The Nutrigenomics Revolution: Using Your DNA to Guide Better Health Transcript

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Introduction and Speaker Background

Welcome to another interview for the MS and Autoimmune Summit. I'm Doctor Terry Wahls, your host. And today we're going to chat with Doctor Chad Yarbrough.

Now he is the founder of Max Gen Labs, which is a leader in genetic testing. And this is testing designed around functional medicine and natural genomics principles.

He has a passion for personalized health care, as he cared for his father, who battled ALS and other really profound neurologic condition in which gave him a firsthand insight into the frustration of conventional medicine.

Now, as a practitioner Doctor Yarbrough specialized in autism, infertility, and optimizing overall health. This really aligns well with our mission of dealing with multiple sclerosis and systemic autoimmune disease.

Recognizing this critical gap in the industry. And so he created a comprehensive, privacy focused genetic testing. Founded Max Gen Labs now additionally, Max Gen Labs, he plays a role in developing cutting edge neutral genomics and functional medicine test.

And I'll have him explain what neutral genomics are. Again, thank you, Doctor Yarbrough. Is there anything that I missed in your bio? No, I think that was pretty good.

That's sounds okay. So let's start with what is neutral genomics testing. So what we're doing is we're actually looking at variants that are in everybody.

These aren't necessarily disease causing pathogenic type variants that cause different birth defects and things like that. We're looking at variants that are commonplace in the in the society that we have, the population that influence different receptors, proteins, pathways, and they give people almost an advantage or a disadvantage.

So we're looking at these disadvantages mainly at how people turn different vitamins into activated forms, different receptors. That might not work great.

What Nutrigenomics Testing Measures

And then how do we support those with nutritional interventions like, you know, vitamin supplements, food interventions, lifestyle, things like that. So again, for the listeners, this is really very helpful.

I'll take myself as the example. I have multiple sclerosis. We saw that I had really quite high homocysteine levels, and I needed much higher levels of B vitamin support.

When we did the neutral genomics for me, we saw that I had multiple variants in the B vitamin pathways, which is why I'm taking the activated B vitamins, helped get my homocysteine back into the optimal range.

And I sure had a big impact on my risk of heart disease and risk of more serious progression of my neurologic diseases. Oh, absolutely. So why should now?

I know in our audience we have a combination of patients like me and a combination of patients like me who are also physicians, nutritionists, and other health care professionals.

So why don't we start with for the clinicians? Why does adding genetic testing, like what you offer with max gen, provide a lot of help to our patients?

Oh, it's to me, it's the foundation of everything when I was in practice. It can change laboratory markers that you want to look at somebody. It can change the forms of vitamins you're going to use.

It can it can really even the down to the the lab ranges. So I'm starting to even change the optimal ranges for people based off the genetics. And there's some for instance, there's some where you absorb these types of inert B12.

So your B12, the serum level will be falsely elevated by about 20%. And you can miss some of these B12 patients. It's truly opens a window into the biochemistry of the patient sitting in front of you from strengths and weaknesses, like I said earlier.

But you know, in functional medicine, integrative medicine, there's thousands of things that we can do with somebody. And this really helps narrow it down to what's really going to work, even from the one I'd like to talk about a lot is histamine.

I think we talk later about it. You know, if someone's having like one talk about histamine right now, it's it's so histamine. Well, I'll let you explain.

Why should we care about histamine. And what does your genetic testing help us to understand? Sure. So so histamine. We all know it as an immune chemical.

Like we get bit by a bug and it smells up and it itches, but it's also a neurotransmitter in the brain, so it's associated a lot with anxiety.

Histamine, DAO, and Fermented Foods

Different types of emotional things, tics even, a little OCD even. But, it can also affect the gut. It can affect our hormones. So, so anxiety, the gut issues that you can never really figure out the random immune sensitivities that you're getting.

It can really make a massive change. And it's the number one chemical biochemical stressor of the adrenal gland, too, because the people are going after adrenals all the time and they're not addressing the histamine.

They're missing kind of the root cause here. So the genes that we look at, we look at H. And M. T, which is kind of more of a brain pathway for histamine, and Dao, which is more in the colon and the gut.

It helps break down, you know, the dietary histamines that we eat. And what's really interesting about that is, you know, especially in autoimmune diseases, we really want to increase the gut microbiome biome diversity.

So we put a lot of people on, you know, kimchi fermented foods, kombucha. When you ferment foods, they create a ton of histamine. So if someone has a problem with the Dao enzyme breaking down these dietary histamines in their diet, they're going to push their histamine levels up.

Your immune activation is going to go up. You're going to get some anxiety, some weird gut issues. And that's what we give a lot of these people to help their guts is these fermented foods.

You're basically without knowing these genetic markers in histamine, you're throwing gasoline on a fire. So it's really we got to calm that fire down.

Now, part of what I'm thinking for the listeners, if you've been hearing me talk about the benefits of sauerkraut and kimchi, kombucha, your yogurt keepers, and you've added them to your diet, but you feel worse when you have a fermented food.

More headache, more flushing, sort of this nonspecific malaise that might be a clue that histamine is a problem for you. And so we could sort that out in part, with the next gen test.

Correct. And it's a relatively easy thing to fix to with the Dao supplemental. So explain what Dao is for people. Dao is, is the enzyme that's secreted in the gut lining that helps break down these histamines.

So if we have different variants we don't make enough of that. Or the actual Dao that we're eating is not creating is not that effective. So I didn't mean to interrupt you, but yeah, that's the super helpful.

So if histamines a problem, if ferments are a problem, we can sort that out with genetic testing to confirm and then use the Dao enzyme. And you probably take that with meals.

Yeah. Yeah. Okay. So what genetic pathways in your perspective would have the biggest impact for the patient with multiple sclerosis or with, systemic autoimmune disease?

Oh, man. There's there's quite a few. And I really try to take the approach. My approach might be a little different than a lot of people, as I've always tried to look at a client sitting in front of me as a client who has had an issue like multiple sclerosis, not, and treat the patient not necessarily treat the multiple sclerosis that the patient has.

So there's all kinds of things that I think that are important here for Ms. patients and all auto immune patients, I mean down to just the fatty acids.

The way we break down our omega threes and omega sixes, do we make more omega six type cytokines and things from that. Do we need to push a mega threes.

That's one of the foundational things in our report that we really want people to take good quality fish oils and things, especially people who have a genetic predisposition to it.

Same thing with, a lot of the gluten markers, you know, the HLA markers that we look for, gluten sensitivity and celiac disease are also associated with a lot of different autoimmune diseases like Ms.

Genetics for MS and Autoimmune Risk

and I, we look at these and say, hey, you do have a predisposition to celiac disease and all these autoimmune diseases. Maybe you should go ahead and remove gluten from your diet right now to prevent this stuff later in life.

And when you see a big change. So hang on, we're talking about people who may not yet have an autoimmune disease. So I'm sort of thinking of the parents like, okay, mom or dad has multiple sclerosis, autoimmune disease.

I'm worried about my siblings, worried about my children. And so one way to sort that out your level of risk might be doing this max gen test. Yeah. Okay.

Excellent. Totally. If people can get this through their practitioner, or they could get it directly. You know, how does the public, access to, like, testing that?

Actually, before we get to that, I do want to acknowledge that many of my, people in my tribe are very nervous about genetic testing because I'm afraid someone else is going to get access to that and use that to discriminate against me for future employment, for, future access to health care.

So they're very, very nervous about genetic testing for that privacy concerns. And they should be. And to be quite honest, that's why we started Max in or why I did was mainly because a patient the security of the genetic data because a lot of people were using, you know, 23 in me, in these different companies and, and even some companies are even sending samples off to China to get done over there for cheap.

So I just felt really uncomfortable with that. We were the first company to actually market data privacy. We probably have 100 or 200. SpongeBob's in our system is the name.

Maxton definitely does not sell the data. We don't give access to the data to anybody. We only genotype out

exactly what we need to make our reports. It's very secure, simple, you know, and I think it's important for people to consider this.

If you were to say that I do want to get a genetic test, how secure will that that it be? Will you own all of that? Limit that access? I know I use 23 in me, and I deleted that file when I realized how insecure that data was and how they were sharing that data without my consent.

I think it's wise. Genetic data is incredibly useful, but you want to be sure that you're the only one who's accessing it and not, other people who could potentially use it against you.

True. Okay, so as a practitioner, because we have a lot of practitioners listening to this, how would they utilize max gen? How do they create a practitioner account?

What what's the process look like. And easy. So we do offer practitioner accounts and practitioner pricing. They get access to a few more detailed testing that we have.

Privacy, Security, and Practitioner Access

They're a little more clinical in nature. They just need to there's a form on the website under practitioners to sign up. And, one of our account reps will reach out to you soon.

We have physician trainers to help train people and get things up and running. But we have all kinds of practitioners who use this from pediatricians, who use it on every person that walks in the door to, you know, athletic trainers.

And then we have the public who, hopefully now it's gotten really curious about how this might be useful to guide what supplements I should consider, what additional lab monitoring might be really helpful.

And they're like, okay, this sounds like a good deal. I would like to do that. How how would a, you know, a patient who's listening to this summit access Max Gen.

So we I feel passionately about this. I really feel everyone has they need access to this data in a confident and secure manner in a way that's easy to interpret.

So we do sell direct to consumer without a physician. Note these are non diagnostic tests. So they don't require and we've made the reports to be friendly to people who don't know anything about genetics.

So it really will walk you through what to do first, second, third and last. It's literally an order of importance and tells you exactly what to do. And it's it combines symptomatology along with the lab markers.

So it's, you know, I just hang on symptomatology. Does that mean I'm filling out a survey of some type that tells you what my symptoms are? No, we don't do that because people don't like to tell us info about them, so we don't ask for that.

Okay, I wrap the symptomatology into the report. So it's like, hey, going back to the histamine thing we talked about and it's like, hey, if you have these symptoms, you also have these genetics.

You should consider going on a low histamine diet and taking some dough or things like that. Great, great. And so with this report a c my probably my wild type genes, my unruly genes that might be making things more challenging for me.

And then in the section for the unruly genes, if I understand this correctly, you're giving me a description of symptoms that may indicate that those unruly genes could be causing problems.

And the kinds of supplements or dietary changes or lifestyle changes might tame the unruly genes. You got it.

Okay. I get the labs, and then I have one more question.

And I don't know if this is possible in your testing, there's a lot of conversation about epigenetic marks. In how that changes gene expression. Does your test have any ability to give us information about these epigenetic marks?

So we mainly look at just genetics. We aren't looking at different pathway markers. We're looking just at genetic snips and how they influence the outcomes of this pathways.

So not directly but it can give you a lot of insight into what epigenetic factors you may want to evaluate in your life. Okay. That probably means we should explain a little more clearly what a genetic markers pathways are.

So people have a sense of like, okay, I've got these genes. I'd sort of like to turn them down a little bit. And that means we're doing things that will influence those epigenetic markers.

So you explain the epigenetic markers and the things that you can do to have those epigenetic markers either be too active or not active. Right. So, so any type of external influence on the body, whether it's a chemical exposure, say, someone has a hard time processing BPA or some of these insecticides are in the environment and those are really changed.

The way your DNA is, is, is working, is expressing itself the same thing with the diets and stuff that we eat. It's kind of the terrain model of of our external things, what it's doing to us internally, how our genes are reacting to that.

So if you know somebody is really sensitive to, like I said, say BPA, they really don't need to be drinking out of plastic bottles. Not that any of us do, but there are some people that are really more sensitive to it than others.

Same thing with smoking, same things with even some of the playground stuff that kids are playing on right now with the butadiene in the the tire rubber.

So it really any type of external forces on the body, we're trying to pick out where your weaknesses are and where you need to focus on your lifestyle, cleaning up and that type of thing.

Good for our listeners. We're having more and more appreciation that our daily choices of how we are leading our life are. We love sugar, white flour, more vegetables, more protein.

Direct-to-Consumer Reports and Epigenetics

Are we having a lot of sedentary time or am I getting up every hour, smoking or not smoking wildfires? Or know what fires? Purifying my air, purifying my water?

These attributes of daily life influence the epigenetics and they can help quiet troublesome genes. They can activate troublesome genes depending on what they are.

And if I understand correctly, Doctor Yarbrough, using the report, it's telling me the genes that I have that are helpful, the genes that I have that are unruly and potentially a problem.

And then you are also telling me that if I have these unruly genes, here are the environmental things that I could choose to change with my diet, my lifestyle, the filtration of my air water that could help quiet those unruly genes.

Is that an accurate description? Yeah, that's how I feel about it. Yeah. So it's really important. I want all of you to understand that even though you're not getting a epigenetic report, you're getting a genetic report.

And guidance on how to utilize your choices to activate the desirable epigenetic changes that makes this incredibly useful, useful, actionable report.

And then for clinicians, when I'm looking at this report, I'm getting a lot of guidance for my patients so I can give

them a very specific recommendation on their environmental factors that I want them to address, probably.

And correct me if I'm wrong, this would give me a lot of clarity on which actions to prioritize first for my patients. Exactly, because it can be so challenging if I'm ill to figure out where to start.

It can feel like an overwhelming number of things that I should be fixing or addressing or changing. And so having some guidance as to where to start, where I have the highest level impact, for the choices that I make.

Exactly. And that's, that's been a big issue in the industry is a lot of genetic reports just didn't break it down in a way that people could truly understand and implement the changes, because it can be a lot of it can be very intimidating when you start looking at a lot of A's, T's, KGS, Reds, whites, no reports lit up like a Christmas tree, but we've really tried to break it down into very simple tasks.

Start with page one, read page one right bit. Page to read page three. Take a break. Implement those. Come back in a couple days. Page four, five, six and do it until you feel good.

You know you don't have to do everything in the report, but just and it's in order of, like I said, important. So you're handling a lot of the, the foundational things like minerals, zinc, different types of cleaning up the diet, cleaning up the environment, avoiding toxins, things that you wouldn't normally think about, and fatty acids and histamines.

And we're doing all of that before we even get to the age of our methylation. That, you know, is the big buzzword right now is all about methylation. But there's a lot of things we need to do before we even get there.

Well, and then the next question is, but when I get my max gen report, are there reasons to repeat it in the future or this is a one time test to understand my circumstances.

It is a one time test and we've got people doing it as early as day one from birth. But it's a one and done genetics. They don't change. It's a one time test, one time test.

And then understanding the most important things to optimize your epigenetics. And so we'll get that from this report. And again start on page one. Read that think through.

What are the actions that I could reasonably implement. And I'll tell you, if you do it as a family, it'll be much more successful. Then when you feel like, okay, we've got this one that's going comfortably.

Now, I could go on to page two, read some of the instructions there. Again, implement these things as a family. You'll be much more successful and gradually work through the report again at a pace that you can manage.

It'll be interesting to read the whole thing, but don't be overwhelmed. Just start at the beginning, working very gradually at a pace that you, your romantic partner who's in your household can manage.

Then you can negotiate. How are you going to implement this for the rest of the children in the family now, Doctor Yarbrough, again, we have two audiences.

We have our practitioner audience and our patient audience.

Pricing, Family Testing, and Closing Remarks

If you are a patient, how do they access your report and find you guys? So our websites max Gen labs.com you can buy direct. We do offer family discounts.

I think that was a great thing. You just said we do offer family discounts. We have panels from our functional med panel. That's our max function panel.

We offer payment plans two. It starts at $199. So you can spread that out over, you know, six months, I think 4 to 6

months. Really affordable. Our works panel adds in a lot of the dietary snips, a lot of our exercise snips.

It's on there as well. I think it's retails for 350 practitioners. We have a link on the website that says practitioner. Sign up, click it, just fill it out and we'll be in touch with you within 24 to 48 hours and get you up and running.

So practitioners, I'm guessing we have to provide our current license and professional details. Yeah, it's typical like any other lab. Any other. Again one more time.

What is the website. So people can easily find that to the max Gen labs.com. So max GE and labs.com. You got it. Okay. Well doctor Jarboe thank you so much.

This has been a fascinating and wonderful conversation. Again for everyone who's listening, I have found neutral genomic testing to be incredibly helpful to understand why my homocysteine was high, and which is why my family has a history of neurologic problems, autoimmune problems, and early heart disease.

I have the on immune problems. No evidence of heart disease, I'm happy to say, and I think that's because I did do the testing early on, became aware of my homocysteine, aware of my variance and how I metabolize the B vitamins, and then use targeted supplements for a specific B vitamin supplements to overcome those problems.

Normalized my homocysteine, and there's certainly been no evidence of any kind of heart disease. And as everyone knows, remarkable stability for my, very serious neurologic problems and the genetic testing.

I was certainly part of that story. One more time before I let you go, Doctor Yarbrough, your website. So, MaxGenlabs.com maxgenlabs.com. Okay. Thank you so much Doctor Yarbrough.

This has been a wonderful conversation. It was nice.