

## Transcript Vision Changes and Aging

---

Vivian Miller (VM) (00:10:29): Hello everyone, my name is Dr. Vivian Miller, I am director of the Optimal Aging Institute and Assistant Professor in Social Work. I am thrilled to bring you here to our second panel discussion on 'Vision and Aging.' To get us started, I am going to introduce our folks here – we have Dr. Robyn Miller who is OAI Board Member and Associate Teaching Professor in the School of Teaching and Learning at Bowling Green State University; Dr. Alexzandra Rudinoff, Low Vision Optometrist at The Sight Center of Northwest Ohio; and Tim Tegge, Development Coordinator at The Sight Center of Northwest Ohio – Thanks so much for joining us and I'll turn it over to Dr. Robyn Miller.

Robyn Miller (RM) (00:55:18): Hello! Thank you so much for joining us, we really appreciate your time. This is a very important issue when you're looking at the aging community – sight, as I've seen myself as I've gotten older, it does certainly decrease in most people. To get us started, Tim and Dr. Rudinoff, can you share a bit on what are the common misconceptions associated with vision loss and aging.

Tim Tegge (TT) (01:24:15): For me, there's a couple but one surprised me in particular, which is the number of people (projected to) the number of people losing their vision is increasing and the number is projected to double by 2050 largely due to the aging population. The other factors are health related, primarily diabetes and things like that, but the aging population, we're all getting older and that is taking a toll on eyesight. I was kind of surprised that in the healthy world that we're in and advancements in medicines and so forth that we're projected to double the number of people who are visually impaired. So that's one thing that I think is not understood by a lot of people, but on a more personal level, I think one of the biggest things that I have seen that's a myth or misconception or maybe just a lack of awareness is that when somebody is losing their vision, somebody who has had vision most of their life, that it's not just as simple as going to the eye doctor, getting a magnifier, getting a tool – there's a lot involved and a lot of grief and loss and processing that. And, sometimes, people can't make the progress that they need until they've accepted that this vision loss is permanent. If they're still fighting that it's going to get better, then sometimes the tools may not matter as much until there is kind of that awareness, so I think that's a misconception especially with children of aging adults. Say, Mom, if we just got Mom a magnifier and we got her better lighting then she'd be happy again, and there's a whole other process involved separate from vision loss that has to do with that. That's one I think that's important to point out.

Dr. Alexzandra Rudinoff (AR) (03:15:22): Yeah, and I'll add to that – so, a lot of times people will ask me, "Well, can I just have a stronger pair of glasses?" or "Can't glasses just correct my vision problem?" and sometimes that's not the case, so we do have to often turn to magnifiers and other devices to help people do the things they do need to do and want to do again, but it is an adaptation and for a lot of people that can be really difficult because they are learning to do something in a brand new way and it's

not how they used to do it. The other misconception that I'd like to point out is that not all vision loss is the same. There's different eye conditions that can affect our eyes in different ways. Some conditions affect our central vision, some affect our peripheral vision, some can lead to total blindness while others might just make us blurry or distorted and even within the same eye condition, each person can handle that particular condition and vision loss in a different way, so it really varies among people and it varies even within the same condition as far as degrees in vision impairment, so there's a lot that we can dive into with each person and at the Sight Center we really try to make it individualized and do it so that we can help that particular person. It's not a blanket device, there's not a blanket device that helps everybody, there might be one that works for one and we might do something else for a different person.

VM (00:05:04): Thanks, so much. In that kind of individualized care that you do provide, what does an eye exam look like when you work with older adults? Are there any things that you look for particularly in the aging process?

AR (05:20:29): Yeah, the eye exam that we do at The Sight Center it's a little different from a normal eye exam. At The Sight Center, I have about an hour with each person, which I really like that it's not rushed and we take our time to try to figure out who the person is, what's their story, what is it that they're having a hard time with. I look at what their vision is, I measure their vision and we kind of assess in that way, but we spend a lot of time really diving into what it is that they are struggling with so that we can find a device, or some type of tool or a trick or resource so that so that they can get back to doing the things they need to do and the things they want to do and so it's quite different from a normal eye exam. A normal eye exam we look at their vision and determine if glasses can make it better and then we look at the health of the eyes, but with the older population in my low vision exams, we spend a lot of time talking and optimizing lighting conditions or figuring out how much contrast they might need to detect an option or print better, so we spend a lot of time with each person and I really like that about The Sight Center and I think it really serves the person well.

RM (06:58:26): Thank you very much. Some other questions about different kinds of diseases and what are the differences of some of these diseases. Common eye issues and complications that can occur with Macular Degeneration (MD) - what is the difference between wet and dry and what is MD just generally speaking?

AR (07:24:05): MD is a condition that affects our central vision so it's in the back of the eye we have a thin piece of tissue called the retina that let's us see and specifically speaking, the macula is where we get our central vision, our detailed vision, and what we use to read road signs with and read books with and see colors with and with MD, it's the macula is breaking down or deteriorating. There's different types - there's dry and wet MD; I would say neither one is better than the other, they affect the eye in a little bit of a different way. With dry, there is no fluid and so that's why we call it dry - it tends to be scarring or a breakdown and atrophy that area, the macula. With the wet MD, there can be fluid or leaky blood vessels and so that sometimes causes an abrupt

vision change they can both affect the macula and both affect central vision. That would be the difference. In wet MD, there can be treatment sometimes if it's caught early enough and if we get you to the right place, sometimes that can help the wet forms of MD.

RM (00:08:55:11): Thank you very much. And, what about Glaucoma? What is Glaucoma and what part of the eye does it affect? From the outside looking in, what is the difference between Glaucoma and MD?

AR (09:16:02): With MD, like I said, it affects your central vision but generally speaking your peripheral vision is spared, so that's -- with MD alone, it won't progress to total blindness, you'll still have your peripheral vision. With Glaucoma, on the other hand, it affects a different part of the eye -- it affects the optic nerve which is basically the big cable wire that connects the eye to the brain and that's where all our vision signals travel along, so with Glaucoma, there's different types of Glaucoma, but generally speaking they all affect and damage the optic nerve so we start to lose that signal. Eventually, in the later stages, it can take your peripheral vision is usually where it starts in your periphery first and then it gradually can progress to tunnel vision and can eventually total blindness unlike MD. The idea is to obviously intervene and not let it get to that point. There are treatment options to help slow down the progression of Glaucoma. The scary thing about it is it's usually, we call it 'the silent blinder,' because it doesn't often cause symptoms in the early stages. People often don't feel it or see it even in the early stages, so this is why we recommend a yearly, comprehensive eye exam to hopefully detect these things and intervene before it leads to total blindness.

TT (10:52:11): Just before you move on to another eye condition, I wanted to mention about the MD because I've lived with an early onset form of MD most of my life since I was 8 or 9, and it's called Stargardt's Disease and it's interesting because that central vision loss is very much real. I can spot something out of the corner of my eye, like I can pick out a paperclip on the floor and then walk into a signpost so the peripheral, as Dr. Rudinoff said, the peripheral stays intact, it's that central vision. It's an interesting thing for people to experience -- you just saw something on the floor out of the corner of your eye, yet you're telling me you can't recognize who I am and it's a very true condition for macular, especially that central vision loss.

RM (11:42:23): Do you have trouble like dialing a phone or calling people or do you have to speak that or can you see numbers to dial?

TT (11:53:28): I think, and that's a good question because I think this ties in with what Dr. Rudinoff said earlier about these things affect different people. The fact that I've had it my entire life and my acuity, my vision acuity, is 20/600 roughly and I know people who have far less damaged eyesight that are struggling far more because they haven't had it very long or they... you know, it's brand new to them so I think there's something about somebody who gets an eye condition earlier, they're going to be able to just get used to it longer, the sheer time factor. I do tend to not look at, you know, number pads

anymore, I know where the 5 is, I can feel the little bump on the 5 and I can dial it from there. I can type on my keyboard just knowing where I am centered with those keys and the number pads that are there. I do tend to use the feature a lot more on my iPhone, "call so and so," and "call my wife," and those types of things, but that is some of what we teach here as well, we teach those variety of the high-tech tools, but also just some of the basic things to start getting people used to 'seeing' their world without their eyes.

RM (13:13:16): Thank you, that's interesting cause yet, like I said, people who don't have that condition, you can pick a paperclip off the floor, you know you would assume that the person can see something. Details, like things that are real detailed like can you see wrinkles on your pants or shirts or that type of thing like different, how about dressing and that type of thing can you see if something...

TT (13:39:16): You know some things I can, others I can maybe feel that they're wrinkled, but there's increasingly identifying colors is harder, I need more light and to tell a black socks from navy blue socks or from dark brown socks, so there's some things that can help with that even little clips that you can put your socks in when you're done, throw them in the wash, they stay clipped together as a pair, and so only if friends or family members are playing a trick on you and they mix up your clip. But that's just a simple little technique. But I do need more light, I do need assistance with certain things where the detail isn't as obvious as it used to be. I used to be able to read the phone book, I remember when I was 10 or so when we had phone books that I could read that fine of a print then it got to where I could read the newspaper eventually it all went away to where I need to read greeting cards with a 10x magnifier now. So, there's magnifiers and there's other tools like the iPhone and the iPad where you can use the built in magnifier, the built in camera where you can really zoom in on items quite well, so there's a variety of ways to get around it and sometimes you just have to maybe live without knowing it... if the item is wrinkled.

RM (15:14:03): Those are things that we take for granted, ya know. You just don't... so what about cataracts. I know that's something that happens with age from what I understand... it's kind of a film and they replace those with some type of a lens, artificial lens. How does that process work? Do those lenses get clouded? What are the longer-term outcomes of having cataract surgery?

AR (15:47:07): Yeah, so as you said, cataracts are something that does happen with aging. Everybody will eventually get a cataract if they live long enough, they just happen at different times for different people. There are certain things that can speed up cataract progression, some medications can, trauma, smoking, UV damage, those are things that can make them happen faster but essentially when the cataract is ripened, as we call it, or mature enough, and it's impeding someone's ability to function in their day, then that's when we talk about recommending surgery to remove the cataract. Essentially the cataract is shaped, or the lens in the eye where the cataract forms, is shaped like an M&M and the surgeon will open the M&M capsule and take the cataract

out, but the lens is actually responsible for quite a bit of the power of our eye or our ability to see so that's why they have to put in a clearer lens implant in its place when they take the cataract out or else we wouldn't be able to see as much as we would with the natural lens so they put a plastic lens in its place. So typically, when it's done, surgeons don't have to go back in and do anything further, so as far as long-term complications, the risks are certainly there, but they're few and far between with good surgeons, but once the cataract surgery is done they won't have to go back in and change that out down the road unless there is a complication. Sometimes in some individuals, a film can develop on the back of the lens capsule that they leave in the eye to hold the implant and that film can sometimes cause blurry vision or distorted vision and so in those cases, a surgeon can use a laser to remove that film and it's a little different from the cataract surgery that was originally done, but that's a common thing that can happen after surgery.

RM (18:08:13): And what about like, I know my mother-in-law had corneal transplants, and she was taking immunosuppressants and she almost died from the really different strand of pneumonia. She was around my brother-in-law who had it, and we were all around him too, but we didn't get it, and like I said, she recovered, thankfully, but she did almost die and she had to be life flighted to Toledo and she was on the immunosuppressants, so I think that that – I am wondering, I don't think any of us were aware, he had had, I won't go into detail, but he had a depleted immune system because of alcoholism so that was what, for him, he died from it actually, he passed away of the low white blood cell count that he had, so she was there visiting him, and we all were, too, and she got exactly what he had but then she was life flighted to Toledo, but I think, looking back at that, I think if we realized that she was on immunosuppressants, I think everybody would have said "don't go there," and I am wondering if people (1) if corneal transplants are worth risks like that, and (2) do you think that a lot of doctors, and you would know this because of your situation, but if a lot of doctors make this clear that these immunosuppressants are nothing to play around with especially with everything we've seen with COVID. I'm just curious it looks like that maybe wouldn't have been a risk that would be worthy to take.

AR (19:44:27): Yeah, I think, the corneal transplants are typically not something that we do or we recommend in the early stages of an eye condition. Many times, it saved for a last resort treatment options because of those things... I mean obviously there's complications with replacing that much tissue with donor tissue, so the cornea, the reason why we would do that is if the cornea, which is the clear dome at the front of the eye, sometimes in some conditions it can get foggy and cloudy and so even painful for people if it's really advanced, so for people in those particular cases, they may deem a transplant necessary or even just replace part of the cornea but a lot of times, like you said, they would have to be on some type of immunosuppressant indefinitely to prevent graft rejection which is a whole other set of complications that can happen. Typically, there are topical immunosuppressants, but like you said, they does come with some potential risks if you're suppressing your immune system, are you more prone to eye infection, so those are things that I would imagine that corneal specialists and surgeons

are hopefully discussing with people and like I said, those are often reserved for more advanced cases of corneal conditions for that reason.

VM (21:31:22): This is all really interesting. One kind of final question I have related to that are the differences or benefits or risks between contacts or glasses. I got glasses when I was 4 years old, I think I was probably in preschool and I couldn't see something that was written on the board, so I went in and got glasses and since being in my late teen years, I switched to contacts and I am pretty diligent about taking them out every night because my eyes can get so dry and itchy and it just doesn't feel comfortable, but are there any benefits or risks to either corrective lens?

AR (22:10:02): That's a good question. You know, it really depends on the person and it depends on the prescription of their eye and the power that they need. Oftentimes we do start with glasses and we think about correcting vision and refractive error, near sidedness or far sidedness and astigmatism with glasses, however contact lenses can be an option for some people. But like you said, because it's coming into direct contact with the eye, we are introducing risk for infection so we have to be really diligent about cleaning them and removing them at night. In addition to that, it can actually exacerbate dry eye conditions if someone does have the signs and symptoms of dry eye disease, contact lenses sometimes, we have to treat the dry eye while wearing the contact lenses, before and after, that type of thing. So it's not always a case where someone can't wear contacts if they have dry eye syndrome, but it's something we'd need to definitely address because it can make it worse. The great thing about contacts is they've actually come a long way with the technology now we can incorporate multi-focal, the ability to see up close when you lose your focus, we can put that into a contact lens and in some cases, contact lenses are the only way to correct vision in some people that have irregular corneas, so it really depends on the person and what their situation is and what their eye prescription is, but there's a lot to it, so we have to keep that in mind when we do fit people into contact lenses.

VM (24:09:05): Thank you. Our final question here for discussion are for those who are experiencing or may experience vision loss, what are any assistive devices that are especially helpful. I know a magnifying glass was mentioned and modifying the light too might be helpful, but what might else there be that individuals might be interested in?

TT (24:33:24): I tend to think of it as a toolbox and at The Sight Center we work with people to identify what best tools are for their life and their lifestyle and their goals and their circumstances. It can range from as you said the pocket magnifier; I don't leave home without my 10x pocket magnifier. It starts probably as low as \$10, and you know there's the very high-tech devices that you might have seen on some afternoon talk shows, they help - the wearable glasses, the goog-ally glasses - those types of things. Those can be several thousands of dollars, but there's a whole gamut of tools in between. The lighting as we mentioned, there's a lot of different light options - task lighting, spot lighting, lights you can clip onto your eye and I think that's important to

have a variety of options so depending on what you're working on, you can have the right kind of light for you. I never leave home without a sharpie or a similar type of marker type of pen with a notepad in my pocket because if I am needing to write notes, pencils and pens just don't cut it for me anymore. A pocket recorder, having a little digital recorder to capture notes quickly that you can retrieve at home. Things, but the iPhone, the iPad, those have in many ways transformed the landscape for people who are visually impaired or blind. Not only what's built into the iPhone can be turned on and words – text messages can be spoken to you, you can use a built in magnifier, you can a zoom in feature, but there's a whole slew of apps that are being developed and many of them are free that can help people navigate more easily with a vision impairment or they can identify colors, currency, they can tell you what dollar bills you are looking at, they can tell products based on the barcode, they can read printed text into the spoken word. It's really fascinating what that has opened up for people. And you know I've mentioned common devices, there's a sock organizer where you just clip this little plastic thing on your socks and throw them in the wash, you can have talking meat thermometers, a Siri or Alexa activated microwave, you know there's all kinds of devices, little things you can put on your fingertips to keep from cutting your fingers if you're cooking in the kitchen, talking meat thermometers, devices that help you identify when the liquid is reaching the top of a cup. The toolbox is really determined on the person, what they love to do, and what they're maybe not able to do yet because of their eyesight, and how we can help them to get back to doing those kinds of things.

AR (27:46:02): Yeah, and I'll add to that, as Tim mentioned, it really is task specific with what devices we can use to help people do what it is that they need to do. So there's distance magnifiers, there's sometimes we use monocular telescopes, or that type of thing, it's sometimes the lighting or controlling glare with a filter that we have people wear whether that's indoors in big fluorescent stores with all those fluorescent lights or even outside so it really just depends on the person and that's why we spend all this time with each person figuring out "what do you need to do, what's bothering you, and how can we help you?" And that's why it's really individualized and that's what's great about that. But, in addition to that, I will say too, we also have the ability to connect people to the resources that they need, as far as you know maybe someone, we recommend white cane training, orientation and mobility, allowing them to navigate their environment safer and still be independent with that. Or maybe it's connecting them to a support group in their community to talk to other people who are going through a very similar situation. We're finding transportation options for people; so we really have a lot of neat tools in our toolbox at The Sight Center and it's really great that there's a lot out there for people.

TT (29:22:21): One thing we don't have are magic glasses and that's going back to your early question about misconceptions. There are a lot of people do come in and feel like there's one thing that's going to make their life back to normal, back to the way it used to be and that really doesn't exist with permanent vision loss; it's an adjustment and The Sight Center is here to help people make those adjustments, but there's not one set of glasses that's going to bring life back to the way it was, but life can still be awesome.

AR (29:55:20): One more thing I am going to add to, I mentioned there's varying degrees of vision impairment and that's something that I do want people to know that vision loss can range from a mild impairment all the way up to total blindness, and there isn't a certain level you have to be to reach out and ask for help – we can help people from all varying degrees of vision impairment, and that's important to know because we can tailor it to each person.

TT (30:25:06): Can I make just a couple comments for any of your viewers or listeners: (1) is if anybody has questions or needs or wants to take the next steps about services, The Sight Center – just call us, you don't need a referral, we can get that going. Just pick up the phone and call. Another is that we have a retail store – we're not in the business of selling products – but we have the retail store to be of service to people. It's the only low vision retail store in the region and it has this wide variety of magnifiers, lights, talking gadgets, kitchen aides, all kinds of stuff that people can come in and shop and look around and see what else is possible, and they can do that online as well, but that's just another way to help people get the tools that can help them, and third, we are very close to launching a vision impairment simulator on our website so maybe even by the time this airs, that will be live, it's nearly complete, we're just putting some finishing touches on it. It will be a way for people to see a variety of images, a menu, a close up face, a landscape, street signs, and overlay that with what MD might look like, what diabetic retinopathy might look like, what glaucoma might look like, so that's coming to our website really soon.

VM (31:57:29): Well, Dr. Rudinoff, Tim, Dr. Miller, thank you all so much and all the information, contact, and website for The Sight Center will be posted in the comment box below, so thank you again so much for sharing all this insightful information.

TT (32:14:12): Thank you.

RM (32:16:01): You're welcome.

AR (32:16:01): Thanks for having us.

TT (32:17:08): Yeah, thanks for having us.

All (32:17:23): Bye.