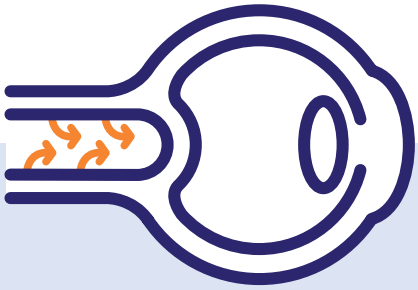
Lions Eye Institute

FACT SHEET

# What is optic neuropathy?



**Optic neuropathy occurs when the optic nerve – a group of nerve fibres that transfer visual information from the eye to the brain – becomes damaged in some way.**

This might occur due to blocked blood flow, inflammation (swelling), abnormalities caused by various conditions, or trauma.

Neurological conditions that affect the eye can play a significant role in people's quality of life, as **the brain interprets information from the eye and allows us to see images**.

Optic neuritis is the most commonly diagnosed form of optic neuropathy and this condition can be linked to inflammation-related diseases such as multiple sclerosis, lupus or infections.

Optic neuropathy can lead to blindness, and it is essential that you see a specialist as soon as you experience symptoms. A patient with optic neuropathy might experience pain when moving the eye and temporary loss of vision.

Other conditions with the potential to affect the optic nerve include thyroid eye disease, brain tumours and strokes, and giant cell arteritis – an inflammation of the arteries and idiopathic intracranial hypertension. Hypertension is a build-up of cerebrospinal fluid around the brain that causes increased pressure in the skull and swelling of the optic nerve.

Infections or conditions that cause inflammation in the body can cause the optic nerve to swell, which in turn can damage the myelin, or protective sheath, that surrounds the nerve, and the nerve itself.

## What causes optic neuropathy?

**Optic neuropathy is caused by damage to the optic nerve, and this can be from a range of factors.**

These factors include:

- Infections (toxoplasmosis, herpes simplex)
- Inflammatory diseases
- Neurological disorders
- Certain medication
- Dietary deficiencies
- Toxins (methanol, alcohol, tobacco).

Some genetic conditions causes the optic nerve to degrade, both congenitally and over time, and these include Leber's hereditary optic neuropathy, an inherited mitochondrial disease typically affecting young males, that results in vision loss.

## What are the symptoms of optic neuropathy?

**Symptoms that might result from optic neuropathy include pain when moving the eye, blurring, blind spots, reduced colour vision or complete loss of vision.**

Vision loss might be gradual, or it might be total and sudden.

A sudden and short change in vision is known as a transient ischemic attack, and can indicate a possible change of blood flow to the optic nerve.

## How is optic neuropathy diagnosed?

**Eye specialists will diagnose optic neuropathy based on a patient's medical history and a thorough eye examination.**

Your ophthalmologist will carry out a **routine eye exam** as well as **non-invasive tests** that might include an ophthalmoscopy, pupillary light reaction test, optical coherence tomography, visual field test or MRI.

On some occasions, **blood tests** might be required to check for infections or other conditions.

## How is optic neuropathy treated?

**The underlying cause of optic neuropathy needs to be identified, to enable the correct treatment to be given.**

Treatment might involve **systemic steroids** (tablets) if the cause is inflammatory, or **specific antibiotics** if it is due to an infection.

Sometimes there is no treatment possible. Some of the causes are genetic, and so it is worth having the condition investigated so that the patient's broader family can be alerted.

The Lions Eye Institute has a comprehensive register of genetic eye disorders to facilitate our genetic research and hopes that many disorders will attract a cure using different genetic therapies.

## Need to know more?

**Please contact the Lions Eye Institute to make an appointment with one of our ophthalmologists.**
**Phone: (08) 9381 0777; email: carecentre@lei.org.au; or see our website: lei.org.au**