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GENERAL INFORMATION

# NERVE-RELATED VISION PROBLEMS



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# WHAT ARE NERVE-RELATED VISION PROBLEMS?

Your eyes receive visual information, but it's actually your brain that interprets the information and allows you to 'see' the image. Your brain also controls your eye movements and focus.

Conditions that affect the brain and nervous system can cause vision problems.

## What does a neuro-ophthalmologist do?

A neuro-ophthalmologist is an ophthalmologist who has undertaken further specialist training in brain and nervous system disorders that affect the eye and vision. They specialise in diagnosing and treating vision problems caused by neurological conditions.



## Common causes of nerve-related vision problems are:

**Myasthenia gravis:** a chronic autoimmune neuromuscular disease that affects the connection between the nerves and eye muscles.

**Brain tumours and strokes:** can damage the blood supply to the eyes or optic nerves. Some brain tumours may put direct physical pressure on the eye or associated structures.

**Giant cell arteritis:** an inflammation of the arteries, which can cause sudden blindness in one or both eyes if the arteries supplying the eyes are affected.

**Thyroid eye disease:** an autoimmune disease where the body's own antibodies attack the tissue and muscles around the eyes.

**Optic neuritis:** occurs when the optic nerve becomes inflamed, interfering with the transmission of signals from the eye to the brain. It is often associated with multiple sclerosis, but may also occur with infectious and other inflammatory disorders.

**Idiopathic intracranial hypertension** (previously known as pseudotumour cerebri): results from a build-up of cerebrospinal fluid around the brain, causing increased pressure in the skull and swelling of the optic nerves. Recent weight gain, antibiotics in the tetracycline family and acne medications derived from Vitamin A are strongly associated with this condition.

**Multiple sclerosis:** a progressive disorder of the central nervous system that can affect the optic nerves, resulting in visual distortion and loss.

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# WHAT ARE THE SYMPTOMS OF NERVE-RELATED VISION PROBLEMS?

If you have any of the following symptoms, have your eyes checked by an optometrist or GP:

- Problems moving your eyes
- Double vision in one eye (monocular) or both eyes (binocular)
- Bumping into objects
- Involuntary shaking of the eyes (nystagmus)
- Sudden change in pupil size or unequal pupils
- Loss of vision
- Sudden onset of headache.





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# HOW ARE NERVE-RELATED VISION PROBLEMS DIAGNOSED?

Your neuro-ophthalmologist will obtain a detailed history of your problem and any relevant medical conditions, and conduct a comprehensive examination involving neurological and eye tests. This may take more than an hour. If you have had recent CT scans or MRI, please bring your films along.

A range of tests may be conducted to assess your:

- Vision and visual fields
- Eye movements
- Colour vision
- Eye pressure and size
- Retina and optic nerve
- Other cranial nerves.

Depending on your condition, eye drops may be used to dilate your pupils during the examination.

An ophthalmoscope exam allows your neuro-ophthalmologist to quickly assess the internal structures of your eye, including the optic nerve. More detailed studies may also be performed, such as an optical coherence tomography (OCT) scan to examine the back of the eye.

You may need to have blood tests to check for an underlying medical condition, such as diabetes, high blood pressure, a stroke or a neurological condition (e.g. myasthenia gravis).

A CT or MRI scan may be able to detect a structural cause for your symptoms. An MRI of the brain is often used to check for multiple sclerosis. Sometimes, a lumbar puncture (spinal tap) is required to assess if an infection or inflammation has caused elevated pressure in your brain (e.g. with idiopathic intracranial hypertension).

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# HOW ARE NERVE-RELATED VISION PROBLEMS TREATED?

**The treatment recommended by your neuro-ophthalmologist will depend on your specific condition and symptoms. Some nerve-related vision problems improve or resolve by themselves.**

Some visual recovery may be possible after a stroke. Recovery after the removal of a brain tumour depends on the initial vision loss and the extent of the surgery.

Visual field deficits due to inflammation may resolve spontaneously or with medication.

Double vision may also resolve by itself. An eye patch is sometimes used to reduce the occurrence of double vision. If it is a permanent problem, surgery may be suggested.

Vision loss due to optic neuritis usually reverses within 3 months. If appropriate, your neuro-ophthalmologist may prescribe medication to try and reduce the risk of developing multiple sclerosis, which is often associated with optic neuritis.

Idiopathic intracranial hypertension may require surgery to relieve pressure on the brain. If recent weight gain has contributed to the condition, a weight-loss program may also be advised.



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# FAQs

## **Why is my vision affected after a stroke?**

A stroke can damage the blood vessels that supply the brain and optic nerve, resulting in loss of vision. The nerves that make the eyes move can also be damaged. The type of vision loss depends on the part of the brain affected by stroke. Some people experience blurred vision, double vision or a loss of side (peripheral) vision.

## **Are blind spots and blurred vision signs of multiple sclerosis?**

Blind spots and blurred vision are symptoms of many eye conditions. Multiple sclerosis can only be diagnosed after a range of tests. Consult your optometrist or GP if you have any issues with your eyes or vision.

## **When should I see a neuro-ophthalmologist?**

Your doctor or optometrist may decide to refer you to a neuro-ophthalmologist if they suspect a neurological disorder is contributing to your loss of vision or eye problems.

# COMPREHENSIVE EYE CARE

Vision Eye Institute is the leading provider of ophthalmic services in Australia. Our team of highly regarded doctors includes general ophthalmologists as well as those who specialise in specific areas/conditions of the eye.

LASER EYE SURGERY		CATARACT & LENS SURGERY	
GLAUCOMA		DIABETIC EYE DISEASE	
MACULAR DEGENERATION		RETINAL CONDITIONS	
KERATOCONUS		DRY EYE	
PTERYGIUM		CORNEAL TRANSPLANTATION	
CORNEAL CONDITIONS		NERVE-RELATED VISION PROBLEMS	
RECONSTRUCTIVE EYE SURGERY		CHILDREN'S EYE HEALTH	
GENERAL EYE HEALTH			

## OUR NEURO-OPHTHALMOLOGY CLINICS

For more information or to find a Vision Eye Institute clinic that treats nerve-related vision problems, visit:

[visioneyeinstitute.com.au/services/neuro-ophthalmology/](http://visioneyeinstitute.com.au/services/neuro-ophthalmology/)

All medical and surgical procedures have potential complications. Check with your doctor before proceeding.



[visioneyeinstitute.com.au](http://visioneyeinstitute.com.au)



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