Introduction and Guest Background

I think that, you know, however you fared through COVID personally, whether you let your child go to school or you kept them at home. you know, one of the huge pearls for me that I learned is children should not be without community.

They cannot be isolated. That is devastating for their development. They have to be. So if you have a child with Pan's Pandas and you're worried about them getting sick so you don't let them go to that birthday party and you don't let them go to, you know, outside of the home, you know, I would, I would just really think about what that isolation and feeling of not belonging to a tribe at that age, the harm that that puts on their health.

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. Hi everybody. It's Dr. Nancy O'Hara, and I am thrilled to have Emily Gutierrez with us.

Emily is a wonderful nurse practitioner in Texas. We've lectured together, we've worked together, and I'm so thrilled to have her on. Thank you, Emily, for joining us.

Oh, it's a pleasure to be here on your new podcast. I'm very honored that you asked me to come and have a talk with you. Well, I think it's great. And let's just start with telling everybody about you and how you got to where you are now.

Well, as you mentioned, I'm in Texas. So I'm in Austin, Texas, which I would say maybe is the functional medicine capital over the world now. There's a lot of us.

Wow. a lot of providers here and really, you know, I became interested in functional and integrative medicine after being in primary care and really quite frankly not knowing how to handle those oil-rubbing tree-hugging hippie parents that didn't want to vaccinate their kids and wanted this alternative approach to healthcare.

And I'm allopathically trained from the University of Texas at Austin. I came out knowing, well, this is the algorithm you follow, and this is the antibiotic you give, and this is how we do it.

When I went to study at Johns Hopkins to get my doctorate, the question, so my doctorate is in translational medicine. What do we know in practice that we're not translating to improve outcomes?

My question that I studied was, how do I bring this integrative approach to healthcare to these families when I have no training in it? So I went on a journey of learning how to translate integrative medicine into primary care.

And once you really learn integrative medicine, you will find functional medicine. So then as I graduated, got back to Austin, I knew I couldn't go into the primary care setting doing five to 10 minute visits and really not talking about root causes.

And so we started Neuro Nutrition Associates. which was probably the second pediatric-focused functional medicine clinic in the state of Texas, and we opened about 11 years ago.

So we've been doing it ever since. Wow. Very cool. Very cool. Yeah, it's interesting. Once you learn about integrative medicine and then functional medicine, it's hard.

You can't unlearn it. You can't go back to that five-minute visit. I remember when I was trying to incorporate this into the practice I was a partner in.

A week before I quit, they said, you're spending too much time with patients. You're not bringing enough money.

This takes time. It's great, but it takes time.

Go ahead. Well, it takes time to also just reinforce even just the basics. I get back to the basics with my patients all the time. Today, I have a kiddo that I'm treating.

This baby, we're actually treating the whole family now. They've been living in mold, just covered from head to toe to eczema. We spent probably 40 minutes just talking about an anti-inflammatory diet and what foods contain dairy and how to avoid it and what to get.

And how can you even begin to address that in five minutes? You can't. There's just no way. Right. Right. And that brings up a great point. When we talk about pans and pandas, we're talking about this devastating but treatable illness that affects the kid, but it really affects the whole family.

And I think where I'd like to start is how it affects people as parents.

Parent Trauma and PANS/PANDAS Flares

And I know you can address that, you know, the psychological impact of parenting when you have a child like this, you know, parents being aware of their own PTSD.

So tell me your thoughts on all that. Well, first of all, there's nothing more devastating to a parent than seeing your child suffer. And when you feel like you can't get them help and you start to feel helplessness about it, it does create a trauma for you.

And as you know, parents can see five or six doctors before they even hear the word PANS, PANDAS, or get any of the appropriate treatment. Once you find the treatment and start it and they get better, we're still left over with the psychological impact of what it means when they get sick.

Subsequent infections and flares, what I've seen over the years is we just go back into this trauma response, worrying about what else is going to happen.

Are they going to get as sick again? Are we going to need more medication? Are we going to have access to care? And so these are loving, caring parents that this happens to.

But I think it also can create a message to the child that somehow they're not resilient or somehow they're not safe when infection comes. And that's just a piece that we have to zoom back and be really mindful about.

Do you see that sometimes with your parents? Oh, absolutely. The minute there's a sniffle, they're calling or writing and worried, where's this going to go?

Or there's a little bit of a tick with a viral infection, and they're sure it's going to take them right down the rabbit hole. I mean, my best story is calling out myself.

You know, I got into this disease when my my son was nine, you know, and went through everything all of our parents go through strep and tick-borne disease and Bartonella and mold and viruses and and everything else.

And he was now in college. We were in a hotel and he said, Mom, I'm just feeling And, you know, it was blue, it was some, and I was down that rabbit hole.

I was up for four nights that we were there trying to figure out, is it mold? Is it tick-borne disease? Is it strep? Is it, you know, just, and I was, had myself all in a tizzy.

And then he said to me, you know, mom, it's about a girl. And… You know, it just reminded me that, and that was at least a decade later, you know, that I still had a lot of work to do on myself.

And so I do a much better job now, I think, of trying to help our parents to breathe. You know, even when they're in the midst of it, you know, this too will pass.

You know, we need to breathe ourselves. That old adage of put your oxygen mask on first is really true because our kids, especially as moms, I think are so symbiotic with us and stress is a trigger of PANS.

Oh, yeah. Oh, yeah. And if we're not, you know, contained, if we don't have that good boundary, you know, our our child feels our intensity and stress and it gives them a message, whether intended or unintended and internalize it as I'm somehow not safe.

And it's always from well-intended parents, always, always, always. And I don't know if you know, and my son would be OK with me saying this, but when he was nine, we had a strep infection.

He's about to graduate from college now. And I had no idea what this was. I had no idea. And so we went through our own trauma of pandas. And gosh, I would do it so differently now, but I understand too.

So in my personal story, I used to check on him all the time. I had terrible postpartum depression and the baby monitors weren't enough for me. I'd always go check to make sure he was breathing.

I just had this real fear that he was gonna die in that postpartum area. And so when Pandas came along and he had a true illness and physiologically you could see the changes in him, it was another big trigger for me.

So I started checking on him again and checking on him. Well, one of his OCD kind of things is, I'm not safe. Somehow I'm going to die. And that has been something that he has had to really work through.

And we've had to actually do a lot of family therapy about. And he's doing amazing now. He's doing great. He's actually pre-med and wants to be a doctor.

He's doing amazing. But I gave him that message that he wasn't okay by my behavior of loving and caring about him, but being so internally worried and triggered and, you know, I didn't mean it.

Right, right. It's so well-intentioned in all of us. And I had a therapist once who called it not feeding the beast of the disease. You know, and sometimes we do that.

It may be by checking. It may also be by coddling. You know, oh, he's sick. We can't make him do this. No, you know, when my son was having severe tics and on the floor looking like you had a seizure, get back up.

We're going to go back to the homework. Then you're going to take the garbage out. We're going to, you know, and then I go cry in my bed at night, you know, but, but it's all about being present with who we are too.

You know, and and we're human. We are perfectly imperfect human beings, whether we're doctors, medical practitioners, whatever we are. we have our own fears, anxieties, things we have to work through.

And by the way, it's a genetic disease, as all diseases are. Genetics loads the gun, environment pulls the trigger. So it's not lost on me that those of us with a little bit of our own OCD and checking behaviors have kids with these disease.

Anyway, I think it's harder. So I probably have over the years treated at least 20 families that are doctors or providers that had a pan's child.

Genetics, Immune Dysfunction, and Clinical Testing

And I think that vulnerability of having a medical focus in the family, too, and then having a child with pan's pan, it exacerbates it because your whole life is focused on wellness or being well or being in the hospital.

And then it's like it never gets turned off in work, at home, you know, So there's a vulnerability there. And you're right, if it's checking on them, coddling them, looking at every bowel movement that they have to make sure that, you know, their bowels look normal, you know, being hyper focused on their food to where the restrictions are, you know, so severe that they don't feel like they can be a part of like being an eight year old or a 10 year old.

You know, clearly food restrictions and some are necessary. And then there's, there's a degree of like, you know, things that are that there's a degree that creates a fear around food as well.

So yeah, genetics, always, gosh, I love it. I love the saying that genetics, load the gun and the environment pulls the trigger. And man, our environment sure is triggering these days, isn't it?

Absolutely. Yeah, and that's the thing. People say, how can it be strep and Bartonella and mold and viruses and stress and all of that? But what it is for our kids is immune intolerance, that inability to mount an appropriate immune response.

So yeah, it's the soup that we live in And our kids are more susceptible to both those environmental triggers and the infectious triggers to end up with the neuropsychiatric symptoms we see.

Yeah. And I think that both described as total load and then the body burden. I like both of them. Say our plate is empty and that's perfect health, but then we put a little bit of glyphosate on there, and then we put a little bit of flaming hot Cheetos on there, and then we put a little bit of strep on there, and then we put dysbiosis, etc.

It's like, what is the total load? Some genes do great with total load. You hear about those people that smoke cigarettes and eat bacon and never exercise and they live until 105. They're on the end of the bell curve.

They're not everybody, but there are some people that have more toxic load and they do better by it than other people have less and they do worse by it.

and there is a genetic predisposition to it. How do you make your antioxidants? How well do you detox heavy metals? How well do you recognize infection?

Genetics do play a major role in it, but it's not the doomsday genetics where, oh, you have this rare variant and we don't know what to do with it. In 20 years, we'll call you.

You just go into a database and we have no action for you on it. It's not those genetics. It's more common variants that, hey, there's epigenetic modulation to this.

We can see what gene you have, come alongside it, provide it support so it can have the best expression. Yeah. Yeah. And, you know, in addition to the book you wrote, Parents' Roadmap to Autism, is that it?

Yep. Which is great. And you've written several publications, and one of the most recent ones that you own was about genomically targeted molecular data to improve patient-specific outcomes.

And this was in ASD, in autism. But talk about it a little bit in Pan's Pandas. And obviously, for those who are following all the podcasts, I had Sharon Hausman Cohen on, who was also an author on that article.

But from your perspective, how do you use it? What do you see helpful, et cetera? I actually find that genomics tool that Sharon Houseman Cohen created, IntelliX DNA, very helpful for clinical decision making.

So, you know, one thing that's really great is that she puts odds ratios. For the listeners, I'll tell them what an odds ratio is. One is normal or average risk of an event happening.

1.5 is one and a half times the risk. You can see the higher the odds ratio, the more likely the gene is going to have an impact. We all have common variants in our genome, all of us do.

But if you have a common variant that has a high odds ratio and it's been studied in a specific disease, it said, if this gene variant is here, you are more likely to have X, Y, or Z happen from it and the odds ratio is high.

that's where we start to really pay attention. I like it. Everything from how you're methylated, how you're recycling some of your vitamins that are needed to build your neurotransmitters, what infection triggers might be more serious for you, and then how is your body recognizing infection?

I don't know if you've talked about immunoglobulin deficiencies. Yeah, but please go ahead. So common variable immunodeficiency, we have immunoglobulins that are trying to regulate our immune system all the time.

And sometimes inherently you can have low immunoglobulins. And sometimes you can have high immunoglobulins. So on almost all of my patients, I do an immunoglobulin panel to see, well, what's your innate ability to go in and clear infection like IgA deficiency.

It's less likely to clear infection in your mucus membranes. So you might have more chronic otitis, chronic sinusitis, chronic upper respiratory infections.

Sometimes with IgA, you'll see it high, but you're making a lot of it, which also can mean that you have a chronic infection. So there are those things that the immunologists really know, and sometimes getting IVIG is helpful for those, depending on the deficiencies.

But then there's this other gene, the mannose-binding lectin, too. I'm pretty sure you probably talked about it with Sharon, where you're just not recognizing foreign protein on cellular surfaces as well.

so you don't induce the lectin pathway and really start to clear infection. Infections can go occult. Maybe that's why somebody gets strep throat and parents are like, it was just the OCD that flared and so they were in the clinic, you swabbed their throat and it's positive for strep.

The parent will say, well, they didn't complain of a headache or a sore throat and they weren't vomiting. you know maybe you know if they have that gene variation which you know in the population you know 12.5 percent of people in the population have a one copy variant only 0.6 percent of the population has a two copy variant and I've seen it once in practice and that person had pandas for sure um You know, that can definitely, you know, we should do a retrospective chart review on everyone that has a single copy variant in PANS pandas because it's very hot.

There's something like a 14 times risk that you'll have PANS pandas. But just because you have that gene variant doesn't mean that you're going to get PANS pandas either.

It means, hey, when infection comes along, let's be mindful about doing the things to clear it. You know, maybe you don't want your child to have an ear infection and watch and wait for three weeks.

You know, even if they're tolerating it because there's infection there and your body is having a harder time clearing it. So it does guide the treatment and the aggressiveness of when infection comes, for me at least.

Right. Right. And I think that that can be a great guide, especially for clinicians who may be newer to treating this and understanding you know, what the underlying genomic, you know, these are single nucleotide polymorphisms, these are pieces of genes.

And I agree with you, the hotspot summary and the odds ratio, so important in figuring this out for families and other clinicians. And, you know, you and I are speaking at MAPS, Medical Academy of Pediatric Special Needs in March, but also I hope you'll be speaking with Sharon in September when we're really diving into genomics and all of that.

Because I think it's important, not just in Pan's Pandas, but in so much of the kids we take care of.

Infection Sites, Neuroinflammation, and Toxic Load

But you mentioned about strep in the throat and I agree with you, sometimes it's immunodeficiency, sometimes it's other immune dysregulation, sometimes it's the molecular mimicry at all, we don't have the proteins, the antibodies attacking the throat, they're instead attacking the basal ganglia, crossing the blood brain barrier and causing these neuropsychiatric symptoms, which is one of the reasons we may be seeing the kid with strep-induced pandas not having anything wrong with their throat.

It's just the behavior that you see. But the other thing is it doesn't always have to be in the throat. Well said. Yeah. And talk about the other areas you've seen it or that you talked to parents about.

Yeah, the sinuses. You can see sinuses. I've done sinus cultures and I come back with beta hemolytic strep in the sinuses, in the gut. There can be definitely lots of infection in the gut.

There can be infection on the skin. You know, I am not a proponent of steroids all the time on the skin. And I understand parents' hesitation for that completely.

But I am also not a proponent of just letting your baby's skin be open and bleeding and oozing and doing nothing about it because of super infection that you can get from it.

So there can be infection on the skin. There can be infection in the vulva too. So, your ears, your nose, your throat, your gut, your lungs, your blood, your bulba, around the anus, which is usually more up in the gut too.

There are places for infection, not just in the throat for sure. Yep, yep. And the only thing I want to say about the gut is there are a lot of good strep.

There are a lot of strep that is not, you know, we're talking, when we talk about pandas, we're talking about group A beta-hemolytic strep. So absolutely we can have that in the gut.

20% of the kids in our practice had a perianal positive culture. for strep. So it's not infrequent, but I don't want people to think that all strep is bad.

For example, strep salivaris is a great oral probiotic to decrease the seeding from the nose and the mouth where we often have a lot of germs to decrease the seeding of that into the gut.

So I think all so important to look at for sure. Well, it goes back to what you originally said is, is this a problem with really chronic infections or chronic immune regulation around infection?

So then, yes, while you want a clear pathogenic infection as you find it, it's really about taking a step back and saying, how can we help this child's immune system have more homeostatic mechanisms towards clearing infection.

And you know, when those antibodies attack the basal ganglia, that glutamate goes up in the brain. And I feel like high glutamate in the brain, you know, and tell me how you feel about this, but most of the symptoms that we're seeing, OCD, ticking, Irritability, anxiety, it's just this really high amount of the glutamate and GABA balance from all those microglia trying to clean up the proteins and regulate the immune system of the brain.

Absolutely. And when you say that, I'm thinking about sleep. Because when do we detoxify that glymphatic system? When do we rejuvenate the immune system?

What's when we sleep? When we get into good REM sleep. So absolutely. And I think that one of the other important things you said is there are a lot of infectious causes, but there are also a lot of non-infectious causes.

You know, this is a dysregulation of their reaction to all of this. But, you know, we both have seen this with mold, with chemical and pesticide exposures, with EMF, with heavy metals.

Any of those that you see more prevalently in your practice or that you want to speak on? Oh gosh, I really hope that this doesn't come across too scary for people that live near a golf course.

Man, I've had several families that when we did their toxicity studies on their child, some of the most toxic children I've seen are near a golf course that are being sprayed, all those pesticides being sprayed on the lawn.

And even if their house is like, it gets the downed with You know wind they can have I had one family that basically they figured out every time they sprayed the golf course They were spraying into their home and it was raining pesticide on their child and their child has autism and pans so the the total toxic burden is a big thing and You know, if we talked about toxicity 20 years ago and detox, I mean, you really, you're really called a quack.

You know, you really were toxicity, you know, we're in America, we don't have that. Well, I think we're all starting to discover that is really a big deal for our health.

It's in our air. It's in our cleaning products. It's in our, you know, the fire retardants we're putting on furniture. It's in our mattresses. It's in our plastics.

It's in our food. I could just go on and on. And those are things when that total toxic burden is high, it's an immune system issue. it causes more of that total load, then you throw something else on top of it, and it's the tipping point for regulation.

Right, right. And then you add on top of that all the things that we're saying and the stress that it causes to the parents who are listening. Yes. And yes, we live in a toxic world.

Yes, it's a total load. But also, we need to do what we can do. whether it be the serenity prayer, you know, God grant me the serenity to accept the things I cannot change, you know, but change the things I can.

We can try as much as possibly to eat more organically, to not microwave in plastics, to not buy products that have 50 ingredients and, you know, maybe not to spray our own lawns with pesticides and instead find other ways like three feet of wood chips and and sawyers, for example, spray rather than spraying DEET and all the ways that you and I talk about that are on our websites that are that are, you know, on the environmental working group, you know, but doing what we can and not getting ourselves all stressed about that, which we can't control.

I mean, we just got red dye out, yay. But. I'm so glad you circled back to that because it is, it's like, you know, if we worry about everything, then we have orthorexia.

You know, that new diagnosis of you're just worried about everything. Everything's unsafe to breathe or sit on or eat. and that the feeling, the energy, the stress that we're giving to our child, it's just this reciprocal, we're just adding to their body burden plate of stress.

So I had something, you know, people often, they're like, why pediatrics, Emily? You know, what do you like about pediatrics? And it's like, all these kids are so resilient.

I mean, when I worked in primary care for a while, they would come in just lethargic and almost toxic looking where you're like, oh, maybe we'll have to hospitalize this kid.

They're so sick. And 24 hours later, they can bounce back. Like the kids are, they're so resilient, you know, they're so resilient. And I think sometimes in this work of when you have a chronically ill child, you forget about their innate resilience because underneath it, they do have that resilience that we can, you know, say the serendipity pair, I can't, you know, is there anything I can do about what's happening now?

And if the answer is yes, take into action. If the answer is no, not right now, I'm, you know, trusting God and I have to breathe and I have to contain my stress and know that, you know, another day is going to pass and this too will pass.

So it is, you know, somebody said to me a couple of days ago and something bad happened, you should say, good. And I'm like, oh, okay, good. And he's like, yeah, because good.

We're all gonna grow and change from it. When something hard happens, good. What are we gonna learn from it? Good, how are we gonna grow from it? And I can tell you as a parent of a pandas child, I have grown a lot from him being ill.

I have grown a lot. Just being a parent alone, I have grown a lot. So good. Now, what can we do about it? Yeah, that's a great way. And I also use the, when people say, why me?

Why not me? You know? Like, let's gain from this.

COVID, Community, and Repurposed Treatments

I'm always looking for the silver lining. What can we get out of everything? And COVID's been a great example. And in several ways of what we've been talking about, I mean, first of all, the fear that still is in so many people, the hand washing, the isolation, all of that increased our anxiety and our fears, some of them necessary, some of them understandable.

And then also what COVID itself did as a disease and what our treatments may or may not have done. But before we get into COVID, I just wanted to also mention, I also look at the silver lining of it all.

And maybe there are a few more practitioners who saw a child that got admitted to a psychiatric hospital with a severe hallucinations, neuropsychiatric symptoms, and they got tested for COVID and they were COVID positive and had COVID symptoms and got monoclonal antibodies or IVIG for their COVID and their neuropsych symptoms went away.

And the idea is that maybe a few more people understand post-acute infectious syndromes. Whether you call it PANS or PANDAS or basal ganglia encephalitis or encephalitis of the basal ganglia or whatever you call it, there are triggers that make our immune system, which already may be compromised, to not respond appropriately.

And so I look at the silver lining of COVID as well as all the other things. And so I think that's sort of the same thing you were just saying. Oh, yes.

I think that however you fared through COVID personally, whether you let your child go to school or you kept them at home, You know, one of the huge pearls for me that I learned is children should not be without community.

They cannot be isolated. That is devastating for their development. They have to be. So if you have a child with Pan's Pandas and you're worried about them getting sick so you don't let them go to that birthday party and you don't let them go, you know, outside of the home, I would just really think about what that isolation and feeling of not belonging to a tribe at that age, the harm that that puts on their health.

And I love about COVID that we learned about repurposed drugs. Yeah, absolutely. Absolutely. And I think there are some very old, very safe, medications that were used that maybe got a bad rap because of misunderstanding and misrepresentation and misinformation.

And then there are also things that I use in my practice, like antioxidants and antiviral herbs and antivirals themselves, like amantadine, vitamin A, vitamin D, there's so many things.

that we can do to treat it to allow ourselves to still live our lives. So what's your take on all of that? Well, do you know that amantadine is also used for organophosphate toxicity?

It's an indication for that, which I think is wonderful. And you're right, I absolutely love using amantadine. It's probably my number one thing that I will prescribe for someone with irritability and with Pans Pandas, because it can be so helpful and you don't have to give it every day.

But yes, the repurposed drugs are interesting. The big most controversial drug for sure, I think, is ivermectin. And before COVID, I prescribed ivermectin for scabies, for parasites.

I never knew it to be this. dangerous, you know, horse veterinarian drug. I always found it to be really effective and really well tolerated. So through COVID, you know, if I were going to treat someone, you know, the first thing I'm going to do is all of the basics of vitamins that we know a virus can be helpful through vitamin A, vitamin C, vitamin D, quercetin, zinc, and acetylcysteine.

I mean, those are kind of basic viral supplements to me. And then we have our antiviral herbs, right? Andrographis is a great antiviral herb. I really like some humic acid, humic and fulvic acid in the form of humivir.

And then of course for flu elderberry at a high dose, but there are there antiviral herbs out there and then there are the prescription medication. So if I have someone that is if they get sick, they're likely going to have a pretty severe flare.

you know, with informed consent because I make them sign informed consent and we talk through it. You know, we could, we will do like say five days of ivermectin.

There's an independent medical alliance now that has treatment protocols. They're very, very evidence-based. They have a high degree of lawyers that vet all their things and all their peer-reviewed evidence is on there.

There's some of the most They're some of the smartest doctors, the most well published, very well respected, but they came out during COVID saying, hey, you know, why are we getting these other new drugs that have all these side effects and cause rebound symptoms?

And these old drugs are really safe and effective, and they're even helping with people with long COVID symptoms now. Yeah, it's not a popular thing to say.

Some pediatricians will say, oh my gosh, how could you ever do that? But I think now today, in almost February 2025, there is an abundance of peer-reviewed research and there's abundance of people that have used it very safely and very effectively.

Yeah. And I think that's true for all of functional medicine, integrative medicine. What we do is there really is a lot of research behind it. You know, some of it, I was talking to Jill Krista earlier in the podcast, and we were talking about mold.

and mold mycotoxins. And there's not any prospective studies on the effects on humans. Well, the reason for that is we're not going to give somebody mold mycotoxins and cause cancer or something else to study all of their effects.

But there are a tremendous number of animal models that can be extrapolated. And all of these herbs that we talk about, the nutraceuticals, have been around in these old meds forever.

And we need to make sure we're doing science-based, research-based, evidence-based, whatever you want to call it, medicine. But we also have to make sure that we're really looking at it and not just you know, not using it for fear based reasons or using it or for other reasons that are not research based.

So I just think that's really important. Absolutely. I mean, it is, it's hard. It's hard with some of the nutrients, right? Like say vitamin C. Vitamin C studies are old.

They're old. And, you know, some of the IV vitamin studies are a little newer, especially around sepsis. But there's no financial incentive for anybody to go in and study vitamin C that's over the counter.

And to do a clinical trial will cost millions of dollars. So there's that, that you kind of always have to put into perspective when you're prescribing nutrients.

But there's also a lot of evidence around, okay, vitamin A can do this for the measles, by the way, vitamin A is the treatment for the measles. Um, you know, high doses of vitamin a got to be careful about there can be some toxicity should be within this guideline.

So the research and the evidence that's what I did at Hopkins is what's peer reviewed. How can I translate and how can I do it based on medical research and evidence?

And, you know, sometimes I think functional medicine people get this reputation that we're just kind of like willy-nilly out there just trying to throw up, you know, throw some supplements on someone and doing some, you know, drugs that aren't typically prescribed like a mantidine.

But that's not where we come from at all. We're actually probably more science-based, more nerdy, more into the research because we know there's a little bit more scrutiny on us too on what we're doing.

And in the end, what I want to provide for my patients is N of one medicine. What's your condition? What's your genetics? What's your preference? Can you even swallow a pill?

What's the delivery style? What's the access to care? How much money do you have to spend on it? How willing are your parents? So you have to take everything you know and then look at your patient and do what's right for them.

And there's no cookbook algorithm for that out there. No, and I often tell my parents, you know, I'm your GPS. You know, I'm going to give you the best route that I think based on all you've told me, all the data I have about your N of one, your child, but you're still driving the car.

You you have to be transparent with me. I can't do this financially my daughter my child won't take that I don't feel comfortable with that I'm not going and and I'll be okay.

There's another way to skin this cat There's another way to get at this. I may be a little bit pushy or on some things, you know me pushy anyway, but but you know you What we do, I think, number one, I've been amazed.

Everybody I've talked to is such a nerd. Didn't realize how nerdy everybody is, but we're all nerds. That's number one. So we are looking at the science.

Practical Guidance and Closing Remarks

And number two, it takes a village to help these kids, but it's not a one size fits all. It's about, like you said, the N of one in front of us and what we can do to help that child and family.

And that's what's most important. Yes, yes, the collaborative care. And that means between me and the parent and the child. We can say, hey, this is the right supplement regimen.

This is the right diet. This is the right time to do it. This is the right indication from it. But if that kid is like, I'm not doing any of it, good luck.

So the art of this is beautiful. And it's the human connection in this that is beautiful. It doesn't have to be perfect and it's often messy and you have these flares and these where you get better and you're on the mountaintop and then you get the flu and you get a little tick and you get scared and you try not to go back into these stuck patterns, but then you rise again and you see the sun and you see the mountain.

So I think it's a journey. It's a journey. And I feel privileged to be alongside families that are suffering through this. And hopefully they feel hope and they feel, you know, support.

Absolutely. And so, Emily, how can families find you if they want to find you, whether they're in Austin or anywhere? How can they find you? Well, I have two websites, NeuroNutritionAssociates.com.

And then I also have a company where I make custom nutraceuticals for the brain. I actually used Sharon Houseman Cohen's test as part of my research, not all of it.

And I formulated things like say to lower glutamate and that is NeuroNutrients.com. Um, I am going to try to blog more. I'm trying to, you know, be more active on those sites.

But if you, if you look at those, you can definitely find me. I did write the parents roadmap to autism with Jana Rosso. So that is, and I love how you talked about that, you know, that you're the GPS and that's what this book is about.

Like here's, you know, here's things to think about. Here's roadblocks. Here's the, the way, you know, it's, it's. It's just like roadmap, you know, and either if you have, you know, if you're privileged to have Dr.

O'Hara as your GPS, that's awesome. This, and I mean, her book's a great GPS too, but I like those, I like that example because it's not 100% you have to go this route.

It's like, you know, sometimes there's traffic and Waze is going to reroute you another direction and we're all just trying to get to the same place. which is a place of healing and homeostasis.

And ultimately, you know, a child's resilience to become the best version of themselves. Yeah. So, so well said. Anything else you want to leave our families with?

Any other pearls of wisdom? I just want to say, take a deep breath. Yeah. You know, just take a deep breath. When you feel it bubbling up inside of you, you feel it in your throat, you feel it in your heart, you feel it in your body.

take a deep breath and know that no matter where you are today, it will change no matter what. So. Well said. So keep breathing everybody out there. And Emily, thank you so much for joining me and for all the work that you do.

It's been great getting to know you, lecture with you and just connect. So I really appreciate it. Oh, thank you. And thank you for having me on. Take care.

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