Is Your Child’s Gut Hiding Chronic Infections? The Shocking Truth About Biofilms Transcript

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Introduction and Guest Credentials

And then those éxito toxins anything with MSI but natural flavors is MSD, anything with monosodium glutamate, sulfites, nitrites, high fructose corn sirup, regular to dissect that whole thing.

But like my really picky eaters, it's just gets hard because we're like low, you know, low glutamate, high low histamine, low Huxley the low carb. But then, you know, we don't want to get too much protein because they're not, you know, you know, their kidneys are getting a little wonky.

So, I, my heart goes out to the families, trying to feed these kids with these eating disorders. This is doctor talks. Real talk from real doctors. Only issues that matter to you most.

I am thrilled to welcome Doctor Undue who's been saying, Doctor Singh is director and owner of True Health Medical Center and Pure Compounding Pharmacy in Naperville, Illinois.

And she serves as the chief science officer for family owned nutraceutical company Tru Healing Naturals. She specializes in all the biomedical interventions for children with ADHD, with autism, Pans, pandas, down syndrome, and all related disorders.

And she's been involved in research regarding compass zinc imbalances, metallo thiamin dysfunction, biofilm related infections, hyperbaric oxygen, and she serves on medical advisory boards documenting Hope talk, autism Hope Alliance, and of course, the executive board for the Medical Academy of Pediatrics and Special Needs.

And doctor has been saying, received her medical degree from Indiana University and completed a residency in family practice at Cook County and in, Chicago, Illinois.

And she's board certified in family practice and holds certification in homeopathy and integrative medicine. And that doesn't even scratch the surface for how remarkable, doctor is been saying is.

And I say that, I know she is way too modest to totally agree with me, but doctor has been saying is one of the most brilliant women in this field, and certainly a pioneer in all of this research and everything we do for kids with special needs.

So thanks on you for joining me. I'm so excited to talk with you and your, group. And I, I kind of think about our journey together, and I feel like you've been on this journey with me this whole time, and I'm just fortunate to have you by my side as well.

And I feel the same way about you. Yeah. I remember the first time I heard you lecture. I was just, you know, I'm not usually blown away by other people's lectures, like coaching girls, all that kind of stuff.

But I was blown away by your lecture, and I just, you know, not only your head, but your heart, are just so golden for everything we do in functional and integrative medicine.

So, anyway.

What Biofilms Are and Why They Matter

All right, I know for accolades, you know, one of the first things I learned from you actually was about biofilms. And, you know, we both agree that the the gut brain connection is huge.

And as I always say, the gut isn't the second brain. It's the first brain. But let's start in all this gut brain connections stuff till because we have both parents and practitioners hopefully listening and and learning and watching.

What are biofilms? So, they're actually, what they, they sound like they're just a little a film material, and they just coat things. So you have a natural biofilm in your mouth and your whole GI tract.

You wake up in the morning and you can kind of feel that film around your teeth. And that's what we call like, the Glick. Okay. Like, so it's it's just a natural biofilm.

But when we have chronic infections, sometimes those infections can stay persistent or chronic. And they hide under these films. And the films are, called biofilms.

And they're pathogenic because they allow these infections to stay in the system and evade the immune system. Yeah. And so there when we were dealing with and, you know, you talk a lot about these chronic infections that are triggering immune activation.

And and even chronic infections can trigger mast cell activation and things like Pans and Pandas is a big problem for a lot of people with chronic issues.

And chronic antibiotics isn't always the solution. Okay. So addressing these kinds of pathogenic biofilms can be helpful. Yeah. Yeah. And I remember when when I first started doing this, you know, said Doctor Baker was one of my major mentors and he was always using prescription antifungals, prescription antibiotics.

But when I started using the biofilm protocols with IRBs, that's when I really started seeing improvements. Yeah, I started looking at this in 2007. I remember going to my daughter's dentist's office, and they had this biotin biofilm degrading mouthwash, and I'm like, what's biofilms?

And then I started looking at it and talking to you, all of you guys, about it, and coming up with these concepts based on the literature. And so these films are just a mucus and if you think about mucus, they're very watery and they're made up of carbs.

They're like carbohydrate. And there's a little bit of fiber and just kind of stuck in between them to hold it together. But what really holds those films together are what we call cations.

So calcium, iron in particular and magnesium. And you think about some of our kids and you think, oh man, they're really low in calcium, they're low in iron, they're low in magnesium.

But my theory is that all those minerals are hiding in these films to protect these bad infections. And when you open up the film, sometimes in my patients with these, like really low ferritin levels and low iron levels, I start opening up these films and it just releases that iron.

But it's really like it's like a fortress. I think of it as like a fortress, like all around these bugs. And it's it's really hard. It's hard and it's made up of these heavy these, these these like metals.

And so, so, you know, the strategies are to kind of open that up a bit. Right, right. And the other thing that, I think is important for everybody to realize is these biofilms also prevent us from finding these deeply buried germs, so to speak.

When we do cultures, etc., people are always like, well, it can't be a yeast infection because you know, nothing cultured on the stool, or it can't be parasites or clostridium or whatever it may be.

These also prevent us from effectively growing this in culture. Oh, exactly. I mean, they've done studies on this and they found that they can't really culture them.

So you go in there with your swab tests, you know, swab your throat and try to get that strep culture and nothing

shows up. And you have all these, you know, like red flags, I've got strep or my patient has strep.

And then I, you know, really seriously think that they're these, these and that particular infection, like a strep infection does hide under biofilms.

Things like Lyme. There are certain bugs that are more likely to do it, like mersa, pseudomonas. And so these films, these Mukasey films, yeah, these new PCR tests and the next gen sequencing and kind of stuff, they can pick up some of the DNA.

Right? So those might be a more helpful kind of look, but then you get a whole bunch of bugs and you sometimes don't know which ones are real and which ones are the bad thing.

I mean, I even like, like if I'm looking for a strep, I like to do the rapid and a culture abscesses. The rapids will sometimes show because they're looking for that antigen and that filtering out.

So sometimes you'll see it on that. And I just tell people like, if you guys are doing like stool tests, and looking to culture like things in the gut for dysbiosis, what you really see is the tip of the iceberg, right?

What you're really seeing, I mean, if you see a one plus yeast or candida, I wrote it through like I would, I would go after that because it's, it's it's just sitting on top.

You're, you're you're just getting that the top layer. I used to do these like little experiments and I, I did like stool tests on patients. And then I gave them, like, biofilm, my biofilm type protocols, and then I repeated the stool tests and the, the first stool test that when we were looking for, like, dysbiosis, I would see like 1 or 2, three bacteria.

And then I repeated it after I opened up the bile. So it might seem like 15. Exactly. It's like, yeah, it's just like blew me away. I, I was like, oh my God, that's all really in there.

It's all in there. And so, yeah, I think those cations that hold that biofilm together. And again, this is a theory, but I think there's lead and aluminum and heavy metals in there too, especially in our metal toxic people.

Biofilm Testing and Treatment Strategies

So when we kind of go go through, kind of go through these films, you know, we're opening up a lot of stuff and we have to kind of be a little bit careful as well, because then we're the bugs that are under those films like bacteria, but there could be parasites, they could be viruses.

There's, there's, there's fungus. And so the immune system is all of a sudden saying, oh, look, look here. And, you know, our patients can kind of look like they they're getting sick.

But they have been right. It's just the body is such an amazing machine that we don't want to be sick with these chronic infections. And so we we trap them, we house them, we hide them, so that our bodies are not acutely ill.

But what we're seeing is all the chronic, health issues and chronic infections because of that. Right? Yep. And I think with our bodies, too, when we can't handle something, our bodies can figure out a way to protect ourselves.

And I think that we do that. We hide the the toxins too, like mold toxins are hiding and what again and heavy metals. And when we kind of, look for them we again that's the tip of the iceberg, right. For people with illnesses.

What interventions do you consider or do you use in addressing this chronic biofilm related infections? So first of all, I kind of, you know, you want to have a suspicion when you have a patient with chronic infections like chronic UTI, sinusitis, otitis, pharyngitis, recurrent just, you know, Sibo, recurrent dysbiosis.

So any of those patients you just like ding ding ding, there's something going on here. Yeah. And then what do you do. Well, if you're already looking at, hitting those microbes, like, I know you use a lot of herbs and I like to use

herbs because I find them very complex.

And antibiotics, the immune system can figure out how to evade them, you know, here. But they they don't give you instant gratification. So I'll, I'll go there with the herbs.

Depending on what my suspicion that, you know, what, what we're dealing with. But, if patients are doing better, then I say, you know, to prevent this from coming back, let's add in this, this biofilm, you know, degrading type protocol.

Some people are super sensitive, so I kind of like to ease people into those kinds of things. Like I mentioned, like if through opening stuff up. And so there's different strategies, there's, you know, I always say, you know, there's that like less aggressive to more aggressive.

So like, if you think less aggressive you can do some natural things. So less aggressive would be organic like very mild acids like apple cider vinegar.

Yes. It's a very nice like mild or acidic compound. And it does have gentle kind of biofilm busting. And a lot of people like, take apple cider vinegar to cleanse their gut.

And really what they're doing is they're like dissolving a little bit of that, that biofilm. And so I like, like a teaspoon of apple cider vinegar with like a little bit of honey just for taste and then some lemon, the citric acid, even things like malic acid, citric acid, glycine, they have this, little ability to kind of break down films as well.

And they also help with kind of, oxalates, especially the, the citric, the citric. So the lemon. Yeah. And in really sensitive kids, I've started even with drops of apple cider vinegar, you know, up to a teaspoon.

But but some of them, you know, react even to that little amount. Yeah, yeah. And another simple strategy is, green tea. I like my chai in particular.

That's another one that's been shown. Yeah. Things like, yeah, green tea. And then curcumin. Yeah. If you think about curcumin, if you have a patient with like low iron, you're not supposed to give them curcumin because curcumin kind of binds iron.

That's why it helps a biofilm. Right. Because it pull that iron away from the biofilm. So curcumin green tea some of these and then spices especially like the oils like some people are into essential oils, but the oils in these spices, they penetrate films and things like oregano, thyme, sage have been shown to be helpful in dissolving these.

But those are those are simple or I'd say more gentle strategies. Yeah. And we also use those oils, you know, in diffusers, you know, like thinking about our kids in, in musty or, or mold homes.

The those oils are also great just for inhalation. As well as, like you're saying, ingestion with the oil of oregano, the time oil, etc.. Yeah, yeah. What kind of oils do you use in the moldy.

Kind of I know. Well, are you Reagan? Oh, certainly. But, Thuja, is great. Just as a detoxify or thyme? Rosemary. Those are the ones that I've seen. The biggest. Yeah. With.

And those have been studied, to penetrate biofilms. So again, when you have these kind of chronic infections, I like the concept of diffusing these, fat soluble compounds.

Yeah. The other thing that I'm using a lot of is fiber, you know, or modified citrus pectin or others, you know, I think about the, you know, you're breaking all this up.

And I remember once you talked about, I think it was you, the toothbrush to come in and clean it up. And I see sort of the fiber, the modified citrus pectin is doing that.

Yeah. So when I talk about my, protocol, it's it's basically three steps. Step one is you kind of lace or degrade this film using these types of compounds and enzymes are another way to degrade that film.

Yeah. It's different than digestive enzymes. So digestive enzymes, you're trying to digest food. But these types of enzymes, you have to take on an empty stomach so that you get to the kind of the, the mucosa.

And these are, you know, these are Mutko LaTeX. Yeah. These are Mutko lytic type enzymes. And so step one is using like a micro lytic or fiber analytic type enzyme.

And one of my favorite substances for breaking films down is disodium EDTA. Yeah. Now people hear the word EDTA and they're like, oh my god, that's a key later.

And it is, but apple cider vinegar is basically EDTA. Yep, it is EDTA. It's just, you know, it's like a kind of a version of it. It's in our mayonnaise.

It's in a lot of things. There's there's never been an allergic reaction to it. Some of those enzymes are cultured in Aspergillus. So some people are really sensitive to those plant right type enzymes.

Right. So disodium EDTA is really nice. And I developed a product that has that in and I won't I won't say that right now, but that cleanup concept where you're having the enzyme with the EDTA is kind of like my, my go to for getting a little bit more serious with breaking down the films and, and then doing it on empty stomach and then doing it like gently.

So yeah, that's step one. And then two is those antimicrobials. And three is just what you mentioned just now some type of binder. Yeah, some type of binder to kind of bind up what you just kind of opened up.

And like you said, it's like, you know, fiber is to me, it's just kind of like that toothbrush. It just kind of goes in and it cleans out your gut. And so I really like the, soluble fibers.

Yeah, yeah, I agree. And what about, stevia leaf extract? In some of the kids, I, I start with that, especially when I'm looking at tick borne disease because although, you know, it's not as good as your EDTA, your disodium EDTA, I do see some biofilm busting properties plus taste plus anti-microbial properties with the stevia.

Do you ever use that? Have you ever found that helpful? I have used it, and I do find it helpful. And so those would be like, you know, kind of for me that a lot of people I see, have done a lot of these kinds of things and they're still having issues.

And so then, you know, probably you like, we have to kind of come up with, okay. Yeah, we've done the stevia. We've done, you know, these natural things.

And so now like we're still dealing with this and yeah, but but one thing I do like the stevia I do. Yeah. It tastes good too. Yeah. Exactly. And I would you said that one thing that Maureen McDonnell, you know, our fearless leader for all those years in defeat, autism now and and still going strong in this functional health world.

She always said to me, whenever you see a child, don't go through the window, always go through the door. And one of the things that happens is people will come to us after being through so many interventions and they say, yeah, I did that.

That didn't work, that didn't work, that didn't work. But sometimes it's either the dosing or the timing. The child wasn't ready for that yet. We had to decrease the mast cell activation or whatever, or it was the brand.

You know, I, I certainly don't mind if you mention your brands because I think they're they're amazing and very well vetted. You know, sometimes they may be using a product in to lower dose or not an effective, formulation.

And I think that affects it. So we have to keep that in mind even when our families are gone through, every seems

like every time Jake and Harry. Every Nancy Dan and undo.

Yeah, exactly, exactly. But, I totally agree with that because, I will sometimes tell people just to back off because we're so in that I call it air mode or we're in like this, like, we're trying to run that marathon, you know, or that sprint, you know, like, you know.

Yeah, you know, back off. Because one of the things I see is that a lot of my patients, they're trying to detox at the same time, they're trying to kill these microbes.

And sometimes, you know, you have to do that. But if you think about it, you know, you're pulling out these toxins and then the biofilms love that stuff.

And then you're just going to kind of like create or perpetuate a bit of an issue. It's kind of like people who say, oh, give me something for you so I can get rid of it.

Yeah, yeah. And so agree.

PANS/PANDAS, Gut Health, and Immune Dysfunction

But I just say you're not going to get rid of it, but you can't control it. And the minute I start detoxing you. It's going to kind of come back. So we're going to have.

To keep addressing it for a little while till we can get your load your low down. Yeah, absolutely. And it and it is a marathon maybe 3 or 4 marathons, but definitely not a sprint.

So, so you know, thinking a little bit more specifically about pans and pandas because we, we do call this podcast Demystifying Bands pandas. Why? And I so agree with you, but why is it so important to address gut health, dysbiosis, biofilm related infections, all of that when dealing with kids with the Pans Pandas diagnosis.

Well, you know how hard it is to get the immune system to behave. Yeah. And so, you know, we think of pans and pandas. Most people might think, oh, you know, we just treat the infection and we're okay, we're good to go.

But we know you. And I know that this is an auto immune condition, and that means the immune system is ready to take off at any time. And also, we know that 70% of the immune system pretty much is in the gut.

Yeah, a lot of those lymphatic, all those lymph nodes, neurotransmitters, a lot of what affects our kids with pandas is happening in the gut. Absolutely.

More serotonin is made in the gut than in the brain. And, you know, we can put kids on SSRI and we can put kids on things for their anxiety and their OCD.

But if we don't address what's happening in the gut, I think we're doing them a disservice. So there's just a lot happening. And so we have to kind of take a look.

Yeah. See what's going on. Yeah. And and you know, I heard you say on another podcast, you know, it really doesn't matter what the label is. We get so caught up in the labels.

You know, this is an immune disease, an autoimmune disease, a lack of immune tolerance, but so is autism. So is, you know, mold, tick borne disease. So are so many of our illnesses.

And it's really about the immune support and that's really about the gut. Yes. So any anybody with any immune issue, any immune issue, they have a gut issue.

And some people will say, well, I don't have any symptoms. And then, you know, you and I will do like a urine organic acid test. That's kind of like one of my go tos.

It just gives me an overall view of a lot of things like mold, colonization and yeast. Clustering is a big one with dopamine. And a lot of those kinds of things really affect dopamine metabolism.

And then then I think if you think about our kids with pans and pianos, dopamine is like front and center too, like dopamine one antibodies, dopamine two antibodies, and how dopamine to move in and around.

So we need to know about that. And then another big thing is oxalates on the oats. Yes. So oxalic acid combines with calcium and calcium regulation and pans and pandas is a big another big thing when calcium, you know, is flooding the neurons and stimulating glutamate and NMDA receptors and inflammation.

So we got to get that all under control and stuff. And you know, so getting an old fast to figure some of those pieces out, I think, is really helpful.

And then I like looking at the microbiome. I just find it super, super helpful. I mean, some people do those comprehensive digestive stool analysis and I will maybe start there just to kind of get, again, an overview that I'm not missing anything like High Cal Protect in that causes inflammation or a big inflammatory thing or mal digestion malabsorption.

But when I look at that microbiome and you see, you know, oh, this particular bacteria, like, say, probe, a telescope array is a big one. This one should take up.

I'm just making up a number. I don't know exactly the number, but you'll get that just. It should be 0.4% of our population, of our gut. And it is 40%.

Yeah. You can't see that on some tests. You know, you you need to be able to kind of quantify these things because if it's 40% that's like that's. And what they find with Provigil is that, it's associated with invasion.

So if you have overgrowth of private Toa, it's an especially private telescope. Right? It's it's associated with overgrowth of invasive species like invasion of fungus, invasion of viruses.

And it's also associated with parasites. So we don't know if it's a private tell us a problem. But it's these associations. And so, you know, there are some you can see these subsets and and then again, work, work on the gut piece with enzymes, prebiotics, probiotics if they can tolerate them.

These biofilm strategies various herbs and dietary interventions and constipation. Oh yeah. Constipation. If we don't treat that first, nothing else is going to work.

You know, yeah. And, what test? What are you using to look at the microbiome? Now? I'm just interested. Yeah. So I've gone through them all, you know.

And figured I've. Gone through them all. I've done tests from doctor's data. I've done tests from Genova. I've done tests for vibrant. I don't want anybody to feel like, okay, but I like the RNA testing.

Parents can actually order this on their own. People can order them on their all. Interesting. Okay. Yeah. Biome side is one, on gray is another one. Tiny health.

And so, you can kind of get a really good idea of what's going on. The problem is, a lot of these companies are trying to sell you a probiotic based on the test, so and they're not looking at the nitty gritty and.

Right. And, and a lot of practitioners I know at maps, we try to teach these concepts, but it takes time. It does takes time to understand this stuff at a really deep level.

And there's this is a lot of practitioners that, may or may not get it. Right, and it's not static and it's not one size fits all. And and it really has to be individualized and not just because of the test, but also because of the child's response.

That's only one test in time. And and the child's response makes such a difference. Yeah, yeah. That's like that's what I find I get I like people I don't know, I know when we first started in this world, our moms cooked food.

Yeah. And we got. Married. My mom never cooked food. My mom burned biscuits. But I did learn that it was necessary, but, yeah, I hear. Yeah, it's it's not as Stu Frieden fellow.

He said there's no such thing as junk food. It's either junk or it's food. And I think more and more we just have junk. But go. Ahead. Yeah, but everything's so packaged. Everything.

Because I see, like, those kids, like eating out of all this stuff and like, what I think of the gut and healing the gut and figuring stuff out and treating the gut.

The number one thing I think about is diet. Yeah. And, I mean, everything so packaged. And I have a couple of pet peeves, but one of my pet peeves are those little, aluminum lined, containers that all the babies are eating a lot of.

Yeah, they're organic, but I don't know, like, I don't know how clean they are because I remember the Capri Sun days when we actually tested and we found aluminum and all that.

And so when we're talking about the guy, I just had to throw in the whole diet thing because. Absolutely. And I think it's like, if I had to take my favorite supplement, it would be diet.

I so agree with you. So agree with you. And, you know, a lot of our kids with pans and pandas will have eating disorders, will have our food and but it can still be done.

Even little changes can make a big difference. And I think diet is so important. Yeah. And it's so hard for these families. I mean, we get them on, like, casein free diet because casein gluten, right, are really high in glutamate.

Yeah. And so like my pans and Panda's kids, I'm like, do you have CF monk. We gotta kind of go there. And then those éxito toxins anything with MSI but natural flavors is MSD, anything with monosodium glutamate, sulfites, nitrites, high fructose corn sirup, regular to dissect that whole thing.

But like my really picky eaters, it's just gets hard because we're like low, you know, low glutamate, high low histamine, low Huxley the low carb. But then, you know, we don't want to get too much protein because they're not, you know, you know, their kidneys are getting a little wonky.

So, I, my heart goes out to the families, trying to feed these kids with these eating disorders. One of my one of my a simple strategies on that is to rub oils on their skin.

SIBO, Motility, and the Vagus Nerve

We just talked about how oils are so important. Yeah, I remember when I was at County and I'd have some of those failure to thrive babies and, we were just like, even if you rub oil, you absorb some calories that way.

Yeah, you absorb those stats. And we're all talking about omega three sixes or nines being so helpful. So you can get some oils, on them instead of necessarily in them.

And I love juicing. Even this like little syringe juices and things like that. Absolutely. And even with the oils, you know, some of our kids are so tactile sensitive, starting with just a little bit of oil in the bath, if they're taking baths and gradually increasing and, and I just I want to reiterate to families, you know, don't feel like a failure if you can't do all the wonderful things you know, you should do and need to do, just make one step.

Don't not do anything because you can't do it all. Do something. Yeah. You know. Yeah. And I, I, I agree with you. Like even a few drops of things. Yeah.

It I, I tell a lot of my families, too, that we get so caught up in, like, these protocols and, you know, like, we have to

do things a certain way, and then we go into that guilt mode, and that throws out that negative energy, and we're trying to shove things down our kids.

Yeah. And what what increases or decreases their glutathione more than anything is stress. I mean, you know, I just. I go ahead I know I was going to say 100%.

I agree with you. So I'd say I have this statement. I say intention is more important than technique. Yeah. So I mean, even I intend to do these things I intend.

But if you don't make it at the end of the day, forgive yourself. Exactly, exactly. Yeah. So agree one other thing. And you that that I've heard you lecture about a lot and that that families ask me about a lot is sibo and Cf0 and I, I've heard you talk about reducing bacterial loads and addressing carbohydrate metabolism and improving gut motility.

Can you touch on either all of those for just a few minutes? Yeah. So we have, we have a large population and what we deal with, with autism of kids, with apraxia.

And so apraxia is not a cognitive issue or an intelligence issue. It's a motor planning issue. So to use that word motor what is motor mean. Motor means movement.

And so they can't organize the movement to make words. Well a lot of my kids with the speech issues can't organize the movement in their gut. And we have these motor complexes in the gut motor.

They move. And if you think about how your gut moves, it's very synchronous. And if things are moving in a synchronous way, we get this. We would say this motility, they might be having bowel movements every day but they're actually not emptying.

Yeah. And so what happens is the bacteria from the large intestines kind of ends up in the small intestines because it's just not it's just not moving in the right direction.

And and it's almost like a reflux of that bacteria. And that what we call small intestinal bacterial overgrowth or small intestinal fungal overgrowth is really this translocated bacteria from the large intestines now in the small intestine, it's not supposed to be there and it's having a heyday.

Yeah. It just looks like oh man, there's food here. I think I'm going to I'm just going to grow and and then in the, the, the, the process of growing, I'm going to produce a ton of gas.

Yep. That's the gas. And the gas is methane. Hydrogen and sulfur. Yeah. And they're toxic and they hurt. So a lot of our patients are in a lot of pain.

But they might manifest that as aggression or behavior and not they can't express that. Oh I feel gassy and bloated. And so if you have a, client or a patient or a child that has this, I will use a belly button as a point of reference.

If the gash is above the belly button and there's lots of burping and bloating and you're flat in the morning and then bloated at the end of the day, think about this kind of bacterial overgrowth that might be making these gases.

Yeah. And they're and they're very toxic gases. Methane causes a lot of issues, especially like more constipation. And then we don't detox and things don't only, hydrogen causes like what you would consider a hydrogen balloon.

I mean, it's just like, and it's detrimental to the brain as well. But one of the worst ones is, and they don't have a really good test for this is hydrogen sulfide.

Issues. So when you do the combo testing, we get the methane gas, right? And the hydrogen gas, but we don't get the sulfur gas right. There is there are new tests that you can do, on.

And the microbiome testing does show the sulfur reducing bacteria, diesel. So Vibrio and biophilia. So you can kind of get a sense that way. But these are, the, the hydrogen sulfide gas acts like a neurotransmitter.

And it's not. So it creates a lot of confusion in the brain. And these people are super sulfur sensitive. So we want to detox them with energy, or we want dnac, or we want to do detoxing with glutathione, or we say, you know, eat a lot of broccoli sprouts.

They will get worse. They will get worse, they. Will get worse, and you'll know it. And the parent will say, okay, and, you know, they might not do great with onions and eggs and some of the sulfur foods.

So when we address these, these things and we diagnose, hemophilia a lot better. Yeah. But I think for our patient population that this motility is kind of the trigger and then it's really common.

Also probably mold toxicity because it affects the bile. And when when you're not releasing the bile efficiently or the toxic, the pH in the gut gets affected.

And that has been shown to cause Sibo. Right. And and then another big one that I think is a pearl with Sibo is it prevents T4 to convert to T3. And so you will see really weird thyroid function testing.

So and that won't make sense oftentimes in these patients as well. It's not just selenium. You know you need selenium right? Right. For a T4 2 to 3. And people will like oh take more selenium.

And then I'll say, oh, you know, let's look for Sibo. Right. Interesting. I have to look at that in a couple of patients that sparks a couple of pearls for me.

But but you know, you we've already talked about, you know, addressing the bacterial load, the antimicrobial herbs, the biofilm not overdoing the probiotics.

You know, the diet we've talked about. But but the other piece in improving the gut motility is also the vagus nerve. And and you know, I, I am a big believer in chiropractic physical manipulation.

Any way you can help that. But do you want to talk about the vagus nerve just a little bit. Yeah. So like, you know, there's those physical strategies like you mentioned.

There's also things like vagal nerve stimulators. I haven't had that much experience with them. I was using those like that numb check tens unit. I didn't really then I even tried tens unit on the gut to help with motility.

I do like the percussion, the precursor, the like little vibrating processor, like the Sharper Image one, and the upside down you because they need a prompt, especially with my apraxia kids.

They do need a prompt in their gut. Like sometimes they need prompts for the speech, right? They need that prompt. But you know, the vagus nerve is acetylcholine or cholinergic related, and the opposite is sympathetic, drive, which is adrenaline.

So addressing that kind of vagus vagus nerve, I would use the term disorder. No. Mia. Yeah. So just I don't know, Mia would be, you know, too much sympathetic, not enough parasympathetic.

And my goal then would be down regulate sympathetic tech and up regulate parasympathetic using vagus nerve type strategies and different cholinergic in the gut.

I like this animal as a med. It helps with those, you know, receptors. I like that one as a med and other strategies to help increase calling in the body.

Methylation is probably the number one thing that makes choline. So getting our methylation strategies in place. Also with those motor complexes getting mitochondrial function working well because you get that motor push with

the mitochondria and then kind of helping sympathetic tone with some like adrenal or adaptogenic herbs can be helpful too.

Yeah. So agree. And just for anybody who doesn't know, you know the parasympathetic system is that sort of rest and digest that, that sort of calming.

Whereas the sympathetic is more that, you know, sort of that, that do that fight or flight that. So we're, we're trying to help the, the vagal nerve in every way we can acetylcholine, etc., to, to be more balanced.

I guess I would say in these kids, because it is so imbalanced and so toward the fight or flight end of. Yeah. Because we do. Have a world is these. Days. Yeah.

I feel like we get really bombarded and you know, we want to go into screen time, but it's a constant hit to that sympathetic nervous system. Yeah. And then you got to do things to up regulate your parasympathetic.

And I think we forget, you know, to take that walk outside and take those deep breaths. Yeah. You know, a lot of our kids will stim, and sometimes I'll tell the parents that's their way of getting their vagus nerve to, to get exactly it a little bit.

Those are vagal like movements. Yeah, I had a young woman recently who had been a non-speaking, young woman for many years, and she always hummed, but I never saw her parents, never saw her without humming, and sometimes it would become screeching or loud humming.

But there was always a low level, and it was until she went through the spellers program and learned to communicate through spelling that she was able to say, listen, that's the only thing that calmed me down.

And she was balancing or vagal nerve this fight or flight her whole life, because she didn't know how else to deal with the frustration of of not being able to communicate.

And as soon as she could, she stopped humming. Go ahead. Yeah. I had a patient yesterday who also a speller and, he had, like, like his he was listening to music the whole time.

He was talking to me. Well, not really talking, but communicating with me, and and so I said, oh, do you need the music to keep you focused so you can talk to me?

You can communicate with me. And he, he you know, he spelled. Yes.

Diet, Sensitivities, and Family Support

It it it's so it's kind of like it, it probably does something auditory to kind of calm down that, that, sympathetic nervous system a bit. Yeah. Yeah.

All right, so back to pans pandas and and not just pans pandas and autoimmune diseases like that, but all neuropsychiatric symptoms, you know, anxiety.

Okay. PD all of that balancing the microbiome is, is so important. Can you just talk one more time about how that affects those neuro psych symptoms? Yeah.

So as we mentioned that a lot of our neurotransmitters that we think of those brain chemicals, we think of the brain, but we don't always think of the gut.

And so again, in pans, in pandas, when I think of that, I think, okay, you know, glutamate is a big one. And glutamate, when I think of glutamate, it's so excitatory and it breaks down into Gaba.

Well, a lot of the bacteria in our gut stimulate Gaba receptors. They did studies in mice where they, they they cut

the vagus nerve. They didn't get stimulation of Gaba in the brain.

Right. So there is this cross-talk with not just acetylcholine but Gaba in their brain. So, they even, did studies with like, different probiotics and pain reception.

And so the probiotic that you take doesn't colonize, it doesn't grow, but it does it does stimulate these receptors. And there's a ton of receptors for stimulating Gaba.

And that's calming. It's relaxing. It helps with anxiety. And it's the opposite of glutamate. And glutamate is excitatory. It gives you a good memory.

But you can get stuck in those memories and when I think of glutamate, I, I use the key word loop if. Yeah, if you're looping and you get stuck and you just can't get out of that loop, think of glutamate.

Yeah. Glutamate. Yeah. And then the other neurotransmitter, dopamine. So there are these bacteria that inhibit the breakdown of dopamine and that the enzyme is called deba and dopamine beta hydroxylase.

And then we'll have high dopamine and not low norepinephrine. And that high dopamine kind of makes you a little OCD and a little er irrational. Yeah. And the low norepinephrine makes you I have attention.

And so a lot of that's really happening in the gut. And so if we can recognize that oh I have Rubin. Oh caucus Enterococcus streptococcus class Julia.

These are inhibiting debate I need to kind of address them. And it's not just about killing the bugs. It's about really balancing the microbiome. But there's so much with that that the neurotransmitters.

So anxiety, depression, OCD that's sitting in the gut. Yeah, yeah. And you know, I just think talking about the gut and helping our family see it's importance is so you know this isn't just about infections.

This isn't just about neuroscience symptoms. But if we get back to the root, which is the gut, we will learn so much more about how this works and also be able to help our kids.

Yeah. You know. Yeah. Well, I, you know, and you, you are such a wealth of information and I could talk to you for hours and hours and just furiously take notes and and all of that, but, and we'll see each other again, soon.

But if there are any last words, you want to leave our families or practitioners with the that you think it's important for them to remember? I think that they're really, having to deal with a lot these days.

It's just a lot being bombarded. And to take care of their vagus nerve maybe a little bit extra and also, don't be so hard on yourself. You'll get there, you'll get there.

And it's a marathon. We said it's a marathon. It's a couple of marathons, and it's not us. It's, not a sprint. Yeah, but it's a learning process, and I kids are.

I call our, doctor means teacher. And, my kids are my doctors because they have taught me so much. And I call my patients my kids, and they teach us as parents and as practitioners.

So much. And, you know, some of us with that, those kinds of beliefs, we kind of spiritually believe they're here to teach us. And, let's learn our lessons and let's move forward and let's leave the past behind us.

Yeah. Yeah. Well, thank you for being such a great teacher and such a great doctor and and for listening because that really is, you know, as Sid taught us, if you listen, they'll come and and we both learn so much from the families.

And I hope for the practitioners that are listening, that's one thing you take away. Just listen. Just be present.

Because these kids can get better. But we need to be present with the families with all they're going through. So.

Oh, yes. Yeah, yeah. So thank you for always doing that. And thank you for being with us. And, I'll see you again soon. It was my pleasure. Thank you for having me.

And, thank the audience out there for listening as well. Thank you all for being here. 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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