Optic Neuritis (ON)

Your Care

Neuro-ophthalmology

Information for patients

What is optic neuritis?

Optic neuritis is a condition in which the optic nerve (the nerve connecting the eye and the brain) becomes inflamed, leading to vision problems and eye pain.

The optic nerve is a very important nerve that carries the visual information from the eye to the brain. This nerve is made up of over 1 million small fibres and is wrapped in a special covering (myelin) that acts to insulate the nerve to help the signal travel along.

Who gets optic neuritis?

Optic neuritis can happen to anyone at any age, but most commonly is seen in young women between the age of 20 – 40. Overall, around 5 in every 100,000 people are affected each year.

What causes optic neuritis?

The most common cause for optic neuritis is an autoimmune attack on the insulating covering (myelin) of the nerve. This occurs when the normal immune system becomes confused and attacks the healthy nerve instead. Sometimes this can occur after a viral infection such as chickenpox, or the flu, but often there is no clear reason why the attack begins (idiopathic).

Optic neuritis can however be a common first symptom in people who have a disease called **multiple sclerosis** (MS), or in other similar inflammatory conditions called neuromyelitis optica (NMO) or myelin oligodendrocyte glycoprotein (MOG)-associated disease.

What are the symptoms of optic neuritis?

Vision loss and **eye pain** are the most common symptoms of optic neuritis. Visual symptoms vary but can be blurring of the vision, loss of part or all of the central vision, reduced colour vision or decreased peripheral vision. These symptoms can happen suddenly but usually get worse for several days before improving. Eye pain is commonly sharp and worse when moving the eye around in different directions. Optic neuritis usually affects one eye at a time but rarely can happen in both at the same time (<10%).

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Optic Neuritis.
Patient information

For further information:

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If you have any change in your vision, please contact your general practitioner immediately or present to an emergency department for review.

How is optic neuritis diagnosed?

The neuro-ophthalmologist will check your vision and perform a number of tests to examine the optic nerve and rule out other causes of vision loss.

Visual tests include assessment of your acuity (the sharpness of your central vision or your ability to read lines on a chart), your visual field (your peripheral vision) and your pupil responses to light. They may also look at the back of your eye using a special lens to see if there is any swelling of the nerve while an 'OCT' can be used to measure the thickness of the nerve.

An MRI scan of the head is important to see if there are any changes to the optic nerve or the brain. A lumbar puncture (spinal tap) may also be required to check the fluid around the brain and spinal cord for inflammation. Blood tests may also be used to rule out other infective causes of optic neuritis.

What is the treatment of optic neuritis?

For many people without significant vision loss, no treatment is necessary. Studies have shown that there is often no difference in the final vision, or the risk of developing MS in the future, between people who get treatment for optic neuritis and those who do not.

Treatment with steroid medication can speed up the time of recovery and is often used if the vision loss is severe, if the MRI scan is abnormal or if your symptoms are unusual. This typically involves corticosteroids given through a drip in your arm for 3 days but sometimes can be steroid medication taken by mouth.

What is the long-term outlook of optic neuritis?

In general, most people (>90%) with typical cases of optic neuritis will get better without treatment. Recovery of vision usually occurs within a few weeks. However, some people experience a permanent change to their vision and the severity can be worse depending on the cause. 1 in 3 people will have another episode of optic neuritis in the same, or the other eye, but there are no treatments to reduce this risk unless you have been diagnosed with MS or another neurological disease needing immune suppression medications.