Explore Lyme's Impact On Pediatric Autism And ADHD

Richard Horowitz, MD
with **Debby Hamilton, MD, MPH, IFMCP**

Richard Horowitz, MD
Hello, everyone. My name is Dr. Richard Horowitz, and I am the co-host of your DrTalks for Healing the Lyme Summit. Healing from Lyme. And I'm with Dr. Debby Hamilton. And Dr. Debby Hamilton is a pediatrician with an experience in primary care, integrative medicine, research, speaking and writing, and the topic of our talk today from this healing from Lyme summit will be pediatric Lyme disease. And we're going to focus specifically on autism, ADHD. Some of these manifestations in kids who have neurocognitive deficits and ways that we can get them better. Kind of the diagnosis and treatment. Debby is a board certified, not just normal board certification like the rest of us. She's triple board certified in pediatrics, physician nutrition, integrative holistic medicine, functional medicine, and she has a master of science degree in public health. And she also has done research in nutrition. She's founded the Holistic Pediatric Consulting Colorado in Colorado in 2005. And she primarily works with kids, who have, for example, autism, ADHD, chronic Lyme disease. I've referred a lot of kids over to Debby and, Debby is one of my speakers that usually speaks with us when we do our doctor training every year. So, Deb, it's great to have you here. thank you so much for attending. And please tell us a little bit about yourself and how you got into pediatrics and Lyme and you know why you are.

Debby Hamilton, MD, MPH, IFMCP
What.

Richard Horowitz, MD
You want, why you are one of the few Lyme pediatric specialists in the world that we can't really find too many of them.

Debby Hamilton, MD, MPH, IFMCP
we're like, well, first of all, thank you for inviting me. like most of us who get an integrative medicine, it's kind of a securities route. I said, I've been a pediatrician. I did general primary care and realized that this was on health. then I did research nutrition to public health and then

ended up at, HMO meeting. And I'm like, oh my God, there are doctors like me. and throughout that, I have now a grown up son who has ADHD and was really struggling. and I lived at Boulder at the time and took him to every week. He's like, he's doing acupuncture seven and all that. And that's eventually kind of came into my own practice. And, you know, I started kind of general integrative primary care, but then really sort of focused on autism. And once you start to see kids with autism, then you become chronic disease. And then you realize, well, if you're train autism, you're treating line. They have chronic Lyme. They can generalized, they have mold. They have not immune issues. They have GI issues, they have everything. So if you start treating autism, you really have to go and start treating kind of all of it. And so you kind of, you know, I joined Research Nutritionals, you know, I start getting more involved in some of their products and developing their products. but really attended a lot of the Lyme conferences, and it really kind of came together. And when you treat children with autism, you also treat, families and so on. You're treating you find child autism has Lyme. Well, their parents often do do it. so you end up having to treat so and then about treat adults too because I treat families essentially.

Richard Horowitz, MD
Right. So you know, one thing you said earlier, which was really fascinating, I think for people out there who are listening, autism is one of these mysterious diseases that, you know, they think that nothing has been discovered about this disease. The kids have to stay sick. But you are kind of implying in all of these. And by the way, how many thousands of kids have you seen with this at this point?

Debby Hamilton, MD, MPH, IFMCP
over 20 years. You know, I don't even know, but autism and then ADHD is kind of within the spectrum sensory processing behavior, developmental issues. So you kind of get the spectrum right. And some of the causes are the same for a lot of them. You have to look at some of the same things.

Richard Horowitz, MD
But but there really are things. And that's what we're going to discuss today is we're going to discuss some of the diagnostic and treatments that you have found effective. Because again, I think a lot of people out there don't know that there really are any effective treatments that you can give to these kids.

Debby Hamilton, MD, MPH, IFMCP
Right. Well, autism was diagnosed as kind of like a neuro psychiatric illness because it's diagnosed with a questionnaire of symptoms. But when you do integrative medicine, it's like, well, what's the cause of those symptoms? Or they bang in their head because they have a headache. And what's causing that, you know, are they not eating? Are they reacting a lot of food because, well, their immune system and their allergies, you have to look at their gut. And so I really kind of break it down. And there's so many layers with these kids. You know, these have to start with the basics. But the way they're kind of in the integrative and like in the maps

community now is kind of, the new autism, ADHD community is they are causes. These are biologic issues. These kids have neuroinflammation, they have chronic gut, they have chronic infections. You know, they have autoimmune issues. And if you really look at that, you can help get them better to look at that. It's just oh they just have neuropsychiatric illness and that's their diagnosis. Doesn't look at the really the cause or doesn't give you much to do with to help either.

Richard Horowitz, MD
Right. Can you, can you explain briefly for the audience, the differences between the symptoms in pediatric climb and adult? Because I mostly see adult and I know there are some some that are a bit different. Can you discuss that for a second?

Debby Hamilton, MD, MPH, IFMCP
Yeah. So the way I think about it is, you know, kind of there are some kids, the kids who are what I say do not have autism, do not have kind of underlying neurodevelopmental diseases. Some of them, like some teenagers, could come in with the same kind of symptoms headache, fatigue, you know, pain, things like that. The majority of the kids, you know, somebody will come in just for fatigue or they're passing out. our kids come to me for pots, you know, Pots syndrome. And you'll have to look back at that. Okay, kid, just for, like, you know, a lot of ADHD or, you know, something that came on news like, wow, all sudden they have brain fog and they can't pay attention and they're falling asleep at school, you know, so sometimes they don't come with like a complete picture. And then the kids with autism present with autism, you know, and maybe you don't know if they have headaches, you don't know if they have joint pains. They're hurting themselves like self-injurious behavior sibs, you know, if they're banging and they're pushing on themselves or they're just acting out rage, that could be pain. That could be infections. So you really have to think, you know, kind of always have to have that in your differential for some of these kind of kids because you're not they're not going to they're going to present with autism or present with ADHD right now.

Richard Horowitz, MD
So so you're you're specializing obviously you decided as a pediatrician to specialize in autism, Add, ADHD. and you're seeing obviously a role for tick borne infections like Lyme and Bart. And you explain a little bit again to the audience, like what? What is the role? How how are you seeing these infections driving some of these neuropsychiatric symptoms?

Debby Hamilton, MD, MPH, IFMCP
You think of them as driving a lot of the behavior issues from like from causing inflammation, probably, as I said, we don't know if they're in pain. You know, they have like a lot of low muscle tone. So think about mitochondrial issues that they're causing. But it doesn't present like, hi, I'm you know, I'm chronically fatigued and pain. It's like these kids are running around. So the parents like they're not fatigued and like they have no endurance, you know, they run out of energy. They just can scream for a while. or the kids have autism or suddenly, just like the Pans Pandas autoimmune behavior stuff is always a big red flag for me. But some of these, even if you

have a chronic kid and all of a sudden they're like, wow, they're really acting out. Something's going on, you know? Something is new. They've been trigger the regressing something's happened kind of thing. You always have to keep it. You know, infections, gut issues, mold, you know, metabolic mitochondria. You have to kind of think about all these allergies, mast cells, you know, everything that all the adults do. You have to think about all of that. And and some of these complicated kids that make sense because they're and a lot of them, their layers, you know, you just peel one layer off, you treat layer by layer. You know, these kids are really, really sick. And I think that's what people have to realize.

Richard Horowitz, MD
Right?

Debby Hamilton, MD, MPH, IFMCP
These are kids acting out.

Richard Horowitz, MD
So the 16 point model you've you're one of the regular speakers I've had when we do the doctor trainings, and you've heard me speak about the 16 point model, you were just mentioning a lot of things on that model that sounds like they were associated with autism. Yeah. So, and obviously you're saying that it's not just obviously Lyme and infections. You're seeing mitochondrial dysfunction and plasticity and gut issues and detox. So is it you are pretty much seeing a lot of these factors on the 16 points, some more than others driving the illnesses. And these kids are all of them.

Debby Hamilton, MD, MPH, IFMCP
Or they're they're all there. it definitely you know, they somebody said one parent said, and this has been going on, you see one child autism, you see one child with autism because there's so different. But you always have to think about all these different factors. And I never had, you know, and I doing this for 20 years. Kids are a lot sicker. And I talk to adult doctors that people are getting sicker, you know, and the kids who are treating the kids, you know, it used to be that, oh, a child regress at 18 months. You give them B12 shots, you put them gluten free casein free. You treat some gut issues, they get better, you know, obviously nutritional support and everything else. And now it's like, okay, and now what? And then what's next, you know, and really kind of keep going. But they're all involved and you really have to look at, you know, as I said, step by step looking at all these and these kids, it's not a quick fix.

Richard Horowitz, MD
Right. And so, so and I think the key here is and I want people to realize this, a lot of the kids that would come to me and I don't see as much kids, but they come in on Ritalin and things, you know, drugs that basically try and keep them awake and keep them concentrating. Your take, though, is you may use some of these medications, but of course the the sauce getting to the sauces right of where this is coming from is key. So do you find that once you start treating the

sauces like you've treated the mold, you're treated metals, you've treated the infections that some of these drugs are just no longer needed at this point, that the infections and taps really are playing a big role.

Debby Hamilton, MD, MPH, IFMCP
Right. a lot of the medicines, you know, as I said, they're basically Band-Aids are trying to symptoms. So you have like the Ritalin, ADHD medicines and then you have like the the kind of antipsychotics, you know, like the Risperdal kind of stuff, which creates so many other issues. And then you have no idea what's going on. and I that from the, the psychiatric ones, they you can get those you can get those kids off of these kids because there's long term weight gain, all sorts of social issues. There are some kids who get better to a certain point. And still sometimes Ritalin does make a difference. You know, I do have kids of anxiety. You know, I'm very integrative. There are kids who, you know, at Zoloft can help with anxiety sometimes Ritalin can help the goals. Obviously not everyone medicines. But then I also don't want families while these kids are functioning. And, you know, a little bit of Ritalin really makes a difference. And I really it's very personal. But as I said, I've had kids come in and they're on so many different medications, medications, and you don't know because I do see a lot of kids with like mood, behavioral issues. You know, a lot of the rage behaviors come in and then you kind of figure out the, you know, some of the pans, autoimmune stuff. but yeah, but I also don't want parents of, of, oh, my God, I can't get my child off this. And I feel like a failure because I've done this stuff and there's still a little bit of Ritalin or whatever. I'm like, that's okay. Five psychiatric medicines. Definitely try to get them off Risperdal. No, these medicines. So it's kind of a balance, honestly.

Richard Horowitz, MD
Right. So, you mentioned in for the audience out there, although there will be doctors, a lot of these may be, patients or mothers are fathers. Can you explain a little bit about panels about pediatric autoimmune, neuropsychiatric and like how do you make the diagnosis? how is it different, right, than, than some kids that just may have ADHD? What what is this autoimmune. Where where's it coming from?

Debby Hamilton, MD, MPH, IFMCP
That used to be originally it was we realized something called pandas. And so some people still call pans pandas. Yeah. Scuse me. and kids will get a strep throat and their body would have an autoimmune reaction, which basically cross-reactive with their brain, so causes a lot of behavior issues. And it was like they're fine. They get strep. The next day, people wonder who possessed their child because their behaviors so acute rage they can't leave the house. Some kids present with like serious OCD. and so that was starting to be recognized. What's not recognized as much, especially kind of in general neurology is the chronic kids or the kids with autism who suddenly get infection and then regress and have behavior issues is not considered the same thing. So and I see a lot more kids where it's not quite the classic pandas. I got sick the next day. It's really it's kids. And then they have a lot of kids. Kids will have fatigue or they'll have severe behavior issues. And that's what they come to me for. and sometimes on and off for years. Right. You can

think about kind of flares and up and down things. So they come to you, you know, you're getting kicked out of school. She won't leave. She's wetting the bed. Now, I've had a kid who totally neurotypical, who won't stop speaking. You know, they can have really serious regression. So kids already has some developmental issues. And regression is not always correlated, but basically, but autoimmune issues from infection that's causing behavior was basically kind of autoimmune to the brain essentially.

Richard Horowitz, MD
Right. And it's not. And in this case, it's not yourself. You're seeing some of the same autoimmune manifestations from Lyme, from Bartonella, from the viruses. Like what else are you seeing that's driving the autoimmunity?

Debby Hamilton, MD, MPH, IFMCP
Yeah, Mycoplasma is a big one. and that's, you know, a very common kind of I think of with a lot of people who are I've learned Bartonella, Bartonella for me. I think a Bartonella is like rage behavior. I think of that as really very much of a neurologic disease. So I've seen some of the worst behavior. I heard someone said, if you if their parents come in and think, my child's possessed and you got to think of Bartonella, I mean, it's really so.

Richard Horowitz, MD
So in other words, if the parent comes in and says, my child's possessed, do not take them first right, to a priest to do an exorcism, the first thing that you should do is think, does my child have pediatric autoimmune neuropsychiatric from an infection? Right. Other things going on that this is not necessarily right. Demonic possession.

Debby Hamilton, MD, MPH, IFMCP
Right. Exactly. So the Bartonella is big. And if you have one, you know, of the Lyme infections, the tick borne infections, you always test for all. And what I do actually with that is a lot of times you mentioned diagnosis. So there's something called the Cunningham panel, which is kind of some of the people who first studied, you know, the pandas with a strep and it's an autoimmune panel. Plus it tells you enzymes. So it's very good. It gives you a lot of great information. But I want to know what's causing it. So my first line is like okay what infections do we have. We're going to test for the Borrelia. We're going to test for Bartonella. You know, we're going to run all these panels. You know, I always look for mycoplasma I look for EBV. Although I don't think of that as as much as kind of symptoms, you know, but I test for a lot of these different infections. Strep antibody titers are whole other thing because I don't think that that's very helpful. But that's what general pediatricians if you're strep you had strep. You have strip antibody titers will give you exosome for two weeks. You're good. That doesn't work. Nancy O'Hara wrote a book about pans pandas. And she said Mycoplasma is actually one of the number two causes that is actually very common. And really. So. Yeah. So the Cunningham panel, I use it much more. If, you know, we've been treating we've identified the infections. These kids are really not getting better. We try different combinations of treatments. You know is that what's really going on. And that's

when I get the comment and I'm like okay. Yes. This confirms that okay, the really is going on or hey, maybe it's really just a mold issue, you know, and we're really not targeting that correctly. I used to do more Cunningham panels, but, they, they are expensive. They take a long time to get and a lot of times even if I didn't find them, the, the pattern, the picture and the infections and kids get better. I mean, that's right, you know. Right.

Richard Horowitz, MD
But you need the Cunningham if you want to try and get IVIg for some of these kids, do you need a positive Cunningham panel to be able to do it or you're able to get them sometimes to help them even without one?

Debby Hamilton, MD, MPH, IFMCP
not necessarily, because depends on, you know, what children's hospital you're doing. They don't always believe that. And I've had if I send a kid with autism and I hope this has changed, but kid with autism and pans, they're like, no, this isn't it. Because they have autism. So even with a panel, not just because it's not the classic pandas change overnight. Typical kid. They don't always do the IVIg, because if you do get that picture, the strep antibody titers, even without a Cunningham panel, the the neurologist will do the IVIg. There are some immune centers who will do it. and really can get good coverage. sometimes, like if the mini globulins are low, that can help because you kind of like, oh, well, there's actually a immune deficiency. but sometimes it doesn't. It doesn't matter. And not everybody recognize the Cunningham panel and traditional medicine either, unfortunately.

Richard Horowitz, MD
So you don't always. I'm sorry. You don't always need to use IVIg. Then in some of these, kids with pans, pandas, you you find that by treating the infections, treating the mold, getting to the underlying sources of inflammation, leaky gut, food sensitivities, mast cell disorder, getting them to sleep, right? All the all the big stuff that a lot of these neuropsychiatric symptoms do get better in the kids.

Debby Hamilton, MD, MPH, IFMCP
They they definitely get better. IVIg you know, the the classic as I said, the classic pandas kit changes overnight one dose IVIg. But it has to be high dose. Those kids get better in the chronic kids. I haven't seen it because a lot of kids come in like oh, I tried IVIg. I'm doing every three weeks to really make a difference. I think it can help. It is definitely not the only thing. Does that make sense?

Richard Horowitz, MD
Yeah, no, it actually does. And I think this clarification is important because for those, you know who are out there, who know a little bit about pans pandas, it seems like everyone goes first to IVIg. But you're saying these underlying sources of inflammation and downstream effects mitochondrial dysfunction. Right. Hormone disruption. Right. All these neuro psychiatric

symptoms you can do without it. It's only in the classic I get strep, I suddenly get sick, right that you're seeing this app.

Debby Hamilton, MD, MPH, IFMCP
Right. And those kids have often been treated for strep. Right. And then how are they autoimmune. So and usually it's pretty quickly and then they get it. Those are the only kids I've seen like the one dose high the high dose makes a difference. And I said a lot of kids come to me. But if you don't treat the underlying cause you're not getting rid of the autoimmune disease, you're not getting rid of the inflammation, you're not getting rid of infection. You know, it's kind of like, okay, well, and they don't even know exactly how IVIg works for autoimmune disease. Is it just kind of displacing some of those antibodies. And it lasts about three weeks. And they want to give it another three weeks.

Richard Horowitz, MD
Right. So there's still there's still some unknowns. So how do people get in touch with you if they want to if they have a child who's got Add, ADHD, autism, parents, etc., how do they get in contact with you? And do you have any upcoming, summits, conferences, anything you're doing that people can attend?

Debby Hamilton, MD, MPH, IFMCP
I'm, I said, I'm going to be at the Maps conference and map sense for media, Medical Academy pediatric special needs. And I'm talking actually about pans pandas, and part of a health summit, I think it's actually from Australia. So I can get people information about that. in a lecture on GI issues and allergies. my, it's best probably to contact me through my website or email me emails. Doctor Debby, drdebby@holisticpediatric.com and holisticpediatric.com. That's my website too.

Richard Horowitz, MD
Right. And you're you're in Colorado, correct?

Debby Hamilton, MD, MPH, IFMCP
Yes.

Richard Horowitz, MD
Great. Okay. All right. So let's let's jump back in again. So, we've been discussing pediatric Lyme. We discussed that you will see some symptoms that are a bit different. And just by the way, the kids that I have seen with pediatric Lyme, which is not a lot, do you see a lot of these GI symptoms in the adults? Although I will see IBS and Sibo, small intestinal bacterial overgrowth and, you know, microbiome disruption. The kids who have come in, you seem to have more GI problems than some of the adults, at least that I've seen come in with this. Do you do you see anything specific with that in the kids who are coming in, or you're seeing pretty much the overlapping?

Debby Hamilton, MD, MPH, IFMCP
pretty much see the overlap? I mean, the vast majority of kids with autism have some kind of GI issues because they have the, you know, dysbiosis, even if they don't have GI symptoms. So I think about that as part of their immune dysfunction, which is why they're more susceptible anyway to having these chronic issues. So and kids, you know, kids in detox is different. So kind of you see things, you know, kids get sick, they get a flu and they'll throw up or, you know, things come out of their skin. So they have a lot of weird skin rashes. So I think it just how they present, if that makes sense.

Richard Horowitz, MD
Right. And you do you notice with the microbiome, I mean, because it has been talked about a lot and now and in Alzheimer's and Parkinson's and M.S.. Right. They're finding private species in Clostridium, not enough sacraments. Yeah it is. There's you use like the GI map. Do you use the CDC like what do you use to diagnose. Yeah. Biome in these kids. And what do you do for them.

Debby Hamilton, MD, MPH, IFMCP
Yeah. So I do I do the CDC, I still I, I did some of the genetic tests. I'm still kind of old school. I like to see what grows, actually grows. and I like a lot of the absorption issues and inflammation markers. They do the O panel. It's organic acid test of people call it the oh, that has some dysbiosis markers and even has some Clostridium markers. a lot of kids have overgrowth of different cluster of species and that can cause a lot of anger behavior. Obviously yeast overgrowth, but just really imbalanced bacteria. So if I can get two of those, those are really, for me, a good combination. Plus. Oh, gives me mitochondrial markers and good of iron markers and nutritional markers, a lot of different stuff. So that's what I use primarily for.

Richard Horowitz, MD
Right? I you know, I can't do this is this is great plants because I can't do out in New York. This is true Great Plains or it's a different lab. Yeah.

Debby Hamilton, MD, MPH, IFMCP
In Great Plains is now mosaic. But that's exactly what I've used. And I tried a lot of different ones. And then especially in terms of some of the very specific cluster, I didn't even like different types of clustering markers. So that's the one that I've used. And once I started using it, that's when I always used, so it's now mosaic.

Richard Horowitz, MD
So when you, when you go after it. So let's say you treat the kids candy. Do you go after the class tritium. and you're talking like using things like vancomycin in these kids, like you would for somebody that might have C diff, not deficit or the classic drugs. But yeah. How are you doing this sounds like.

Debby Hamilton, MD, MPH, IFMCP
I mean, they're different. Some different probiotics I can think of like to lactobacillus from gnosis. I don't use polarity as much because I think some of the kids react to it. But, you know, doing a lot of probiotics, you know, kind of a lot of different, you know, I mean, support other gut support. But I have the kids who come in with, like, really bad chronic watery diarrhea and have C diff and absolutely are treated with vancomycin. And some of my sicker kids with autism, I do the probiotics, and the medicines. I said I, I said I was integrative general pediatrics and was like, oh, not using any prescriptions. And then I get these kids autism and they're so sick that you really do need your all a whole spectrum of things, right? You know, so I definitely your.

Richard Horowitz, MD
Prescription and you're finding after you treat the gut, you treat the yeast to treat the clostridium, you treat the leaky gut and associated mast cell or sometimes Sibo. the gut is really one of those primary issues that causes some of these, these symptoms in the kids. Right?

Debby Hamilton, MD, MPH, IFMCP
Yeah, absolutely. Like the first thing you have to do diet I always do diet and gut. You know, you gotta somebody said you gotta remove the things that are hurting. Is it the yeast? Is it the cluster? is it the different foods, you know, getting the good bacteria in there, you know, and then repairing the gut, you know, healing the gut lining, things like that. so, yeah, I always that's always my first line. It's like diet nutrition, but nutritional supplements, a lot of kids are very low on certain nutrients and treating the gut and absolutely.

Richard Horowitz, MD
Now you're you're on the board of research nutritionals and a lot of the new, you know, supplements coming out from them. I know you're designing them. What what are your favorite supplements in these kids like? whether it be for gut health or you're you're pulling out at this point, mycotoxins, right. Or, glyphosate or glyphosate. I mean, talk a little bit about some of the products you like, actually, in these kids that you're finding are helpful.

Debby Hamilton, MD, MPH, IFMCP
Yeah. Well, glutathione, we have a called tri fortified glutathione. So thank I you, master antioxidant. it's watermelon orange. Basically it's a good dose. It's researched, which I always like and actually involved in some of the research. Plus you can get it into kids. So that's huge. We have ATP 360 which is a mitochondria supplement which has support for phospholipids. But also like some of the key nutrients you need mitochondria. they can basically you can open up and, you know, mix them in for kids who don't swallow pills. So any of these capsules are easy. And sometimes it's almost easier because sometimes different flavors and textures are hard. we have something called BNF essentials, which is designed to kind of was basically designed is one of them. I also design in terms of neuro called neuroplasticity, but I feel like it's like supporting the brain, like lion's mane and skullcap and versatile steering, and it helps lower cortisol. So I designed it, making sure there was no ingredients that were activating, you know, so that's kind

of common. And we have research that just came out on that about decrease in processing speed, you know, helping mood, you know, healthy memory and kind of lowering cortisol. So those are kind of some of the big ones. with Lyme I use a lot of our tinctures. We have kind of we have four different tinctures, you know, one from yeast, one's really targeted from mycoplasma, but also is great for Bartonella. so those two, as I use one is more helpful crypto. plus that's helpful for babka but also for limes. So I kind of use those transfer factor multi moon. This kind of our general multi immune support but really helps like the natural killer cells. So really help it getting that immune system so you can fight infections better balanced immune system. I think those are some of the the big ones. We have a liposomal CLA. so that's kind of a I like the combination of vitamin C and our lipoic acid was kind of an addition to a lot of things I do, has to quell for mast cells and allergies. it's good when you design things. You're like, oh, I want a massive product that has this in it, you know, or when I design b enough, I'm like, oh, it's like the perfect ADHD kind of mix o pickleball and ashwagandha and, you know, calming, supportive, you know? So it's kind of nice that way.

Richard Horowitz, MD
Right. I mean, you've actually I mean, you've designed the way they put these together and you've got to see it in clinical practice of how it actually works for these kids. And and by the way, I mean, I use research nutritionals, mitochondrial supplements all the time. The ATP 360, the cocoa powder, cardio ribose. I mean, I'm using them pretty much every time I finish the Daptone protocol. you know, I'm using it for these kids. talk a little bit about the the binders that you've developed. You know, there's a lot about gluten now. but I'm going to be interviewing Doctor David Perlmutter actually very shortly about, of course, with grain brain and, gluten and the effect on do you, do you see the effect of these kind of foods and gluten on the brain and, and pulling out glyphosate and stuff? What what are you seeing in these kids regarding their neuropsychiatric with this?

Debby Hamilton, MD, MPH, IFMCP
I mean, gluten is inflammatory. I always talk about like, gluten is like glue, right? It's like this big, big protein molecule. and one of them are gluten is there's a lot of glyphosate to the way that they manage, basically, they spray the wheat with glyphosate before they harvested. So there's a lot of, like the seed. So I think some of the gluten issues might be glyphosate. so kids always have a trail of gluten free, dairy free. I do, do allergy testing, but there's so many ways people react, like the gluten more often. They can cause definitely behavior issues. So all my kids have a trial of gluten free, dairy free, often soy free. there was a parental kind of they basically as parents so children autism like about different, you know, treatments and how often is gluten free KC free help. And this was a several years ago, but it's like 6,070%. So I think it's.

Richard Horowitz, MD
6,070% of the kids got better get getting bought.

Debby Hamilton, MD, MPH, IFMCP
But definitely yes, definitely got improvements. And I think in terms of treating the gut, if you're trying to get the inflammation down, you got to get these foods out of there. Even if it's not permanent. Does that make sense where you treat the gut? I think people do much better, when they're off of these foods.

Richard Horowitz, MD
Right. Well, I mean, the the problem with leaky gut, at least in the adult population, the vast majority of people I see now when I do a 95 food allergy panel from an IgG4, from even the lab core, the vast majority of people are showing up with multiple food sensitivities. And the problem with the Lyme and tick borne is that it drives the same inflammatory cytokines you get from the tickborne. So if you're eating the wrong foods, you've got gut inflammation, right? It's like I discussed, it is like rivers of inflammation going into an ocean of inflammation. Right. You're and I think you're seeing the same thing in kids. Right?

Debby Hamilton, MD, MPH, IFMCP
Right. And the kids as you think about a lot of these kids, all in the spectrum have a lot of sensory issues and a very limited diet. So this can be a serious issue because a lot of kids, it's almost like they're addicted to gluten and dairy and that's all they want. So changing a diet and some of these kids is really tough. Luckily the foods are much better, but they all have to. But they have to get the dyes out and the junk out. And kind of what you see is what you don't need. and some of the kids that, you know, there's some very other specific carbohydrate diets and sometimes kids really for a little while, and you got to worry about malnutrition. You know, you can't be as restrictive in kids with diets, right? Because you have a growing child. but sometimes getting the grains out. And if you can really get sometimes that is a big deal depending on. And I've had some kids who, chow down on a specific carbohydrate diet who literally got rid of their autism. it was like that and, you know, some probiotics and some, you know, some for dysbiosis. And they're gone. I mean, they're kids who do really recover, but you have to do the gut stuff or they really don't. That's a big impediment for kids getting better. If you don't address that.

Richard Horowitz, MD
Do you have a sense I mean, the autism rates when we're watching this for the last couple of decades, it used to be something like 1 to 350. And the last one I saw was something like 1 in 38 or something that I, that I saw. Do you have your own sense as to why we're seeing so much and why so many of these processing disorders, all this ADHD that's out there, is it infections and toxins that's driving this in most of these kids. Like what do you think is behind all of this?

Debby Hamilton, MD, MPH, IFMCP
I think I wrote a book on preventing autism in ADHD because I was in the practice, and when I started writing the book, the odds are 1 in 150. And that was like 2008 or 9, and now there's like 1 in 38, and it's much higher in boys. So it's actually like up to 4% of our boys and getting worse. so there's got to be an environmental component, right? Because and if that's like 20 years and our

kids are sick or not just more autism, but sicker kids, then there's got to be some environmental, I think, like the say I think toxins. Absolutely. I think if you don't have a healthy mom and we're getting generations, if you have a mom with Lyme who has poor nutrition and dysbiosis, the baby's going to, you know, through normal delivery, they get the mom's microbiome and that's how they establish their microbiome. So some of these kids right from the get go, you know, they can have congenital Lyme. They can not have, you know, like a proper microbiome. So they're going to develop allergies. They're going to develop like dysbiosis. They're going to get eczema. You know that's going to affect their what they absorb nutritionally. You know then they get something on top of it or something. They get Covid or all sudden they get, you know, the flu. And it kind of goes from there. But I, I think that's part of it. I think this environment we're having, you know, moms with autoimmune issues, you know, infertility, having babies later, parents aren't as healthy. And then we have more and more in our environment. We're learning about the plastics and. Right.

Richard Horowitz, MD
And you've and you've seen congenital Lyme I mean you do see quite a bit of I, I it's always questionable because whether the kids are crawling in the grass at two years old or whether the mother transmitted it, of course, is the big question. But you have seen cases of congenital Lyme contributing to these neurodevelopmental disorders.

Debby Hamilton, MD, MPH, IFMCP
absolutely. Yeah. As I said, it's a little hard because you don't know. exactly. But there's a different presentation the way I see it. So the kids that I've seen, where I'm like, yeah, this is definitely congenital, or the kids who have issues right from the get go and not just like, I mean autism, but developmental issues. So these kids, to me, I think kids have really low muscle tone and developmental delay, but like walking late and and so the talking late gets them sometimes diagnosed with autism, you know, and the mom usually had some kind of chronic fatigue or something like that. And then the kid, as I said, is sick right from right right away, as opposed to the 18 month old who is doing fine and then had regressive autism. Does that makes sense? And, you know, I had I had a mom who was a child with, you know, develop autism, had the exact same picture. Mom was diagnosed with line. We diagnosed the child with Lyme. We treated her. She completely recovered from her autism. and then mom got pregnant. Was treated during pregnancy for one second. Child was completely fine, right? No issues. But there is a it's a bit of a different picture when I would think about it more.

Richard Horowitz, MD
Right. And the hypo Tonia, this low tone that you're discussing is one of the really the classic symptoms of pediatric Lyme, right? When you're examining a child when they're very young.

Debby Hamilton, MD, MPH, IFMCP
Which is a mitochondria dysfunction. Right. Low muscle tone because it's kind of poor endurance is how I think about it. Right. You know, it's like the can't you know, these kids are literally like floppy. you know, I think.

Richard Horowitz, MD
According to my regarding mitochondrial dysfunction, you know, when I've listened to Bob Navias talk about the cell danger response and that the mitochondria get stuck. One of the theories that he had was that, there was a lack of enough extracellular ATP and that, you know, if you would give a drug like serum and that's used for sleeping sickness, right? These autism kids, their brains would all of a sudden wake up now, you can't get the drug in the United States. And the closest I have ever seen is broccoli seed extract like sulforaphane glucosinolates. Hopkins did some studies showing the same. Do you think the cell danger response in the mitochondrial like getting stuck in a place is responsible because Bob's theory about, you know, the cell danger response in mitochondria is that some of these autistic kids, if you could just get the extracellular ATP up, it would be better. You're of course, saying, no, it's multiple sources of inflammation. Like what I'm saying? It's lime. It's part it's the microbiome. It's leaky gut. It's environmental toxins. It's mold. It's mitochondria. You're seeing the whole picture. Can you you think the cell danger response plays a role here? Do you think drugs extracellular ATP may be useful for autism.

Debby Hamilton, MD, MPH, IFMCP
And I thought I, I don't think anything is just one thing. But I've looked at his work and I've heard him speak in the servant studies for these kids is impressive. And as a parent you're like, wow, this could be so amazing. This it helps so many kids and in studies show it does and you can't get it. I mean, that to me is just unbelievable because I really.

Richard Horowitz, MD
Feel the same way with the kids.

Debby Hamilton, MD, MPH, IFMCP
You know, but I do I think if you think about I think about the cell danger response as well. The body's under attack and what do I do? I need to protect myself. I need to shut down. Essentially, that's how I think about it. And the mitochondria is shutting down. Right. You don't need to put, you know, put out a lot of energy if you're in survival mode. And then but right, getting that out, you know, helping the mitochondria but getting them out of that system, you know the mitochondria in the different stages is hard, you know. But why is that? You know, but whatever's causing that but kind of, shut down. Is that the infection causing that shut down, the mitochondria shut down. And it's so dangerous because it is it's a dangerous monster. Everything in the environment. And if you multiple things, you still have to address the other things so it doesn't shut down. Again, it's like throw the switch on. But there's still stuff that's going to turn it back off.

Richard Horowitz, MD
Right. So so question I mean knowing the autism rates are going up that much. And I see so many young people coming in on medicines like, you know, Ritalin concert, etc., strategia to help their brain function. It's always like the doctors are naming a disease, throwing a drug at it, but not getting to the sources. So, you know, a question I would love from someone like you who's really at the forefront of this. If you could create an NIH Center of Excellence and you had a chance to see these autistic kids in the ADHD, how would you design the Center of Excellence with the diagnostic testing and things? How will you design this with treatment trials so that we can move this ahead? Because this is a real problem that's starting to affect so many kids.

Debby Hamilton, MD, MPH, IFMCP
Well, first you have to have your preconception. So every woman should have a preconception evaluation with kind of an integrated approach and have her how is her immune system. How's her microbiome. Does she have toxins. You got to detox before you can't detox of pregnant women. So you got to start there. You have healthy moms, you can have healthier, and you have to start right from, you know, and pregnancy is everybody have a prenatal. Is their vitamin D adequate or their thyroid data glitter. They expose infections. If they have line you got to treat it. so babies are born you know kind of I'm not behind the eight ball, so to speak. I think you got to identify kids earlier. and there's kind of slowly getting, you know, a lot of times as general pediatricians, sometimes it's parents. But the earlier you get them, you know, the earlier said treatments, the better. But knowing that it's not just one thing. So you can't just go, hey, we'll just study vitamin D and autism and think that they're going to get better if we have their levels are adequate because it's so many things. Yeah. So you do need to kind of look at their immune system and look at the nutrients of zinc and iron and the omega threes and vitamin D and B12 and all of those. I do think some of the genetic snips, especially early, can make a difference. thinking a lot about some of the clinic acids and, and some of the folic acid, I mean, the full loads essentially. so really kind of looking at that, looking at the stool, looking at the microbiome right away. So you really can support these kids right away, essentially identifying infection. So it really they have to be very comprehensive. It's definitely not a kind of a one factor kind of study. Right. Really need a team. Right. Because this kid still has they're getting better skills still need the behavior. No they need behavioral therapy. Lots. Because the speech therapy, occupational therapy, some physical therapy. You know, sometimes there's a counseling, kind of working and behavior helping the parents. You know, this is really this is life changing for parents. I mean, this is a serious burden. I see a lot of really depressed and I would say burnt out moms more than dads, but burnt out families. And that's that's a lot that's hard to take care of and manage all of this and all that. Well.

Richard Horowitz, MD
So, so question in my adult population and when I give them some combination therapy, their cognition and a lot of the neuropsychiatric gets worse, of course it can hurt people right before they get better. Yeah. Include a thigh bone in some people. I mean it's probably 70, 75%. They get some effect where it clears their brain fog. Do you also see in the kids like similar effects with this,

where you're giving them high dose glutathione in your detoxing and, you know, lowering inflammation and they're kind of their brains do wake up. you're and have you ever used apps shown in the younger population? Because one of the nurse practitioners I trained earlier, one of my, one of my patients who I'm still dealing with, who has, I mean, she's very complex with Lyme, Bartonella and has Morgellons. her child has autism. And the nurse practitioner gave the child at some point a very low dose of DAP. So it was like 25mg. And the kid's brain woke up and I said, you've got to write up this case study. It's like, nobody knows about this in the pediatric population. You have any experience at all using these kind of treatments.

Debby Hamilton, MD, MPH, IFMCP
So we I've spoken with that. We actually spoke about this earlier and I have not yet. I'm still kind of I keep looking at it. and I definitely do combinations of I was prescribed options and herbs and a lot of supplements. I haven't gone there yet, but as I said, I keep I keep looking at it and like, you know, I.

Richard Horowitz, MD
I think the way to the way to put your foot in the water may be just like, start with just ridiculously low doses in these kids, like even 25 zap zone twice a week or something, you know, because it has a long half life and and just see how it goes. Because as long as you're giving enough folic acid and they've got enough B12 and iron and stuff, you're not going to see any major anemia with the really low doses of it. I'm just curious because the autism epidemic is just getting worse and worse every decade. The numbers are getting worse and all these kids got ADHD coming in on Ritalin, a concern. And I'm just concerned, like with throwing medicines at people. A lot of the parents don't know what to do, which is why we're speaking. Right. And so let's kind of sum up because, you know, we're getting close to the hour in just a little bit. So let's sum up with what you've seen so far in these neuropsychiatric effects in kids and autism, the ADHD, the factors, the inflammatory factors you found the most Lyme, Busia, Bartonella, Michael, plasma microbiome, mold, heavy metals, sleep disorders, food allergy. Those are the big ones you're seeing in these kids, right?

Debby Hamilton, MD, MPH, IFMCP
Right. Well, and they've definitely all the gut issues I said all the infections you mentioned one, nutritional deficiencies, food reactions. You really have to do all of it. I said they can't. And you can't address all of this at one time because you're going to make people sick, right? You have to kind of do step by step.

Richard Horowitz, MD
And with the fruits, not not just an IGP. You want an IgG4, you want the delayed hypersensitivity, right? Not just the regular. and.

Debby Hamilton, MD, MPH, IFMCP
I said sometimes.

Richard Horowitz, MD
Yeah. When you're checking for leaky gut using in labs specifically like you like for checking leaky gut in these kids.

Debby Hamilton, MD, MPH, IFMCP
I still do. As I said, I use a lot of the doctors data labs because I've done that for a long time. if they have multiple food reactions, if they have leaky gut, okay. But, you know, they do. I just kind of find out. I'm like, what are they reacting to? Kind of how is their digestion? How's the inflammation? You know, where's the microbiome? What do we need to treat? That's how I think about it.

Richard Horowitz, MD
and these kids are also coming in like the adults they're coming in with the downstream effects of inflammation. Like you get brain fog with pots, right? You have low blood pressure, you don't get enough perfusion. You're also seeing this not just from long Covid, but you're seeing it in chronic Lyme disease and Bart and in the same population.

Debby Hamilton, MD, MPH, IFMCP
Right. you know, before Covid, if you if somebody came with pots, I had to rule out line Bartonella babka. That was like my first line. You have to look at the infections. for me, that's kind of how a lot of teenagers present.

Richard Horowitz, MD
Right. So you are seeing you're you're in my population, it's maybe about 40%, maybe close to 50 that I'm seeing pots, dysautonomia, you know, showing up. You're seeing it in the population too?

Debby Hamilton, MD, MPH, IFMCP
absolutely. I feel like it's harder to identify younger kids, especially kids with autism. But that's sometimes people I get teenagers who come in with pots, and that's why they're coming to see me. Right. Like it's the only presentation.

Richard Horowitz, MD
Right. But if these kids have really severe neuropsychiatric issues you're always going back to the basics of Islam and Bartonella especially. You said the rage right. I see it in the adults. I'm seeing psychosis I'm seeing hallucinations, I'm seeing OCD, I'm seeing bipolar disorder. Like pretty much every severe neuropsychiatric I can see in adults, mold, heavy metals, Lyme, you know. But Bishop Bart, it seems like these culprits keep showing up. Obviously there's genetics. We're not, you know, denying it, but it does seem like they're playing a huge role. And you are seeing the same thing in the kids, too.

Debby Hamilton, MD, MPH, IFMCP
Right? Well, one thing that we're also seeing, kind of like the pans. Pans, but I see it, Bartonella is kids who come in with like, eating disorders. They come in with like an anorexia picture like that. So like I said, that like restricting their down, like they're over exercising at a kid who wouldn't even sit down. They're like, oh, I can't eat this. I can't eat this. It's almost like an OCD. And they start losing weight. And it looks like kind of the classic anorexia picture. But if you look at, oh, well, they're also having separation issues and they're also having this and you can actually find Bartonella and some other infections and treat them like a pans and eating disorder goes away.

Richard Horowitz, MD
Right.

Debby Hamilton, MD, MPH, IFMCP
That's kind of something specialist pediatricians like, if this looks like a classic anorexia, you still need to identify it and think about it as a part of like a pans picture, kind of that autoimmune picture and think about infections.

Richard Horowitz, MD
Right. So the basic message kind of for everybody listening out there, especially if there's a sudden onset from when you said before a sudden onset after an infection, you think pans pandas, but you can have still these low grade kind of neuropsychiatric symptoms right from Mycoplasma, these other infections and toxins that are still causing problems.

Debby Hamilton, MD, MPH, IFMCP
Yeah. Right. It's not like an overnight. but sometimes it's kind of a wreaks. And while their behavior keeps getting worse and worse and then all of a sudden, wow, are they they're not eating. They're not doing this. You know, they're up all night. They're you know, they lining up their foods. You know, the only thing really yellow I mean it gets very, very specific. And so sometimes they come in just for behavior issues. But that's another thing I get people come in really bad behavior issues and and not knowing why. What do we do. And then those kids have been on multiple medicines or multiple medicines. And you have to kind of figure out why.

Richard Horowitz, MD
Right. So so again it's going back to the the I call the three eyes infections inflammation immune dysfunction. But are there toxins. Are there mineral deficiencies. Right. Food allergies mast cell right etc. in these people.

Debby Hamilton, MD, MPH, IFMCP
Right. Exactly.

Richard Horowitz, MD
Yeah. Yeah. So I mean, it sounds like there is hope. And, you know, a lot of people, I think when they think autism, they really think there's no hope for these kids at all or ADHD, A.D.D., they think, oh, I have to stay on these medications, for the rest of lives. But your experience is. That's not necessarily the case.

Debby Hamilton, MD, MPH, IFMCP
Oh, not at all, I think. And a lot of these parents, when they have a full diagnosis, which they wait a year for sometimes and it's like, okay, there's go get ABA and there's nothing else. There is a lot of, oh my gosh, this is permanent. But there's a lot of hope. There's a lot you can do. I think it's important to know there are multiple factors. It can take a while to figure out, you know, treatment, but also what it is. And you know, recovery isn't like this. Right. And recovery is that really these kids, they get the flare of they regress and you have to figure out what's going on. But there is a lot of hope. the kids do get better. And I think about you have problems with attention. That's not a disorder. It's an attention. What's causing the attention deficit. You know what's causing the depression? What's causing the mood issue as opposed to diagnosis? Early symptoms.

Richard Horowitz, MD
Yeah. You know, my my big concern right now with the amount of infections and toxins that's getting into people, is that we're really dealing with, I mean, I hate to say it this way, but it's almost like we're dumbing down society by allowing all of these infections and toxins to get into people. So we're now we need, you know, brilliant people for solutions for our climate emergency. We need brilliant, right? I mean, we need the brightest people on the planet working on some really, you know, difficult situations we're facing. And now we've got all of these people right, with infections and toxins. And I don't think people realize that this is something we are all exposed to, but especially in kids. Right? They their detox systems are not well prepared to deal with this. Right. For several years.

Debby Hamilton, MD, MPH, IFMCP
I mean, they're basically growing a system. They're growing a brain, right? They've got neurodevelopment. The brain is literally physically growing and developing and making connections. And if you have infections and toxins and things that are interrupting these, you are definitely going to have delays and mood issues. The depression, amount of depression and mood issues and anxiety and kids is unbelievable. Covid just did it. Just like another infection is just like another layer that we didn't need. That added on to all of this.

Richard Horowitz, MD
Right? You've seen your kids get worse after like is the post Covid symptoms in the kids where it kind of brings out all their underlying symptoms with more fatigue, more brain fog, more pain is just making everything worse.

Debby Hamilton, MD, MPH, IFMCP
Yeah. And I've seen kids kind of, kids are parents who are having like, autoimmune issues and then we're doing really well. Get Covid and just flare again and then get, you know, reactivation of EBV. And then you see the mycoplasma elevated. You know, you see the Lyme disease is, elevated. So really can just reactivate anything you had.

Richard Horowitz, MD
Yeah. Yeah.

Debby Hamilton, MD, MPH, IFMCP
We're seeing the center.

Richard Horowitz, MD
And we're seeing lately a lot of HV six and EBV reactivation in these, in these patients, who are saying all of a sudden I got, Covid and then I got the flu and all of a sudden underlying viruses start coming out, and I think, you know, for the Lyme community that's listening, although we mainly focus on the importance of parasites like the disease and bacteria like Lyme and Bart, the fact is, is these viruses, they are part of the picture in a lot of these patients, especially since Covid came along, because they're starting to come to the forefront with viral reactivation. And you're seeing this in the kids, too.

Debby Hamilton, MD, MPH, IFMCP
Absolutely. And I said, when I check kids, if somebody I check all those titers, you know, all the different viruses, mycoplasma, this one I check a lot less strep. but yeah. And I said the tick borne illnesses, I check all of those and kind of find out where they are when kids are. And you almost have to reevaluate.

Richard Horowitz, MD
And I mean, the the problem I've had with the strep titers and I and again, I don't see as many kids, but the Asos and the anti and antibodies, they seem to stay high for long periods of time for a lot of these kids. And I don't see enough of like changes in titers for me to say like what is the chicken? What's the egg? You're exposed. But how do I know that was the you know, the cause, right?

Debby Hamilton, MD, MPH, IFMCP
In terms of treating if you're treating based on titers, it doesn't it doesn't help. You're right. Because they get a strep. and then they, they can stay elevated for a long time. And you can treat them. And the, the kids get better of the strep titers are still elevated even if they're better. So which is why, you know, I don't even the general pediatricians. Well, that's one of the first things they'll do. And they'll treat the titers if somebody had strep and but they don't correlate it. You kind of learn that after a while. So it's something I check less than because I'm going to check in and see other things and I'm going to cover strep anyway.

Richard Horowitz, MD
Specially so that we're getting close to about an hour. on this, this this was a great talk, by the way. I think this is going to give a lot of hope, to, to parents and for kids who have, you know, either pediatric Lyme or have these problems with these A.D.D., ADHD, and, and autism. So again, tell people how they can find you because I'm sure a lot of people are going to be interested in contacting you. What's the best email address to get in touch with you?

Debby Hamilton, MD, MPH, IFMCP
it's, doctor Debbie, and it's a Dr. Debbie y at holistic pediatric.com, and that's holistic with an H. And my website is holistic pediatric.com too.

Richard Horowitz, MD
Great. Thank you. And any.

Debby Hamilton, MD, MPH, IFMCP
Hope.

Richard Horowitz, MD
Now there is hope. And any parting words I mean, look, I always learn a lot because I don't see as many pediatric. So I'm always happy to learn from people like you, you know, in the field who are right there doing it. it does sound, you know, to kind of put this together that the instance model that I've been doing for adults, it sounds like you are seeing the exact same thing in these kids and that it just makes sense. Excuse me to use this map as a way of making sure that nothing's missed because you're seeing parts, you're seeing mitochondrial dysfunction, you're seeing all the infections, the microbiome issues, the mast cell issues, the sleep, the mineral deficiencies, vitamin. It's all the stuff we're seeing in the adults. And you treat it and you're finding that these neuropsychiatric, you know, symptoms do get better in these kids. Right.

Debby Hamilton, MD, MPH, IFMCP
Absolutely. Well, you think about, you know, adults and kids are gonna have the same kind of exposure. And then their families, their, you know, their environments of the same. I think it's just going to affect them differently because you have a developing child and a growing nervous system and an immature detox system. but yeah, you have to look at all the same issues so I can treat, you know, you I said, I have a lot of, I don't know, kids have, but, like, you know, young adults in their 20s and 30s and it's the same. Right? You know, and.

Richard Horowitz, MD
By the way, the the testing, we didn't go into this in great detail, but I primarily use I genetics. I have no, you know, financial relationship with them, but I primarily use them. Of course we've used T labs. We occasionally use vibrant I using the same kind of laboratories to pick up these tick borne infections in the kids.

Debby Hamilton, MD, MPH, IFMCP
Yeah I, I use I Jeanette I, I gen x I would say I gen x but I gen x that's I started with them I tried some others and I that's the only one I really for those tick borne diseases that's the only one I use.

Richard Horowitz, MD
Right. And they don't pay you to say this either. By the way, you're like me. You and I are just on the front lines going, what are some of the best labs out there? I mean, you know, it's not a problem doing T cells and stuff and using, you know, ARM in labs. In fact the labs using they are all helpful. Right. But ultimately, if I had to go to one first lab right to diagnose this, ultimately the Lyme immuno blots, the barred immuno blots, the busy immuno blots, right. The fish testing for the Bayesian part, they're they're very helpful. I unfortunately, I can't get galaxy in New York. I suspect. And I don't know how often you can get it, but the fact that there's over 17 different pathogenic Bartonella species and they do the direct PCR. You found any of these unusual Bart species and these kids, you know, just to finish this up while you're you're examining them.

Debby Hamilton, MD, MPH, IFMCP
I mean, I do the immuno blots, and then we look kind of a couple of different species. I haven't looked at Galaxy, but then if I, you know, as I said, if I get Bartonella, I'm going to make sure that I cover for Brookline. You know, I just I kind of because, but I have a lot of kids who come in, oh, tested for Lyme blunt negative. I'm like, well, not necessarily, you know, that they're really hard to find. And right now on the PCR, I don't think I've ever seen a positive test for those. And like a just a general lab core.

Richard Horowitz, MD
Right. It the local labs unfortunately they only track for one strain of the organisms. And I agree with you. It's it's I mean I do find it on occasion, but it's very difficult to find that you can't rely on it. Okay.

Debby Hamilton, MD, MPH, IFMCP
Yeah. So I don't explain that to parents. It's like if we really want to know this is what we need to do. Yeah. So.

Richard Horowitz, MD
Well Deb, thank you again so much. This was really enlightening. for all of you out there who been listening to Doctor Debby Hamilton and myself, this has been the healing from Lyme summit. you with Doctor Debby Hamilton, who's been discussing pediatric Lyme, specifically talking about pens, pandas, autism and ADHD. thank you for joining us. I look forward to seeing you all again on the next episode of The DrTalks of Healing from Lyme. And Deb, I want to thank you again for taking the time to be with us today.

Debby Hamilton, MD, MPH, IFMCP
Yeah. So thank you so much. I really it's really good to discuss and get this information out there. So thank you all.

Richard Horowitz, MD
So that's my pleasure.