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Glaucoma

What is glaucoma?

Glaucoma is a group of diseases that can damage the optic nerve [<https://medlineplus.gov/opticnervedisorders.html>] of one, or both, of your eyes. This can result in vision loss [<https://medlineplus.gov/visionimpairmentandblindness.html>]. There are different types of glaucoma, but the most common type is open-angle glaucoma. Other less common types include angle-closure glaucoma, and congenital glaucoma.

You may not have any symptoms of glaucoma. Regular eye exams [<https://medlineplus.gov/eyecare.html>] by an eye care provider can check for glaucoma and other eye problems [<https://medlineplus.gov/eyediseases.html>] to help protect your vision. Treatments that lower eye pressure help slow the disease. Without treatment, glaucoma can eventually lead to blindness.

What causes glaucoma?

Medical experts aren't sure what causes glaucoma, but the most common types usually happen when the fluid pressure inside your eye slowly rises, damaging the optic nerve. Other types of glaucoma may be caused by medical conditions, or a baby may be born with it.

Not everyone with high eye pressure develops glaucoma. Some people may even get glaucoma with normal eye pressure. The amount of pressure your optic nerve can handle is different for each person. Getting regular dilated eye exams helps your provider figure out what level of eye pressure is normal for you.

What are the symptoms of glaucoma?

Often there are no symptoms of glaucoma at first. Or symptoms may start so slowly that you may not notice them. Without treatment, you slowly lose your peripheral (side) vision. It may seem like you're looking through a tunnel. Over time, your straight-ahead vision may decrease until no vision remains.

If you have sudden symptoms of intense eye pain, blurry vision, red eyes, or an upset stomach (nausea), you need to go to your eye care provider or an emergency room right away. These could be symptoms of angle-closure glaucoma. This less common type of glaucoma causes fluid to build up quickly in your eye.

How is glaucoma diagnosed?

A comprehensive eye exam can tell if you have glaucoma. This would include:

- **A dilated eye exam.** This involves getting eye drops that dilate (widen) your pupils. This allows more light to enter your eye. Your eye care provider examines your eyes using a special magnifying lens. This provides a clear view of important tissues at the back of your eye to check for glaucoma or other eye problems. For a few hours after the exam your vision may be blurry and sensitive to light, so you will need someone to take you home.
- **Visual field testing.** This check of your peripheral (side) vision allows your eye care provider to find out how well you can see objects off to the side of your vision without moving your eyes.
- **Tonometry.** This measures the pressure inside your eye.

If you're at higher risk for glaucoma, you should get comprehensive eye exams every one to two years. You're at higher risk if you:

- Are Black or African American and over age 40
- Are over age 60, especially if you're Hispanic or Latino
- Have a family history of glaucoma

You're also at higher risk if you have high blood pressure [<https://medlineplus.gov/highbloodpressure.html>] or diabetes [<https://medlineplus.gov/diabeticseyeproblems.html>] and should get a dilated eye exam at least once a year. Talk with your provider about your risk and how often you should get your eyes checked.

What are the treatments for glaucoma?

Early treatment can help protect your eyes against vision loss. There is no cure, but glaucoma can usually be controlled. Without treatment it can eventually cause blindness. Treatments can include:

- Prescription eye drops are the most common treatment to lower the pressure in your eye and prevent damage to your optic nerve.
- Other treatments may include oral medicines, laser treatment, and/or surgery.



A combination of these treatments may be used to lower eye pressure and help drain the fluid out of your eye.

Can glaucoma be prevented?


There is no way to prevent glaucoma. Eye exams can help find glaucoma or other eye problems before they can affect your vision. If you have glaucoma, be sure to continue with treatment to prevent your vision from getting worse.

NIH: National Eye Institute

Start Here

- Glaucoma [<https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma>]
 (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/enfermedades-y-afecciones-de-los-ojos/glaucoma>]
- Glaucoma: Symptoms and Causes [<https://www.mayoclinic.org/diseases-conditions/glaucoma/symptoms-causes/syc-20372839?p=1>] (Mayo Foundation for Medical Education and Research)
- Types of Glaucoma [<https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma/types-glaucoma>]
 (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/enfermedades-y-afecciones-de-los-ojos/glaucoma/tipos-de-glaucoma>]
- Understanding Glaucoma: Symptoms, Causes, Diagnosis, Treatment [<https://www.aao.org/eye-health/diseases/what-is-glaucoma>] (American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/enfermedades/que-es-la-glaucoma>]


Diagnosis and Tests

- Dilating Eye Drops [<https://www.aapos.org/glossary/dilating-eye-drops>]
(American Association for Pediatric Ophthalmology and Strabismus)
- Eye Exam and Vision Testing Basics [<https://www.aao.org/eye-health/tips-prevention/eye-exams-101>]
(American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/consejos/examenes-de-los-ojos-101>]
- Glaucoma Diagnosis [<https://www.brightfocus.org/glaucoma/diagnosis/>] (BrightFocus Foundation)
- Glaucoma Tests [<https://medlineplus.gov/lab-tests/glaucoma-tests/>]
 (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/pruebas-de-laboratorio/pruebas-de-glaucoma/>]
- Optic Nerve Imaging [<https://glaucoma.org/articles/optic-nerve-imaging>] (Glaucoma Research Foundation)

Learn More

- About Glaucoma [<https://www.cdc.gov/vision-health/about-eye-disorders/glaucoma.html>] (Centers for Disease Control and Prevention)


Treatments and Therapies

- Does Marijuana Help Treat Glaucoma or Other Eye Conditions? [<https://www.aao.org/eye-health/tips-prevention/medical-marijuana-glaucoma-treatment>] (American Academy of Ophthalmology)
Also in Spanish [<https://www.aao.org/salud-ocular/consejos/marihuana-medicinal-y-glaucoma>]
- Generic Medications: Are They the Same? [<https://glaucoma.org/articles/generic-medications-are-they-the-same>] (Glaucoma Research Foundation)
- Glaucoma Alternative Therapies [<https://glaucoma.org/treatment/alternative-therapies>] (Glaucoma Research Foundation)
- Glaucoma Medicines [<https://www.nei.nih.gov/learn-about-eye-health/eye-conditions-and-diseases/glaucoma/glaucoma-medicines>]  (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/Glaucoma/medicamentos-para-el-glaucoma>]
- Treatments for Glaucoma [<https://www.brightfocus.org/glaucoma/treatments/>] (BrightFocus Foundation)



Living With

- Glaucoma Eye Drops: Suggestions on Use [<https://glaucoma.org/articles/glaucoma-eye-drops-suggestions-on-use>] (Glaucoma Research Foundation)
- Living with Glaucoma [<https://glaucoma.org/understanding-glaucoma/life-with-glaucoma>] (Glaucoma Research Foundation)

Related Issues

- African Americans and Glaucoma [<https://glaucoma.org/articles/african-americans-and-glaucoma>] (Glaucoma Research Foundation)
- Diabetes and Your Eyesight [<https://glaucoma.org/articles/diabetes-and-your-eyesight>] (Glaucoma Research Foundation)
Also in Spanish [<https://glaucoma.org/es/articles/la-diabetes-y-la-vista>]
- Dry Eyes and Glaucoma: Double Trouble [<https://glaucoma.org/articles/dry-eyes-and-glaucoma-double-trouble>] (Glaucoma Research Foundation)
Also in Spanish [<https://glaucoma.org/es/articles/ojos-secos-y-glaucoma-doble-problema>]
- Talking with Your Eye Doctor [<https://www.nei.nih.gov/learn-about-eye-health/healthy-vision/finding-eye-doctor/talking-your-eye-doctor>]  (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/vision-saludable/encontrar-un-oculista/como-hablar-con-su-oculista>]

Genetics




- Early-onset glaucoma: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/early-onset-glaucoma/>]  (National Library of Medicine)
- Nail-patella syndrome: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/nail-patella-syndrome/>]  (National Library of Medicine)

Images


- How Glaucoma May Affect Vision [<https://www.brightfocus.org/resource/how-glaucoma-may-affect-vision/>] (BrightFocus Foundation)
- How the Build Up of Aqueous Humor Can Damage the Optic Nerve [<https://www.brightfocus.org/resource/how-the-build-up-of-aqueous-humor-can-damage-the-optic-nerve/>] (BrightFocus Foundation)
- How the Eyes Work [<https://www.nei.nih.gov/learn-about-eye-health/healthy-vision/how-eyes-work>]  (National Eye Institute)

Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/vision-saludable/como-funcionan-los-ojos>]


Videos and Tutorials

- Glaucoma [<https://medlineplus.gov/ency/anatomyvideos/000060.htm>]  (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/anatomyvideos/000060.htm>]
- Glaucoma Videos [https://www.youtube.com/playlist?list=PLNol8zIT_P1AfxEvxIFkYTAsX4nvP6fEv]
  (National Eye Institute)

Statistics and Research

- Eye Health Data and Statistics [<https://www.nei.nih.gov/learn-about-eye-health/eye-health-data-and-statistics>]
 (National Eye Institute)
Also in Spanish [<https://www.nei.nih.gov/espanol/aprenda-sobre-la-salud-ocular/datos-y-estadisticas-relacionadas-con-la-salud-ocular>]

Clinical Trials


- ClinicalTrials.gov: Glaucoma [<https://clinicaltrials.gov/search?cond=%22Glaucoma%22&aggFilters=status:not%20rec>]
 (National Institutes of Health)

Journal Articles

References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Short term clinical outcomes of the combined eyeWatch™ implant and eyePlate... [<https://www.ncbi.nlm.nih.gov/pubmed/40553153>]
- Article: Outcomes of Susanna UF implants in refractory congenital glaucoma. [<https://www.ncbi.nlm.nih.gov/pubmed/40315799>]
- Article: Effects of a single osteopathic manipulative treatment on intraocular pressure reduction:... [<https://www.ncbi.nlm.nih.gov/pubmed/40026145>]
- Glaucoma -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Glaucoma%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+2+Year%22+%5Bedat%5D+AND+%28patient+education+handout%5Bpt%5D+OR+guideline%5Bpt%5D+OR+clinical+trial%5Bpt%5D%29++NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]

Find an Expert

- American Foundation for the Blind [<https://www.afb.org/>]
- Find an Ophthalmologist [<https://secure.aao.org/aao/find-ophthalmologist>] (American Academy of Ophthalmology)
Also in Spanish [<https://secure.aao.org/aao/encontrar-ofthalmologo>]
- National Eye Institute [<https://www.nei.nih.gov/>] 

Children

- Glaucoma [<https://kidshealth.org/en/parents/glaucoma.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/glaucoma.html>]
- Glaucoma in Children [<https://aapos.org/glossary/glaucoma-in-children>]
(American Association for Pediatric Ophthalmology and Strabismus)

Patient Handouts

- Glaucoma [<https://medlineplus.gov/ency/article/001620.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/001620.htm>]
- Ophthalmoscopy [<https://medlineplus.gov/ency/article/003881.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003881.htm>]

Standard eye exam [<https://medlineplus.gov/ency/article/003434.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003434.htm>]

- Tonometry [<https://medlineplus.gov/ency/article/003447.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003447.htm>]



MEDICAL ENCYCLOPEDIA

Glaucoma [<https://medlineplus.gov/ency/anatomyvideos/000060.htm>]

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Related Health Topics

Eye Diseases [<https://medlineplus.gov/eyediseases.html>]

National Institutes of Health

The primary NIH organization for research on *Glaucoma* is the National Eye Institute [<https://nei.nih.gov/>]

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