

Katie Johnson: Good morning, and welcome to Apple a Day, Lake Region Healthcare's health and wellness segment where we give you news and information that you can use to live a healthier lifestyle. This is Katie Johnson, your host, and my guest today is Dr. Steven Thom, an ophthalmologist at Lake Region Healthcare's Eye Clinic, and here to talk with us about glaucoma during January Glaucoma Awareness Month. Good morning, Dr. Thom.

Dr. Steven Thom: Good morning, Katie.

Katie Johnson: Thanks for joining us. Let's just start with the basics, which maybe isn't so basic. What is glaucoma?

Dr. Steven Thom: Well, it's a little more complicated than I'd like to think, but basically glaucoma is a disease of the optic nerve that connects your eye to the brain. That optic nerve starts to get damaged or deteriorate, and this is typically related to pressure in the eye, water pressure of the eye that's elevated. There are some people that have glaucoma damage to their optic nerve that don't have elevated eye pressures, and just to give the listeners kind of a mental picture, our eye is actually hollow, and it's filled with water. Think of the eye kind of like a water balloon. We know what happens with a water balloon. If the water pressure gets too high, it pops. Well our eye is very rigid, the walls of the eye are very rigid so the eye is not going to pop, but it will start to damage the softest part of the eye, which is actually the optic nerve that connects the eye to the brain. When we get damage to the optic nerve, then we start to lose some of our side vision, or peripheral vision. That process in most people can take years and years and years. Often when people get symptoms of glaucoma, which would be blurred vision, or loss of peripheral vision, they have very advanced glaucoma.

Katie Johnson: What is it that causes that pressure to start to happen?

Dr. Steven Thom: Well, we all need some pressure in the eye to keep it inflated. Normal pressure in the eye is anywhere from 10 to 21 millimeters of mercury. If anybody listening has glaucoma, they know that their pressures are probably in the mid to lower teens. As a goal we want to try to keep the pressure lower when people have glaucoma. What causes it is multifactorial, meaning there are a lot of different causes, but the biggest risk factor is age. As we age, we are at higher risk for glaucoma. By the time you hit age 80, 10 to 12 percent of people have glaucoma. It's thought that the drainage pathway in the front chamber of the eye gets clogged with cellular debris, and the older you are the more debris has developed. It's kind of like leaves in your gutter. It just starts to plug it up and the pressure rises. This typically happens slowly over many, many years. Like I said, it usually doesn't cause symptoms until it's very late in the game.

There are other forms of glaucoma that behave differently. There's an acute form of glaucoma you may read about if you're grabbing some cold medicine off the shelf. It says, "Don't take this medicine if you have glaucoma, or something

bad could happen." Well, the type of glaucoma that we're typically talking about related to age is called an open-angle glaucoma, and the cold medicines have nothing to do with that. There's a rare type of glaucoma that's called angle-closure glaucoma that can come on in a matter of minutes to hours. If it's not treated within a few days, can cause permanent blindness that quickly. That type of glaucoma causes sudden onset of blurred vision, haloes when you look at things, severe eye pain and aching. It can even cause nausea and vomiting. Typically, people with that acute glaucoma know about it, and it's treated with a simple laser treatment as an outpatient. For the listeners, that's one typically not to have to worry about unless there's a family history of it. If there is, then you're much more likely to be one of those people to get the angle-closure glaucoma, but you'd have known about it by a family member.

Katie Johnson: That brings the question of how is glaucoma diagnosed?

Dr. Steven Thom: Glaucoma is diagnosed by a combination of things. Number one, checking the eye pressure and making sure it's in the normal range. Again, if it's in the normal range, most of the time you're okay, but not everybody is okay. There's a small segment of glaucoma called normal pressure glaucoma where you can still get damage to the optic nerve even though your pressures are in the normal range. It starts with a pressure check from your eye doctor, and then also an evaluation of the optic nerve. The optic nerve needs to be looked at typically by putting some drops in your eyes to dilate your pupils so we can look in the back of the eye and look at the optic nerve. There are also some tests to take a laser scanning picture of the optic nerve. That's called an OCT. Then there's also a visual field test where we actually will test your peripheral vision by seeing if you see different lights presented to you at different degrees away from your fixation.

Katie Johnson: How often should you be screened for glaucoma, and does that change with how old you are?

Dr. Steven Thom: It does. The average person from childhood until they're 65 years of age can get an eye exam kind of as needed unless there's a family history of the angle-closure glaucoma or open-angle glaucoma, or there's been eye trauma. Eye trauma is a big risk factor for getting glaucoma as well as people that are severely near-sighted. Those people are at a higher risk of glaucoma. Then obviously family history is significant. If those risk factors are there, then you want to get checked maybe every few years. If one of your relatives had glaucoma in their 40s or 50s, then when you get to that age group, you should be doing it as well.

Somebody that a lot of your listeners will probably remember who developed glaucoma very suddenly was Kirby Puckett. His glaucoma, his pressures got so high in his eyes that it caused the blood to stop flowing in the retina, and he had what's called a central retinal vein occlusion and he basically went legally blind in the eye overnight. Unfortunately that vein blockage was so severe that his eye

never recovered from it and he had to retire from baseball. He was in his late 30s. It can happen, and it is a little more common in the African-American population too. That's something, again, another risk factor that if people have a number of these they should definitely get checked out more often. Once you get to age 65, pretty good idea for everyone to get an eye examination once a year because cataracts and macular degeneration are also very common in that age group.

Katie Johnson: You've mentioned all these different kinds of glaucoma. Aside from different kinds, are there also different stages of glaucoma?

Dr. Steven Thom: Yeah. I guess you could simplify it ... We don't really break it down, but there's mild, moderate, and severe, I guess you could say. Somebody who came in with mildly elevated eye pressures who still had a healthy appearing optic nerve, we might start them on an eye drop or watch them a little closer, and if we start to see the pressures climbing ... When the pressures get into the mid 20s, the risk over time of you developing nerve damage is pretty significant, so we might actually treat somebody before they actually get optic nerve damage, and that would be a mild form of glaucoma.

Then we might treat somebody ... We might examine them and find that one of their eye pressures is quite high, and there's already been some optic nerve damage in the other eye, maybe there is and maybe there isn't. We would treat those people, and they would have what's called moderate glaucoma.

Somebody with severe glaucoma would actually be somebody who is backing in and out of their garage and bumps the side of the garage door with a mirror because their peripheral vision is not intact. They might walk through a narrow doorway and actually bump into it with their shoulder because their peripheral vision is not intact. They may finally come in for an eye exam at that point and we find they've got significant nerve damage. Unfortunately once the damage has occurred we can't improve that damage. What's done is done. What we can do then with glaucoma is try and stop the damage where it's at so they can still maintain a reasonable active lifestyle.

Glaucoma is kind of the opposite visual effect of macular degeneration. Macular degeneration, which one out of three people over age 80 suffers from in this area, blurs your central vision. Glaucoma does the exact opposite. It blurs your peripheral vision and you maintain your central vision until the very end.

Katie Johnson: Interesting. Is there anything that can be done to prevent it?

Dr. Steven Thom: There's nothing that can be done to prevent glaucoma in general. However, if somebody is in that risk factor group for the acute angle-closure glaucoma, we can actually prophylactically or preventatively do a laser treatment where we put a small little hole, which is a painless procedure right in the clinic, put a little hole in the iris and that will prevent the angle-closure from actually occurring, and so

in that case we can actually do something to prevent glaucoma, but in general we can't prevent it because it appears to be an aging-related process and there's definitely a genetic component. Some people's drainage system out of their eye seems to plug earlier than others.

Katie Johnson: Anything else that you'd like to share with our listeners about glaucoma that I've missed, or that you would say is a key take-away message?

Dr. Steven Thom: I guess I would just let the listeners know that glaucoma is very similar to high blood pressure. Most people who have high blood pressure and are treated for it don't really know they have it because they don't really have any symptoms. Over time, we know high blood pressure causes heart disease, kidney disease, strokes, things like that. With glaucoma, it's very similar in the fact that it doesn't ... Most people don't get any symptoms until it's very advanced, and instead of a heart attack or a stroke you've got such peripheral vision limitations that you're considered legally blind. Then we can't do anything to help you. I guess if you're in one of those risk factor groups, such as the elderly, positive family history, severely nearsighted, history of eye trauma, and even people on chronic steroids would be another risk factor, then you should get an eye exam on a regular basis. There's a lot of good treatments. We typically start with eye medications, eye drops once or twice a day. If that isn't doing the trick, we will move on to a laser, which is a painless procedure we can do right in an outpatient setting. Lastly, if we can't get the pressures down with laser we'll move to an actual surgery on the eye to try and improve the drainage out of the eye.

Katie Johnson: Thank you for shedding so much light on what really is a complicated disease during January Glaucoma Awareness Month.

Dr. Steven Thom, ophthalmologist at the Lake Region Healthcare Eye Clinic. Lots of other doctors at the eye clinic, all who can screen for glaucoma and help take care of the eye care needs for you and your family.

Dr. Steven Thom: That's true. We've got another ophthalmologist, Dr. Brian Schmidt. We also have Dr. Heidi Ottenbacher, and Dr. John Kaliher, who are both optometrists, and any one of them would be happy to see any of the patients for a complete eye examination.

Katie Johnson: Of course they can be reached at the eye clinic at 739-2221. Thanks for your time today, Dr. Thom. We appreciate it.

Dr. Steven Thom: My pleasure.

Katie Johnson: Dr. Steven Thom and Katie Johnson here on Apple a Day for Glaucoma Awareness Month in January. We both do remind you that there's so much to do here. Stay healthy for it. Have a great day.