Optic Disc Drusen

Your Care

Neuro-ophthalmology

Information for patients

What are optic disc drusen?

Optic disc drusen (drusen, German for node or geode) are generally harmless abnormal collections of protein and calcium that build up within the optic nerve head.

The optic nerve is very important and carries the visual information from the eye to the brain. This nerve is made up of over 1 million small fibres which need oxygen and nutrients to function. The tip of the optic nerve that enters the back of the eye is called the optic nerve head or optic disc.

Who gets optic disc drusen?

Optic disc drusen are found in 1 – 2 in every 100 people. They are usually found in both eyes (bilateral) but sometimes can be seen only in one eye (unilateral). Drusen are generally found on routine eye testing, and many would remain undiagnosed as most do not experience any visual symptoms.

What causes optic disc drusen?

We do not know why drusen form, but they are presumed to be congenital (meaning that you are born with them). In childhood, drusen are generally small and buried deep within the nerve, however they can become bigger and more visible by adulthood.

How do optic disc drusen affect vision?

Drusen are generally benign (not harmful) and typically do not cause any changes in vision. In some people, a loss of peripheral (side) vision can occur. However this usually happens slowly and is found mainly on testing. A loss of peripheral (side) vision may cause restrictions on driving in the future though this is very uncommon.

In **very rare** cases, drusen can cause a **sudden painless loss of vision**. This can be either bleeding from abnormal blood vessels growing underneath the retina (the layer at the back of the eye) or from changes in blood flow to the optic nerve head.

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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 are optic disc drusen diagnosed?

Optic disc drusen are most commonly found on routine eye testing by an optometrist. When looking at the back of the eye, a healthy normal optic disc looks smooth and round. Drusen have a 'lumpy-bumpy' look and the round nerve looks more blurred.

Sometimes more testing is needed as it is very common for drusen to be mistaken for another more dangerous condition: optic disc swelling. Swollen optic discs are commonly caused by high pressure in the brain and can be a medical emergency. Because drusen change the shape and the appearance of the disc, they can make the nerve look swollen when it is actually normal.

If drusen are not easily seen when looking at the back of the eye, other tests like an ultrasound or CT scan of the eyeball may be used. Special photos of the eye can also be taken as calcium in the drusen shine brightly, making it easier to see them.

How are optic disc drusen treated?

There is no known treatment for optic disc drusen but for most, no treatment is necessary. Treatment is mainly used if drusen-related complications occur such as bleeding.