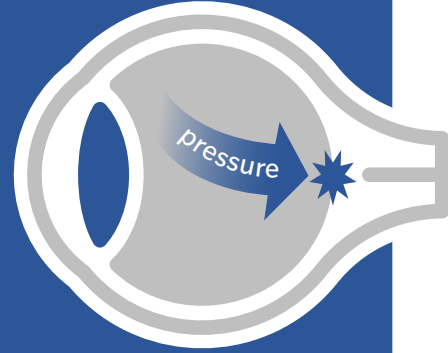


Key Facts and Stats About Glaucoma

What is Glaucoma?

Glaucoma is a disease that damages the eye's optic nerve, which transmits images to your brain, and gets worse over time. It typically occurs when fluid builds up in the front of the eye. The extra fluid increases the pressure in the eye (called intraocular pressure or IOP),¹ damaging the optic nerve.²



There are different types of glaucoma, including:

01

Primary open-angle glaucoma

The most common type of glaucoma, occurs when the eye does not drain fluid as well as it should, resulting in eye pressure building and damaging the optic nerve. Open-angle glaucoma is often painless and can cause vision loss over time.¹

90% of glaucoma cases can be attributed to open-angle glaucoma.³

02

Angle-closure glaucoma

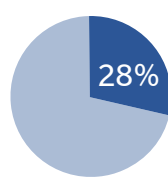
Occurs when the colored portion of your eye, the iris, is pushed or pulled forward causing blockage to the drainage angle in the eye. When the drainage angle is completely blocked, and fluids are trapped inside the eye, eye pressure rises very quickly and causes an acute attack which can result in blindness.¹

Facts & Figures

Glaucoma is one of the primary causes of irreversible vision loss and blindness.⁴ Estimates put the total number of suspected cases of glaucoma at around 70 million worldwide.⁵

This progressive disease is characterized by elevated IOP. Uncontrolled, elevated and fluctuating IOP can cause damage to the optic nerve and loss of vision.^{1,2}

Based on a 71 patient study looking at eye drop instillation technique, only

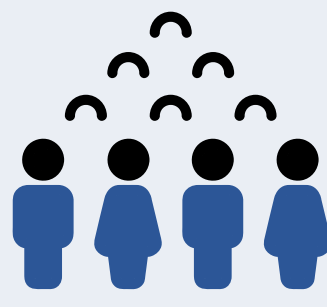


of people were able to instill eye drops correctly.

Who is at risk?

Risk factors for glaucoma include:

- Increased intraocular pressure (IOP)
- Increasing in age
- Family history of glaucoma
- African-American, Asian or Hispanic descent
- Thin corneas
- Prior eye injury
- Diabetes, high blood pressure or other health problems affecting the whole body⁷



How is it diagnosed?

One of the main challenges of glaucoma is that there are usually no symptoms in early stages, which is why it's so important to have regular eye exams by an eye doctor.

The following tests may be performed by an eye doctor as part of a comprehensive dilated eye exam during a glaucoma evaluation:⁸

- Measure visual acuity⁹
- Measure intraocular pressure
- Inspect the eye's drainage angle
- Inspect the optic nerve
- Test your peripheral (side) vision
- Take a picture or computer measurement of optic nerve
- Measure cornea thickness⁸



What are the treatment options?

Elevated IOP is a major risk factor for vision loss associated with glaucoma.¹⁰

Treatments to lower IOP include:



Topical medications (eye drops):
This is a standard-of-care for open-angle glaucoma treatment.



Oral Medications



Minimally invasive glaucoma surgery (MIGS)



Laser trabeculoplasty:
A high energy laser beam opens clogged drainage canals and helps facilitate drainage, reducing IOP.¹³



Incisional surgery:
A surgical procedure performed by an eye surgeon where an opening is created in the white of the eye (sclera) and part of the trabecular meshwork is removed.



Drainage Implants:
A surgical procedure performed by an eye surgeon where a small tube shunt is inserted in the eye to drain excess fluid to reduce IOP.



Long-acting drug delivery systems:
Designed to provide sustained lowering of IOP for an extended period of time.¹¹

The Real Burden of Glaucoma

Even before people progress to the point of glaucoma-related blindness, vision loss affects them in multiple ways because the brain adapts and compensates for some loss of vision.^{12,13}



Thus, it's not surprising that based on a study of 40 patients with glaucoma:

People with glaucoma have a **3X** greater risk of falls.^{14,15,16}

People with glaucoma are at **6X** greater risk for automobile accidents.¹⁵

1. Boyd, K. (2018). What is glaucoma? Retrieved from <https://www.aao.org/eye-health/diseases/what-is-glaucoma>
2. (n.d.). (2019). What is glaucoma? Retrieved from <https://www.glaucoma.org/glaucoma/>
3. (n.d.). (2019). Types of glaucoma. Retrieved from <https://www.glaucoma.org/glaucoma/types-of-glaucoma.php>
4. World Health Organization. (2011). Glaucoma is second leading cause of blindness globally. Retrieved from <https://www.who.int/bulletin/volumes/82/11/feature1104/en/>
5. Quigley, H. A. (1996). Number of people with glaucoma worldwide. Retrieved from <https://www.glaucoma.org/glaucoma/facts-statistics/glaucoma-facts-and-stats.php>
6. Gomes, B. F., Paredes, A. F., Madeira, N., Moraes, H. V. Jr, Santhiago, M. R. Assessment of eye drop instillation technique in glaucoma patients. *Arq Bras Ophthalmol.* 2017;6(3):238-241.
7. Boyd, K. (2018). Who is at risk for glaucoma? Retrieved from <https://www.aao.org/eye-health/diseases/glaucoma-risk>
8. Boyd, K. (2018). Glaucoma diagnosis. Retrieved from <https://www.aao.org/eye-health/diseases/glaucoma-diagnosis>
9. American Optometric Association. (2019). Glaucoma. Retrieved from <https://www.aao.org/patients-and-public/eye-and-vision-problems/glossary-of-eye-and-vision-conditions/glaucoma>
10. Weinreb, R. N., Aung, T., & Medeiros, F. A. (2014). The pathophysiology and treatment of glaucoma: a review. *JAMA*, 311(18), 1901-1911. doi:10.1001/jama.2014.3192
11. (n.d.) (2018). Glaucoma. Retrieved from <https://www.mayoclinic.org/diseases-conditions/glaucoma/diagnosis-treatment/drc-20372846>
12. Hoste, A. M. New insights into the subjective perception of visual field effects. *Bull Soc Belge Ophthalmol.* 2003;(287):65-71.
13. Varma, R., Lee, P. P., Goldberg, I., Kotak, S. An Assessment of the health and economic burdens of glaucoma. *Am J Ophthalmol.* 2011;152(4):515-522
14. De Luna, R., Mihailovic, A., Nguyen, A., Friedman, D., Gitlin, L., Ramulu, P. The association of glaucomatous visual field loss and balance. *Transl Vis Sci Technol.* 2017;6(3):8.
15. Haymes, S. A., Leblanc, R. P., Nicoleta, M. T., Chiasson, L. A., Chauhan, B. C. Risk of falls and motor vehicle collisions in glaucoma. *Invest Ophthalmol Vis Sci.* 2007;48(3):1149-1155.
16. National Academies of Sciences Engineering Medicine. (2016). Making eye health a population health imperative. Retrieved from <https://www.nap.edu/catalog/23471/making-eye-health-a-population-health-imperative-vision-for-tomorrow>