

Ocular Hypertension (High Eye Pressure)

Ocular hypertension means the pressure in your eyes — your intraocular pressure (IOP) — is higher than normal. Left untreated, high eye pressure can cause glaucoma and permanent vision loss in some individuals.

However, some people can have ocular hypertension without developing any damage to their eyes or vision, as determined by a comprehensive eye exam and visual field testing.

Researchers have estimated that ocular hypertension is 10 to 15 times more likely to occur than primary open-angle glaucoma, the most common type of glaucoma.

According to the Ocular Hypertension Treatment Study, 4.5 to 9.4 percent of Americans age 40 or older have ocular hypertension, which increases their risk of developing sight-threatening glaucoma.

How Do You Know You Have Ocular Hypertension?

You can't tell by yourself that you have ocular hypertension, because there are no outward signs such as eye pain or red eyes. During a comprehensive eye exam, your eye care practitioner will measure your IOP and compare it with normal levels.

An eye pressure reading of 21 mmHg (millimeters of mercury) or higher generally signifies ocular hypertension.

If you picture your eye as a globe inflated by pressure, you can better understand why ocular hypertension should be monitored. Pressure that is too high or that continues to increase exerts a force within your eye's interior that can damage the eye's delicate optic nerve, causing glaucoma.

What Causes High Eye Pressure?

Factors that cause or are associated with ocular hypertension are virtually the same as the causes of glaucoma. These include:

- **Excessive Aqueous Production** - The aqueous (or aqueous humor) is a clear fluid that is produced in the eye by the ciliary body, a structure located behind the iris. The aqueous flows through the pupil and fills the anterior chamber of the eye, which is the space between the iris and the cornea.

The aqueous drains from the eye through a structure called the trabecular meshwork, in the periphery of the anterior chamber, where the cornea and iris meet. If the ciliary body produces too much aqueous, the pressure in the eye increases, causing ocular hypertension.

- **Inadequate aqueous drainage** - If the aqueous drains too slowly from the eye, disrupting the normal balance of production and drainage of the eye's clear fluid, this too will cause high eye pressure.
- **Certain medications** - can have the side effect of causing ocular hypertension in certain individuals. Steroid medicines used to treat asthma and other conditions have been shown to increase the risk for ocular hypertension.

Even steroid eye drops used after LASIK and other refractive surgery can cause high eye pressure in susceptible individuals. If you have been prescribed steroid medications for any reason, consult with your eye doctor to see how frequently you should have your IOP checked.

- **Eye trauma** - An injury to the eye can affect the balance of aqueous production and drainage from the eye, possibly leading to ocular hypertension.

Sometimes this can occur months or years after the injury. During your routine eye exams, be sure to mention to your doctor if you have experienced any eye trauma recently or in the past.

- **Other eye conditions** - Ocular hypertension has been associated with a number of other eye conditions, including pseudoexfoliation syndrome, pigment dispersion syndrome and corneal arcus.

If you have any of these conditions, your eye doctor may recommend that you have more frequent eye exams and eye pressure measurements.

Also, race, age and family history play a role in your risk for ocular hypertension and glaucoma. Though anyone can develop high eye pressure, African-Americans, people over age 40, and people with a family history of ocular hypertension or glaucoma are at greater risk.

People with thinner-than-normal central corneal thickness measurements also may be at greater risk of ocular hypertension and glaucoma, according to researchers.