

Introduction

Early detection, through regular and complete eye exams, is the key to protecting your vision from damage caused by glaucoma. A complete eye exam includes five common tests to detect glaucoma. It is important to have your eyes examined regularly. Your eyes should be tested:

- before age 40, every two to four years
- from age 40 to age 54, every one to three years
- from age 55 to 64, every one to two years
- after age 65, every six to 12 months

Anyone with high risk factors should be tested every year or two after age 35.

Source: <https://www.glaucoma.org/glaucoma/diagnostic-tests.php>

A Comprehensive Glaucoma Exam

Test Name	Examining
Tonometry	The inner eye pressure
Ophthalmoscopy (dilated eye exam)	The shape and color of the optic nerve
Perimetry (visual field test)	The complete field of vision
Gonioscopy	The angle in the eye where the iris meets the cornea
Pachymetry	Thickness of the cornea

Tonometry

Tonometry measures the pressure within your eye. During tonometry, eye drops are used to numb the eye. Then a doctor or technician uses a device called a tonometer to measure the inner pressure of the eye. A small amount of pressure is applied to the eye by a tiny device or by a warm puff of air.

The range for normal pressure is 12-22 mm Hg ("mm Hg" refers to millimeters of mercury, a scale used to record eye pressure). Most glaucoma cases are diagnosed with pressure exceeding 20mm Hg. However, some people can have glaucoma at pressures between 12 -22mm Hg. Eye pressure is unique to each person

Perimetry

Perimetry is a visual field test that produces a map of your complete field of vision. This test will help a doctor determine whether your vision has been affected by glaucoma. During this test, you will be asked to look straight ahead and then indicate when a moving light passes your peripheral (or side) vision. This helps draw a "map" of your vision.

Do not be concerned if there is a delay in seeing the light as it moves in or around your blind spot. This is perfectly normal and does not necessarily mean that your field of vision is damaged. Try to relax and respond as accurately as possible during the test.

Ophthalmoscopy

This diagnostic procedure helps the doctor examine your optic nerve for glaucoma damage. Eye drops are used to dilate the pupil so that the doctor can see through your eye to examine the shape and color of the optic nerve.

The doctor will then use a small device with a light on the end to light and magnify the optic nerve. If your intraocular pressure is not within the normal range or if the optic nerve looks unusual, your doctor may ask you to have one or two more glaucoma exams: perimetry and gonioscopy.

Gonioscopy

This diagnostic exam helps determine whether the angle where the iris meets the cornea is open and wide or narrow and closed. During the exam, eye drops are used to numb the eye. A hand-held contact lens is gently placed on the eye. This contact lens has a mirror that shows the doctor if the angle between the iris and cornea is closed and blocked (a possible sign of angle-closure or acute glaucoma) or wide and open (a possible sign of open-angle, chronic glaucoma).

Pachymetry

Pachymetry is a simple, painless test to measure the thickness of your cornea -- the clear window at the front of the eye. A probe called a pachymeter is gently placed on the front of the eye (the cornea) to measure its thickness. Pachymetry can help your diagnosis, because corneal thickness has the potential to influence eye pressure readings. With this measurement, your doctor can better understand your IOP reading and develop a treatment plan that is right for you. The procedure takes only about a minute to measure both eyes..

Glaucoma

The Normal Eye

The retina receives light and records visual messages.

The cornea is the clear "window" at the front of the eye.

The iris is the colored part of the eye.

The pupil is the hole in the iris that lets light into the eye.

The lens focuses light onto the retina.

The sclera is the eye's white outer coat.

The optic disc is a tiny spot in the retina where nerve fibers come together to form the optic nerve.

The optic cup is an area within the optic disc.

The optic nerve carries visual messages from the retina to the brain.

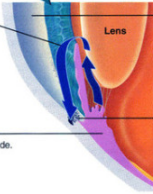
Normal Drainage

The aqueous humor is the clear fluid that flows through the inside of the eye, nourishing the lens, the iris, and the inside of the cornea. This fluid is not the same as tears, which bathe the outside of the eye.

The ciliary body is the eye's "faucet" or "tap" where fluid is made.

The anterior chamber is the eye's "sink." Fluid is pumped from the ciliary body through the pupil into this space in front of the lens.

The trabecular meshwork is the eye's "drain." Fluid flows through these tiny holes that surround the iris and then back into the bloodstream.



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