Introduction and guest welcome

I think that one of the one of the key things that I like to encourage parents is keeping your expectations high for your children, and not only in their chaotic and relational auntie, not only in their how their the trajectory of their child's life, their expectations for school and their independence someday, but also their health.

Right? And if we keep our expectations high in their health, which is my kind of arena and where I'm trying to help these children, will will be able to see when things slip.

Welcome to Doctor Talks, the podcast where every episode leads to a healthier you. Join us as we navigate the world of optimal health, uncovering groundbreaking strategies to conquer chronic disease.

In each episode, we'll bring you the latest insights from leading health experts, medical innovators, and wellness warriors. If you're seeking to transform your health journey, or if you're looking for answers to burning questions, you've come to the right place.

Get ready to unlock the secrets of lifelong health and vitality. This is Doctor Talks, real talk from real doctors on only issues that matter to you. Most.

Hi, doctor Nancy O'Hara, and I'm thrilled to welcome Doctor Erica Pearson to our podcast. She's a natural, perfect physician who's been practicing for 18 years, and the birth of her son and her 14 years working at Shriners Hospital for children throughout undergraduate medical school really inspired her to specialize in optimizing the health of children with neurodevelopmental and genetic conditions.

She's lectured nationally internationally to share with others the many ways she optimizes the health of her own patients and her family. She sees patients from all over the world through a private telemedicine practice.

And she's also the proud mother of a healthy, thriving 17 year old who just happens to have mosaic Down's syndrome and has benefited from her expertise.

And, you know, Erica, we've all benefited from your expertise. So thanks for being here. Thanks, Nancy, I appreciate it. You know, you and I have lectured together and and, you know, I've also been excited to read several of the articles and watch other podcast that you've done and, you know, blogs on on down syndrome and especially Pans and Pandas in Down's syndrome.

And I, I'd really like you to talk a little bit about how Pans and Pandas typically presents in children's with down syndrome and the unique challenges that that arise in recognizing and diagnosing the conditions in that population of kids.

Yeah, there definitely can be some challenges. You know, at the core of it, you could say the signs and symptoms are the same, right? The anxiety, the sensitivity issues, the OCD, maybe the sudden onset, you know, maybe some urination issues, etc..

Food stamps it up. You know, all of it, right?

Recognizing PANS and PANDAS in Down syndrome

They can definitely experience all of the signs and symptoms. But due to their kind of unique developmental trajectory right there, many of them without having pans and pandas are already experiencing some of these things.

So, you know, food sensitivity issues, sleep difficulties. Right. Without having pans and pandas, I'm not going to go into all the underlying causes of those that baseline for many children, because many of that is, you know, there are actionable things to do about that, so that when the onset of pans and pandas happens, it just looks like an aggravation of their baseline state or or what happen often happens is as pans and pandas, it's difficult to be recognized in the conventional world as it is in a child with down syndrome.

It can be extra challenging because all of these signs and symptoms will just be dismissed as part of down syndrome, right? That's diagnostic overshadowing a term that a term that you're probably familiar with where physicians, practitioners, you know, any clinician will attribute all of these signs and symptoms and ailments to just part of down syndrome.

Right. And this child will struggle for years, right? Yeah, yeah. And I've seen that a lot in the autism population too. You know, I remember the first three kids in my practice, you know, 30 years ago, one had nephrotic syndrome, one had hepatitis, and one had thyroiditis, but it was all in air.

Quotes for those who are just listening and not watching. It was all just autism. So yeah, it's it's really uniquely challenging that that overshadowing is such a good way to put it.

So I so agree. Yeah. Yeah. Every I would say, I would say just about every child with Down's syndrome. My son, we've experienced it. Right. As soon as the parents hear that term they're like it's kind of a relief.

Like, oh that. Yes, that's what's going on. Yes. And then we, you know, look at things differently. Yeah. So yeah it's tricky. Yeah. For sure. And you know like we say and so many of these kids genetics may load the gun environment pulls the trigger.

And and you know when it comes to pans and pandas there is a genetic predisposition. And unfortunately our kids may have the genetics for several different things, but that does it.

Just because they have Down's syndrome certainly doesn't preclude them from also having pans or pandas. Correct? Yeah, yeah. You know, one of the challenging things in kids with autism and Pans pandas is, you know, often the separations, the OCD are there in the background, but also often agitation.

And so sometimes the the rage, aggression, agitation that may come with a Bartonella triggered pans or a strep triggered pandas is really hard to see.

Does it is that any different in the kids with down syndrome or still very, very similar? Yeah, there's you know, there's a stereotype of down syndrome that they're pleasant and happy all the time, but that's not the case, right?

Some you know, some of my kiddos parents are really struggling with aggression, anger. And one of the phrases we have in our community, I'm sure it's in others is, you know, behavior is communication.

And when there is, if there is a child who maybe isn't isn't great at expressing themselves verbally, maybe they don't have any ability to express themselves verbally, right?

If they are in some kind of discomfort, whether it's a headache, right. Maybe that's neuroinflammation, maybe it's dehydration, but a headache, a stomachache, right. Constipation.

Right. Some kind of discomfort that often comes from inflammation in these, you know, infections. And they can express aggression. You know, sometimes self aggression, sometimes aggression towards others.

And I always see that as some kind of physical ailment. So nobody wants to be aggressive. Nobody regardless of their cognitive abilities, what have you.

Nobody wants to behave like that. There's always an underlying medical physical cause, and it's our job to find it. Right. And not to just say, this is behavioral.

I hate that, Nancy. This is behavioral. They're just being stubborn. Right? That stereotype right. And so we dig right. We look I mean we're yeah. Anyways we're looking at iron and gut health.

And why is this child behaving this way. Right. So yeah and we often find it right. That's. Yeah. We often find it when, when you run the right tests and you know what to look for.

As you know, you do and we do. We find it so yeah. So it's not just, you know, down syndrome. Yeah. Yeah. And it's my mentor Sid Baker always said, have we done enough for this child?

And unless we're being detectives and leaving no stone unturned, we haven't done enough, you know? Yeah. So, yeah, we've kind of have a motto in our office, and it's.

What else is. Right? Like, if you have a child who's tired and you find a low iron and and you say, oh, you're oh, I found it. You know, their ferritin is 12. That's why they're tired, right.

That to me I call that medical tunnel vision. I know that's my own term that you just see that one thing and you're done. But what I was like, well, what else? Right.

Why are they low in iron? What else are they low in? And if they're low in iron, what else are they low in. Right. And so there's always that. What else.

Yeah yeah yeah yeah yeah. And you talk about the gut and and iron and how does the immune system in, in children with down syndrome differ in terms of, in terms of its developed in its function, its response to infections or other things?

Yeah. There is there's research to show that there is a common tendency. And that's a really important word that I use a lot in my practice is a tendency.

Immune dysfunction, inflammation, and metabolic health

It's not all children. They're all unique. That's a whole nother conversation, but they're all unique. But there is a tendency towards elevated inflammatory markers il6, TNF alpha.

Right. And the research shows of course then, you know, it's assumed they all have this. But there are other underlying causes for that in terms of gut health and and diet and the like.

But there are some genetics, right, that are involved in the upregulation of some of these cytokines and inflammatory markers. So there can be, you know, a little bit of underlying inflammation that is fluctuating, but, you know, kind of higher than the typical population.

So that's a difference in their immune system. There is a lower rate of antibody production, just the ability to fight infections, lower rate of response to vaccines.

Right. That's a there's research out there to support that. And so I've always you know my is why why is that. What is it. Because there's nothing on the extra chromosome to my knowledge, that would kind of drag the immune system down to that degree.

And so many, many, many of our children. So it kind of alludes to the what I lectured at maps on in the fall was on immuno metabolism and their metabolic rate.

That, and when I learned that that term that's a thing immuno metabolism that there's an intersection there. First of all, it was a kind of a dull moment.

Right. That and I have a social media post. And that's when we're tired. Our immune system is tired. And and so there is a tendency for lower metabolic rate tendency in our kiddos with down syndrome.

Why is that that complex itself? But the immune system is very energetically active. It requires a lot of energy to fight infections. A appropriately.

And when it doesn't fight infections appropriately, we get, you know, maybe some neuropsychiatric syndrome, some auto immunity. Right. The immune system can kind of misfire is more likely to misfire, as research tells us when the metabolic rate is low.

And then we know that Pans pandas is an autoimmune condition. We have a higher rate of autoimmunity in our children with down syndrome, thyroiditis, celiac disease, type one diabetes, etc.

and so a lot of that is tied to their metabolic rate, which again, I could lecture for hours on is you could learn about mitochondrial function, glucose metabolism, nutrient deficiencies that are, you know, needed for the metabolic state of our bodies.

So it's complex but but doable, right. We can increase the metabolic rate of our patients so they can fight infections better, not just throwing herbs and things which are which have their place right to fight infections, but looking at the patient.

Yeah, holistically. And why aren't they able to fight these infections appropriately. And then of course prevention in that area is key. So yeah, so they have so many unique immune challenges.

I'll just close out with the down syndrome in some papers has been termed an immunologic condition. Right. And the condition of immunodeficiency. Right.

And then all of this equally from that. So so yeah. So some unique talent challenges. But they can be overcome and, you know, optimized as best as we can to prevent these things.

Yeah. Yeah. And it brings up a very important point. You know I, I lecture all the time that the, the pans and pandas are a clinical diagnosis. But especially in this kids as in all kids with pans and pandas, there are a group of children who are immuno deficient.

It's at least 30 to 40%, but especially in these children with down syndrome, when they're immunodeficient, you may not see an A appropriate antibody response.

So when people say, oh, the strep titers were normal, it can't be Pandas or oh, I didn't see any mycoplasma or viral titers or whatever else it may be that immunodeficiency may cause them not to be able to mount those antibodies that we're looking for.

So again, in this group of kids, it's also really important to keep in mind that this is a clinical diagnosis, right? Yes. Yes. Absolutely. Right. You know we do.

You know, one of the the mainstays of functional medicine is labs, right? We do kind of lean on labs a little bit. It gives us a lot of information. But we have to look at our patients too.

And sometimes the labs don't always give us the information that we're looking for. Right. And we have to go to signs, symptoms, our years of experience and knowledge and what to do in these situations.

And, and the labs don't always kind of reflect what we're looking for. So yeah. Yeah that's true. Yeah. It's our it's our end of one. It's the kid in front of us you know.

Yes. Yes. Exactly. So and and what strategies do you use in your practice to, to optimize this, this metabolic and immune function in this population of kids?

Yeah, I do, I do a lot of organic acid testing, you know, as you have like thousands of organic acid tests on these kids and I just love that test. Right.

There's so much information we get from an organic acid test. But one of the most important things is mitochondrial markers on an organic acid test. And again, I don't always see them elevated.

When they're elevated. It means that there are missteps occurring and, you know, the citric acid cycle, etc.. I don't always see that in my kiddos. Right?

There's research to show that there's mitochondrial dysfunction exists in down syndrome, not always, but many of them. And so, so for a tool, the organic acid test is a big one because then I can see exactly where in mitochondrial function are we missing a step?

I do often see one of the very first steps is what we call the key to the front door. Pyruvate dehydrogenase is the enzyme that allows glucose to sort of enter the mitochondria.

And I often see a misstep there. Again, not always. And I'm going to say that multiple times. But I mean yeah. So thiamin deficiency is a common one in our kids.

And when we look at the signs and symptoms of thiamin deficiency, we see speech issues, gait issues, low muscle tone. Right. And this I know Nancy our kids there are children with that with down syndrome out there right now and adults who are experiencing more Nikki Corsica syndrome overt.

Frank. Oh, and it's just being dismissed as down syndrome. So thiamin deficiency is a big one. I won't harp on that one too much and but I, I wouldn't mind you harping on that one a little bit.

I watched some of your videos on the YouTube channel on so many different things. You know, the thyroid, the mitochondria, the microbiome. But but talk a little bit more about the thiamin deficiency, because I don't think a lot of people really understand that.

Yeah. So thiamin is vitamin B1 and it's a cofactor for obviously multiple enzymes. But one of the key ones is this enzyme that really allows glucose to enter into the mitochondria.

This enzyme, pyruvate dehydrogenase, is dependent on other B vitamins B2, B3, alpha lipoic acid. And the deficiencies in these nutrients can occur. And these children secondary to malabsorption.

Malabsorption so huge in this population that is underdiagnosed, undertreated underactive cognize under-researched right in these children with down syndrome, and the reason for the malabsorption of thiamin.

And we can go over signs and symptoms really quickly of that. But the reason for the malabsorption is slow gut motility. And that slow gut motility is is an aspect of low muscle tone that children with pans pandas other genetic conditions.

Right. We see children with other genetic conditions when there is slow gut motility, any kind of GI stagnation. They can be pooping every day, right?

But if there's any signs, any little reflux, any little bloating, right. But boom, that's malabsorption, that's Sibo, small intestinal bacterial overgrowth, yeast overgrowth, especially in light of lots of antibiotics.

Oh my gosh Nancy, I've had three and four year olds who've been on like 12 to 15, 20 antibiotics in their life. Antibiotic after antibiotic after antibiotic.

Yeah. And so they're going to have yeast overgrowth. And that will absolutely create a thiamin deficiency there's no doubt about it. And then that signing deficiency will perpetuate the slow gut motility, perpetuate the neurological issues.

And then they will just decline very quickly.

Thiamine deficiency and mitochondrial support

And it's all attributed to their genetics. And so we've seen some remarkable turnaround in children when we find the underlying cause to treat the Sibo and the yeast overgrowth with the appropriate herbs, you know, is my tool of choice.

And then address the nutrient deficiencies that the organic acid test shows. And we see remarkable improvements in their gross motor skills, their speech, even. Right.

I I've seen speech be a big one with with treating thiamin deficiency. Yeah, yeah. And and what you're saying about finding the underlying root cause of even that, you know, why are these kids, you know, zinc deficient or iron deficient or thiamin deficient, you know, not just adding that supplement to treat that, but going even deeper and and looking at why the malabsorption, why the, the, the slow transit time, etc..

So, yeah. Do you want to talk about some of the test, that's going to affect their system to, to get back to. Yeah. Right. Yeah, absolutely. And it's all interrelated.

And it, it's like putting the pieces of a puzzle together, you know. Yeah, it really is. I love puzzles, so it's so funny you say like literally looking at a big puzzle I'm working on over here.

I love puzzles as well. And it I think it ties to the work that we do for sure. That's interesting. A yeah, yeah, it really does. It really does. It's what I do every morning.

I do puzzles on my phone, I have puzzles on my table, and it was something my mom gave me years ago. Was this yes, love of that. So yeah. But, you talked to, about the the symptoms, the signs of thiamin deficiency.

Just elaborate on that a little bit more before we move on from that. Yeah, absolutely. I'm starting in infancy. It'll be a child, an infant who is more quiet.

Right? Doesn't cry as much. Right. Which is lovely for parents, but not the best. Right? We want kids who are kind of rowdy and, you know, make their needs known.

Delayed the gross motor skills, right? A child who isn't walking at two, two and a half, right? I've. There are plenty of kids who have Down's syndrome who do start walking 18, 19, 24 months.

I know that's delayed for typical population, but in down syndrome where we're happy with 1819 months, it's great when they get up and start walking eventually.

But if they reach two, two and a half, three, right, there's something more going on. Right? And that can be a thiamin deficiency. So delayed gross motor skills.

The infant who is quieter. Constipation, reflux oh my pleasure. So that if their eyes are crossing and we see this I see this all the time in our kiddos with Down's Syndrome.

Their eyes are crossing. That can be a B6, a B12, or BA1 deficiency because of the extra ocular muscles are, you know, driven by the cranial nerves. I think it's abductions and the cranial nerves I can't remember.

And so that will be affected by a B1 deficiency. Abdominal polizia for sure. If I get a parent who reports. Oh yeah. There I started turning and I'm like, we're going to start some B1 and we'll run some tests.

While we're waiting for the results, we're going to run start some B1. So that's a big one. Oh, and then just choking and swallowing issues. Right. The, the so many of our kids with down syndrome experience, I've got a number of kids and lots of kids were on g tubes.

Right. G-Tube fed because they just cannot manage the food they're aspirating. Right. They're on thickened liquids

that can be from other B vitamin deficiencies, but it certainly can be from a B1 or B2 deficiency.

And so we want to get in there and address that and not just put them on a g-tube and you know, give them Similac. Yeah yeah yeah yeah. And again the interrelatedness of everything, as you mentioned, you know, so much of this is related to the mitochondria and treating the underlying mitochondrial deficiency with the ophthalmic Lesia with the B vitamins, I mean the B1, certainly B2, B6, B12, everything you say.

But I'm also looking at other parts of the mitochondria, like you said, in the organic acid test and, and regular blood tests, conventional labs like carnitine and acyl carnitine.

Do you also do those in this population? Yeah, 100%. You know, as you know, the fatty acids in the organic acid test will tell us if there's a need for carnitine and six Indic acid and CoQ10, etc..

But you can run you can do those in conventional labs. You can run a carnitine panel. We've picked up Franke carnitine deficiency just from a blood test.

And that will, of course, greatly impact their muscle tone, gut motility. I think there's a paper, on just that of children who were, you know, significantly delayed, had experienced carnitine deficiency, and it contributed to their constipation.

There's some there's a lot of good papers on that. So that's a really obvious one. So yeah, certainly looking at other mitochondrial nutrients for sure.

Oxidative stress of course affecting the electron transport chain. So yeah, addressing as much as we can to support mitochondria. For many angles. Yeah.

And you know, for the parents that are listing it, it sounds like a lot like like just talking about it sometimes makes it sound overwhelming. But but it's not.

This is doable. Can you just to address that a little bit. Yeah 100%. So it is complicated when we're trying to figure it out. But and the tools and the years that we've had doing this but the but once you lay out a treatment plan and you point to parents that we just, you know, get in there and treat the gut and we get these nutrients addressed, you know, laying and laying out my plan in a simple way is always my goal, right?

We've got a lot of very busy parents we're working with. So, yeah, it's, you know, supplements are tricky, right? Tricky to get kids to take. As always, I'm sure you discussed that a lot in your podcast, but but I don't like to throw the kitchen sink of supplements at my kids.

That's why I like to test so that I know if I'm going to give riboflavin to a keto, which does not taste good, I gotta know for sure that that kid needs that riboflavin, right?

And so that's why those tests are helpful, so that I know exactly what I'm giving that kiddos. What they need. And and yeah, it can get complicated. What they need can fluctuate.

That can change over time. I don't want kids to just take, you know, all these supplements for years on end, right? I pull supplements eventually, right.

And once they're stronger in their bowel movements are better and their diet is better. Hope that yeah, we pull these supplements. So it's. Yeah. So with the guidance of the right, you know, practitioner, those of us who are also mothers.

Right. We know that the practical everyday aspect of trying to give your child supplements, hopefully we can. Yeah. We lay out an easy, easy to follow plan of just what that child needs.

And no more, no more, no less. Right? In my opinion. Yeah, right. And we do talk about how to give supplements.

But do you have any tricks of the trade that you use that you found particularly helpful.

Yeah. You know, syringes with, mango juice is kind of one of my favorite juice. It's thick and sweet. We don't like lots of different sugars, but, you know, you got to get it in somehow.

Using the syringe in the side of the cheek. Not right on their tongue, following it with a maybe a syringe of regular juice. So to kind of chase it, that's kind of one of my big ones.

Never. Of course, never ever forcing or pinning a child down. If I have a parent who emails me and I'm having trouble giving it and I say, hey, take, tell, tell you what, take a break for a week or two, right?

Just step back. Right. Don't panic. Right. And then let's try again. Let's give your kiddo a break so they, you know, don't lose your their trust of you.

Right? That's a key aspect of giving supplements or trust of their food. Goodness gracious. Be horrible. So yeah, that some of those are some tricks. Yeah. You get butters or not peanut butter. Excuse me.

That's not butters can be a way to hide supplements because it's thick and, Yeah, that. Yeah, there are others. Yeah, but those are some, some.

Gut health, antibiotics, and supplement strategies

And I think what you said about taking a break and and a pause, and I think that's so important for parents to understand that, that no matter what, whether your child is flaring, whether your child won't take what you're trying to give them, whether they won't go to school, take a breath.

You know, whatever helps you to to just bring it back down a notch. Prayer, meditation, going for a walk, you know, and and in this, like taking a break and and also what I hear you saying is, is having the child be part of this.

You know, you're not forcing the child to do it. And I think this is really important in our older kids too, that that whether they be contracts with the kids or, you know, I do that a lot.

You know, I, I let's try this for x amount of time and, and you let me know I know it tastes like crap, but let's find the, the thing that you feel comfortable taking it in.

And you know that that pause, that breath, that that understanding. Compassion is so important for all of our families. Yeah. And I like that. Getting the child involved.

Of course. You know, again, just because they have downtime, they understand all this, right, that maybe this is helping them. This is we can call it medicine if you want to, but, you know, getting a pill box for them that they decorate, that they, you know, get some markers, have them decorate their pillbox, get them involved.

My son gets on my case. If I don't have his vitamins filled, he's like, man, you got to put my vitamins in here. I need them. And so yeah, so getting them involved, getting them invested, showing them that you are taking supplements also.

Right. Modeling that behavior can be really helpful. So yeah, lots of ways to kind of just bring it into your the culture of your family I guess. Yeah.

Yeah. And and when you say modeling that behavior reminds me about modeling that with diet also and, and and how important the gut is. And we've talked a rounded a little bit.

You know, a lot of people say the guts the second brain I think the guts, the first brain, you know. But but talk a little bit more how gut health influences the overall health, the immune health and cognitive development in in children with down syndrome.

Yeah. Well, I mean, certainly I could just simply answer in the same as I don't know that one else, but a lot of their gastrointestinal issues are, you know, go on addressed as with many of us and, you know, the conventional medical world.

But but, you know, do they have a higher rate of, you know, dysbiosis and Sibo and yeast overgrowth, possibly. Probably. Hard to say. There's a high rate of that in our population, kids in general with autism and pans. Pandas.

But but I would say that they do have a higher exposure to antibiotics. Perhaps they kind of go to the doctor's more often. They have more chronic nasal congestion because their airways are smaller.

You know, reflux will contribute to that nasal congestion. So, you know, you go to the doctor's more often, you're going to get the doctor's intervention more often in the doctor's intervention is often antibiotics.

And so that's going to take a huge toll on their gut health. So I had a kiddo and recently I heard was the doctor was going to put them on augmentin for the rest of the year.

Nancy Augmentin. And I was like, that's going to take her to Augmentin. That's going to take a huge toll on the the kiddos gut microbiome that can have lasting effects long term.

You know, we like to not think that they're irreversible. But, you know, sometimes they can be really long lasting. The effects from antibiotics, they have a place, they save lives.

Right. But they are certainly overuse, which I think everyone would agree with. So the higher rate of dysbiosis, gastrointestinal issues, you know, secondary to Sibo, yeast overgrowth, antibiotic use and then diet.

Right. You know, some of our kids, a lot of our kids have struggled with diet though. Right. But if you can't get your child to eat certain foods, healthy foods, that's going to take its toll eventually on gut health, right?

If they're just eating, you know, yogurts and goldfish crackers and hot dogs, right. The microbiome isn't going to be happy about that. And then over time, that's going to make the ability of that child to eat those healthy foods even more challenging, right?

So so yeah, I would I mean, I'm, I'm in a bubble, right. So there I could argue that, yeah. The gut microbiome and health of children with down syndrome, many of them is can be highly compromised. Yeah for sure.

And are there specific interventions that you use to support optimal gut health? Lots of them. Right. I mean, this is this is our toolbox, Nancy. Right.

This is yeah. Thank. Yeah. So all the things I don't always just I don't always get probiotics. A lot of them I don't. They have a place, of course. My gosh, of course, you know your your lactobacillus gg g or gram gnosis.

You're, you know, Bifidobacterium to lower histamine and all those probiotics that we look at. But if I've got a kid with Sibo, I better be really careful with probiotics.

So they have a place. But, you know, I often pull probiotics from keto. I use herbal formulas. I don't I'm not sure if I can mention any here, but there are some very popular herbal formulas in our in our field that you're welcome to mention them if you'd like to.

Yeah. Bio seitan is a popular one. Grapefruit seed extract I use a fair amount for yeast overgrowth. I've seen really remarkable things with over earthy.

I use it for just a couple weeks at a time. Yeah, I've got some of my favorite herbs that I use that are tricky. None of these taste good, right? We're going to kill bacteria.

They're not going to taste good. But biocide we use just a little drop doses, so that's helpful. So lots of herbs to kind

of clear the whatever's occurring in the gut to kind of reset things.

And then probiotics prebiotics of course. And then other herbs formulas things with slippery elm aloe I use a lot. Aloe I love for constipation soothing to the gut.

There's even at least one study that I know of that show that it lowered thyroid antibodies, aloe. So yeah, so all natural stuff is what I use really.

In very rare cases when I use antibiotics. Yeah, yeah, yeah. And I think a couple of things that you said are so important. I mean, probiotics, I always use the analogy.

It's like peeing in the ocean. Some people think, well, we're going to replace all the bad bacteria with good stuff by giving, you know, one pill or one teaspoon of a probiotic and, you know, that is literally peeing in the ocean.

And, and but, you know, we can stimulate peristalsis with, with good probiotics, we can increase immune tolerance with good probiotics and I think one of the things that's a pet peeve of mine is when people say that probiotics that contain strep should not be given to kids with pandas.

And there are some children that are sensitive, but there are very good studies that show that, for example, strep cell, a virus is a great oral health augment for and and helps to decrease the seeding of the gut with your your mouth, germs, etc..

And and I think that that understanding the place of probiotics and when to use them and when not to use them, and not just to put that in and think it's a panacea, is a really good point.

You know, when you have Sibo or CFO could actually make things worse, right? Right. With any supplement. Right. That other point off and make is, is every supplement that we put into our mouth or our children's mouth is going to hit their microbiome first?

And I mean, every supplement and it can affect that, right? If you give too many B vitamins, you can feed Sibo your too many B vitamins. Right. So yeah.

So we're very careful with supplements when I recommend them I'm very careful. But I love the mentioning of the oral probiotics, which is funny to say oral because you're swallowing them.

No, the ones that you do. And yeah, blueberries. I consider those kind of a bioshield, right. That they're protecting things from getting in. And so yeah, I use that a lot.

Pro kids EMT there are a number out there on the market that are shown to prevent strep infections. Right. When I've got a kid with repeat strep infections, it's not the only thing we use.

But you know, we're adding those oral chewable probiotics. Yeah. Yeah. And the other one I use a lot is fiber. I mean, there's a lot of good studies that show that fiber feeds the the commensal bacteria.

And, you know, the studies in mold and tick borne diseases of like modified citrus pectin, reducing galectin three and glutamates. And so I think that, you know, when I think about getting stuff into kids, I think about that kind of stuff.

I use a lot of smoothies in, in my practice if kids will do it. Yeah, because you can throw a lot in there that they might not otherwise take and hide it.

So yeah. So especially yeah the smoothies for sure. Especially the prebiotics. Yeah. Yeah, yeah. I often recommend if I've got a kiddo where we're on kind of a maintenance thing.

I say, hey, listen, why don't you give. But if it's an older child, a couple capsules, a fiber, a binder, right. Once a

week. Right? You know, two nights. Right?

I've done this with my son, right? He's a teenager. I think he's pooping regular. I don't know, I'm pretty sure. And every once in a while, if we've had a burger or something, I'll be like, hey, let's take some.

He knows it too. He'll be like, mom, where's the fiber? Take a fiber and a binder. Let's just get a little bit of a two day detox and clean out a little bit, you know?

And that can be helpful for lowering histamine, which is high in a lot of kids with down syndrome, another immune system, autoimmune aspect. They have high histamine very often.

So we use binders and that's another tool for sure. But careful with constipation. Yeah, absolutely. And speaking of constipation, I mean I love aloe too.

I mean it is absolutely one of my favorite anti-inflammatories. You know, anti constipation so to speak. And but I learned one stat that aloe should be certified as aloe.

There are a lot of products, at least here on the East Coast that that taste really wonderful.

Folate receptor antibodies and Down syndrome regression

And when you look at the ingredients, there's a lot of sugar, there's a lot of water. And maybe the 10th ingredient is aloe. So I always look at good brands, good types.

Do you have favorite aloes? I don't I look for organic is often what I look for. Yeah, there is a brand. I can't think of the name I still that check the box to send it off.

But I'm looking for organic. But I need to do that more. But I know it's pure, it's aloe and doesn't have any other ingredients in it. So yeah, my son used to take it right off the plant.

It's like that. Yeah, hardcore hardcore, hardcore hardcore. But Georgia's I like designs for Hill Hills. Okay. In kids that can swallow that, I think the liquid is much better.

But, you know, some of our older kids are done with liquids or they're away at school or whatever it may be. So yeah, they're there for sure. Nice. Yeah.

And and you know, we've talked a little bit about our end of one and looking at the child in front of us and, and really trying to figure everything out.

Why is it so important to recognize the individuality, the biochemical individuality of our kids with down syndrome? Yeah, they have, you know, some shared characteristics for sure.

Biochemically, you know, you could say with their features, of course, but when you when you think about it, the extra chromosome, I think there's this is calculated somewhere.

I should have had this for this interview. But it's like 1% of who they are, right. But look, it's a it's a far reaching 1%. Right. But huge implications right?

I'm not sugarcoating it, but it's 1% right. There are 22 other genes right on the in our genome that are affecting our ability to process supplements, our ability to process, I mean, our, you know, our snips and whatnot.

So they have other genes, right, that are affecting their their biochemistry and they have different medical histories, different exposure to medications, different diets.

I mean, you can't give a protocol well to anybody protocol to me as a four letter word. You know, some things that

we use in similar situations, but overall for a person, we don't I don't like protocols because because of all these factors.

Right. Yeah. You can't give a the same you can't expect one child with Down's syndrome to need the same supplements. Who's eating hot dogs and goldfish crackers to another kiddo who is eating the broccoli and the salmon and the quinoa.

And you know, they're going to have completely different needs. Or the one child who's both born C-section, not breastfed, got antibiotics in the NICU, another round of antibiotics later on in life to the kiddo who was born vaginal delivery, breastfed, no antibiotics.

Went home with mom and dad, breastfed till they were two. All that stuff, right? They're going to have completely different needs. Yes, they both have the extra chromosome, but they're going to have completely different needs.

So so that's how I approach them. Right. And and so I call what I practice. Hopefully my book will someday be called Person First Medicine for Down's Syndrome because they are people first.

They are children first and foremost. And then they're yes, I consider their genetics and the role that those are playing and not methylation and everything else.

But but yeah, there's so many other factors. Yeah I could go on I know, I know and I love that, you know, we're both I hate protocols, I love that that's a four letter word in your world.

And, and and I didn't know a book was coming. Is it any time soon or. This is. No, it's a dream. I know it is a dream. I've got it started. I'm working on publishing a case report, and I hope I can publish this case report and hopefully a case series on another topic that is linked to Pans and Pandas, which is folate receptor antibodies.

I wouldn't mind a couple minutes on that. I would love to eat. Yeah, so we are seeing a high rate of these folate receptor antibodies in our kiddos with down syndrome.

And for those who are listening, right, you know, the antibodies they're blocking folate from getting to the brain. Right. These are antibodies. They're blocking and binding.

And we're seeing a high rate. Now, look, I've tested I'm going to tell you right now I think I can say this. I've tested 15 families have paid for the test.

These are children who are struggling more significantly than others, which has always been the goal of my practice. Why are kids struggling more than others? Okay. Another topic.

And so we've tested 1514 are positive. Nancy I mean that's, you know, 90%. So we're testing another 20 and waiting for results. And I've included some kind of typical kiddos with down syndrome.

So we're not skewing things and only studying the kids who are struggling more. But we have seen a high rate in my kids with who have a dual diagnosis of Down's syndrome and autism.

Maybe their non speaking. They've had a significant regression, sometimes very significant. There is a condition called Down's syndrome. It's going by a couple names down syndrome disintegrate of disorder which is exactly how it sounds.

Down syndrome regression disorder often happens around puberty. And they literally just kind of go inward and they get almost catatonic. And it's very sad, of course.

And we've gotten some kids, Nancy, back to baseline, right back to baseline, particularly with finding these folate receptor antibodies. Wow. And are you treating that with folic acid.

Yes. Yeah. Yeah absolutely. Yeah. Lytic acid look Warren often yeah yeah yeah yeah. And for for those who are listening or watching that don't understand this, there's tremendous literature from Doctor Rainmaker, Doctor Quadro, Doctor Rossignol and Doctor Frye in the autism world, especially with the numbers in most of their studies, around 71% of children with autism having these receptors, these antibodies at the folate receptors at the blood brain barrier.

And, you know, Doctor Wells and I published this study this summer on kids with pans and pandas. And the treatment for this is high dose for clinic acid, you know, up to 2mg/kg per day in the in the children.

And I think, Doctor Frye goes a little bit harder and a little bit farther than I do, but, you know, in that population in, in just the pans, pandas, kids, no autism, no do diagnosis in our practice, it was about 63% and small numbers.

You know, we we only had about 47 that fit into that. But I'm thrilled that you're doing that and going to be reporting on it because I think it's a really important whether it be adjunct or comorbidity or whatever word we want to use.

It's a really important finding in a lot of these kids with pans, pandas with autism, and with down syndrome. Once you get your cases reported. Right.

Yeah. Yeah. Exactly. Yeah. And going into those higher doses, you know we will do that when we've got a kiddo with the known antibodies. But I have a number of kids who we're just doing trials with full in, aghast that they can't do the blood test for a number of reasons.

Yeah. And so we're doing doses that we know. I'll start out with the over-the-counter staff and we'll titrate up and and kids in other countries who can't get Luca born.

I'm working with and they're reporting significant improvement in speech engagement, etc. even with just trialing people. And again, I'm not recommending parents do that on their own.

Of course, under the guidance of practitioners is often more helpful. But but we're seeing some benefits for sure. Just trialing it. Yeah, absolutely.

And I think for those who can get the test, it's it's the full eight receptor antibody test. And you can go to that now.org and find out more about it if you're interested.

That I think it's dot dot com okay. Yeah I think you're you're probably right. Like no way. Anyway try try it. And and the, the other thing I wanted to mention is, is one of the things that I learned was that although I was using methyl folate for like our MTT for defect kids, etc., that if they have certain snips and if they have these folate receptor antibodies that methyl folate can't get in, has to sort of go through a back door.

So the acid is really the way you get past this, this antibody. So I think that's an important piece too. But it brings up another question. You mentioned, you know, the other 22 genes in kids with down syndrome and the whole 23 and all of our kids.

Genomics, individualized care, and practical pearls

But but yeah, but what about the genomics? Do you do much in that field with these kids. Yeah. Really good question. I'll do that when I'm stumped. Right.

When we've kind of reached the end and I don't. And there's so many other areas of their health that I look at. So honestly, I've gotten away from those a little bit.

Right? Because of the work I do. I'm working with kids with a whole extra chromosome. Right. And so now I've learned that it matters and it has a place, but I want to see how the body's functioning and I want to do the emissions tests.

I want to do all the other things. And so yeah, so I've gotten away from doing those. Right. We were all excited about those, you know, ten, 15 years ago.

And, and I don't follow that. You know, when there's a snip, there's a supplement, a supplement for a snip. I don't follow that. So, yeah, I'll, I'll only use it when I'm really stumped.

Or sometimes I can like a, like I can I could carry on about like cases I've seen where I'm like, oh, I'll bet you've got a slow Comt. I'll bet you've got a, you know, an ma snip.

You know, you can kind of see in their tests. Right. And and I think that's a really important point. I think those of us who have been doing it long enough, we could almost see what they're going to have as opposed to.

And I also love a, a, you know, Liz Mumford. Well. And, once I had to give a lecture sight unseen for her and she had the MT heifer snip up there as the Brangelina of snips, and I could not figure out what the heck she meant by that at all.

But but what she meant is that that there are hundreds of thousands of snips and and we talk about MT Heifer and the, the thing to do when they have that defect.

And I think what you're saying is, number one, it isn't a 1 to 1. It's it's about the whole picture of the genetics, the genomics, the environment, the, the, the child in front of us that is so important.

And, and I so agree with you to the 1 to 1, this defect and this supplement just is missing a much bigger and more important picture. Yeah, absolutely.

And sometimes I'll just make not not assumptions, but I'll, I want to call it universal precautions. Right. I think we all should use Methyl Foley, you know, varying degrees.

Right. Using our labs to kind of tell how much we need. Are they getting dark leafy greens in their diet? Right where I feel it comes from. Right. And things like phosphate, choline.

If they have a PMT snip, I give all my kids, to be honest, fast material choline. That's the one supplement I like for all my kids. And so there are some things that I just I think we all should be kind of leaning into this.

So yeah, universal precautions in some cases. I know if that's the right term. Yeah, I like that, I like that. And you mentioned the advice for title calling is when you always get.

And I love that. I think that cognitively, developmentally in so many ways that phospholipids in general are so important. Are there any others that you would say, hey, these are my top three or my top five?

I'm using it a lot and a lot of kids. Yeah, that one's a big one for sure. There's there are studies looking at the cholinergic nervous system in children with down syndrome.

It's under functioning. And so we support acetylcholine synthesis. And choline is one of the, you know, ways we make acetylcholine. So that's number one fish oil I often use.

But I'll pull it if I've got a kid with a histamine issue. And I don't know about how that fish oil has been sitting there, if it's been, you know, if there's any histamine in there.

But fish oil is a big one for sure. And beyond that, I don't do everything. I don't really have anything. Right. Sure. With you know, we've got our anti-inflammatories, our curcumin, you know, we use, you know, active if need be the approach resolving mediators for inflammation.

But you know what? The one thing I would do for all kids is focus on diet. Okay, I have an interview online of a woman named Karen Gaffney. Yeah. She's mid to late 40s I watched it, yeah.

Oh, lovely. Oh thank you. Yeah. And and I it was a longer interview than that but I interviewed pre-COVID and then Covid happened and I was like, look I just got to get this one little piece out.

And she took no supplements. And you know, she went to college high school TedTalk swimming, right. The whole thing. And so but she took no sub. I mean, she takes a little something I left that what she does take in there because it's, you know kind of a little something.

And so I don't. So diet first she had a healthy diet and exercise. Yeah. So that's what I would do for our kids. And that's what she said. You know, and and I think the more we can help our families manage lifestyle things, diet and exercise, nice sleep, good pooping, breathing.

You know, the more we can all be healthy because our kids, whether they have pans, pandas or autism or down syndrome, they're there to help us. We want them to be healthy.

But maybe in helping them to be healthier can help our all of our families be healthier, too? Absolutely. Yeah, absolutely. Yeah. Anything. You know, I could talk to you for hours and and we'll have to do it more.

We'll, we'll we'll be at maps together in Myrtle Beach. Yes. Yeah. I'll be there in the fall. I'll be there in the fall. Right. Yeah. See you there. But, anything you want to leave our listeners and viewers with any pearls of wisdom or anything?

Yeah, I think that one of the, one of the key things that I like to encourage parents is keeping your expectation high for your children and not only in their gosh in motion and not only in their how their the trajectory of their child's life, their expectations for school and their independence someday, but also their health.

Right? And if we keep our expectations high in their health, which is my kind of arena and where I'm trying to help these children, will will be able to see when things slip, right.

If we expect their health, them to be unhealthy, we're not going to we're not going to kind of react like we should when they when something happens. So keep your expectations high in all areas and don't let any doctor, anybody ever tell you what your child's future will be like.

No one can predict your child's future. Don't let them tell you what your child can't do right. Focus on what they can. Keep your expectations high in all areas.

Yeah. Especially health again. Yeah. And that's that's a great point for everybody, whether they have down syndrome or not. And in our families with pans and pandas you know there is hope.

Keep your expectations of healing high. So yeah. And and I know you've done that with your own son and and he's amazing. So yeah. Thank you, thank you. Yeah I agree.

Yeah I know. And how can people find you Erica if they want to look for you? Well, we have a website, Pearson Center API also and center.com. And then I'm on Facebook and Instagram a little bit, but, I, I do have a Facebook group person first medicine for down syndrome is my fake Facebook group.

We have a few thousand families in there and and I share. I don't hold anything I do secret. I try to help families who can't, you know, come to see us personally.

And so so those are some ways that people can find us. Yeah. Well that's great, Erica. And you have such a wonderful soul, such a wonderful practice and family.

And I really appreciate you doing this with me. So thank you. Thank you. Nancy, thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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