Uncover Eye Exams' Role In Detecting Neurological Condition Transcript

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Introduction and Guest Overview

Welcome to the Parkinson's Solutions Summit 2.0. I'm your host, Dr. Ken Sharlin Today I have a special guest, Dr. Rudi Banik She is a neuro ophthalmologist, which basically means that she specializes in neurological aspects of eye health and eye disease.

And it's a real honor to have you back to the Parkinson's Solutions Summit. Dr. Banik Well, it's a pleasure to be here, Dr. Sharlin Thank you for having me again.

Dr. Banik is one of our nation's top doctors. She's been, voted so. And, several surveys, and she is also an author. And we're going to talk everything I from the disease side and the anatomy and physiology to how you can, utilize therapeutic lifestyle medicine, functional and integrative medicine to improve your eye health.

Well, with that, let's kind of dive into things and talk about the AI and why are your eyes so important when we think about Parkinson's and related to Saunders?

Yeah, that's that's a great point. So the AI is so important because many people don't know this. The AI is actually a direct extension of the brain. So it is part of the central nervous system.

And actually if you think about embryological development, there's a little cup that comes out from the brain. It kind of is, is like a C shaped cup. And then it becomes the AI.

So it's a direct kind of a appendage of the brain. And not only that, but within the brain. it's estimated that at least 50% of the brain's neural pathways are dedicated to something to do with vision, whether it's processing vision, whether it's color, motion resolution, or perhaps it's eye movement, how we move our eyes, and also the connection between our eye movement and our balance center, which is the cerebellum.

So again, the eye is a direct extension of the brain, but also the brain is really dedicated to vision.

Why the Eyes Matter in Parkinson's

And that's why so many neurologic conditions can be picked up on an eye exam. And also so many brain conditions, particularly neurodegenerative conditions, can manifest with visual issues.

It's two it. Absolutely. So you know, when I see patients and you see patients in the clinic traditionally it starts with the medical history followed by a physical examination.

And I wonder for our purposes today if we can actually kind of go backwards and talk about the key aspects of how is the eye examined. And and that should, in my mind, be both from a more generalist perspective, because you guys have such cool, fancy equipment in your clinic, and not all of us have that.

But yet, as you know, there are really are essentials right? There are some core things that should always be done when examined the the eyes. And then let's sort of pull the camera back, maybe, and talk about some of the common problems from a symptoms perspective that people with Parkinson's and related disorders, multiple system atrophy, etc.

may experience. Even Lewy body dementia often have visual symptoms, not necessarily the eye itself. and then we can talk about some problem solving from there, if that sounds good.

But I want to know what's a good eye exam. Because if I'm a patient I go to the doctor, you know, and I want to just share a very brief that anecdote, which is and you and I both have seen this, this is something we called the NL

exam, right.

yeah. It's it's funny. And so within you know. Yeah. Right. Did that body part actually get examined or was the doctor kind of on automatic mode. And just saying.

Well I looked at them and seems like their eyes were okay. And I'm just going to write in the chart within normal limits. You and I know that's a shortcut.

Yeah. Probably. And that's what we're taught in medical school. When it comes to the eye exam, you have a couple of boxes. Pupils extract their movements.

Vision is not even part of the general exam. So that doesn't get checked off. But but some of the basic things they it's kind of like reflex people just check them off without actually checking.

but when it comes to an eye exam, a lot of people think it's all about just glasses, you know, going to the eye doctor, getting a refraction done, which is, you know, better one better too.

That's called refraction. But there's so much more to the eye exam. And just to demonstrate, I'll actually pull out my handy dandy eye model here. And so, you know, when we think about the eye, most people just think about the very front part of the eye, what they can see, which is the colored part of the eye, a little bit of the white part, but there's actually a lot going on.

And if I open it up, if I give you a peek inside the Wow complex, it's got so many different structures, you know, it's going to come apart almost like a puzzle here.

But all of these structures, there are about 40 different structures that make up the eye to different cell types, over 200 different cell types. So all we see is the front.

But there's actually a lot going on in the back. So when you go for your eye exam, what your eye doctor will be doing is not just checking you for glasses.

They'll be checking to make sure that those structures are healthy and so the general components of the eye exam, yes, we check vision. we look at the front of the eye under the microscope.

We have a special microscope that we use called the slit lamp.

How a Proper Eye Exam Works

That magnifies everything. So we can look really, really carefully at the structures like the cornea, for example, which is the very front part of the eye, the lens.

I'll show you here again, the cornea is this dome shaped front part of the eye right here it's clear. And then behind that we can look at the iris. We can look at the beautiful iris, which has crypts in it and all kinds of graphical features.

And then there's the lens, which is the lens helps us to focus. So we look at the lens and the lens. As people get older this is what we can can become a cataract.

So we look at this to make sure that there's not a cataract developing. And then this is the most important part of the eye exam that a lot of people unfortunately skip that.

But they absolutely should get it done, which is the dilated part of the eye exam. And then what happens during that is we put drops in the eye to make the pupil large.

The pupil is this center opening here in the iris. We make it really big. So we can actually examine the entire back

part of the eye. So without a dilation, you can only see.

We can only see about 10% of the back of the eye, the optic nerve, the retina, but only 10%. When we target the pupil, we can see the full 360 degrees of the back of the eye.

And that's so important because so many eye conditions or systemic conditions also can show up in the back of the eye. So I conditions like macular degeneration, glaucoma, diabetic retinopathy these all can be picked up on a dilated eye exam but also systemic conditions.

There are over 200 medical conditions that can be picked up on an eye exam, such as high blood pressure, heart disease, arrhythmias, cholesterol problems, strokes.

Various different types of strokes can be picked up on an eye exam. So it really is important not to just defer the dilation part. It's really, really important to get an annual dilated checkup.

So that's the typical general eye exam. And then we can go further. We can do extra testing to see what's happening at a structural level and a cellular level, so we can do fancy tests.

You were mentioning earlier about our gadgets. They're all the high tech equipment that we use. We can take special pictures of the back of the eye. We can look at the optic nerve.

We can look at the retina on a very microscopic level to the resolution of for microns, which is so, so small. If you think about a millimeter, a micron is forget I think it's one sixth of a millimeter.

I'm not sure exactly at there. Maybe one ninth of a millimeter, but it gets down to a very, very granular, resolution. And we can look at different layers in the retina.

We can look at different layers of the optic nerve. And that's when we can we can really pick up some conditions that may be, otherwise silent or asymptomatic, but we can pick it up in an early, early stage, like, for example, certain neurodegenerative conditions or inflammation, neuro inflammatory conditions like multiple sclerosis, we can pick up by doing some of those tests.

It seems to me that there are two dimensions to this. One is that there are many things that may not sort of be, a characteristic finding of Parkinson's disease, but they are, from a root cause perspective, very relevant in terms of contributing factors or even potentially mediators.

And then there are things that maybe don't have a real there probably is a root cause relationship. And I'll say like cataracts, right. nutrition and things like that.

And I know you will highlight that, but my point is that in my world, as a neurologist, for example, if I see somebody who is having progressive cognitive decline, one of the things that I always ask about is, and I certainly examine it, not not not with fancy equipment, but I look at hearing.

Right. Because hearing loss is something that we are really empowered to correct. I know a lot of people don't like hearing aids. They don't solve all of the problems.

But there have been a lot of advances in hearing aids. And I know you and I have both seen people with hearing aids where I had to look twice to even realize they were wearing something, because it just it's a little piece.

It looks like a piece of fishing line going into their ear. but my point is here that there are probably things that may not, on the surface to folks with Parkinson's, seem like, well, you know, why do I have to worry about that?

That's not my Parkinson's. But in fact, it could really move the mark for them when it comes to, you know, improving their ability to function. Yes, absolutely.

And so there are some really subtle signs that specifically, as a neuro ophthalmologist, that I always look for in a patient and, sometimes we can pick up some early, early indicators of something else going on, not just an eye, but something deeper.

And I'll give you a perfect example. And so when we look at the front of the eye, we look at the cornea, we look to see if the cornea is dry. We look at the eyelid.

So the eyelids are also part of the visual system because when we blink they help to lubricate the surface of the eye, helps keep things nice and comfortable and smooth.

And so I look at all of that. And in many, many cases of patients with Parkinson's, they will have dry eye, which is not just your usual dry eye, because many people do have dry eye, dry eyes, very common in the population, especially with screen time.

But with patients with early Parkinson's, they tend to have very characteristic findings on the front part of the surface of the eye, the cornea, but also on their eyelids.

That may indicate that there's something else going on. So, the first thing I look for is the blink rate. So normally most people we blink about 15 to 20 times a minute.

And, in patients who have Parkinson's, you know, we know that certain movements slow down. There's braided cornea or there's also a decreased blink rate instead of the usual 15 to 20 times a minute.

Many people with Perkins will Brandt blink only five times a minute, or perhaps even less. And when we see that really reduce that really infrequent blink rate, we really have to start thinking, okay, is there something perhaps neurologic going on here?

Not just, you know, looking at the screen and not blinking, but something else deeper going on here.

When to Refer from Neurology to Eye Care

And the other thing is, and this is really interesting in terms of root cause I haven't quite figured out what the exact link is here, but many people with Parkinson's or other types of neurodegenerative conditions will have inflammation of their eyelids, a condition called black varieties.

And so, I mean, again, many people can of bluff varieties, but in patients with Parkinson's, they have inflammation of the eyelids where the eyelids get really crusty.

There's almost like a dandruff that builds along the lashes. And the oils that are secreted by the glands in the eyelids are not healthy. The oils, they're very greasy and they don't stay on the surface of there.

They evaporate very quickly. And so this is an interesting finding. And again, I don't think the research is quite there yet in terms of what is it about Parkinson's that may lead to this type of varieties, which is causing this eyelid inflammation?

Is it something to do with dopamine? Is it perhaps something to do with another neurotransmitter? Is it perhaps omega related? We know that dry eye is oftentimes related to an omega deficiency, an omega three deficiency.

So we haven't quite figured it out yet. But definitely when I see those eyelid changes immediately, it's almost like a light bulb goes off and I start to think, could this patient have some early signs of Parkinson's disease?

So there are simple things that can be picked up on a general eye exam. It doesn't even have to be a neuro ophthalmic exam, but just a general eye exam may be harbingers of something yet to come.

Well, so when I see patients in my clinic as a general neurologist, we may or may not do visual acuity. Guilty as

charged. I always do it in clinical trials, but we don't necessarily do acuity.

in the, in the office visit. But we're certainly going to look at pupil size, pupil reactivity. We're going to look at what was called visual fields or our patients cover one eye.

I usually use finger confrontation occasionally I'll just say, you know, can you see my fingers move. And we check all four quadrants of each eye separately.

And then I'm going to look at eye movements. And I am going to look at the back of the eye. I don't routinely dilate the eye only because being a general neurologist and my patients are leaving, I can't see for a few hours or whatever because everything's blurry.

But here, here's my point. And, that it's important for folks to know what to expect in their when they go to their general neurologist. But for example, if someone comes to me and is on 2 or 3 blood pressure medicines and I say, do you have sleep apnea?

And they said, well, I've never been diagnosed with sleep apnea. And it's the snore. It is your bed partner. Comment on you, you know, stopping breathing in your sleep or, you know, the usual kinds of questions.

I'm not really sure I'm going to send them for a sleep study. I'm going to, at the very least send that arrange for them to have an oxygen overnight, oxygen saturation study at home as a sort of this it's it's not a test for sleep apnea, but certainly if you're if you're not breathing in your oxygen saturations going down, you need to be tested for sleep apnea.

So in other words, what we're saying, what I'm trying to say is when it comes to the presentations that I see in my clinic, perhaps there is a threshold where we say, I know you're not maybe aware of having eye disease, you're coming to the neurologist, but because you have this, this or this, I'm going to have you see the opthamologist and take a deeper dive.

So that makes sense. Absolutely. Some thresholds to say you need to see an ophthalmologist. Yeah. So so similarly you know I'm not I am a neuro ophthalmologist, but I'm not, a neurologist.

I'm not a I don't typically do the entire neurologic exam, but as part of my exam I definitely check extract their movements. I make sure the eyes are aligned.

But I also do a cursory cerebellar exam. And of course, I watch the patient when they're walking in. What is their gait like? What is their speech like?

what are their movements like? So I'm watching the entire person and if I do pick up something, if I notice that they're having a slightly shuffling gait when I do my cerebellar exam, when I notice that they have a little bit of, cerebellar dysfunction, they have trouble with heel heel to, to toe walking or they have trouble with the Romberg, which is a balance test.

Then I do similarly similarly to what you mentioned.

Common Eye Problems in Parkinsonism

I do tell them, okay, I do pick up some things on your exam which perhaps need some more investigation. And then I definitely say, maybe it's time to make an appointment with a neurologist to get it really checked out.

So, so similarly I am screening for other things as I'm doing my eye exam. And I think, you know, for most eye doctors, maybe they are laser focused on just the eye part.

But I think it is important for many eyecare practitioners to be gatekeepers in a way where we have maybe some insights into how the patient may be functioning or what their exam may show.

That may be hints to something else going on. So absolutely, I think it's so important. And, you know, just your comment about the sleep apnea, sleep apnea can also cause quite a few eye issues.

in this cases, it can cause, a particular type of optic nerve stroke called nonstarter. Reddick anterior ischemic optic neuropathy. I know it's a mouthful. It's neon for short.

So sleep apnea is closely linked to this type of eye stroke. And so whenever I see a patient in whom I presume that they have this, I stroke and I make the diagnosis, I always send them for a sleep test.

So everything really is interlinked, everything is combined. And we shouldn't just view each organ system as in a silo as its own. We really should try to bring things together and really approach the patient more holistically.

I think it's so, so important to be have a wider kind of, awareness as a, as a provider as to what may be going on with the patient. Are there, criteria like there is for, say, you know, you're at a certain age, you get a mammogram, you have your colonoscopy.

now, Medicare says if you're at a certain age, you can have, you should they will reimburse doctors for doing this very detailed cognitive, assessment.

you know, even if you're not necessarily experiencing the signs of dementia, all of this is about prevention. And what age do you recommend that everyone just say, look, whether or not you're aware of having any problems, go have an eye exam.

Yes. So the act actually the American Academy of Ophthalmology, which is, the largest eye care professional organization, in our in my field, they recommend an annual eye exam after the age of 40.

So three adult past 40 should go in to get their eyes checked. And I know a lot of people say I don't need glasses. I can see fine. My vision is 2020.

I've never had any problems. They're reluctant to go through the exam. But again, as I mentioned earlier, so many issues, but also medical conditions may initially be silent.

They may dims whatsoever. So that's why it's even more important to go go get your annual checkup. again. And a lot of these things can be prevented. For example, if I take a look in the in the back of a patient's eye, let's say they're 45 years old, and we look at their optic nerves and they look suspicious for glaucoma.

If we can catch it early, we can get the patient started on treatment early and prevent vision loss going forward. And so how amazing is that that we can actually prevent things from happening if we can pick it up early.

it's it's really I think for. Me. It's important for people to understand that. So what I tell people is, you know, you go get your, your dental, you know, get dental checkups every six months.

You go to your doctor, your annual primary care examinations. Maybe you get your colonoscopy every five years. Maybe you get a a mammogram every year.

Add this to your general kind of health checkup is to get your annual eye exam. Put it on the calendar. Is it okay? to start with, an optometrist is doing a general medical, you know, general exam.

And then if they see something, they then refer to you where, you know, not. Absolutely. Yes. So, so if you're going to see an optometrist, as your primary care provider, which many of them do serve that purpose, which is wonderful.

We work together, optometrists and ophthalmologist, make sure that you're getting a glaucoma test and make sure that you are getting dilated. And as long as those two things are done during your eye exam, again, not just a glasses checkup, but to go a little bit deeper, do those two things and that's fine.

That will that will count as your annual eye checkup. And of course if there's something that the optometrists see this is that may be concerning that requires treatment, then they would refer you to an ophthalmologist.

But also you could see your ophthalmologist. Yeah. You know thing I want to, you know, really emphasize what you just said. And look folks, not everybody necessarily, carries insurance for you.

The ophthalmologist is a medical doctor. So that falls under your health insurance. The optometrist is a doctor of optometry. They we often I have, for example, eye insurance, you know, insurance for eye and dental.

My point is, when I go in, sometimes, these exams are covered, sometimes they're not. Sometimes people don't have insurance. And I know that at least in my town, the optometrists will say, hey, for an extra $10 or $15, whatever, we'll do the glaucoma exam.

They, they, they have tiered exams. But but my point is and I think to your point is spend the extra few dollars. It's not an expensive exam to begin with.

And it could really make the difference for you. And also about the vision insurance versus medical insurance. Vision insurance typically not just covers the basic exam, but it covers glasses.

And sometimes that's not enough. So if you have a preexisting medical condition, let's say you have high blood pressure or let's say you have diabetes, you can actually get your eye exam billed as a medical exam, in which case it should be fully covered.

So it also just depends on how your eye care provider is billing it, whether they're billing it under your vision insurance or under a medical plan. And that way you can avoid having extra costs if it's a medical checkup.

That's excellent advice. Okay, let's dial it in. What are the problems that people experience when they have Parkinson's? Multiple systems atrophy, Lewy body disease, primary autonomic failure.

What kind of eye problems may they encounter? Sure. So we talked about dry eye earlier. So now let's move on. one of the most common conditions or symptoms people have is double vision.

It's so prevalent in patients with, neurodegenerative diseases like Parkinson's, Lewy body dementia, etc. our multi-system atrophy. And as I mentioned earlier, our brain is responsible for moving our eyes.

And sometimes those centers within the brain, particularly in the brain stem, get affected. So our eyes are not moving properly. And if they're not moving properly, if they're not working together in concert, people can have ocular misalignment, which leads to double vision.

And so what are the most common types of double vision people have with Parkinson's is double vision for reading. So they may be fine. You know, let's say they're looking out into the distance.

They're walking down the street or driving looking out the window. Their vision is fine, but as soon as they start to read, they start to see the words looking jumbled where they're kind of drifting cross criss crossing each other.

So this type of double vision is because the eyes instead of when we normally, when we read our eyes, turn in just a little bit and in the Parkinson's, their eyes may not be able to fully turn in.

Visual Symptoms: Eye vs Brain

So instead of turning in, they may start to drift out. And when the eyes drift out, that can cause double vision. And so it's the medical term for this is convergence insufficiency, which is again very, very common.

So if you have Parkinson's or your loved one has Parkinson's, make sure when you go to the eye doctor that you request that they be checked for convergence insufficiency.

So we look at the eye movements. We look at how the eyes are moving, but also we do something you were mentioning earlier about the cover uncover or the cross cover test.

We do that test to determine if the eyes are aligned properly and based off of the test. Based off of the measurements that we do. We use prisms to measure.

If the eyes are not aligned properly, we can make some recommendations for convergence insufficiency. The simplest thing is to do some exercises called pencil push ups.

are super simple. All you need is a pen or pencil or you can even use your finger. So basically you look at the tip of an object again, whether it's a pen or pencil, you're looking at the tip of your finger, you bring it closer to your nose.

And eventually at some point, that tip will start to look a little blurred and it may actually split and become double. And so the goal is to keep that tip single as close to your nose as possible.

And most adults should be able to keep it single about two inches from their nose, about 6cm or 2in from their nose. So if you're only able to bring it out to here where it starts to go double, you need to keep doing these exercises.

And every day try to get that tip closer and closer and closer to your nose and keep it single. That's the goal of these exercises, and I typically recommend doing them just as you would any type of exercise.

multiple repetitions. I usually recommend 15 repetitions several times a day. And they seem initially like, oh, that's a lot, 15 times, seven, several times a day.

But really it only takes about 2 or 3 minutes to do this exercise. Pencil push ups. If that's not sufficient for convergence insufficiency, then we have other other things that we can recommend.

Sometimes we recommend prism glasses, which are, special types of glasses that have prism inside them to help people focus up close so that they're not seeing double in sometimes in more advanced cases, we actually recommend surgery to correct for convergence insufficiency.

So there's multiple different tiers of therapy depending on what your needs are and how severe it is. other things related to eye movements that may happen in people with certain neurodegenerative conditions is, as I mentioned, the eyes may not be moving normally.

So, when one thing I test for in my exam are pursuits and saccades. Pursuits are slow eye movements. So basically, if you're watching something, if you're tracking something, let's say you're tracking a car.

You're watching how it's going across your vision in normal, in a normal person, we would see their eyes moving very smoothly across tracking an object.

But in someone with Parkinson's, what we may see is almost like what we call cog wheeling, which is basically, instead of a smooth pursuit, we may see that their eyes are kind of doing this.

They're not tracking in a smooth path. They're kind of getting, a little a little bit jittery, kind of the movement. And so, if we see something like that, sometimes I do recommend certain exercises for people to do to try to improve their eye tracking.

I actually have something I can share with all of you. and I exercise kind of a, short e-book on different types of eye exercises to so I can share that, with, as a download.

But basically that's something that can happen. The other thing that can be disturbed is saccades or which are fast eye movements, which are basically if you see, if you're looking somewhere and then something else catches your attention, you have to change your focus very quickly.

That's called a second. But we're shifting our focus from something very quickly to looking in a different direction. And oftentimes in Parkinson's, what I see are saccades that are undershooting the mark.

So instead of looking at point A to point B, the patient may actually almost get to point B, but then they have to make a catch up saccade to get to their point that they're targeting.

And so there are also exercises that can be done. Psychotic exercises, something that, is called for square saccades that can help to improve that as well.

so those are some basic things that I look for on the exam. It sounds like this could be helpful, both from sort of a diagnostic perspective, meaning you know what, you see it every once.

Well, you know, we see some folks in the clinic, you know, walking in the room, they have Parkinson's. I can already tell them wiggle room, but there are other folks who I see. And, that doesn't look quite right, but I'm not sure there's so picking up some of these things on exam may help to support that medical detective approach.

Like, we're putting the clues together, we're gathering the clues. We're gonna, you know, suggest a diagnosis. Yes. We might do some tests to ultimately confirm that.

But what are the things that we're what are we gathering on the exam? And then the other part of that, of course, is from a very practical perspective.

You know what? If folks with Parkinson's really worry about and you know, one of the things is falling, right? And how closely linked the ability to move your eyes, whether quickly or smoothly as you're tracking something across the horizon, how that plays a role in balance and gait and falling and especially we can do exercises.

Yeah, absolutely. That is a big concern is the risk of falls. And especially with vision, being able to see down and have good depth perception is so important to prevention of falls.

And one thing I'll say is, you know, many people, as they get older, they end up needing reading glasses. and so for convenience, we'll get something called progressives, which are basically the top part of the glasses, or for distance.

The middle part is for, let's say, intermediate distance, like if you're looking at the computer. And the bottom part is for reading. But if somebody has progressives and they may have some postural instability, some gait instability, having that progressive may actually make them at higher risk for falls.

So for some people, I actually if they have Parkinson's, I recommend that they don't get progressives because unless you're looking exactly in the right part of the lens for that particular distance, your vision is not going to be good.

And you may have some loss of depth perception. So it may be to gauge how how deep is that step? How high is that step or how deep is that curb that I'm stepping off of.

So for many Parkinson's patients is actually and it's not the most convenient, but it's sometimes better to have separate distance glasses and separate work or computer reading glasses.

That way it avoids that loss of depth perception. for for safety reasons. I have heard and I've never tested this out, but, you know, of course, different, flooring can make a big difference for people with gait disorders, whether that's carpet, whether that's tile, whether that's wood, marble, whatever.

because a lot of folks have parkinsonism or shuffling their feet so that that's a big issue. But I've also heard that if you have a flooring that has an alternating pattern, like a checkerboard type pattern, the visual input from that alternating black, white, black, white, black, white actually will help improve gait in people with Parkinson's that they'll walk more normally if they can track it through their vision.

Having visual cues. Yeah, absolutely. And that's actually why sometimes you may see in certain places where there are stairs, where there are those, that yellow line marking edge of the stair to give people an extra visual clue that, okay, there's going to be a change in height of the, you know, whatever surface you're walking on.

So it's kind of a, you know, a red flag, like, okay, just be careful. sometimes they're a kind of criss cross hashtag type patterns, but I think those can be extremely useful.

I haven't, thought about the the floor surface as being potentially a way to help people assess people, but I will definitely. I'm going to I'm going to actually, ask some of my patients about that and ask them what their experiences are with that.

Yeah. And of course, another thing. So we last year on this summit, we talked about, aging in place design. And so those zero threshold doors, things like that where people don't have to or to your point of walking up and down steps, all of these things can make the home either more difficult to navigate or much more easy to navigate.

And much of it relates to the visual system. so it's really important. So there are also symptoms that people with parkinsonism may experience that either are in a gray area.

From the point of view of hearing about them, we hear about symptoms right? As doctors or patients tell us, this is what I'm experiencing.

Nutrition for Eye and Brain Health

That's a symptom. sometimes those symptoms, they could be the eye, but they could be the brain. Right. And then sometimes it's a visual symptom that is definitely the brain.

And I do want to highlight a few of those with your help, because sometimes I do see folks say, well, I was experiencing this. So I went to see the eye doctor and I was like, well, good, you saw the eye doctor.

But actually that's a brain. Yeah, yeah. So what? You know, I think, just to start this conversation, various kinds of visual auras, that, sometimes are clearly the brain, but other times it can be floaters or things that are, you know, within the eye itself or even, I think you might have mentioned things like, when people have macular degeneration or macular edema and they they're starting to have a, a separation of the retinal layer, from the back of the eye.

And then they can start to see little I'll call the visual hallucinations. but that's a really that could be even almost a medical emergency, something that needs to be taken care of, you know, urge it more urgently.

So what are some of the things that people may experience that, actually are the eye, or a visual symptom that's not actually the eye, but it's important.

Yeah. This is a really important topic, I think, because so many people have these visual disturbances and they don't know where they're coming from, and they get concerned they may lose their vision. You know, what's going on.

So, I would say to break it down into two big categories. There are phenomena that represent what's going on inside the eye. For example, floaters and flashes usually are coming from the eye itself.

floater is basically we have a jelly in the back of the eye, which is I took apart my model, but this is the jelly that makes up the back part of the eye that was sitting, over here.

Okay, so this is the vitreous jelly. It's made out of mainly water, but there's also collagen in here. There's something called hyaluronic acid, as we get older, this vitreous, it's usually typically more firm, kind of like jello consistency.

But as we get older it starts to liquefy. And when it liquefies, we can see little fibers of collagen kind of floating around in the jelly. And when the light hits those fibers, it creates a shadow on the retina.

And that's what we experience as floaters. So floaters are coming from the eye itself. It's usually degeneration of that jelly in the back of the eye.

And many people do get it. It's actually a natural part of getting older. and it's estimated that about 7,580% of adults have floaters. So it's actually more common to have them than to not have them.

the time to be concerned about floaters is if you get lots of them, like if you've had floaters for a long time, but then all of a sudden you see like a shower of new floaters associated with flashing lights, then definitely seek medical attention.

Go see an ophthalmologist get dilated to make sure you don't have a retinal tear or retinal detachment. and those types of flashes that can accompany those floaters, that may be a warning sign of a retinal tear.

Detachment are very brief. They're like less than one second, like a pinpoint of light. So that is again, coming from the eye itself, those types of symptoms now symptoms that last a little bit longer.

Let's say it's more than a second. Let's say it's 10s or a minute or even 30 minutes. Those types of visual symptoms tend to be coming from the brain.

And we're talking earlier about how the eye is a direct extension of the brain, but also so many of the brain's visual path pathways are dedicated division.

So these types of symptoms are coming from some kind of activity in the visual cortex. And one example would be a visual hallucination. Seeing something that's not there.

No, it may be a shape, it may be kind of a swirl, it may be a ribbon, or it may be something formed, like a formed hallucination, like an animal or a person or some kind of object, like a building or a flower or something like that.

Again, these hallucinate hallucinations maybe form or unformed. They're coming from the brain and they can be seen in patients with Parkinson's. And I was just reading that in one report over 80% of patients with Parkinson's reported having some kind of visual hallucination, and perhaps they just didn't tell their provider because they were too worried about it.

Or maybe they were embarrassed about it. Maybe they thought they'd be stigmatized for having hallucinations, but it could be part of your neuro, degenerative condition.

Whatever's going on could be causing these hallucinations. So, please, if you're having them, please discuss them with your doctor. Don't feel, you know, nervous or anxious about them.

Have a frank discussion with your doctor, because maybe there is something that they can offer you that may help to reduce the hallucinations. there are other types of visual symptoms that people have.

You mentioned earlier, aura, which is basically visual aura is seeing, this oftentimes happens in people with migraine where they see these flashing zigzag lights and they can take up, you know, a small part of your vision.

Then they can grow and they can take up maybe half of your vision before they disappear. These types of visual disturbances are typically due to vascular and electrical changes in the brain.

so it's a neurovascular condition. But there's also something called cortical spreading depression that happens in the brain again in migraine that causes these types of visual disturbances.

And they're very common. They usually again last anywhere from 5 to 30 minutes. They resolve on their own. Sometimes people get a headache afterwards, the typical migraine headache.

Sometimes they don't get the headache. Sometimes they only have the visual disturbance without the headache.

Something that's called, a sort of phallic migraine, but that's part of migraine.

but regardless, if you're having visual symptoms, any kind of disturbance, something that's unusual or something that's new, please go get it checked out.

Yes. Go to your neurologist, but also maybe make an appointment to an eye doctor to get a dilated exam. Just to make sure it's not something more serious happening.

That's awesome. I couldn't agree with you more. And I know we only have a few minutes left, so I'd want to make sure that they're all yours. Doctor Barnett.

But I want to definitely reinforce the idea of let your neurologists know, because I will say that sometimes the hesitation is, I'm afraid the doctor is going to give me another pill to take.

And that's not always the case. But we do need I do need to know about it. So with that, because we want to talk about things that aren't just drugs. Could you highlight, briefly, some of the things that people can do from a nutritional and otherwise perspective to improve their eye health?

Absolutely. This is my passion. this is my career 2.0, is educating people about the importance of nutrition for vision, health and brain health. And I would say, you know, just very briefly, if I were to sum it up, I would say that, your eyes and your brain thrive on certain nutrients, and it's really important to get those nutrients in your diet.

Two nutrients that have been shown to benefit both eye health and brain health are lutein and zeaxanthin. These are the macular carotenoids.

Ageless Eyes Course and Resources

they are cousins to other carotenoids like vitamin A or beta carotene. Unfortunately, our bodies cannot produce lutein Zanten. We can't make it ourselves, so we need to get them from outside sources, whether it's from our food, which is the best way to get it, or if you're not getting enough from food, maybe taking a supplement that has lutein as and.

But numerous studies have shown that these two carotenoids, they get deposited in the eye. They help protect the retina against macular degeneration, against blue light, against UV light.

And also they get absorbed into the brain. And they have shown to be helpful for cognitive decline to help slow down the progression of cognitive decline.

to help, in babies, for example, to help produce healthy brain, cells for neurologic development, lutein Zanten are very, very important for that as well.

So at all stages of life, lutein and zeaxanthin are so critical. And unfortunately we're just not getting enough of it. it's estimated that for eye health we need about ten milligrams of lutein a day.

Some people say even 20mg a day. Most people fortunately, especially if you're on a Western style diet, most people are only getting about 1 to 2mg of lutein today.

So there's a huge gap between what we need and what we're actually getting. So you need to fill that gap. So eat foods that are rich in lutein and zeaxanthin like green leafy vegetables, spinach, kale, collard greens.

Also, egg yolk is very rich in lutein and zeaxanthin, yellow and orange bell peppers, and there are even some spices that are rich in lutein and zeaxanthin as well.

And I do talk about those in my book. carrots. Absolutely. And everybody get get our book. Get the book. What is it called. And beyond carrots best foods for I have a to Z.

There you go. I should read that to say best foods for eye and Brain health A to Z, because the two go hand in hand together. This is last year. This was one of my favorite interviews and once again is such an outstanding interviewee.

You give us so much helpful information, and I know you're going to have an online course because people are going to want to know more, and it's called Ageless Eyes by Doctor Ronnie.

Yes, yes. In this course it's an on a four week online course. I teach people how to navigate their way through vision changes as they get older, including dry eye trouble reading up close, which is called presbyopia, light sensitivity, and then also some of the cognitive, the cosmetic changes that happen around the eyes as we all get older.

And where can they find you, doctor Ronnie? So my website is probably the best way to access some of my resources. I have a lot of free guides, free tips you can download, what my website is Doctor Ronnie van com, and I'm also very active on social media, particularly Instagram.

So if you're looking for eye health tips, also migraine tips, you can find me there. And I have a YouTube channel as well. Well, Doctor Ronnie, it's such an honor again to connect with you and encourage folks to definitely visit your website, social media, buy your book, participate in that course because this is just the tip of the iceberg.

You and I could talk for hours about this stuff and it, slightly pains me to have to say we have come to an end of this lovely interview, but we have.

And so until next time, I really appreciate you participating in the Parkinson's Solution Summit. It's my pleasure. Thank you so much, Doctor Charlene. Thank you.