

Article Link: <http://www.webmd.com/eye-health/tc/glaucoma-cause>

## Eye Health Center

### Glaucoma - Cause

**Glaucoma** is a group of [eye](#) diseases that cause blindness by damaging the nerve cells located in the back of the eye (the [optic nerve](#) ). In many cases this damage to the optic nerve is thought to be caused in part by increased pressure in the eye ([intraocular pressure](#), or IOP) that results from the buildup of fluid inside the eye. But damage often occurs without increased IOP.

Get more information on [eye anatomy and function](#).

#### Open-angle glaucoma

In [open-angle glaucoma](#) (OAG), the cause of damage to the optic nerve is not well understood. Normally, the shape of the front part of the eye (anterior chamber) is maintained by a fluid called [aqueous humor](#), which is produced in and removed from the eye to maintain a constant pressure. Sometimes the aqueous humor does not drain out of the eye normally, but the reason this occurs is not known. When this happens, fluid builds up inside the eye, causing increased pressure within the eye (IOP). Most people with open-angle glaucoma have higher-than-normal IOP. The increased pressure inside the eye damages the optic nerve, resulting in progressive loss of [vision](#).

But not all people with open-angle glaucoma have increased pressure inside the eye. Estimates vary, but as many as 40% to 50% of people with OAG may occur without increased IOP, and most people with elevated pressures will never get glaucoma.<sup>1, 2</sup> The first signs of this type of glaucoma, referred to as normal or low-tension glaucoma, are changes within the eye (enlarged cup-disc ratio) rather than increased pressure in the eye and side (peripheral) vision loss.

#### Closed-angle glaucoma

[Closed-angle glaucoma](#) (CAG) occurs when an already narrow [drainage angle](#) for fluid in the eye becomes blocked. This may occur when:

The colored part of the eye (iris) and the lens block the movement of fluid between the chambers of the eye. The blockage of fluid causes pressure to build up in the eye and makes the iris press on the eye's drainage system ([trabecular meshwork](#)). The increased pressure can cause damage to the optic nerve, leading to vision loss and possible blindness.

Defects in the iris cause it to fall forward, blocking the drainage angle. Other factors, such as a tumor, can force the iris forward, closing the drainage angle.

See a picture of [closed-angle glaucoma](#) .

#### Congenital and infantile glaucoma

Glaucoma that is present at birth ([congenital glaucoma](#)) or that develops in the first few years of life (infantile glaucoma) is often caused by certain [birth defects](#). A birth defect may develop because of an infection in the mother during [pregnancy](#), such as [rubella](#), or because of an inherited condition such as [neurofibromatosis](#).

## Secondary glaucoma

Glaucoma may also develop as a result of another condition. This is called secondary glaucoma.

Glaucoma may develop after an eye injury, after eye surgery, from the growth of an eye tumor, or as a complication of a medical condition such as [diabetes](#).

Certain medicines (corticosteroids) used to treat eye inflammation or other diseases may cause glaucoma.

Glaucoma may develop as a result of the breakdown and flaking off of the colored material (pigment) found in the colored part of the eye (iris). This type of secondary glaucoma is called pigmentary glaucoma. Another flaky material (of unknown origin) that can deposit in the anterior part of the eye can cause a similar type of secondary glaucoma called exfoliation syndrome (pseudoexfoliation).

A [cataract](#) that causes swelling of the lens can cause glaucoma (phacomorphic glaucoma). As the cataract develops, the eye's lens thickens and closes the drainage angle, leading to an increase in intraocular pressure (IOP). Medicines and possibly surgery may be used to relieve the pressure. Removal of the cataract is usually necessary to treat phacomorphic glaucoma.

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