Grace M. Richter, MD, MPH
Assistant Professor of Clinical Ophthalmology, USC Roski Eye Institute

Q. Will I have symptoms if I develop glaucoma?
For open-angle glaucoma, the most common form of the disease, the vast majority of patients don’t realize they have the disease until it is extremely advanced. For this reason, regular eye screenings are important. For angle-closure glaucoma, you may experience intermittent mild eye pain, see halos when looking at lights, or have headaches that come and go. This should not be ignored and calls for a glaucoma evaluation.

Alternatively, you could experience an angle-closure attack, which is an acute episode of severe eye pain, red eye, headache, blurred vision, with or without nausea and vomiting. If you ever experience any assortment of these symptoms, you should call a glaucoma specialist or report to the emergency room immediately.

Q. Who needs a glaucoma evaluation?
A thorough glaucoma evaluation is recommended for anyone who has a family history of glaucoma because it often runs in families and has a strong genetic component. Additionally, anyone who is over the age of 40 should have a complete eye exam. Risk factors for open-angle glaucoma include: family history, increasing age, near-sightedness, African American or Latino ancestry, or suspicious findings on the eye exam. Risk factors for angle-closure glaucoma include Chinese ancestry and farsightedness.

Q. What can I do to prevent it?
For most types of glaucoma, there aren’t many lifestyle factors that have been definitively linked to the disease. A history of either high blood pressure or low blood pressure, especially at night, have been linked to glaucoma. Some studies suggest that diabetes may be a risk factor for glaucoma. The best thing you can do is: 1) live a healthy lifestyle with regular exercise and a diet including plenty of fruits and vegetables, and 2) get regular eye exams.

Q. What do you do if I have glaucoma?
For most types of glaucoma, we begin by starting eye drops that will lower your eye pressure and prevent additional damage to your nerve. If you have a “narrow angle,” which means the drainage system to your eye is obstructed or at risk of being obstructed, you will require a laser procedure. For patients who cannot tolerate eye drops or do not like them, there is another type of laser procedure that can help to lower pressure. Finally, for more advanced cases or in patients who want an alternative to eye drops, there are several types of glaucoma surgeries that can work to lower eye pressure. Some of these surgeries are minimally invasive and can be performed in combination with cataract surgery.

Q. Are there any activities I should avoid if I have glaucoma?
Activities that inadvertently increase eye pressure for long periods of time should be performed with caution or even avoided. These include certain yoga positions, such as headstands or handstands, and playing wind instruments. Talk to your eye doctor if you participate in these activities and have a diagnosis of glaucoma.

Q. Is glaucoma research being done at USC?
USC Eye Institute glaucoma specialists are working hard to improve our methods of detecting glaucoma at an earlier stage, improve monitoring for progression of disease, and developing new and better treatments for glaucoma. We have several large epidemiological studies, including the Los Angeles Latino Eye Study, the Chinese American Eye Study, and the African American Eye Disease Study, which allow us to better understand the risk factors for glaucoma as well as other eye diseases. USC Eye Institute researchers are developing novel intraocular pressure sensors that will allow us to know our patients’ eye pressure fluctuations around the clock and a tiny implantable pump that will automatically deliver medications directly into the eye. Finally, I am leading our efforts to use a technology called optical coherence tomography angiography to detect abnormalities in the blood vessels of the eye in glaucoma patients. This will greatly improve our understanding of how glaucoma damage occurs and enable us to treat patients earlier and more effectively.

Contact Info: USC Eye Institute, 1450 Sun Plaza St., 4th Floor, Los Angeles, 90033, 323.442.8635

To schedule an appointment or for more information please call 323.442.6335 or visit us at www.USCeye.org
Sahar Bedrood, MD, PhD, is an assistant professor of clinical ophthalmology specializing in glaucoma at USC Roski Eye Institute.

Q: I don’t notice any changes to my vision so how do I know if I have glaucoma?

Glaucoma is a slow, progressive disease that can cause a variety of changes to vision, but most commonly affects peripheral vision off to the side first followed by central vision. Glaucoma usually affects one eye while the other eye compensates for any vision loss. This, combined with the slow nature of the disease, is often the reason why individuals don’t notice symptoms of vision loss. Many patients may not notice vision loss until the disease is in an advanced stage. The best measure of peripheral vision loss is a visual field test that can be done by an eye specialist. The test, along with a measurement of the thickness of the optic nerve and the physician’s clinical exam are methods used to diagnose glaucoma.

Q: I have family members who have glaucoma. Should I be checked? What are other risk factors for glaucoma?

A positive family history of glaucoma is a risk factor for developing several types of glaucoma. The most common type is primary open-angle glaucoma (POAG). A large scientific study of POAG found that the risk of developing POAG increased approximately 3.7-fold for individuals who have a sibling with the disease.

Other risk factors include older age, high eye pressure, race (African Americans and Hispanics are at higher risk), nearsightedness and decreased corneal thickness.

Q: What are the treatments for glaucoma? Do I need surgery? Are there holistic approaches?

While no one knows exactly what causes glaucoma, we do know that the disease increases ocular pressure inside the eye. We can reduce the pressure with eye drops, laser procedures and incisional surgery. A glaucoma specialist can give you information about the various options and decide if you are a candidate for noninvasive laser procedures. In many cases, the ophthalmologist begins medical therapy with eye drops. The responsiveness to the treatment will be monitored and adjusted depending on eye pressure and visual field changes. If the eye drops and laser procedures are not viable options for a patient, minimally invasive surgery or incisional surgery can be effective methods in reducing the pressure. Currently, there are no scientific studies that have shown herbal remedies or alternative treatment methods that can change the progression of glaucoma or cure it.

Q: My doctor said I am a glaucoma suspect. What does that mean and how often should I get examined?

A glaucoma suspect refers to an individual who displays a characteristic during the eye exam that appears suspicious for glaucoma. This can be a change in the optic nerve or nerve fiber layer, a disc hemorrhage or asymmetric optic nerves. Overall this diagnosis is given if there is some clinical suspicion that something is unusual but it is not a clear diagnosis of definitive glaucoma. Oftentimes patients are referred to me because they receive a diagnosis that is not clear-cut. I perform a thorough clinical exam, looking at the drainage system of the eye, performing visual field testing and measure the nerve fiber layer to make sure that the patient has been thoroughly checked. If no evidence of definitive glaucoma is found, I ask my patients to come back in six months to check that there is no progression to glaucoma and no treatment needs to be initiated.

In general, close monitoring is advised about every six months to one year with repeat testing.

Contact Info: USC Roski Eye Institute, 1450 San Pablo St., 4th floor, Los Angeles, Ca 90033, 626.594.9444; www.usceye.org

Q: What is glaucoma? Glaucoma is a disease that affects the optic nerve that goes from the eye to the brain. It affects peripheral vision first followed by central vision. If diagnosed in the late stages, vision loss will be permanent.

Q: Who is affected by glaucoma? Two percent of the general population is affected by glaucoma and half of those people are undiagnosed. You are at a higher risk if you have a family history of glaucoma, have had ocular trauma, inflammation of the eye or previous eye surgeries.

Q: Who can diagnose glaucoma? An ophthalmologist or optometrist can evaluate for glaucoma during a routine eye exam using eye pressure measurements, visual field test (a computerized test that measures your peripheral vision) and by looking at the optic nerve. If surgery is needed or diagnosis of glaucoma is in question, you might be referred to a glaucoma specialist, who is an ophthalmologist with additional training specific to glaucoma and glaucoma surgery.

Q: What are the first signs of glaucoma? Glaucoma is often called the sneak thief of sight because in most cases there are no early symptoms or signs: no pain, blurred vision or eye redness. The vision is lost slowly over several years or decades, starting with peripheral vision. If glaucoma is diagnosed after vision is lost, there are no current treatments available to restore the sight. Our goal is to diagnose and treat glaucoma at the early stages prior to vision loss. At USC Eye Institute, we have state-of-the-art equipment to help diagnose optic nerve disorders and glaucoma in its infancy.

Q: I have heard there are different types of glaucoma. What is the most common one? The most common is open-angle glaucoma. It is more prevalent in mature people, ages 65 and above. The intraocular pressure in the eye is elevated and the draining channels are open though not functioning properly. Another form of open-angle glaucoma is low-tension or normal tension glaucoma. It is a highly aggressive and progressive form that is not characterized by elevated intraocular pressure and often affects younger people above age 40 and of Asian descent.

Another category is closed-angle glaucoma, which occurs when outflow channels of the eye are closed by the iris (colored portion of the eye). Usually people are predisposed to closed angles by the anatomy of the eye. It can be treated by an ophthalmologist in the office prior to any damage occurring.

Q: My eye doctor told me that I am a glaucoma suspect. What does that mean? A glaucoma suspect refers to a patient with pre-glaucoma: you might have glaucoma but it’s too early to tell. Perhaps your eye pressure was elevated during the eye exam visit, or you have family history of glaucoma and your optic nerve looks different than the general population. You don’t have glaucoma yet, however, I ask my patients to come back every six months to check that there is no progression to glaucoma and no treatment needs to be initiated.

Q: Is the treatment the same for all glaucoma patients? No. Treatment depends on the kind of glaucoma, stage of the disease (early or late) and the patient’s lifestyle. As a glaucoma specialist, I may offer eye drops or laser treatment to lower intraocular pressure as a first step. If the disease isn’t responding well to the first step or is more advanced, I may recommend surgery. I make sure to discuss all the available options with my patients.

Q: Would you recommend a second opinion before agreeing to laser treatment or surgery? Absolutely. If you have any doubts it is beneficial to obtain a second opinion. It all depends on the situation and treatment recommended. For example, if the glaucoma is uncomplicated and in its early stages then laser may be indicated. But if there is severe damage or previous laser treatments have been ineffective, then surgery may be a better option. The bottom line for everyone to remember is that regular eye exams are critical to detecting and treating glaucoma to prevent blindness.

Contact Info: USC Eye Institute, 1450 San Pablo St., 4th floor Los Angeles, 90033, 323.444.9335

Sahar Bedrood, MD, PhD, Assistant Professor of Clinical Ophthalmology, USC Roski Eye Institute