

## Interview with Dr. Julie Poteet, Optometrist, CNS

Interview by Sheldon Baker

*Integrative Medicine: A Clinician's Journal (IMCJ)*: You're based in Atlanta and work in an office that has the distinction of Macular Degeneration Center of Excellence.

**Julie Poteet, Optometrist, CNS**: Yes. I'm also a new board member on the Macular Degeneration Association.

*IMCJ*: How did you get that classification of the center of excellence?

**Dr. Poteet**: The Macular Degeneration Association has a pathway for practitioners who meet certain criterion to become centers of excellence. This is a way that patients can identify doctors who have a certain level of expertise in managing macular degeneration.

*IMCJ*: Ocular health is more than just being nearsighted or farsighted, having macular degeneration or cataract surgery. What are some other vision issues that come into play?

**Dr. Poteet**: The eyes are the windows into systemic health and are part of the brain. We as a profession and as eye care practitioners are profoundly spoiled because we can take retinal images on every single patient. The retina is one of the few places we can see the microvasculature up close without a lot of tissue overlying it. We look for changes to the microvasculature and they are an early warning system to vascular changes elsewhere in the body.

Over 200 systemic illnesses and diseases can be seen in the eye. As far as prevention and wellness, eye doctors are perfectly poised to be at the forefront of that movement because of the changes we can see in the back of the eye. The eye is part of the brain. If you take macular degeneration, for instance, the drusen that form in the macula are composed of almost the same material as the beta amyloid plaques that form in Alzheimer's.

A lot of people call macular degeneration Alzheimer's of the eye. Everything is connected and that's why I love doing what I do. With every patient, I use retinal photography as a teaching tool. I think if people have a why behind something, they're more apt to make a change. Being able to show patients pictures of the microvasculature and say this is what's happening in your eyes, it's a barometer of what else is happening in the rest of their body and shows the reason why I'm asking to make these changes. They're much more apt to make them.

*IMCJ*: Are there studies that have shown that macular degeneration causing Alzheimer's?

**Dr. Poteet**: It doesn't cause it, but they have the same underlying pathology and use the same mechanisms to damage surrounding tissues. They are both chronic inflammation gone awry, so to speak.

*IMCJ*: Cataract surgery reduces risks for dementia.

**Dr. Poteet**: Absolutely. I wrote an article on that. We've known for a while that hearing loss is a risk factor for cognitive decline. Newer studies are showing so much sensory input to our brain is from the visual system. When you reduce that sensory input because you're looking through a dirty windshield (cataract), you have an increased risk of cognitive impairment. As a practitioner, I do not wait to refer for cataract surgery like I used to. If someone has visually significant cataracts, I get them to the surgeon as soon as possible. Nevertheless, it is a modifiable risk factor for dementia.

*IMCJ*: I learned that you did your residency at a VA hospital.

**Dr. Poteet**: I really love my veterans. I worked at several different VA hospitals.

*IMCJ*: Literally, something caught your eye while you were doing your residency.

**Dr. Poteet**: Yes, it did. It was so fascinating to me I would have 65-year-olds walking in, hunched over, using a cane. Then I'd have 80-year-olds coming in wearing shorts with tan legs who'd been on the tennis court that morning. It fascinated me how these veterans were aging so differently and what was behind that. What was the cause? What lifestyle factors? If you look at when all these veterans started in the military they were at the top health as 19- or 20-year-olds. Just what in their lifestyle influenced how they would age?

*IMCJ*: It didn't matter whether they were in war or stateside. It was just still a matter of aging.

**Dr. Poteet**: There were environmental influences that affected how they aged, but that was the initial spark of my

interest in functional medicine and nutrition. The second avenue with which I became involved in this arena, and I've worked in this area for more than 21 years, is my child. I have a son who was sick and conventional medicine did not afford hope for his illness. I found Dr. Sidney Baker (founder of Autism36.org) and functional medicine and my world was changed from then on.

**IMCJ:** Do you find or are you aware of eye health varying in different U.S. geographical areas?

**Dr. Poteet:** Absolutely, if it correlates with Type 2 diabetes. If you look at rates of Type 2 diabetes, you're going to find sicker eyes. I'm from the south, born and raised. We love our biscuits and gravy and we're definitely not as healthy a population, for example, as your California demographic.

**IMCJ:** Maybe not as health conscious.

**Dr. Poteet:** I don't think we are, unfortunately, but I'm trying to change that. It's interesting, when I was in school, Type 2 diabetes was also referred to as Adult Onset. It saddens me so much because now in Atlanta, one of the hospitals has opened a Type 2 diabetes clinic for kids. I'm not talking about Type 1, I'm talking about Type 2, which is lifestyle. I just think that we as a society can do better than this.

**IMCJ:** The producer of *Super Size Me*, Morgan Spurlock, just passed away. He ate three meals a day at McDonald's for 30 days. Not a healthy diet.

**Dr. Poteet:** He was also an alcoholic, and I don't know if you knew that.

**IMCJ:** I didn't know that. There's always things we don't know.

**Dr. Poteet:** I think he had some things that kind of multiplied the effect.

**IMCJ:** During that period of time he ate at McDonald's, the intake of sodium and sugar was astronomical. That certainly can affect everything.

**Dr. Poteet:** In my lectures, I refer to a JAMA study from 2017 that looked at 10 dietary factors that are associated with the majority of cardiovascular, stroke, and diabetes issues. High sodium and high sugar are on the list. As a society we're sick.

**IMCJ:** We probably won't find Julie at McDonald's.

**Dr. Poteet:** Probably not. It's interesting to me, all these younger people who are being diagnosed with colon cancer. I really believe it's the food that we're eating.

**IMCJ:** Microbiome and the immune system are areas of expertise that you've written and lectured a lot about it. What have you found in any of that research or study that you've done?

**Dr. Poteet:** During my lecture at IFM, I shared data about the gut. We know there's a gut brain axis and there's also a gut retina axis. The retina is part of the brain. Dysbiosis is associated with everything from the front of the eye, Sjogren's, to the back of the eye, to macular degeneration. Chronic sustained inflammation from dysbiosis has been in studies elucidated to be a trigger or a factor in macular degeneration.

We know that a healthy diet mitigates the course and has the potential to lessen the course of macular degeneration. Good bacteria are vegetarians. They love their produce, lutein and zeaxanthin. The two carotenoids from our diet that deposit in the macula are abundant in green leafy vegetables. Every patient I see, I talk to about green leafy vegetables. I show them their macula and give them a why behind it. Whether you're five or 95, as a patient you're going to get talked to about green leafy from me.

**IMCJ:** Are you an advocate of dietary supplements for eye health?

**Dr. Poteet:** Yes, lutein and zeaxanthin. There's about 750 carotenoids in nature. There's about 50 in the foods we consume. Of those 50, about 20 are found in our blood, and of those 20 carotenoids in our blood, the eye and the brain have a preferential uptake for lutein. Lutein is a yellow carotenoid. Lutein and zeaxanthin is what gives our macula that yellow color. It deposits heavily in our brains as well in the visual processing areas within our brains.

A lot of people think carrots are the vegetable for healthy vision, but that actually came from propaganda from World War II. Royal Airforce pilots in the UK were given radar for the first time and they were hitting their targets so much better. England didn't want their enemies to know, so they did a propaganda campaign where they said their pilots were eating carrots and that's why they were hitting their targets. Hence, carrots became the vegetable for healthy vision, but it's really green leafy vegetables for lutein.

**IMCJ:** Very interesting. That's a good trivia piece.

**Dr. Poteet:** Yeah, it's kind of a cool story.

**IMCJ:** How about some tips other than green leafy vegetables for keeping your eyes healthy?

**Dr. Poteet:** As a profession and as a functional medicine practitioner, and someone who's involved in nutrition, everything we talk about must be based on evidence. The eye care industry is one of the few industries where

prescribing nutraceuticals is standard of care. This is all based on the NIH/NEI trials, the AREDS trials (age-related eye disease studies.)

**IMCJ:** I am not aware of all those trials and studies.

**Dr. Poteet:** They changed the way we practice, and we manage macular degeneration because of NIH data. It is our standard of care to prescribe nutraceuticals for intermediate macular degeneration. I can't honestly think of another profession or disease entity where it is the standard of care to prescribe vitamins other than if you have a vitamin deficiency. That is why I truly believe eye care should be at the forefront of integrative medicine prevention and wellness. I think we're perfectly poised to do that.

**IMCJ:** When I was a kid and I'd be reading in a dimly lit area and my dad used to always say, "You need to put a light on because otherwise it's going to affect your eyesight." Any truth to that?

**Dr. Poteet:** It sounds like you had a great dad and he cared about you. I don't think there's any truth to that. You're not going to hurt your eyes by reading in a dimly lit room. It may not be as comfortable, but you're not going to hurt the health of your eyes.

**IMCJ:** I've read that looking at your cell phone during the middle of the night while you're in bed can be an issue.

**Dr. Poteet:** It can be because the blue light suppresses melatonin production for up to two hours. I interviewed a NASA scientist for a lecture who told me they use blue light to regulate the circadian rhythms in astronauts. So, yes, blue light can be disruptive to your sleep.

**IMCJ:** Taking that notion further, I've heard nighttime phone use can also cause cancer. Is that taking it too far?

**Dr. Poteet:** I think for most of us looking at our phones on a regular basis we're not going to get cancer from blue light. I can say, follow those who seek the truth, flee from those who found it. I can't say for sure.

**IMCJ:** Good to hear that. How about the pandemic and COVID or even climate change for that matter. Has that had an impact on eye health?

**Dr. Poteet:** Absolutely. Anything that creates sustained inflammation or adds to inflammation is going to affect the eyes.

**IMCJ:** Someone who has even the slightest difference in vision, whatever that might be, really needs to act.

**Dr. Poteet:** Yes. Macular degeneration is a chronic inflammatory disease where inflammation in the cells is smoldering for a long time before we see signs of drusen evident upon examination. My goal is not to wait until I see clinical signs. I want to start that dialogue and intervene before, because the return on your investment for intervening early is a heck of a lot more than if you wait until once you see clinical signs. As a profession and society, we need to spend as much time and money on prevention and wellness than we do on injections for the end stage. I wrote an article, *Is an Ounce of Prevention Worth a Pound of Injections?* which addresses that.

**IMCJ:** When conventional practitioners see diabetic patients they may make referrals for eye care. In other words, they make that connection. But with very few other chronic health conditions, do they make that connection. Do you see that as something they should be more focused on and how can we further educate practitioners? Further, someone who has hypertension, is that an issue that they should be concerned about for eye health?

**Dr. Poteet:** Absolutely. The eyes are highly vascularized tissues.

**IMCJ:** A TCM doctor was talking about eye health and liver issues. Because the TCM world believes that eye health is related directly because the liver cleanses our blood, and the eyes are the most intensive use of blood in our body. Is there validity to that? Do you find people who have toxic systems need to get cleaned up so they can improve their eye health by doing that?

**Dr. Poteet:** In theory, absolutely. Also, in theory, I would have to do some *PubMed* work. The eyes are end-organs. Everything that affects the rest of the body has the potential to affect the eyes. The retina has more mitochondria than any tissue in the body. It's a highly metabolic tissue. The eyes are part of the brain, so anything that's good for the brain is going to be good for the eyes and vice versa. Anything that's good for the heart is going to be good for the eyes. Everything works together and nothing works in a silo.

**IMCJ:** Some ophthalmologists view the eyes as two separate organs because they're two eyes, and if you have a condition in one, it doesn't mean the condition's going to transfer together. If you had glaucoma in one does it mean you can have glaucoma in the other?

**Dr. Poteet:** True. If you have something that's happened in one eye maybe it can affect both. I have a lot of patients who didn't have eye care and or have their eyes examined for years. They come to see me, and they'll have something in one eye. I tell my patients my goal is to prevent this happening in the other eye. Preserve the vision that you have. The goal is to maintain the function that you still have.

**IMCJ:** Even if a person feels they're healthy, how often should they have an eye examination?

**Dr. Poteet:** I see everyone at least once a year. Even if they're tiny or elderly, I want to see everybody once a year. If you have something simple, it's not really simple. Something we think of as dry eyes is a chronic inflammatory condition and can greatly impact the quality of life. I see those patients a lot more treating the ocular surface from the front of the eye all the way to the back of the eye.

**IMCJ:** Was there a specific symptom you saw during the heart of COVID, going as far back as 2019. Was there a specific symptom that you saw manifest itself after somebody had COVID?

**Dr. Poteet:** There were a few things. I haven't talked to other practitioners about it. But focusing up close requires energy. Presbyopia is a term that when we don't have enough reserve to focus up close and see well, we have to wear reading glasses. It's a process that requires energy. If we're fatigued and we're over 40, we're not going to see as well up close as we once did.

I tell my COVID patients who come back that any virus is going to affect mitochondrial functioning and make us fatigued. They come in and all of a sudden they say, "I never needed reading glasses before, but now I can't see up close. What's going on?" All of a sudden they're in early presbyopia. I see that a lot.

We were seeing at the beginning of COVID a lot of young, healthy people coming in with hemorrhages in their retinas. I asked our retina specialists why non-diabetic and non-hypertensive young patients were coming in with retinal hemorrhages. We didn't know at the time, but now we know of the microvascular anomalies that can happen with COVID. We do know COVID affects the vessels. These are reversible and they resolved. But it was just interesting that we would see an uptick in that.

There's different types of hemorrhages in the retina, and the types that I saw were in the periphery. They didn't cause lasting damage to the visual system and three months later they'd be gone. But it was just kind of an interesting incidental finding that we would see.

**IMCJ:** Is it sometimes just glasses that reverse anything that's negative?

**Dr. Poteet:** Glasses don't reverse things other than comfort. We live in a time where people are in front of their computers all day and they come in asking if they need blue light glasses because they are so fatigued by the end of the day. I tell them they need glasses that do the work for them. When we look far away, our eyes are relaxed. When we look up closely, they're working all day. This is even if you're young, 25, and don't have presbyopia.

I just put patients in a pair of glasses that do the work for them at the computer. They go home and they're less tired. I think we've normalized fatigue in our society. We've normalized eyes just not feeling well because we're staring at a screen. There's no reason you have to feel poorly at the end of the workday. There's things we can do to relieve that stress on our visual system.

It's really simple. I recently had a patient who got through his exam, and everything was going great. At the end of the exam, he said the fatigue he felt when he went home was just a normal thing. I told him it's not normal and he didn't have to suffer. We can do something about it. So just something as simple as giving him glasses could do the work for him. We didn't evolve to stare up closer to a screen all day.

**IMCJ:** Can it be as simple as dollar store glasses?

**Dr. Poteet:** Yes. Personally, because dollar store glasses aren't regulated, you may try on a plus two and it'll make you dizzy. And then you may try on another plus two and it's fine. So just be sure to try on different ones.

**IMCJ:** It seems that LASIK has become common especially for people under 25. Might it have any long-term effects or is it something that's perfectly fine?

**Dr. Poteet:** It's a surgery so there's always risk. I'll be honest, I have a 24-year-old male that comes in and he sleeps in his contacts every night. He told me he doesn't want LASIK because of the risk. He's putting himself in just as much, if not more at risk, by sleeping in his contacts every night than he would be to get LASIK. I think it's patient dependent. You get what you pay for. You want to go to someone who knows what they're doing and is experienced. But I think LASIK is great for the right patient, but it's dependent on the patient.

**IMCJ:** Any metro area you go to always has two or three LASIK locations that are bombarding the radio airwaves. They may be experts or just have the best marketing dollars.

**Dr. Poteet:** My patients only go to people I would send a family member to. There are two or three people in Atlanta that I refer to regularly. I'm always going to refer a patient to someone that I know is excellent. You have to ask your general eye doctor who they recommend. It's dependent on the patient as far as risk goes. I think it's a great procedure for many people. It changes lives, but at the same time there's people I don't recommend it for.

**IMCJ:** Can you think of anybody who has had a tremendous impact on you in your career.

**Dr. Poteet:** My mentor is Dr. Stuart Richer. He's an OD PhD. He may have written articles for *InnoVision*. He

passed away in 2023, but he is one of the reasons I'm here. He was one of the founders of the Ocular Wellness and Nutrition Society and opened one of the first preventative medicine clinics at a VA in Chicago. He had been talking about nutrition to mitigate the course of disease for nearly 40 years. He was ahead of his time, and he influenced me and my profession. He was one of the most altruistic human beings and he influenced me tremendously.

*IMCJ*: It sounds like he made quite an impression on you.

**Dr. Poteet**: I was his vice-president at the Ocular Wellness Nutrition Society for six years and then I was president for three. He was considered a giant among us. He was a clinical editor and writer for the American College of Nutrition's magazine before they became the ANA. A teacher, professor, mentor, friend, again, one of the most altruistic people I've ever known. He just wanted to spread knowledge and lift others up. It was never about him, which is rare in academia. Unfortunately, so many people are all about promoting themselves and he was all about promoting others.

*IMCJ*: Any misconceptions people have about you as a doctor?

**Dr. Poteet**: I'm sure there are, but I don't even hear about them. My goal is just to spread a message that we can mitigate the course of disease through prevention and nutrition and the proper evidence-based information. When I started 21 years ago, the terms nutrition and science were almost an oxymoron. We now have really good studies that are being conducted and a lot of money being spent towards nutrition research, which we need.

Tufts University just opened the first Food is Medicine Institute where physicians can prescribe medically tailored meals. If you would've told me that 21 years ago, I would have said that's not possible and they're not going to do that. But all this is now happening.

I think that the movement is gaining such tremendous momentum. Americans are sick and tired of being sick and tired. They want answers. So many of us are not trusting conventional medicine anymore and they're looking to functional medicine for answers. I feel this movement is going to explode exponentially, at least I'm hoping it does.