



Interview with Neda Gioia, OD

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[00:00:29] Macular degeneration in anything retinal and in dry eye autoimmune uveitis also.

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[00:01:34] **Rani Banik, MD:** Hello, and welcome back to Part 2 of our interview with Dr. Neda Gioia on The Eye Summit™. I hope you watched Part 1 of the interview when Dr. Gioia gave us an overview of an integrative, functional medicine approach to vision health. It's such a pleasure to have you back here, Dr. Gioia, thank you again for joining us.

[00:01:54] **Neda Gioia, OD:** Thank you for having me back for Part 2, and I'm really excited about this because I always say the domino effect of teaching more practitioners this model gains the actual wave of getting more patients healthier.



[00:02:10] **Rani Banik, MD:** Absolutely. Now, before we dive into some of the specifics, could you give our audience a framework? Because there are so many terms that are thrown around- there's integrative health, holistic, functional medicine. complementary medicine, alternative medicine. Can you give us an overview of what's what, so we're using the correct definitions when we're talking about these specific types of approaches?

[00:02:33] **Neda Gioia, OD:** Absolutely. The problem is that a lot of them umbrella together. Wellness is really a wide view of just being healthy, having less risk factors for longevity. But integrative can be used in different ways. One way is that you are conducting your patient protocols with many other practitioners, so you're really integrating their treatments.[00:03:00]

[00:03:00] Functional doctors, more on the functional medicine side, there's usually some sort of extra education that really helps the practitioner understand other systems within the body that can be optimized to reduce the risk of the condition, and in this case, obviously in eye disease. Although they're separate or somewhat separated terms, they really do have a cohesive type of interchange verbiage.

[00:03:33] But I would just say an integrative model also includes a functional medicine type of approach. It doesn't have to have all of the elements of functional medicine, but ultimately does have that holistic mindset behind a patient's treatment. And even holistic is now a term that has become very difficult to categorize.

[00:03:57] Complementary medicine- that's where we really start engaging in other types of healthcare providers such as acupuncture, meditation support, et cetera. But, it is still considered a medical type of treatment when we put it under the category of integrative. So yes, there's no like strict definition I would say, but there are some nuances.

[00:04:21] **Rani Banik, MD:** I also oftentimes explain it to my patients using the comparison of alternative medicine with complementary and integrative [00:04:30] approaches. So alternative I always explain to my patients is where you choose something else, you choose not to pursue any traditional medical or surgical types of interventions. So that's in substitution, versus complementary, is with the other modes that we all have been taught as providers going through medical school or optometry school. It's more inclusive. Complementary approaches, integrative approaches that are more inclusive.



[00:04:55] So now let's talk about functional medicine. If you had to name like the top three eye conditions in which a functional medicine approach is important, in your experience, what would they be?

[00:05:08] **Neda Gioia, OD:** I would definitely put macular degeneration on the top of the list. I would say second to that is any type of inflammation, uveitis conditions. And third is dry eye. I would like to add a little baby fourth, which would be glaucoma. But those would, if I had to choose would the top three that I think complementary and functional medicine approach, not to say that many other eye conditions don't as well.

[00:05:39] **Rani Banik, MD:** Let's focus on uveitis because we all hear about macular degeneration all the time. We hear about dry eye, but we don't hear so much about uveitis. We know, way, way back there was that association between certain types of uveitis and inflammatory bowel disease or Crohn's disease, we know that there are certain organisms, typically [00:06:00] gram-negative bacteria that may lead to uveitis. So how do you take that further as a functional medicine provider, the link between uveitis or ocular inflammation and gut health and potentially gut dysbiosis. Can you explain a little bit about that?

[00:06:14] **Neda Gioia, OD:** We've had a pretty robust amount of research that's been done under this category. And remember, we want to approach these things with some evidence-based type of mindset, right? There has been so much literature out there that has linked gut imbalance -this dysbiosis -and some specific bacteria signatures that we see within the human gut that translates to a higher presentation of uveitis in the eye. Now that signature, although has been correlated together, there's really not anything foundational in terms of treatment models that have been researched or published where we can actually say, "if you do this, you're going to end up having less reactive uveitis."

[00:07:09] So we're not there yet, but we're pretty darn close. Based on what we are seeing in animal models as well as human type of research, one of the biggest foundational pieces is basically treating the dysbiosis, reducing the dysbiosis.

[00:07:27] Now, why does it actually [00:07:30] happen? That is up for interpretation. There are many different hypotheses of why the dysbiosis actually can trigger this inflammatory process within the eye. We have, T regulatory cell imbalance that it has been implicated. There are short chain fatty acids that have been hypothesized that are basically causing this



inflammatory process to the eye. So there's a few different hypotheses of why this dysbiosis causes the ocular inflammation.

[00:08:03] Inherently, though, if you can first diagnose the dysbiosis, which at this point in time, we have very valuable lab tests out there, and you can really isolate that this patient has various gastrointestinal issues- obviously you might have to work with a GI doctor, and I do that all the time; it's a great collaborative type of model- and if you reduce that dysbiosis.

[00:08:28] We know we can reduce dysbiosis by various treatment plans we call it the five Rs of gut health through modifiable lifestyle changes- food, diet, of course, stress and all the important nodes, then you really can reduce the amount of that inflammatory trigger. And I have to say it's like why not? You may also make the patient healthier in other parts of their bodies. But I do think the link between dysbiosis, [00:09:00] inflammation in the gut, and uveitis is underutilized and we can do something about it. It is not just something that you read in the research papers.

[00:09:10] **Rani Banik, MD:** Actually this is an approach I've used with my patients for at least the past eight or nine years, is looking at their gut health. And doing maybe a stool test. Maybe doing a food sensitivity test to see, is a certain type of food causing what we call "leaky gut syndrome," that may in turn be leading to a domino effect that's causing triggering of the immune system and triggering this inflammatory response in the eye. So I think it's definitely worthwhile to investigate some of those areas.

[00:09:38] As you mentioned, we would like to do things that are evidence-based. We're right at the tip of the iceberg now in terms of the research that's being done linking gut health to uveitis and other inflammatory conditions in the eye.

[00:09:50] Dr. Gioia, you mentioned the five Rs of a gut restoration protocol based on a functional medicine approach. Can you briefly share with our listeners what those five Rs are, and we don't have to go into details, but give us an overview of what that is.

[00:10:05] **Neda Gioia, OD:** First it's remove. So you want to remove the bad things, so the things that are not supposed to be there, the bad bacteria, the bad fungus, the bad yeast. Anything that is considered not complementing the natural gut flora. We want that good diversity.



[00:10:23] I remember I listened to a lecture many years ago. He compared the gut [00:10:30] with a parking lot. So think about a parking lot and think about how many spaces you have, and there's only x amount of spaces that you can have within the gut. Unfortunately when you put too many of the bad drivers in those parking spaces, there's only so much room for the good guys. So when you remove those bad guys, you make more room for the good bacteria and the bacteria that really help with gut balance. So that's number one. And a lot of people get stuck in that remove place, right?

[00:11:14] 'The problem is now you have to replace those spaces. So you made that room, and now we need to put good people in there. So you need to replace it with beneficial bacteria. And how you do so is by really helping it with therapies, whether it's nutritional guidelines, supplements, et cetera, to help grow the beneficial bacteria you can reinoculate, which is another 'R' where you integrate probiotics, which obviously are live bacterial supplements we use to help with specific microbiome imbalance.

[00:11:51] So you can help re-inoculate, and you want to really repair the damage that was done by these bad guys. Unfortunately the lining of the gut is actually fairly [00:12:00] sensitive, and we need to really enhance nutritional type of support such as omega-3s help. There's certain herbals that really help seal that lining and really rebalance. That's really the last part. And it's rebalance is more of that maintenance schedule that you want to have after you've gone through this system with the patient.

[00:12:22] Ultimately I like to think about it like that parking lot analogy because that really makes sense. Ultimately, if you can have that balance you really reduce a lot of risk factors for inflammation, and as we've spoken before, you can improve dietary fluidity. So a patient that may not be on certain foods because it triggers them, they might be able to eat those foods. Again it's not always about taking everything away. We want to ultimately bring things back.

[00:12:51] **Rani Banik, MD:** I'll add a little bit to that, where you were talking about re inoculation. In terms of foods, I always encourage my patients to have live fermented foods, which are probiotics, and then also prebiotics, which are the foods that these bacteria, the healthy bacteria, thrive off of. Typically prebiotic foods tend to be foods that are high in fiber.

[00:13:11] I always talk to my patients about what they're eating, making sure they're getting their live probiotics and prebiotics. And then if that's



not sufficient, maybe then take a probiotic supplement. But that's not the first line. That's typically how I approach it. How you feel about that, Dr. Gioia, if you're in agreement,

[00:13:26] **Neda Gioia, OD:** Absolutely- ancestral eating. We literally, [00:13:30] time and time again, we see that type of food with so many diverse cultures, and there's a reason why it was there. So absolutely fermented foods are really essential on a daily basis.

[00:13:44] **Rani Banik, MD:** I want to now talk a little bit about another common root driver of eye disease which is a nutrient deficiency or a micronutrient deficiency. Have you seen this in your practice? And if so, which specific nutrients can be related to which specific eye diseases?

[00:14:04] **Neda Gioia, OD:** Nutrient deficiency is rampant. When I say deficiency, I also call it insufficiency. So we have optimal amounts, right? And some patients, they're not fully deficient, but they're not optimal. If we start looking at all these categories and the averages, et cetera, sometimes it's skewed. So you could be at the very base of normal, and that might not be good. You might have to be a little bit higher than all the way at the bottom of the scale.

[00:14:35] That being said, nutrient optimization is very important, especially if we're trying to guide certain eye conditions that are nutrient-dependent. We know that one classical type of foundational fatty acid in the eye where we see the highest amount of DHA in the eye, time and time again. Patients do not get screened for DHA [00:15:00] levels. They don't get screened for omega-3 levels. And this is low-hanging fruit. We can easily test for this, whether it's large labs that you can send your patient to or direct to consumer labs.

[00:15:14] And this is a foundational item I feel in macular degeneration, in anything retinal, and in dry eye, autoimmune uveitis also, we could talk about that, but overall, we know that we need certain amounts of omega-3 in our bodies. If the patient's not ingesting enough, and we can show it on a lab, then this is an easy foundational piece to approach in that patient's protocol.

[00:15:50] B vitamins- almost every B vitamin is necessary in the eye, from the front to the back, essential in the retina. Even for other risk factors like homocysteine conversion, which is a, a nasty amino acid in the body that wreaks havoc, we need proper BS to balance all of this.



[00:16:09] B12 in particular, an easy, approachable type of test. A lot of patients can ingest enough B12, but they're not absorbing it. So if we can optimize their B12, which is with various foods, [00:16:30] sometimes they need injections, there you go. You have one thing, a major vitamin deficiency off of your list.

[00:16:39] Vitamin D is absolutely essential as well. I love optimizing vitamin D, especially in patients who have any type of inflammatory autoimmune, and oftentimes that's overlooked. Vitamin D, very simple. Now we have at-home tests, we have general lab tests that you can send off with complementary CBCs with their primary care, et cetera. We can approach these micronutrient deficiencies very simplistically.

[00:17:10] In an office where you're fast, fast go, you just need a list of what the few foundational items are, and some of these are not complicated functional medicine tests. You're doing so much service to that patient.

[00:17:23] Now we have other tests like carotenoid testing that are more in office testing that also can complement this, because obviously carotinoids are essential to macular health and overall ocular health as a whole. That may be not something that you're doing often, but it might be something you might want to consider, especially if you want to start implementing nutritional type of support.

[00:17:45] Going into functional medicine testing, food sensitivities, gut health, digestive markers can be done easily. We have a patient that's elderly, she may have digestive issues. What does it [00:18:00] look like? Maybe we need to start adding digestive enzymes to help this patient actually absorb the healthy foods that she finally is eating.

[00:18:09] There are a lot of these type of quick lab test that we can start implementing tomorrow because it's that simple. I always say it like another layer and it comes down to the practitioner, the way that they practice ,and how they set up their system in the clinic. But there's ways to do it, and it's necessary.

[00:18:28] **Rani Banik, MD:** As practitioners we need to be aware, and it's okay if we're not equipped to do it ourselves, but at least maybe write a note so the patient can take it to their primary to get these labs done. It's not that difficult, as you said, it doesn't have to go through a special lab process. A lot of these are routine labs that can be done.



[00:18:46] Dr. Gioia, this has been so enlightening, this conversation about integrative medicine, functional medicine, eye health. Some of the topics we've touched upon, gut health, micronutrient deficiencies. I feel like I could chat with you for hours today, but unfortunately we don't have much time left to do that.

[00:19:02] If any of our practitioners wanted to learn more, perhaps, explore integrative and functional medicine training, could you give them some guidance on that?

[00:19:12] **Neda Gioia, OD:** Absolutely. I try to mentor as many doctors out there to really go down this path and educate themselves, or even at least highlight this type of healthcare model.

[00:19:23] I have my own general eye doctor approach website versus my patient-centric, which is [00:19:30] www.drnedagioia.com. I also was the past president of the Ocular Wellness and Nutrition Society nonprofit that really tries to advance nutritional education. The Institute of Functional Medicine is a great resource, as well as the American Nutrition Association. There's many different education platforms in there as well to teach our physicians out there some foundational items in nutrition.

[00:19:55] **Rani Banik, MD:** We will share all of those links below the interview, and I highly encourage people who are interested in this approach to educate themselves and empower themselves with this important knowledge, so we can take better care of our patients. That's really the goal, is to take better care of our patients and not just put a band-aid on the problem, really to try to get to the root cause of it.

[00:20:15] Again, Dr. Gioia, it has been such an honor and a pleasure to chat with you today. Thank you so much for joining us for The Eye Summit™.

[00:20:22] **Neda Gioia, OD:** Thank you again, and thank you for this initiative. I hope we really changed some lives out there.

[00:20:28] **Rani Banik, MD:** I really hope so. And please, if you've enjoyed this interview, please share it with your colleagues. It's so important that we spread this information and make more providers aware of what's possible out there. Thank you.