

# HEALTH NOTES

By Marla Lichtsinn, RN, MPA, CIC, Parish Nurse

## JANUARY is GLAUCOMA AWARENESS MONTH

In the front of the eye is a space called the anterior chamber, where a clear fluid flows in and out, carrying nutrients to the eye. Increased pressure inside the eye may cause permanent damage to the eye's nerve, leading to vision loss or blindness.

### WHAT IS GLAUCOMA?

Glaucoma is a group of diseases that can damage the eye's optic nerve, causing vision loss, even blindness. (The optic nerve is actually a bundle of more than a million nerve fibers, sending signals from our eyes to our brains, so that we can react to information that our eyes give us.) The most common form of glaucoma is called "open-angle" glaucoma. The less common types of this disease (low-tension, normal-tension, closed-angle, congenital or glaucoma related to eye injuries, medications, other diseases such as diabetes, eye tumors or infections) may also result in vision loss or blindness.

### CAUSES AND RISK FACTORS FOR GLAUCOMA

In open angle glaucoma, the fluid within the eye may not flow out as it should, and the pressure inside the eye may build up to a dangerous level, damaging the nerve. Damage to the optic nerve is usually caused by slow increase in pressure. However, there are people with normal or low eye pressure, who also suffer vision loss and blindness due to optic nerve damage. There are others in whom the pressure rises suddenly, causing severe nerve damage in just a day or two. This form of glaucoma – closed-angle – is a medical emergency, and requires surgery and/or medications immediately to prevent sudden blindness.

**Not everyone with increased eye pressure has glaucoma:** a person has glaucoma only if the optic nerve is being damaged. If you have increased eye pressure without nerve damage, you do not have glaucoma, but may be at risk for developing it. That's why a complete eye exam, with dilation of the pupil and examination of the retina (the "screen" on which the eye "projects" the picture of what you see) should be done at least every two years. Who is at risk? – anyone can develop glaucoma, but people at increased risk include

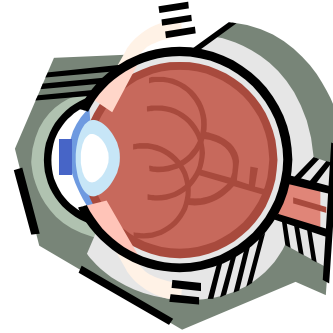
- People with a family history of glaucoma
- African Americans over the age of 40
- People over age 60, especially Mexican Americans
- A thin cornea (the layer in the front of the eye)
- Abnormal optic nerve formation

In some people with certain risk combinations, medicated eye drops can control vision loss or blindness.

### SYMPTOMS, DIAGNOSIS & TREATMENT

At first, there are no symptoms. Vision seems normal, and there is no pain. However, as the disease progresses, a person with glaucoma may notice his or her side vision is

gradually failing – that is, objects directly in front may still be seen clearly, but objects to the side may be blurry or missed entirely. Without treatment, people with glaucoma will slowly lose their peripheral (side) vision. They seem to be looking through a tunnel, which becomes narrower over time, until straight-ahead vision may also decrease until no vision remains. (This may happen in one or both eyes.)



How can glaucoma be detected? Through a comprehensive eye exam that includes

- Visual acuity test: to see how well you see at various distances
- Visual field test: to measure your side (peripheral) vision
- Tonometry: to measure pressure inside the eye
- Dilated eye exam: eye drops are given to widen (dilate) the pupils; then your eye care professional (**ophthalmologist**) uses a special lens to look inside the eye at the optic nerve and the retina (don't be alarmed if, after this test, your close-up vision is blurry for a few hours)
- Pachymetry: a numbing eye drop is applied to the eye, then an ultrasonic wave instrument is used to measure the thickness of the cornea

When glaucoma is diagnosed, immediate treatment can delay progression of the disease – that's why early diagnosis, even before we notice symptoms, is so important!

Glaucoma treatments include medications, laser surgery, conventional surgery or a combination of these. While these treatments may prevent further loss of vision, they do not improve sight already lost due to glaucoma.

Before you begin glaucoma treatment, tell your eye doctor about other health conditions and medication that you are taking. Sometimes, certain medications may interfere with the way glaucoma meds work; or, glaucoma medication may interfere with your other medicines!

Surgery, either laser or conventional procedures, have been found to be successful (60-80%) in correcting increased eye pressure, though sometimes the effects wear off over time, and additional treatment may be necessary.

If you have already lost some sight from glaucoma or other eye disease/injury, ask your eye doctor about low vision services to help you make the most of your remaining vision.

A great deal of research is being done to learn what causes glaucoma and to improve its diagnosis and treatment. Work with your doctor to preserve your vision!

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For more info, go to [www.nei.nih.gov/health/glaucoma](http://www.nei.nih.gov/health/glaucoma)