Podcast Introduction and Guest Welcome

Your genes hold the answers to your family's overall health. I'm Dr. Paula Kruppstadt, and on the Get to the Root with Hope for Healing podcast, I sit down with experts in genetics, functional medicine, and family care to explore what's really going on beneath the surface so you can stop guessing and start healing.

From personalized insights to practical tools, we bring you whole family wellness that starts at the root. Welcome to the Get to the Root podcast. I'm your host, Dr.

Paula Krebstadt, and joining me today is Piper Gibson. She is a doctor of functional medicine. She's board certified in natural medicine, holistic nutrition, many other things.

But what I love the most about Piper is that she is a genetic geek. And today we're going to take a deep dive into Tourette syndrome, ticks, neural inflammation.

So welcome, Piper. Thank you, Dr. Krepsta, for having me. I'm super excited to be joining you today so that we can get really nerdy about genetics. Yes, that's what it's all about.

I mean, it kind of sets the table for the rest of our lives. Now, one thing that really resonates that I'd really just like to talk about, and I think would be a great source of encouragement to so many of our parents and families that are listeners, and maybe be the thing that compels them to partner to move forward with a genetic evaluation as step one.

is your story, because our stories make us who we are. So would you just give me a little overview about the story with your son, Whit, and what landed you in this place?

Yeah, absolutely. So over 14 years ago now, my son was diagnosed with a transient neurological tick. And for us, those symptoms were really Overnight, kind of immediate, we woke up one morning and he was blinking and ticking and jerking.

We were terrified as parents. And so, of course, the first call, we went to the pediatrician and we just went down this rabbit hole of getting the diagnosis for a transient neurological tick.

And what happened along the way is I really felt like in my mama's soul, I knew that this tick was not something that just needed to be ignored or medicated.

It was a sign that something was going on deeper in his body.

Whitu2019s Tics Diagnosis and Healing Journey

So we had a neurologist who not so nicely told me that my son just needed a good spanking. And it was really the catalyst for everything that happened next.

We, I went back to school, I relearned everything I thought I knew about health and wellness. I got several PhDs because I really wanted to nail what was going on with my son.

And so many, many years later, you know, we have balanced his symptoms. gotten him free of symptoms, and he's thriving. He's 20 years old. He's in college.

He's working as a firefighter. He's doing all these things I never thought he would be able to do. And along that way, we tried lots of different things.

And one of the biggest turning points for us was absolutely looking at his genomics. All right. Well, thanks for that background. And that is so similar to what so many parents that present to us, they're given a medication and nothing is discussed about their lifestyle modifications based on what they're putting in their body.

And I noticed, too, here you are a certified gluten practitioner. And we talk about this all the time because even if somebody does not have the genes to develop celiac, we know about non-celiac gluten sensitivity.

And so for when we talk about the brain, can you unpack for us how you describe to parents what neural inflammation is. And then we'll take a little dive into the, and if you want to just take a little tangent off, but it's not a tangent, it's a huge thing, and then talk about what gluten and dairy do to the brain to stimulate neural inflammation, because that's the crux of this, right?

It really is. And when I'm talking to parents about inflammation in the body, we are really focusing on the way that the immune system and the brain are communicating with each other.

So I really talk to them about, when I'm looking at what causes a fire in the body, is we're going to look at several different factors. We're going to look at biological factors.

What's going on inside your body? Is there some kind of infection? or nutrient deficiency. We're going to look at environmental factors. What's going on in and around your home?

Are you living in maybe a moldy home? Are you cleaning your home with bleach and other toxic chemicals? We look at emotional factors, of course, because that is going to matter.

As far as inflammation, we know stress can be so inflammatory. And then we also look at physical factors. We have so many kids who sit down all day long at school.

They come home and they just exercise their little thumbs. And they're not getting enough of that movement, enough of that physical activity. And so really when we talk about inflammation, we are talking about drivers that cause an underlying fire in the body.

And so I explain it to them like… Ticks are the smoke, but you have a fire. What is causing that fire? So we really have to take a deep dive in that.

And many of those factors do include things like gluten and dairy. You know, we know that gluten has such an impact on glutamine in the brain, we know that dairy and gluten both can act as opioids in the brain.

So looking at the casomorphines and the glutamorphines, which not only are going to impact the inflammation, but also impact the way that people behave.

Because if you look at in the United States, we have such a huge population of people who are addicted to opioids. But food is very much the same thing.

It becomes very addictive. And so many parents, they're so picky. They don't want to let these foods go. I'm like, here's part of the problem. They're addicted to them based on what it's doing to those opioid receptors in the brain.

So it causes these underlying fires. It causes this addiction impact. And we just end up down this rabbit hole of foods and how really impactful they are on our brain.

So Piper, I love how you broke that down and I wanted to ask you and I assure you hear this all the time. What about A2 cow milk and what about sheep or goat?

Neural Inflammation and Food Triggers

So could you kind of comment a little bit about that too? Yeah, absolutely. So what I have found is so many people

focus on the lactose piece, but in reality, when we look at all of the parts of dairy, casein is one of the bigger problems.

And you're not going to be removing the casein from the A2. You are not removing it from your whey protein. So this really ends up being this bigger sensitivity and bigger issue for inflammation above and beyond just the lactose.

And we have to look at, you know, the size particles of the proteins in some of those other milks as well, because they are going to be very impactful on the gut and the brain.

So, you know, in my experience of doing this over eight years, I have found that dairy is a huge issue, whether it's A1 or A2, it's raw, it's goat, it's milk, it doesn't matter.

It really seems to have the same effect. Yeah. So we know what this is, but what is lactose and what is casein in whey? And how can a parent tell the difference?

Because people come to me and they say, well, I'm drinking lactate milk. And I'm like, you know, so could you explain that? So when I'm talking to parents about lactose and casein, so lactose is a carbohydrate sugar found in milk.

It's made of glucose and galactose. To digest it, you need special enzymes called lactase. And whey is really more of a protein, not a sugar. So those two main proteins in dairy, whey, the other being casein.

So even lactose-free dairy products can still contain that whey. And it's usually an immune or inflammatory reaction, not an enzyme issue. Yeah, yeah, that's so true.

You mentioned the casomorphin, gliadorphin, gliomorphin, and the food industry knows that we've talked about this so many times. So when you're, and I love, too, how you kind of unpacked, you know, you saw the pediatrician, you saw the neurologist, but you knew in your gut that something was wrong.

And most mothers do. Dads, too, but that mother's intuition, there's just this special thing. So let's, I also liked how you said that ticks are kind of like the smoke that the neurologic system is on fire.

So let's talk a little bit about what we know from the genetics. Now this is what we have on our proprietary wellness blueprint. We also carry some of these on our newborn panel and that's what I'm going to encourage people to do if that's the place they start.

But Piper, can you break down the big idea with inflammation as far as runaway inflammation and then the ability to turn it off and to turn it on and how that plays into ticks that show up on the outside.

The best way that I explain this is lighter fluid on a fire. When you put lighter fluid on a fire, it goes whoosh. It gets really aggressive. So when we're looking at this genetic component of this runaway inflammation, we're going to look at, you know, on switches and off switches.

So when you are exposed to something that's like putting lighter fluid on that fire, gluten, casein, strep, whatever bacteria, you know, parasites, all of these things, whoosh, you're going to have this more aggressive response.

But for us, especially when we see these kids who have these neurological conditions, especially tics and Tourette's, is looking at those off switches.

What is your capacity to really bring that down after that inflammation has run away from you? So I also have to look at it from the perspective of, yes, you may have this genetics for aggressive inflammation and more of an inability to turn it off with those off switches like CTLA-4.

But we also have to consider, are we in this process, you have runaway inflammation over here, but are you

continuing to feed that runaway inflammation with what you're eating, your diet, your lifestyle, and your habits?

It's going to be so much harder to turn it off, especially if you have broken off switches. But if you're still continuing to feed that pattern the whole time, it just continues to spiral out of control.

Genetic Inflammation Switches and Infection Triggers

Yes, yes, I really appreciate you breaking that down. Now, let's go back to infections. So, would you outline for our listeners some of the, you've named a few already, but common infections that can trigger ticks?

Absolutely. So we know the most talked about one out there is definitely going to be strep, which we see in patients who are diagnosed with pandas. But there's so many other factors.

So we can look at things like parasites, candida overgrowth, so fungal overgrowth, looking at environmental toxins like mold. Looking at heavy metal toxicity, I see so many kids who have an abundance of environmental toxins.

We live in this toxic soup. Gut imbalances in general can really throw things off. So looking at so many triggering factors, and I can tell you just from looking at test results year after year after year with these families, it's not just one thing.

It's the perfect storm. And all of these kids have multiple factors that are really driving this runaway inflammation. Yes, I really like your perspective on that.

That's so true. I believe, you know, it's that toxic soup that we see. I'll just say that in our practice, we also see mycoplasma pneumoniae and the antibody levels tend to persist for a long period of time.

COVID, we saw so many children that have an immune system that doesn't recognized things. Everybody in the family got a fever, got COVID. They didn't get COVID that the parents could tell, but they developed self-injurious behavior with obsessive-compulsive behavior, self-harming.

That's the self-injurious behavior. Also, cytomegalovirus, Epstein-Barr virus, human herpes virus 6, which is rosiola, Coxsackie virus A and B, influenza A and B.

you know, influenza A causes people to become psychotic. So, you know, one of the older drugs, and I'm sure you're very familiar with this, you mentioned how gliadin, gliadorphin, gliomorphin, can cause glutamate in the brain.

Many times we'll use a medication called the mantidine and it helps calm the brain and it's a very useful thing. But when it came to market in the 70s, it was used for influenza A, but we tend to use it too when there's a lot of inattentiveness and something on the genetics called GAD-1, glutamic acid decarboxylase.

So where there's this Roger Rabbit ping, ping, ping, or the inattentiveness in the ticks. So I like to stay away from medications if at all possible, except for things like lotus naltrexin, sometimes the amantadine, and in severe cases of infections.

We also see a lot of vector-borne illness like Lyme disease, Bartonella, Babesia, Well, Rocky Mountain spotted fever, those kinds of things that can cause just this bomb that causes the ticks.

Now, what is, you outlined it for us, Piper, but how all these different factors, biological factors, nutrient factors, environmental, emotional, and physical movement, these are all the lifestyle factors that we as functional medicine practitioners really stress.

But when you dive in with families, what is your approach to moving through finding the causes of the ticks and moving their Tourette's, trying to minimize that?

Because I'm sure patients come to you on medications already, those kind of things. So kind of unpack what you do for patients, your patient journey. Yes.

So, the patient journey with us looks very different from what most families have experienced up until now. And our goal is to really take this 30,000-foot view with all of our clients.

So, we do incorporate a lot of functional lab testing. So, looking at gut function, looking at things like Lyme disease and vector-borne illnesses, as well as viral issues.

Looking at food sensitivities, looking at the genomics piece is a huge key for us because we really use that genomics to build this roadmap for them because it's such a good guide for how to move that along.

We look at mycotoxins, we look at environmental toxins, we look at heavy metals. So we're looking at usually over a thousand different biomarkers. And then we're really outlining with their symptomology And these results, this health history, we're putting it all together, really looking at what is that most impactful thing that's going on.

So, for example, we have someone come in, we run all these tests, and they have mycotoxins that are through the roof. We're going to start talking to mom and dad about, does your home possibly have mycotoxins?

Are they in a school where there's mold? Is your home moldy? What is going on? And so our goal, most clients work with us for about 18 months, but our goal is to really break this down into bite-sized steps so that we can start to, over time, regulate that inflammation.

We usually do start with diet changes very early on because we know these kids are eating all day long and these are… causing a lot of this inflammation.

So we start with diet and then looking at what are those most applicable things to start working our clients through. So everyone's at a different stage and place when we start because not everyone has a mycotoxins, not everyone has a fungal overgrowth.

Functional Medicine Testing and Treatment Priorities

But when we can really dive deep into that, we can say, okay, a lot of these factors are leading to this immune system dysregulation inflammation over and over and over again.

Okay, okay. Now, when in the journey, you know, I'm thinking right now of a patient that we have done all these things and we're moving on to some therapies.

It's like the most difficult case that I'm dealing with right now and it's really caused me to move into a lot of prayer because I'm just like, Lord, help me know where to take this child because all the usual things are not moving the needle.

We were able to diagnose this child with pans-pandas, autoimmune thyroiditis. So we removed the gluten in the dairy and that was traumatic for this young patient, but really toe in the line.

And The home is free of the high levels of the mycotoxins, and we're dealing with mycoplasma that has been very resistant, and it takes a while for the titers, the antibody levels, to shift.

So we've done a combination. We love herbals here, so we use a lot of herbals, but sometimes you initially start with some antibiotics, but the extreme cases may move to something like plasmapheresis where you go in, you clean the blood, and you give something called albumin back, and you're removing some of those circulating antibodies that are attacking the body.

It's so difficult, and it really is a dance. So I love how you guys break down things into the bite-sized steps. Now, what if you have numerous things that come up on the testing, how do you prioritize what to do first?

Yeah, you know, I really look at The gut first, the gut is this first place that I go. But when I'm looking at a client and I'm looking at all of their lab work, if there is fungal issues, we know that that fungal issue is so dreadfully impactful on the gut.

So our first goal is to remove that issue, whether it's candida or mold and mycotoxins, whatever the case may be. Because we know once we're removing this really aggravating fungus, we can start to work on getting those tight gap junctions back in place with those diet changes as well.

And so it's really for us looking at what that most impactful thing for each client is. And so we look at the fungus, we look at the gut. A lot of times we do fungal protocol, then work through a gut rebuilding protocol using the bone broth and the herbals and looking at, you know, is there a parasite in there?

How do we get this gut back on track? Because ultimately it's going to be the regulator for almost everything else that comes after. Yes, I appreciate you breaking that down.

Now, as far as neural inflammation, we've talked about all the inflammation. Let's say we've kind of cooled things down and you're eradicating infections or colonizations and there's still some ticks remaining.

What are some of the other body systems, especially from the genomic standpoint, what do you do when you feel like the inflammation is down? Can you kind of walk us through how that works a little bit?

Yeah, so once we get that inflammation down, we're going to look a lot closer at things like neurotransmitters because we know those imbalances can lead to issues with these symptoms as well.

So what's going on genetically with those neurotransmitters? Because once we get the gut back on track, the gut regulates, produces a lot of these neurotransmitters, then we can start to regulate that immune system with the neurotransmitters.

So we see the dysbiosis, we see the immune activation, we see the brain inflammation. which equals poor absorption, nutrient deficiencies, impaired brain activity.

So when we can start to make sure that, hey, your gut's in a really good place, let's really start to up this nutrition for you so that we can create more of these good neurotransmitters.

Or if there's a snip in there, what can we put in? You know, we talked about GAD1. Can we use something like CAVA to help regulate these signals? Yes, yes, there's some really excellent supplements that help with that.

You don't have to do medications if you don't want to. All right, now let's see here. One of the things on your website that I find very interesting, and I'd like you to talk a little bit about nutritional lithium and how that might play into ticks, Tourette's, that kind of thing too.

Yeah, you know, nutritional lithium can have so much impact on mood behavior, brain health. We see, you know, it can be really impactful for kids who have some of this neurotrophic factor issues in the brain.

So maybe a BDNF or a CIN1. Years ago, lithium orotate. We're not talking lithium that's used for more drastic mental health problems. But yes, we are looking at it and how we can start to help regulate some of the things that are going on with the brain, some of these genetic issues that are going on.

So we do use it. We recommend it. Probably not one of the most frequent things we recommend, but definitely beneficial for a lot of our clients. And I have had a lot of clients say that it drastically improves mood for them.

Yeah, we use it to lithium-orotate and I take the time to explain to folks too, but for ADD, ADHD, if we're not moving the needle with some of as much as we would want with looking at the neurotransmitters like you broke down and with dopamine production, serotonin production and lowering the neuroinflammatory things like glutamate.

So I find it interesting in the city of Houston. Someone told me this over a decade ago that Houston doesn't have any lithium added to the water supply, and it has the highest rate of schizophrenia among the largest cities in the US.

And I'm like, whoa, that really makes sense, you know? So it's kind of… The opposite end of that spectrum is El Paso, where I grew up. They have high levels of lithium in the water, and they have always attributed those higher levels of lithium in the water to the better behavior of society as a whole there.

Wow. That's incredible. I hadn't heard that. It's interesting. I did my pediatric internship and residency in El Paso, met my husband there, got married there.

Yeah, was your father in the military or your mother? He wasn't. Both of my parents, all of my family from Texas, my parents were born and raised in El Paso.

And I only live 30 minutes from there right now. So I'm in Las Cruces, New Mexico. Cool. Now, Piper, prior to wit, spiraling down, waking up essentially overnight with these ticks, what were you studying before that?

Neurotransmitters, Lithium, and CBD Support

Did you have a degree in something else prior to that? I did. So the joke is, God said, you will work in jeans. And I worked for a denim manufacturer.

So I do have a bachelor of science in fashion design. I worked for a denim manufacturer designing and marketing and doing all of the things. And then the joke was on me.

When my son got sick and I fell in love with genomics, I was like, oh, you meant these jeans. These were the jeans. Oh, that's a great story. Yes, God does have a sense of humor and I love that.

So, okay. So, let's take a step back. I would like you to think about if you were talking to a family that was beginning their journey with ticks. What would you tell them to encourage them and inspire hope?

And your website is called Regenerating Health, and ours is Hope for Healing. And the two together, I am so appreciative of that because that's what we stand for.

So go ahead and break down for me what you would give a family as words of encouragement. Then I'm going to ask a few more questions about cannabidiols.

Okay, sure. I really am very honest and straightforward that when I start speaking to families, I am a mama who has been in your shoes. I have been there.

And I will tell you, 14 years ago when we got this diagnosis, there was so much less information. I mean, it was very, very gloom and doom 14 years ago.

Diet didn't matter. You just had to ignore it. You know, the videos, the content was just really disheartening. So what I want to tell parents is that To me, tic disorders are a boil over symptom.

So if you have a pot, put your pot of boiling water on to boil and you turn around in your kitchen and you start chopping your onion and then your dog's like, hey, feed me dinner.

And you get sidetracked and 10 minutes later you turn around and your pot has just boiled over and there's water everywhere. This to me is really representative of what is going on with tics.

You can't see it bubbling under the surface. But one day, all of a sudden, boom, we see these ticks. And it's like, what is that fire? What is causing that water to boil and boil over for these kids?

So for me, it's We can use your genes as a roadmap. We can look at all of these different functional lab testing. But our goal is to basically reset your child like you would reset a computer.

What's causing the fire? How do we remove it from your body so that we can reset your computer? So there is hope. We work with clients all over the world and there's so much hope for your child to be able to take center stage in their life.

Great. your website into our show notes regenerating health so that people can reach out to you. And then, you know, Piper, if you have folks that you need to send to a medical provider, I'm here.

Our entire practice is here for those kids that are tough, that, you know, you do everything for. Do you only see patients in person or do you have a virtual arm as well?

Well, for prescribers, you have to have a telemedicine license in the state that you have a license for. I have a Florida telehealth license and in Texas, so people have to fly in.

But we also want to do a really good physical exam and look for findings, say, Bartonella stria. They may be horizontal marks on the back. We do a nutritional physical exam looking at the lunilla of the nails and to feel the arms and the body.

Listen to the heart. Do we have something going on with the heart? And do these children or adults have unequal pupils? Do they have a fine resting tremor at rest that no one's picked up on?

Do they have tenderness when they get up and walk on their feet in the morning, you know, and these other things that are clues? So at least once a year, we want to do a physical exam.

And also in the state of Texas, if you As a medical provider, if you do not think that you are violating the medical standard of care, you can continue to do telemedicine without potentially that yearly exam.

But if they're a child, we like to lay hands on them at least once a year. So we see people from all over, too. We can do our genetic consultations internationally, which we also do.

I'm sure you probably do, too. Yeah. All right. I digress. So thanks for asking, though. Here's a question and how it relates. So we use pure cannabidiols here in our clinic, and I see that you are a wellness cannabis advisor and also a certified endocannabinoid professional.

And based upon that, some of the various ways and routes and the whys and the whens, especially as it ties into, you know, precision nutrigenomics, can you talk a little bit about what cannabidiols do?

We're not talking endocannabinoid right now, but I am having brain fart with my words here, so I'm going to let you talk about cannabidiols. You know, we are going to use the word endocannabinoid because cannabidiols are going to impact your endocannabinoid system.

But we have an endocannabinoid system. It's not something that we all learned in high school biology. This was something that has just been found, you know, in more recent years.

But really knowing that this system in our body is… made before we are born. And really, if it's not constructed, we probably would not be born in the first place.

It does serve a very important piece. But when we are looking at cannabidiols, we are really looking at how we are using them to bring down inflammation in the body.

Family Emotional Regulation and Closing Remarks

So they're very anti-inflammatory. And there's several different versions. You can have versions that have, you

know, they're hemp-based and they're 0.03% THC.

You can have some that have higher THC. You can have some that have the THC removed. In my research and study, the hemp products, when we're looking at CBD, which is the 0.03% or less, is completely legal under the HEMB Act.

And when we are looking at it, as we know that little bit of THC can actually be beneficial in the function of the cannabidiol as a whole, because it's kind of like a symphony effect.

It creates this little bit of symphony effect. But, you know, we do have several families who we work with who really worry about that THC piece. There's really not a ton of study data on kids with the THC piece.

So there's other options for CBD that has zero THC in it. So we're really looking at using that to impact inflammation overall. It can help with sleep.

It can help with relaxation. It can help with mood. So it really is a very beneficial product when used correctly. Yes. Yes, that's our experience too.

I really appreciate you taking a deep dive there. Okay. Piper, thank you so much for breaking down the cannabidiol endocannabinoid system, just a little overview there.

We have people who work for the Department of Homeland Security and we use something that they won't test positive on their urine test, but we use a lot of topical CBD when we identify vulnerabilities on the precision genetics, and that helps with ticks.

And then, you know, also the benefit, like you said, of lowering some of the inflammation in the body. I really appreciate you talking about that, and I realized I've been using the word appreciate a lot.

But when we think about this, Do you work with families to really help them promote gratitude and reframe their thinking? We do. We do a lot of emotional well-being work.

I do have a group that I work with, the moms specifically, where we work on this emotional well-being because I am very well aware that anxious parents breed anxious children.

And so if you are really struggling with your child's symptoms and you can't really control your emotions and your mental health and your mental well-being, it's going to be so much harder and your children are going to feed off of it.

So we do do a lot of this discussion of the mental health piece of it, how they can support each other as a family, and then looking at how you can support your child as well, and looking at some of that nervous system regulation piece, like what are these things we can do that are calming in the evening, go for a walk after dinner, but These are really important things.

So it isn't just diet. It isn't just getting rid of toxins or getting rid of parasites and using CBD. It is so much more in-depth that these kids really have become completely dysregulated and all of these factors are going to matter when we're getting them back on track.

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That's the premier and proprietary genetic panel that Fagran has allowed us to create. That's so important, that trauma work and the emotional regulation.

I don't know about you, but there are families that I walk into the room and the anxiety and the angst is palpable.

And they're so sad and they're looking for answers.

So a lot of times I just let them know, I've read every form that you've filled out. I've read every phone encounter with the health coach. And I just want you to know that I believe you and we're here for you.

And so many times that you can just see their shoulders let down and they feel so much better because they're seen and they're heard. And it sounds that that's your approach when you're meeting these families where they're at.

I would like to thank you, Piper, for joining us today, telling us your story with your journey through Tourette's and TICS, and now how you are caring for and loving on other families that were met with the same thing that you were exposed to initially 14 years ago.

And I really admire you. I'm looking at your resume on your website, all the things that you've done. I don't know about you, but I'm kind of the same way.

I've learned more in the last 10 and a half years or more like 12 because I opened my practice about 10 and a half years ago than in all my life. But that life experience as a mom and when we've lived with children that are not neurotypical and when we can throw those labels away.

I love The fact that your son is now a firefighter is 20. He's thriving and doing well. Thank you so much again for joining us. We'll have regenerating health in our show notes.

Piper, I want to thank you for being here today. Thank you for having me. It was fantastic. Great. Thank you. Thanks for joining us at Get to the Root with Hope for Healing.

If this episode helped you, follow and share it with someone who needs it. And leave a review. It helps others find us too. For a free consultation, visit our website at GetToTheRoot.com with a number 2 and schedule a welcome call.

We'll see you soon.