



## **The Family Eye Care Center**

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Board Certified by American Board of Ophthalmology

Glaucoma

Cataracts

Diabetic Eye Disease

Laser Surgery

## **OPTIC NERVE DRUSEN**

The optic nerve is the major nerve structure that connects the eye to the brain. The optic nerve is responsible for sending electrical signals to the brain which in turn, allows one to see. In effect, if the eye is a camera and the brain is a computer, the optic nerve is the cable that connects the camera to the computer. The optic nerve basically “plugs into” the back of the eye and is responsible for delivering visual images to the brain.

Optic nerve drusen is a condition where deposits of hyaline-like material are deposited in the head of the optic nerve. The optic nerve head is the anterior-most portion of the nerve which is directly visible when the inside of the eye is examined. Optic nerve drusen occur in roughly 1% of the population. People who have optic nerve drusen are almost exclusively Caucasian. Optic nerve drusen are usually bilateral (roughly 80%), can be inherited (autosomal dominant) and appear equally in males and females. These can be detected at any age. The cause of this deposition is unknown.

Surface (superficial) drusen appear as irregular, glistening yellow globules. Deep drusen are buried and are not as obvious. Deep drusen can give the illusion that the optic nerve head is swollen, a condition known as pseudopapillema. This must be distinguished from actual swelling of the optic nerve, a far more serious condition known as papilledema.

Optic nerve drusen are asymptomatic. Visual loss may occur from compression of the adjacent nerve fibers, constriction of blood flow or from localized hemorrhages. Visual field (peripheral vision) defects can occur. These include enlargement of one’s normal “blind spot” and defects or constriction of one’s peripheral vision. Although significant visual field loss (peripheral vision) is possible, actual loss of visual acuity (central vision) from optic nerve drusen is extremely rare.

Should optic nerve drusen be detected on an eye exam, stereoscopic digital photographs are taken of each optic nerve. In addition, optical coherence tomography (OCT) is performed to confirm the condition and to distinguish it from true swelling of the optic nerve head (papilledema). Lastly, visual field testing is performed in order to determine if the central or peripheral vision of either eye has been affected. Occasionally, a head/orbit MRI and intravenous fluorescein angiography are performed for further analysis.

In conclusion, optic nerve drusen may be detected on a routine eye exam. Optic nerve drusen represent deposition of a degenerative hyaline-like material. The vast majority of patients who have optic nerve drusen are without symptoms and do not have any visual problems whatsoever. Once detected, yearly eye exams with digital photography and visual field testing are strongly recommended.