



Our vision: Is for Australians to be free of glaucoma blindness

Traumatic Glaucoma

Traumatic glaucoma refers to cases in which a direct injury to the eye has led to the development of glaucoma.

Glaucoma is the name given to a group of eye diseases in which the optic nerve at the back of the eye is slowly destroyed. The optic nerve carries visual information from the eye to the brain. In most people this damage is due to an increased pressure inside the eye as - a result of blockage of the circulation of fluid within the eye, or its drainage.

In other patients 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.

Causes

Blunt or penetrating trauma may cause a rise in pressure inside the eye. This raised pressure may go on to cause glaucoma straight away or take some time. A blow to the eye such as a punch, car accident or head injury can cause damage to the drainage mechanism in the eye. This may be seen as bleeding, or inflammation within the eye; or there may be direct damage to the drainage pathway, or to the optic nerve itself.

This generally settles with initial treatment, but some people may develop a late rise in the pressure inside the eye. Unlike the initial injury, this is not often painful as the pressure creeps up over several years and this high pressure is the major treatable cause of the damage to the optic nerve in glaucoma.

Who is at risk?

Six months after a blunt injury 3.4% of people may develop glaucoma. The risk is increased if there was:

- bleeding inside the eye, poor vision, or injury to the lens
- damage to the fluid drainage pathway of the eye

Older patients are also at increased risk (Sihota, Sood et al. 1995, Girkin, McGwin et al. 2005).

A penetrating injury where something foreign goes through the wall of the eye carries a 2.7% risk of developing glaucoma (Girkin, McGwin et al. 2005).

If there was damage to the fluid drainage in the eye, glaucoma develops in 9% of people with long-term follow-up (Kaufman and Tolpin 1974).

Symptoms

Generally glaucoma in the early stages has no symptoms. However occasionally an individual may notice an eye ache and/or frontal headache and/or blurry vision.

As the glaucoma becomes more advanced patches of persistent blurry vision may be observed.

Detection

Glaucoma seems to occur in two peak periods, around 3 and 10 years after a traumatic injury (De Moraes and Susanna Jr 2016). For this reason it is important to continue to monitor the pressure and optic nerve in your eyes if you have had a traumatic injury.

Treatment

Treatment is similar to other glaucomas.

- Medical management with topical drops is most common
- Lasers may occasionally be used to help reduce pressure
- Surgery is an effective option for some people to keep their ocular pressure and optic nerve damage under control.

Ongoing Management

The key here is regular follow up ideally annually by an eye care provider after eye trauma to detect and treat glaucoma early should it arise.

Remember glaucoma usually has no symptoms in the early stages.

Other important information to consider (if any)

Retinal detachment is also a risk after eye trauma and can occur months after the initial trauma. If you develop symptoms such as black spots, flashing lights or a curtain of darkness in your vision then seek an urgent eye review.

