cornea. Normally, the amount of fluid produced is balanced by the amount draining away, so the pressure in the eye stays constant.

What is Glaucoma?

Glaucoma is the name given to a group of eye diseases where the optic nerve at the back of the eye is slowly destroyed.

The nerve fibres progressively die taking away the peripheral (side) vision first. Visual loss is very slow and often undetected until quite advanced. This eye sight loss cannot be regained. In most people this damage is due to increased pressure inside the eye – a result of blockage of the circulation of aqueous, or its drainage. In others, the damage may be caused by poor blood supply to the vital optic nerve fibres, a weakness in the structure of the nerve, and/or a problem in the health of the nerve fibres themselves.



Approximately 2% of New Zealanders over the age of 40 currently have glaucoma...

- Glaucoma is the number one cause of preventable blindness in New Zealand and other developed countries.
- Half of those with glaucoma don't know they have it.
- If glaucoma is detected early enough, treatment can prevent progression and preserve eyesight.
- The damage to the optic nerve from glaucoma is irreversible.
- Glaucoma currently affects approximately 65 million people worldwide.

Who is most at risk?

Although anyone can get glaucoma, people in the following categories have a higher risk:

- 60 years and over
- A family history of glaucoma
- Short sightedness (myopia)
- High blood pressure
- Past or present use of steroid drugs
- Previous eye injury
- African and south east asian descent

What are the symptoms of Glaucoma?

- Glaucoma has no symptoms until eye sight is lost at a late stage of the disease.
- Glaucoma is known as the “sneak thief of sight”.
- Glaucoma is a silent disease.

Damage usually progresses very slowly and destroys vision gradually, starting with the peripheral (side) vision. The person remains unaware of any problem until a majority of nerve fibres have been damaged, and a large part of vision has been destroyed.

This damage is irreversible. Treatment cannot recover what has been lost. However with early diagnosis, appropriate treatment and monitoring, eye sight can be preserved and the progression of damage stopped or slowed down.



Normal vision

The same scene as it might be viewed by a person with glaucoma.

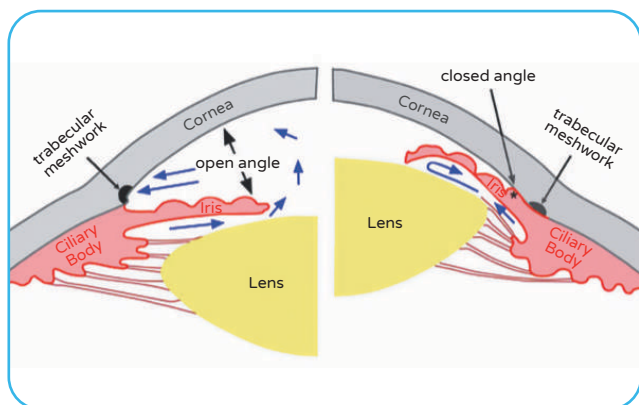


Types of Glaucoma

Glaucoma is actually a range of conditions in which the common feature is damage to the optic nerve. If you have been diagnosed with glaucoma your eye specialist will tell you which type of glaucoma you have.

Open Angle Glaucoma

Primary Open Angle Glaucoma is the most common form of glaucoma. It happens when the eye's drainage canals resist the outflow of fluid. This results in the pressure in the eye increasing because the fluid cannot drain out of the eye. Most people have no symptoms and no early warning signs.



Angle Closure Glaucoma

The angle of the eye is embedded inside the eye at the junction of the cornea externally and the iris internally. If the path of fluid to the angle gets blocked, fluid will continue to be made at a normal rate but will be unable to exit the eye, allowing the pressure in the eye to build up to a harmful level. This is what happens in angle-closure glaucoma. The angle may not be allowing sufficient outflow for a variety of reasons. If

the person was born with a narrow angle, it will become even narrower with age. People who are far-sighted (hypermetropic) or from Asian descent are at higher risk of angle closure glaucoma.

Normal Pressure Glaucoma

In Normal Pressure Glaucoma the optic nerve is damaged even though eye pressure is not particularly high. It is not yet understood why some people suffer optic nerve damage despite having intraocular pressures in the “normal” range.

Pseudoexfoliation Syndrome

In Pseudoexfoliation Syndrome the trabecular meshwork, (the sponge which drains fluid out of the eye), becomes blocked by flaky, white material. It is estimated that Pseudoexfoliation Syndrome accounts for about 25% of glaucoma worldwide.

Pigment Dispersion Syndrome

Pigment Dispersion Syndrome is another condition in which the trabecular meshwork, (the sponge which drains fluid out of the eye), is unable to function properly. In Pigment Dispersion Syndrome black pigment granules clog the meshwork, which prevents fluid from draining properly. People who are short-sighted (myopic) are at higher risk of this type of glaucoma.

Paediatric Glaucoma

Children do get glaucoma. In many cases the cause is genetic, but sometimes Paediatric Glaucoma can occur following cataract surgery or following trauma to the eye, or ocular inflammation.



How is Glaucoma detected?

Regular eye examinations are the only way to detect glaucoma early:

- Glaucoma NZ recommends that everyone have an eye examination for glaucoma by age 45, and every 5 years after that until age 60, and 3 yearly after 60.
- Those people with risk factors for glaucoma (see page 4) should be examined earlier than age 45.
- If a diagnosis of glaucoma is made, follow the advice of your eye specialist and attend regular follow-ups as recommended.
- If you require hobby glasses or are having problems with your eyesight then you should have your eyes examined at that time.
- You may also need eye examinations more frequently to keep up to date with changes in your glasses prescription, or if you have any other eye conditions.

A glaucoma test usually includes the following:

- Optic nerve check.
- Slit-lamp examination.
- Eye pressure check (tonometry).
- Visual field assessment as glaucoma affects the peripheral (side) vision first.

How is Glaucoma treated?

Treatments include:

Eye Drops – these are the most common form of treatment and come in different strengths and combinations. Drops can be varied to best suit the patient and type of glaucoma. Treatment for glaucoma is life-long. Eye drops must be used on a daily, regular basis.

Some people do experience some side effects and it is important to discuss with your doctor any new health problems or concerns that have developed since starting with your eye drops.

Tablets – In some cases tablets are used to treat glaucoma. Tablets are most often used for short periods as a temporary measure until surgery can be performed.

Laser Trabeculoplasty – uses a very focused beam of light to treat the drainage angle of the eye. This surgery makes it easier for fluid to flow out of the trabecular meshwork. In many cases eye drops may need to be continued after laser. The laser process takes about 10-15 minutes and does not require a hospital stay.

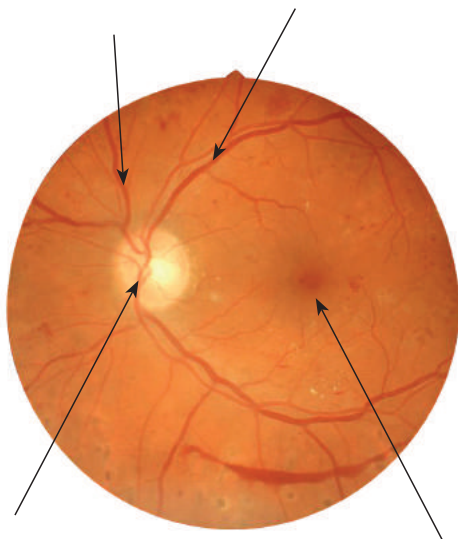
Laser Iridotomy – is the treatment of choice for people with narrow angles or angle closure glaucoma.

The process takes about 5-10 minutes and does not require a hospital stay.

Surgery (trabeculectomy) – this is the most common surgery for glaucoma, and is performed when eye drops and laser have failed to control the eye pressure. In a trabeculectomy the surgeon creates a new channel to improve the drainage of fluid from the eye, thus reducing the pressure.

Surgery (tube-shunt procedures e.g. Molteno implant) – involves placing a flexible plastic tube with an attached silicone drainage pouch in the eye to help drain aqueous fluid from the eye and lower the pressure. This surgery is most commonly performed if trabeculectomy surgery has failed. In some circumstances a person may be at risk of forming scar tissue in the eye. In these situations this type of surgery may be done at the start.

The eye is the only place in the body that **blood vessels** can be viewed directly: Signs of diabetes, high blood pressure and high cholesterol can be seen during your eye examination.



The optic nerve carries everything you see to your brain. Conditions such as glaucoma, multiple sclerosis, and even brain tumours can be detected by changes in the optic nerve.

The macula provides your central, sharpest vision. Macular Degeneration, a sight threatening condition, affects this area of the retina.

When diagnosed with Glaucoma

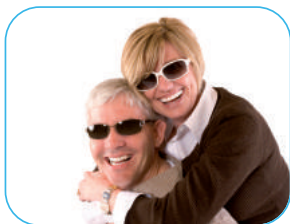
- Use your medications regularly as instructed.
- Know the names of your medicines and how often they are used.
- Inform your other doctors and health care specialists of your glaucoma. Provide them with a list of your medications.
- Agree on a certain frequency of check-ups with your eye doctor and stick to that schedule.
- Call your eye specialist if any unusual symptoms or eye problems arise.
- Discuss your glaucoma with family members and suggest that they have a check-up. Do not forget that glaucoma often runs in families.
- Join Glaucoma NZ to be kept up-to-date with glaucoma information. All services and information are free.
- Phone 0800 452 826, visit www.glaucoma.org.nz, or email info@glaucoma.org.nz.

Lifestyle

SUNSHINE & EYES

Just as ultraviolet (UV) radiation can damage your skin, so eyes can be damaged from sun

exposure. Long term exposure can contribute to eye disease, especially cataracts, eyelid skin cancers and possibly macular degeneration.



Ideally, sunglasses should block the two components of UV radiation – UVB and UVA – by 99% and 95% respectively. Even if the lenses are

dark, untreated plastic lenses do not adequately block UV radiation. Always check if the sunglasses block UV light.

Remember the best sunglasses are the ones you actually wear

EXERCISE

Keeping your weight down and yourself physically fit helps prevent heart attacks and diabetes which is important for your overall well-being. Regular aerobic exercise has been shown to contribute to a decrease in eye pressure. Also, regular exercise may decrease the risk of degenerative eye conditions such as macular degeneration. A good goal to reach is to exercise at least 3 times a week for 30 minutes.



DIET

Good nutrition is an extremely important part of the daily lifestyle choices you make. A diet high in saturated fat and sugar may increase your risk of eye disease. Cataracts and age-related macular degeneration have been shown to occur less frequently in people who eat diets rich in vitamins, minerals, healthy proteins, omega 3 fatty acids and lutein.



It is also known that drinking large quantities of water (one litre within 15 minutes) may result in transient significant increases in eye pressure in some glaucoma patients.

The omega-3 essential fatty acids found in fish, flaxseeds, walnuts and canola oil help to prevent dry eyes and possibly cataracts.

VITAMINS AND ANTIOXIDANTS

Some of the vitamins and minerals important to the eye include zinc and copper, antioxidant vitamins C, E, and A (as beta carotene), lutein and selenium, an antioxidant mineral. These vitamins may decrease the risk of macular degeneration. Vitamin B12 and folic acid may reduce the risk of cataracts.



Dark green or brightly coloured fruits and vegetables contain the most antioxidants which protect your eyes. Lutein, found in dark green leafy vegetables such as spinach, kale, peas, broccoli and silverbeet is one of the best known eye-protecting antioxidants.

MEDICATIONS

There are many treatments for allergies, such as antihistamines and decongestants that contain medications which can interact with some types of glaucoma. Some medications can enlarge the pupil. If someone has narrow angles or angle closure glaucoma, this may cause an acute angle closure crisis.

If you have narrow angles you should consult your eye specialist before using this medication.

Steroids can raise eye pressure in the eyes in some patients. Usually this reaction occurs with steroid eye drops, but it can happen with any form of steroid administration including skin creams (especially if applied around the eyes), tablets and even inhalers.

SMOKING

Research has established that there is a strong link between smoking and blindness from age related macular degeneration. In addition smoking can damage the blood vessels to the eye. It may also worsen diabetic eye disease.

EYE PROTECTION

If your activity poses a risk of injury to your eyes whether it is at work, home or playing sports, wear safety glasses.

EYE PROTECTION

See
to it!



About Glaucoma NZ

MISSION STATEMENT

Glaucoma NZ is a non-government funded charitable trust established in 2002 with a mission to eliminate blindness from glaucoma.

Glaucoma NZ aims to eliminate blindness from glaucoma through:

- Enhancing public awareness about glaucoma
- Supporting and informing people with glaucoma
- Participating in education of health professionals involved in glaucoma care
- Supporting research into glaucoma in NZ

GOVERNANCE

Glaucoma NZ is governed by a Board of Trustees from around New Zealand comprising ophthalmology, optometry and commercial expertise.

FREE MEMBERSHIP

All information and services are free to the public. To register contact Glaucoma NZ and receive a members' information pack, ongoing support and updates including the Eyelights Newsletter, invitations to Public Meetings and more.

FUNDING

Glaucoma NZ relies solely on donations from the public, sponsorship, grants from trusts and fundraising initiatives.

Glaucoma NZ – Activities

EDUCATION/AWARENESS

- Nationwide Public and Patient Meetings
- Workplace/Community Group Presentations
- Health Conferences/Expos
- Educational Resources
 - Glaucoma information booklets
 - Website
 - Eyelights Newsletter Publication
- 0800 Advisory Service (0800 452 826)
- July Annual Awareness Campaign

PROFESSIONAL EDUCATION PROGRAMME

Continued Professional Education Programme for eye health professionals involved in glaucoma care.

RESEARCH

Glaucoma NZ supports New Zealand based research into glaucoma.

FUNDRAISING

- July Annual Awareness Appeal
- Sponsors
- Events
- Grants
- Public Donations

ADVOCACY & SUPPORT

- Advancing and representing the interests of those with glaucoma
- Peer Support Groups Nationwide

FREE Membership to Glaucoma NZ

- ☐ YES I would like to register with Glaucoma NZ and receive a members' information pack, ongoing support and updates on glaucoma developments including the 'Eylights' newsletters, invites to public meetings and more.

For your free membership please complete your details and send to the address shown below:

TITLE

FIRST NAME

LAST NAME

ADDRESS

POSTCODE

TELEPHONE NUMBER(S)

EMAIL ADDRESS


POST TO:

Glaucoma NZ
Department of Ophthalmology
The University of Auckland
Private Bag 92019
Auckland 1142

Alternatively contact Glaucoma NZ with your details by email **info@glaucoma.org.nz**, or phone **0800 452 826**, or visit **www.glaucoma.org.nz** to become a member.

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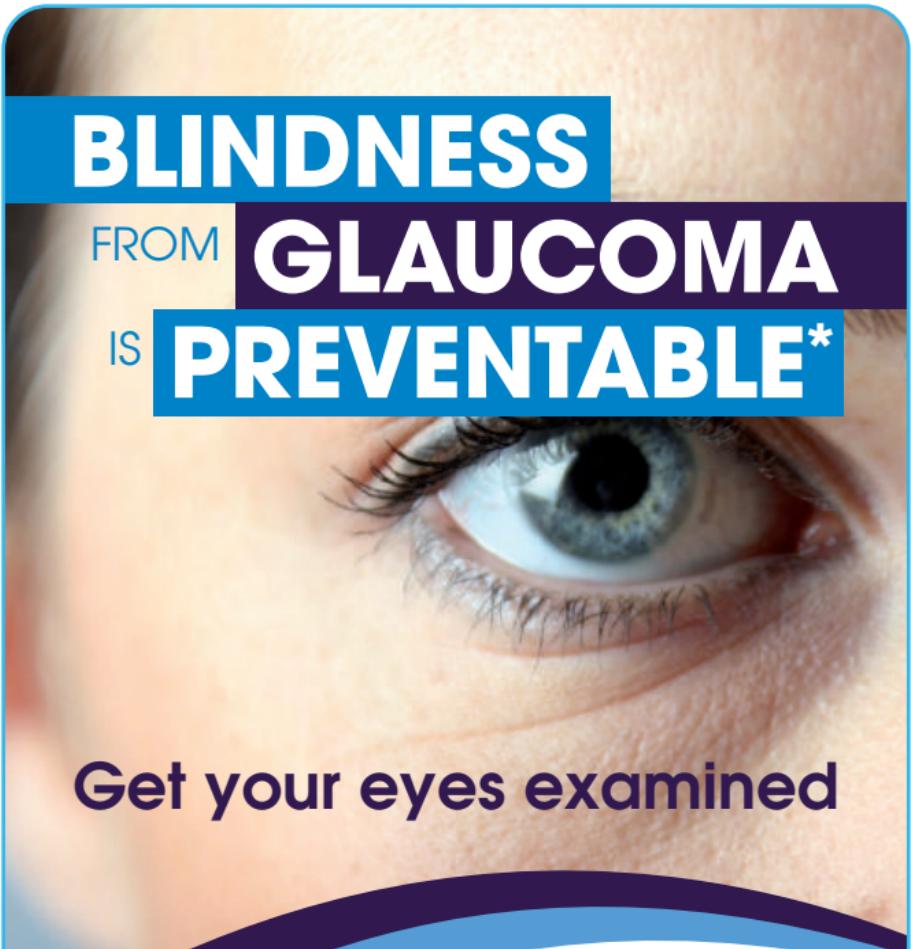


If we don't have your
name and address,
we can't keep you
informed.



Keep up with the
latest Glaucoma
New Zealand news
by completing
and returning this
membership form.





BLINDNESS
FROM **GLAUCOMA**
IS **PREVENTABLE***

Get your eyes examined

GLAU**MA NZ**
TO SAVE SIGHT

For more information phone **0800 452 826**
or visit **www.glaucoma.org.nz**

* If detected early and treated appropriately

Free Membership

Join Glaucoma NZ to be kept up-to-date with glaucoma information. All services and information are free.

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Glaucoma NZ is a registered charitable trust
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Website: www.glaucoma.org.nz



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