

# Glaucoma is the leading cause of irreversible blindness worldwide

**GLAUCOMA IS THE name of a group of conditions which cause progressive damage to the optic nerve in the retina at the back of the eye. Eventually the optic nerve becomes destroyed, resulting in vision loss. Almost 300,000 Australians have glaucoma, making it as common as diabetes. In most people, damage due to glaucoma comes from increased pressure inside the eyes. In other cases the damage is caused by poor blood supply to the optic nerve fibres, a weakness in the structure of the nerve and/or a problem in the health of the nerve fibres themselves.**

## Types of Glaucoma

**Primary Open-angle Glaucoma:** This is the most common form of glaucoma. The actual process causing it is not well understood, and there are no symptoms until vision is lost at the end stages of the disease. In this form of glaucoma, the pressure inside the eye (intra-ocular pressure) is too high and damages the optic nerve at the back of the eye. The risk of primary open-angle glaucoma increases over the age of 40 years. 1 in 10 Australians over the age of 80 years will develop glaucoma.

**Low Tension or Normal Tension Glaucoma:** In this form, the fluid pressure inside the eye is within normal limits, but damage to the optic nerve still occurs. Those that suffer from migraine headaches and poor circulation (cold hands and feet) are more at

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risk of Normal Tension Glaucoma, as are smokers.

**Acute Angle-Closure Glaucoma:** Acute glaucoma occurs when the pressure inside the eye rises to extreme levels very rapidly due to the iris (coloured part of the eye) blocking the drainage of the eye. This occurs in pre-disposed individuals and results in a painful, red, watery eye with blurred vision and sometime nausea. Immediate treatment is required as permanent visual damage can occur in a short time. In most cases, laser surgery can be used to clear the blockage quickly and avoid visual impairment.

**Congenital Glaucoma:** This is a rare form of glaucoma which arises from an abnormal drainage system inside the eye. It can exist at birth or can develop later. This can be picked up if parents notice that a child's eyes are large, cloudy, watery and very sensitive to light. Surgery is usually needed to treat the high pressure.

**Secondary Glaucoma:** These glaucomas develop as a result of other disorders affecting the eye, including cataracts, blunt trauma and other eye injuries and eye inflammation. Using steroids (cortisone) can increase the pres-

sure inside the eye, which can result in glaucoma damage to the eye. Thus, it is very important to monitor the eye pressure frequently when steroids are used.

## What are the symptoms of Glaucoma?

Glaucoma is called "the sneak thief of sight" as it has no symptoms until vision loss is noticed at the later stages of the disease. Damage progresses very slowly and destroys vision gradually starting with the side (peripheral) vision. As glaucoma is usually more advanced in one eye, one eye covers for the other and you remain unaware of any problems until a majority of nerve fibres have been damaged and large part of vision has been lost. This damage is irreversible.

50% of people with glaucoma are undiagnosed.

## How is Glaucoma Detected?

Having regular eye examinations is the only way to detect glaucoma early. Testing for glaucoma is part of a comprehensive eye examination, and involves the following:-

- Checking the fluid pressure inside the eye (Tonometry). This can be done using drops or with an automatic machine that puffs air onto the front surface of the eye.
- Checking the appearance of the optic nerve in the back of the eye (retina). This is a very reliable way of monitoring for damage or changes to the nerve over time.

Photographing the appearance of the optic nerve makes comparisons over time very accurate.

■ Visual Field Analysis tests the sensitivity of the side vision where glaucoma strikes first. This is done with a computerized machine.

## Who is at risk of Glaucoma?

Anyone can get glaucoma, although it does become more common as people age. Also, there are some individuals who may be at a higher risk of developing glaucoma. This includes people with:

- A family history of glaucoma – especially a parent or sibling. First degree relatives of those with glaucoma have an 8 fold risk of developing the disease.
- Diabetes
- Migraines
- Short-sightedness (myopia)
- Eye injuries in the past
- High blood pressure
- Past or present use of cortisone drugs (Steroids)

People in these groups should have their first eye examination no later than the age of 35. For most other people, it is recommended to have an eye examination, checking for glaucoma by the age of 40 years.

## How is Glaucoma Treated?

Although there is no cure for glaucoma and treatment cannot recover what has been lost, treatment aims to stop or slow down the damage process, and loss of sight. Treatment to date works in different ways to reduce the fluid



inside the eyes. They include:-

- 1. Eye drops** – these are the most common form of treatment and must be used regularly. In some cases tablets may be prescribed. These drops are varied to suit each patient and the type of glaucoma.
- 2. Laser (laser trabeculoplasty)** – this is performed by an ophthalmologist when eye drops are no longer effective in stopping the deterioration of the field of vision. In many cases, eye drops will still be required after laser. This does not require a hospital stay.
- 3. Surgery (trabeculectomy)** – this is usually performed when drops or laser has failed to control the eye pressure. With this surgery, a new channel for the fluid to leave the eye is created. This is an end stage procedure.

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*\*Statistics provided by Glaucoma Australia. [www.glaucoma.org.au/](http://www.glaucoma.org.au/) Dianne Andrews is the proprietor and one of the optometrists at Menai Eye Care. Winner Menai District Business Awards for Health Care, 2003, 2004 & 2005. Finalist 2006, 2007 & 2008. Winner Leader Business Awards 2008 – Professional Medical Services.*