

Paediatric Ophthalmology

Optic Nerve Head Drusen

What is the optic nerve?

The optic nerve is a collection of over one million nerve cells that carry visual signals from the eye to the brain. The head of the optic nerve as it enters the eye is also called the optic disc.

What are optic nerve drusen?

Optic nerve drusen are abnormal deposition of protein and calcium found in the optic nerve. They can be found on the surface of the nerve or buried beneath the surface. They are found in 1-2% of the population and usually occur in both eyes but can occasionally be present in just one eye. They cause the optic nerve to be lumpy or raised in appearance and this alteration in appearance may result in opticians referring the patient to the hospital for further investigation.

What causes optic nerve drusen?

The exact cause is not certain but one theory is that it is due to abnormal movement of material along the nerve. Drusen can be inherited so it is possible that the parents may have drusen and doctors may wish to look at parents and child. They can also occur with no other family member affected and this is known as sporadic. Drusen are not visible at birth and gradually form in the optic disc over the first 10 years. This may be why the optician says that the optic nerve looked different previously.

What is the effect on the vision?

Normally drusen do not cause any symptoms but are found on a routine eye examination. Very rarely they may affect the peripheral vision and this can be monitored over time with a field test by the local optician. Very



Patient Information

rarely there may be a sudden loss of part of the peripheral vision in one eye if the blood flow in the nerve is affected.

Can they cause other problems?

Optic nerve drusen can very rarely lead to other problems including blockage of the blood supply to the nerve or retina. As the optic nerve drusen make the optic nerves appear to be raised, they can be mistakenly diagnosed as swollen nerves (papilloedema), which often prompts an urgent referral to a specialist (ophthalmologist). Papilloedema can be a sign of serious illness but this is something very different to optic nerve drusen.

A separate and rare complication of drusen is the growth of abnormal blood vessels near the optic nerve, which can interfere with the vision.

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