The Trouble With Tiny Guts: How Early Disruption Shapes Long-Term Health Transcript

(Transcripts are generated by AI and may contain errors)

Podcast Introduction and Guest Overview

Over 70% of kids' diets are ultra processed foods now. Ultra processed food have no benefit to the microbiome. 93% kids do not eat enough vegetables and 83% don't eat fruits.

That's a problem! The fact that it's even high as 80-90% is a major problem. We have relied on packaged ultra-processed food, which is not beneficial for the microorganism.

It allows that proteobacteria, that overgrowth of inflammatory bacteria to rise and it decreases all of our beneficial good guys. Welcome to the TBD Fit podcast on Dr.

Talks. I'm your host, Daniel Keeley, and I will be guiding you through this wellness journey in terms of optimizing health and longevity, where we unpack the science, the do's, and everything in between.

Come join us. Look forward to seeing you inside. determining factor of a child's immunity, behavior, development, and long-term wellness, the pediatric gut microbiome.

As many of you know me, that's been my focus for the last decade and I'm honored to be joined by someone who has made it her life's work and mission, Greer McGinnis, founder of Biomedical Healing for Kids.

Greers is a pediatric functional nutrition specialist who helps children around the world struggling with chronic health issues such as autism, ADHD, sensory processing challenges, allergies, constipation, eczema, reflux, pans, pandas, and so much more.

All of this, which unfortunately is becoming all too prevalent. Her work bridges the gap between clinical lab science, nutrition, detoxification, and developmental wellness.

Her mission is bold and simple, restore kids' health by restoring the gut. And that's where we start as well. So today she's here to help us understand what's going wrong and more importantly, how we can help begin to rebuild.

Greer, thank you for joining us. Thanks for having me. So I love starting each episode by understanding our guest origin story. What has led them to do what they do today?

Yeah. So believe it or not, I actually was a female wrestler and I was going to college and i was scheduled to go to the Olympics. That's where my mission statement was.

I had no idea what I wanted to be in life. It actually really didn't. i love nutrition. I always had an ambition for it, but I didn t really know I could make a career in it, to be completely honest, it was never actually taught to us.

And so unfortunately I got injured within the first couple months of being in college and my career was over and I had to pivot. I was actually going to school to become a social studies teacher like my dad, because that was the only thing I thought I really good at.

So my sister actually suggested I look into nutrition as a degree and I thought it was fabulous.

Childhood Chronic Disease and Microbiome Decline

It aligned with everything that I really wanted to do and work with people and help them through their life. And so that's how I got started in the field.

Then I switched when my son regressed into autism, trying to understand how to better help him. Just be successful and feel his best because he, at that time he was not feeling his.

So that's where I started more in the pediatric sector, but everything that I've done in my life has actually stemmed from just my love and passion for health and wellness.

Well, much like your story, I too was an athlete. And once my career was cut short, that's when I decided to pursue medicine. That was always a passion of mine.

I knew that I always wanted to serve. What's interesting as we evolved, as were kind of speaking offline for a little bit, is you never necessarily maybe know the route that you're going to end up with.

Sometimes it kind carves a path for you. So I started off treating. Um, adults, younger age adults as well. But over the last couple of years, it's as almost if our sick, our kids are getting sicker and sick.

And adults would always ask me, you know, where can we send our to it? And just by process of need, kind of forced me to, to treat a much younger population and kids really have a place in my heart.

I have three young girls myself. So I know what her firsthand it is to be a father, but more importantly, a mentor and someone who is really, really vigilant of preserving their health.

Because in our modern world, it's almost if the cards are stacked against them. I was reading a article this morning, how even in organic foods, some of the sprays that they're using on the shelves at organic grocery stores are contaminated with pesticides or chlorine.

So it's my kind of cry is that we're being poisoned here in the U. S. whether we acknowledge it or not. It's within the kind loose regulations or even within regulatory body that seems to be withering year by year.

We're doing a lot of harm versus other parts in the world. And case in point, I remember I tell you this story often enough is when I went to go visit Eastern Europe and I would buy food at the market, the produce that I purchase, fruits and vegetables, they would be full of mold the next morning.

even when I shop at the most expensive grocery stores in the US that doesn't exist. I can see that we're having to overcome a more toxic burden. That's a good place to start.

Have you seen Kids over the years also becoming more and more sick or kind of just, you know, as we digress into pans and pandas and kind this, onset of new symptoms or having to overcome a more challenging environmental burden.

Yeah, we. If we look back, even us as adults now, our childhood, very rarely did we ever know anyone with an allergy or asthma, autism, or ADHD, things like that.

I'm not saying it didn't exist. It wasn't as prevalent now. you could have a conversation with someone you just met, and they could say, yes, I know someone with all of those things.

And, you know, oh, my child, or my niece or nephew, so we are definitely seeing this explosion of chronic health conditions more now than we ever have before.

That's where we need to address a lot of these concerns with toxins and microbiome because I think what has happened is my parents used to treat things very differently at home versus how I was treating things with my son at Home when he was sick.

We have to scale back on how much we're actually intervening with just medicine and things like that and say, What, where did we go wrong? What are we missing here?

Because kids are getting sicker, you know, kids, we're declining. It's the first time in history that the future generation is actually decreasing in longevity.

And that's a major problem, but nobody's really talking about it. No one's explaining this on how it starts so early on with just children. Yeah, here's some alarming statistics.

It's suggested that one in two kids today has at least one chronic health condition. I mean, as you just alluded to, it's only getting worse. One in five with eczema, one and five, with obesity, 1 in 10 has asthma.

One in 13 with food allergies, this, I mean, didn't exist largely. And even when I traveled to Europe and I look at my kind of my network, my family is never, when we go out to eat, does someone have to ask for any sort of food modification?

Well, here in the U S it's, you know, your sitting next to the, the five people at the table, four of them have, to, have two. change what's going on on the menu.

One in 13 with autoimmunity, one in six with developmental disability, 1 in 10 with ADHD. This is probably one of the most startling is one and almost 33 with autism.

I mean, it's growing worse and worse, and as they continue to age, One and three with anxiety, with sometimes intrusive thoughts and suicidal thoughts.

And we've been seeing that more prevalent in our clinic now. So the picture is getting worse, but the genes don't explain for this trend. Our genes largely haven't changed in the last millennia, yet everything continues to get worse.

And that's where we lead into the microbiome, which is both my passion, my focus. clinician for the GI map diagnostic solutions, which is one of the gut testing that we use.

Perhaps let's start there and let us talk about what you see, what is prevalent in terms of our younger population, and what patterns you may see and maybe associating that with specific diagnosis or outcomes.

So this is always a tough thing because it's so individualized and it goes back to how that child came into life. So when we are working with a practitioner, we're trying to help them uncover the truth of what's going on with that patient.

We're asking those questions, okay, is this a vaginal birth or a C-section? Is this child formula fed or breastfed? Did they start consuming foods at four months or six months?

When did these issues start? And sometimes it could be as early as a birth, vaginal birth versus C-section birth. We can see a trend, and you're right, there's that great saying that genetics load the gun and the environment pulls the trigger, meaning that our genetics have not changed.

We've always had genetic similarities across decades, but what's changed is our environment. Our environment is what is changing the genetics. And then that person is now developing chronic health conditions even early on.

I'm sure you've seen, you know, kiddos coming into your practice with, they're two, three months old and all of a sudden they have full-blown eczema or they are having acid reflux or having severe constipation.

And we have to go, okay, what happened? Because this baby is brand new, brand-new off the lot. What happened? What changed? Did something shift? You know, we have to look at mom's microbiome.

We have look how the baby came into this world, what they're getting for food, their environment, and what we're putting on their bodies. And we can see this massive shift in the microbiomes where as babies age, there is supposed to be dominant species in the microbiome and especially early on in life.

And as they age, it's supposed decrease and other good guys go up and there's this supposed-to-be major balance and immune system response that's suppose to happen.

But what we're seeing more is that the micro biome is not shifting. the way that it's supposed to. So what happens is, is it stays in this very high inflammatory state for a long period of time, and the good guys aren't able to boost up to decrease them.

We're seeing the shift of the microbiome is staying inflamed. The immune system is now completely dysregulated, the child is not able continue the normal gut progress.

of developing into a mature developed microbiome as an adult.

Early-Life Microbiome Disruption and Antibiotics

I think you nailed it on the head in terms of the epigenetic factors, transgenerational, but when you mentioned, you know, C-section babies are born infants look very differently than vaginally born, and C section born infant's higher microbes such as Klebsiella, Clostridium, Enterococcus, Streptococus, Staphylococcos, we see this very, very different microbiome that should be rather dominated by Bifidobacterium Bacteroides, Parabactoides Lactobacillus.

And unfortunately, we kind of default in modern medicine to some of these aggressive ways to save children, right? But it doesn't come without a cost.

And now looking further still, in terms of the transgenerational epigenetic effects on the microbiome, We've seen several studies where, you know, grandmother's periconception with malnutrition in her Early years of life or grandfather's lack of food in his early years, increased risk of diabetes and mortality, maternal high fat diet, reducing microbial diversity in children, and maternal antibiotic use.

affecting grandchildren's microbiome diversity. I mean, this is transgenerational. Looking at antibiotics in particular, antibiotics or antacid medicines in the first six months of life increases the risk of every allergic disease by four years of age.

And you mentioned eczema, asthma, hay fever, anaphylactic food allergies. This is the reason why we are having kids that are coming in more sick. It's estimated that 290 chemicals in the mom's birthing placenta.

This isn't a joke anymore. Our future generation is suggested that our parents are going to outlive our future generations. That's the harsh reality of what's happening.

And while there's a huge component of our current environment, it also has to look at the health of mom and dad and their parents as well as things are passed down transgenerationally.

If you've ever felt like your body's carrying a little too much of today's toxic load, This sponsor of today's episode is definitely worth knowing about.

ZeoCharge is a supercharged zeolite powder that acts as a smart binder, meaning it helps bind and remove unwanted toxins like heavy metals, mycotoxins, and metabolic waste without stripping away essential nutrients that your body requires.

Zoolite is naturally occurring mineral with a unique cage-like structure and negative charge that attracts positively charged toxins from food, water, air, and even internally produced waste.

The goal is simple, help calm the storm and overwork system by reducing the toxic burden. For listeners of this podcast, you can learn more at zeolitelabs.com Yeah, one of the big, I mean, we know it's actually pretty high.

high estimation or like 60 to 70% of kids in the first year of life will spit up or have acid reflux. It's actually very common and there could be a lot of underlining issues that occur with that too.

But one of the things that they do is they put them on a PPI. That's like, you know, oh, and it resolves a log of time on its own by the time the child's about 12 months.

And that, again, it's just because of development of the body and the system and that digestion. But what people don't understand is that short amount of time, even putting kids on PPIs for acid reflux does increase chronic health conditions, astronomically.

Even SIBO, small intestinal bacterial overgrowth, that can increase by 60%. just because of those overuse of PPI uses. It increases the odds of broken bones and lack of calcium absorption, which then can lead to lead absorption because lack iron.

So we have this data and research when it comes to using these types of medications. But when I have worked with families who have explained this to me, like, oh yeah, we had him on a PBI for a couple months because he had acid reflux when he was little.

Not one of them ever knew that there was these types of side effects that could have occurred and happened and why their gut, you know, changed the way that it did.

These families were never informed, they were not educated on it, They were just told that we could just give this, it'll go away, It'll be fine and there's no side-effects.

When we know that are substantial side effect to using it and that's one the things that is frustrating for me as a practitioner because we should have, these parents should all the data.

They should have all the information that, hey, maybe go to a chiropractor. Maybe do work on the baby a little bit. That could be a reason why. Are there food sensitivities or allergies that we're not aware of?

Is there bacteria in the gut? There's all these other things that could transpiring, but they're never educated on those things. Certainly the prevalence of PPI use, especially in our adults, let alone our children, is pretty extreme and no one is necessarily talking about drug-induced nutrient depletion.

So from PPIs, whether it's reduction of vitamin B12 and obviously the impact systemically, magnesium, calcium, iron, vitamin C, zinc, all these are minerals that are severely depleted with chronic PPI use and even short-term use as well.

PPIs were never meant to be used over two weeks of time. And what I find in terms of the low or this prevalence of GERD or spitting back up, it's often not a consequence of high stomach acid, but insufficient stomach acids, which is determined by the pH of stomach and the lower esophageal sphincter, and which has a muscle which was supposed to tightly shut with low pH.

Unfortunately, as the PH rises due to the prevalence of bad bacteria or the wrong bacteria, the long place where you mentioned SIBO. And so things begin to, your assembly line or your digestive process doesn't work correctly and stomach acid doesn' t stay in the gut as it's supposed to as the esophageal sphincter opens and now we kind of have things coming back up, GERD spit up et cetera.

So unfortunately, this is usually a byproduct of the Due to environmental factors transgenerationally or even now in our modern environment and couple that with micronutrient deficiencies with infections with poor vagal nerve tone, both in mom and kids.

I can speak. And of one, unfortunately, if I look at my second child, well, our second was washing cortisol. You know, during that time, there was a lot of family health issues.

There were a of issues at home. The health of the mom perhaps wasn't as great as, as the first child. And I learned quickly what terrible twos meant. I didn't have that issue with my first.

So it's interesting how. We don't always connect the health of mom, the heath of dad, or more still the the, health our grandchildren in the outcome of our kin.

Yeah, it's, you know, we have always thought that when a baby is born, their microbiome is sterile. where they don't have any microbiome. And newer research, again, we're still figuring out the microbiomes, still learning so much about it.

But now we actually do know that the mom's microbiom and what's an amniotic fluid is actually starting the process early on of like short-chain fatty acids and things like that, which are very anti-inflammatory, are starting to inoculate the gut early as in utero.

So there are so many factors that can affect a child. And again, a lot of these things, I mean, just had a mom the other day who, you know, was like, You know I had to take so much antibiotics because I was positive for GBS like when I Was pregnant and they were trying to get rid of it before the mom delivered and she was, like I just kept taking, three rounds of antibiotics.

Could that have caused my son's issues? It's like, well, you know, there are so many variables and this is where it's so hard for families is because there's really seven main factors that can influence a child's microbiome development early on within the first year.

So we have to take a look and take into consideration all the possibilities, but we'll never be able to always just say it related to one specific thing.

But it is important for our families to know that like it not like you You don't have to do anything. There are things that you can do and there are thing that can research.

But I wish parents were more informed about antibiotics for them taking antibiotics, even breastfeeding while taking antibiotic, but then also giving antibiotics to a child in the first one to two years of life because it can drastically change the microbiome of that child.

I love that you mentioned antibiotics because nothing comes without consequence. There's pros and cons to every decision. And then when I look at my European counterparts, just that's kind of where most of my family reside.

Once upon a time, you would never administer antibiotic without the use of a probiotic. Antibiotic use in the first two years of life increases the risk of mental health concerns later in childhood, adolescence by up to 50%. These are things that are now affecting our kids later on that we didn't recognize started at preconception with mom's health and dad's, but then again, also with the administration of some of these antibiotics early on.

And it relates then to sleep disorders, ADHD, mood and anxiety disorders and other behavioral concerns that we see as unfortunate these little kiddos evolve and early microbiome disruption during this critical neurodevelopmental window has been linked to long-term epigenetic changes in brain development genes.

So we see here how this kind of severe deprecation of veracity, which is associated with, you know, somatic issues in the brain, have later effects in terms of ADD, ADHD.

Yes, there's this whole now issue of neurodivergence, but the microbiome's disruption in children's overall health is seen early on. Like I said, it was sleep issues and colic and atopic march.

eczema, allergies, I don't know how much you're seeing that, but that is probably one of the most common things that our parents are bringing their kids in.

And then later in life, as kids begin to age in childhood, you see constipation, mood disorders, ADHD and autism, Crohn's, juvenile idiopathic arthritis, Type one diabetes.

Yes, to me, that's a microbiome issue. And then in our adults, we see now the prevalence of ulcerative colitis or

celiac, or again, now full-blown Crohn's and then mental illness.

Yeah. Then type two diabetes and obesity. The more rounds of antibiotics, the higher the risk. One round of antibiotic, it decimates some of our microbes up to 50% and two rounds, some which these healthy microbes cease to exist.

It doesn't come without consequence. Here's main issues is over 70% of kids will have at least one round of antibiotic by the time they're two. Most of it is due to upper respiratory infections.

That's the highest risk of being given an antibiotic. Other ones are ear infections, which is the second highest risks, a lot of these don't need antibiotics for.

and that's the downfall is they found that a majority of these antibiotics that were prescribed were erroneously prescribed that they really didn't need to be.

When you have a developing microbiome, the first two years of life, like I said, there are so many things that are rising and falling and they're trying to do the natural progression of the pediatric microbiomes.

when you give antibiotics, they don't just go after the good, or the bad guys, excuse me. And that's what everybody assumes is, you know, if I take antibiotics they're only going to go, after, the, bad, guys.

That's where families don' quite understand that unfortunately they will go. after who was ever in their way. and that can be a lot of our beneficial good guys so if certain microorganisms, like for instance, Acromensia Ficali bacterium are our two huge meat microorganisms that serve a purpose for anti-inflammatory, for insulin resistance, keeping Candida and other things in check, they're just super important for the microbiome.

Nutrition, Ultra-Processed Foods, and Gut Health

They are kind of increasing over time, usually after 6 months to 12 months, and they rise and peak around two years of age. If you have these levels that are just still slowly creeping up and then you put an antibiotic in, you could wipe them out completely.

And now you kids who have dysbiotic gut, high inflammation, insulin resistance, motility issues and all these other things because we wiped these out and a probiotic unfortunately will not fix that.

We would love to say that it would, but it will not. So we have to be careful when we're just, you know, and I mean, again, I was at fault. I gave my son rounds of antibiotics between the ages of one and two for chronic ear infections before I went functional.

so I did not know any better. Cause again I, was taught Western medicine that, it was perfectly fine. There was no repercussions for it. And my sun paid the price and his gut microbiome was an absolute disaster when, we finally did a stool test because, completely screwed up the normal flora of how his gut was supposed to progress and never progress the way it was suppose to.

So, we need to really get this type of education out and say, listen, it's okay if you need an antibiotic. I'm not saying that antibiotics are bad and we should never give them because they can be life-saving.

What I am saying is that after you give an antibiotics, you should do a stool test and actually see where the microbiome is so we can fix whatever the antibiotic did and correct the issue so that the gut continues on its normal path.

Clear, you're guilty. Trust me, I wish I could go back and have a nice talk to myself. I mean, listen, so ear infections to me, that's unequivocal dysbiosis and we see that all the time.

And again, super common and relatively easy to fix, but we this consistent prevalence. To me it's an issue of the

constant assault and betrayal to our microbiome.

There's many factors that we'll get into today to unpack that. But you know, that's just one symptom of what's happening there. And yes, you said is allopathic care.

That's their first line of treatment, right? And it doesn't come without consequences. Something, uh, and again, end of one, looking at myself, I was a C-section baby.

So already I had it, a poor. personalized signature of my microbiome. Then if you look at genetics, which do play a small role, I'm a FUT2 gene carrier and what we see now is Bifido is kind of the key player early on in a child's life and that's driven often by food that feeds that so HMOs or human milk oligosaccharides found naturally in breast milk but if you have this gene which I do you don't produce as much or you know same with my mom and it's not passed down and so the HMOS that we should be providing during breastmilk and during feeding development this time is largely I don t want to say not there but it s less and if your already have a hit with a c-section birth or antibiotic use or again any sort of plethora of chemical soup that our parents have passed down to us because again we passed on the microbial transcription as well from mother to the kin.

This is why we see the prevalence of so much chronic disease later in life but certainly at the onset with kids being unhealthier and a lot of that is reflected in the skin earlier on but none of this is taught in medical school unfortunately.

And so, as you said, is now that we know what we, know we realize that, we can make a change relatively quickly, actually. I mean, when you get on the right treatment plan, We can change the constitution of our healthy microbes.

And, so I don't know how much do you discuss with your patient population, the importance of breast milk? So I, you know, most of the families that come to me are, are you, know they're about two and up, but I do get some families early on that are like, okay, what can I because I have a child on the spectrum.

I a kid with ADHD or chronic health conditions. Like how do I try to prevent or minimize the risk of it happening again? And this is where we do talk about, you know, having, making sure again, c-section versus vaginal birth.

It does happen sometimes where you need an emergency c section and that is perfectly fine. I actually was on another podcast and we talked about I know this sounds gross, but you put a glove on if you have to have a csection and wipe down the vaginal canal and wipe-down the baby because that actually helps produce, when you go through the vagina canal, you literally get bombarded with all those types of microbial organisms that help to start to give the pee-bee their microbiome.

The second thing is using breast milk. One of the main things that I try to educate families and providers that they might not be aware of is with HMOs, the human milk oligosaccharides, Believe it or not, they act like a decoy for children's immune system.

So for instance, if your child contracts some type of bacteria, E. coli, Salmonella, or Campylobacter, any type bacteria, microorganism or anything that's coming into the body to invade the immune system, the human milk oligosaccharide actually acts as a decoy and that bacteria usually latches onto the glycan and we're able to actually remove it from the bodies safely.

which is why breastfed babies have lower risks of respiratory infection, chronic GI issues. They're actually lower risk for hospitalizations because those HMOs do in a very important job.

Formulas cannot replicate HMOS. It's impossible. So this is, why we encourage families and parents to get the support that they need for breastfeeding so they are successful.

And part of it is working moms unfortunately don't get access to pumping or have a support system and that's where a lot of times they have to transition to formula.

So I always encourage my families to make sure that the have support systems in place to be sure they can always ask for help when they because we want children to be breastfed for as long as possible because the benefit and the health is imperative to that child and outweighs anything else.

Yeah, at the onset of that little piece here, you mentioned neurodivergence and to me neuro-diversion is no longer largely genetic and we see that with this severe disruption in our healthy microbes and again nothing comes without consequence.

I love how you kind of tied everything together with the use of breast milk and HMOs and let's shift also now into nutrition and how nutrition will definitely kind-of change the landscape and the terrain because diet can change gut microbiome within 24 to 72 hours.

Once you provide the right environment that the body wants to heal and we can We can definitely, I say this all the time, the food that we're eating is instruction.

It's largely instruction for our microbes, which then feed us. And we are more bacterial than we human, by a factor of almost 10 to 1. I think it's estimated we have 57% bacteria.

So people don't realize we a big walking microbe. That ecosystem is essential. Right? I always make the analogy of… creating a beautiful garden, a robust garden.

You want a lot of richness in species and a lots of diversity in the species. And so what happens though with this constant antibiotic use, right, whether it's pesticides, herbicide, fungicide.

That again, doesn't come without consequence. What we're naive to think is that the use of glyphosate, which is, you know, round up, sprayed largely on a of our crops, kills lactobacillus and bifido species and it preserves Clostridia and some of these other pathogenic species.

And so we're naive again to think that we can kill bugs in our environment and yet it doesn't affect us. The same thing with steroids and all medication disrupts microbes and hormones.

But often we are not making that connection because we go to see a dermatologist for our skin issues, but they're not looking at a GI test. Right. And so all of a sudden now we're having to treat derm patients in my practice and all we are doing is cleaning up the microbiome.

We're cleaning the internal environment, which is then reflected in our skin and our patients get better. Yeah. I think, you know, I mean I've had my fair share of parents coming to me saying I went to multiple dermatologists for my child's eczema.

They told me it's not food related and they just offered me medication or steroid creams and stuff and I'm like, You know, I think what we need to turn the narrative is, you know if I work on a child's gut and I do food sensitivities, we correct nutrition and we work the gut, and their eczema heals, the question should be, what are you doing that I'm not doing?

And it's just blinders and it is very frustrating. Early on in my career, we were always taught everything in moderation, which was the correct way of teaching everything.

It's not saying, oh, you can't have an ice cream this weekend. What that narrative has turned into is it's okay, you could have goldfish today and stuff, and then you can have Cheez-Its tomorrow, so what's supposed to be everything in moderation was supposed be you eat 95% of the time this way and clean.

And then, then can cheat a little bit and it is okay. What we've completely shifted towards is over 70% kids' diets are ultra processed foods now. Ultra processed foods have no benefit to the microbiome.

93% of kids do not eat enough vegetables and 83% don't eat fruits. That's a problem. The fact that it's even high as

80 to 90% is a major problem and we have relied on packaged ultra-processed food, which is not beneficial for the microorganism.

It allows that proteobacteria, that overgrowth of inflammatory bacteria to rise and it decreases all of our beneficial good guys. Pesticides alone chelate minerals.

So if you are eating and consuming stuff with heavy metals in it, it's basically pulling out minerals of your body that you don't already have because you're already likely deficient.

There's a huge, what I call the hamster wheel cycle of endlessness if we don't start. It's hard for us as practitioners because we're trying to get this information out and we are getting bombarded with people who are very wide in the influencing medical field of saying it's not a problem, it is not big deal.

But if you're not the one treating the sick patients, I can see why it isn't a big problem. We are, and this is why its a We are not mastering the foundation and our foundation has deviated.

So I think back in the 1900s, one in two of us were farmers and now we're largely, we were buying a lot of things out of bags or boxes or in plastic, which I say all the time is not native to our biology and it's ultra-processed as you suggested.

I call it crack foods, C-R-A-P, completely refined and processed foods. Ultra-Processed foods devoid of minerals, devoyed of healthy nutrients. We don't get enough fiber.

That's a huge. huge factor here. We're not eating fermented foods, both which are increasing short chain fatty acids, which is very much driving a healthy microbial environment.

There's too much animal food now, this whole notion of carnivore diet. goal of this conversation is not to unpack that today, but too much animal food can reduce microbial diversity.

And here's the biggest thing, just like you said, it's these additives, these emulsifiers, is these sweeteners, which trigger an increase in intestinal permeability, which drives autoimmunity later in life.

That's barrier dysfunction. And so the first signals increase in extracellular ATP and pyreneogenic signaling. These artificial sweeteners increase this pyrenergenic signaling in extra cellular ATP in the gut microbiome, which increases the risk for chronic disease, Which we don't see later In life, but we're not making that connection earlier in Life.

And up to three quarters of our microbiome is very much influenced by our nutrition and our lifestyle. And the nutrition for me is we've kind of over complicated things.

Like we go to a health food store, but yet we're reading labels. People don't stop to make that kind connection as the ingredient should be the food. And what's interesting, according to the RDA, I know we just came out with a new food pyramid, which is an upside down food pyramided.

So RTA for adult males, if I'm not mistaken, they haven't changed it, consume about 38 grams of sugar daily and for females about 25. And my suggestion is half of that.

When I speak to my adult male, s I help them target around 20, 25 grams, females 15 to 20 grams and kids half of that. But if you look at one apple, yes, there's root and yes there is probiotics, prebiotics.

Yes, There's good fiber, micronutrients. One apple that we've hybridized has 18 grams of sugar. That to me contains more than what a healthy young child should consume.

But yet no child is eating only one piece of fruit per day. They're eating the bread, the pasta, this cereal, definitely packaged goods, and not even just one peace of fruits.

And to me, vegetables and fruit are not equal. While I'm not trying to discourage people away from eating healthy fruits, For me, very simple is that we are over consuming sugar.

We're changing our microbial diversity and the food that feeds on meat versus kale versus fruit are all very different. And I'm not trying to discourage healthy nutrition in the regard of getting adequate sources of fruit and fiber, meat and so on and forth.

But while as you said is, you know, a little bit of everything used to be the rule of thumb. Now we know that everything is not what it used. Yeah. I mean, most of them, so in my population, especially with autism kiddos and ADHD kiddos, Most of the will eat fruit more than they will vegetables.

And that's just, you know, it's a, a sweetness thing and stuff. So it hard to say, to make a kid eat more vegetables. Ideally, that's amazing. I kind of have to take a step back and say, okay, if in a perfect world, we should eat like this.

But unfortunately, it's not going to be perfect, and I'm looking for sustainability. And I know I'm a little different because again, working in this population, I can't be as strict with these children because of their feeding issues with ARFID and feeding and food sensitivities and things like that.

But I am okay with getting a couple pieces of fruit over a vegetable if that's what we're going to get. If we could at least get other nutrients in, because a lot of our kids only eat 10 to 15 foods, if I was lucky.

And a lot of them are just, you know, pasta, chicken nuggets, pizza and things like that. So I can at least expand. The goal is to expand and if we can get a couple extra pieces of fruit in there, it's a win.

And then the goal was to elaborate off of that We have to, my whole thing, especially with diet for different people, is this is why some people thrive on carnivore or some People thrive more on plant based, as I always feel that with diets, you have To eat for what your body feels is right.

I did plant-based for a short amount of time because my husband wanted to try it, and it was the worst I've ever felt in my entire life, actually eating more plant based than anything.

My body thrives on higher protein and minimal carbs and more fruits and vegetables. That's where my body feels its best. So for everybody, I always say it's not a one size fits all.

And that's why I didn't really like, we didn' like the food guide pyramid originally.

Personalized Diet, ARFID, and Family Food Changes

I'm not big fan of the Food Guide Pyramid. Now we have the MyPlate, which works a lot better in terms of just education and understanding and things like that.

But I can understand the concept that, you know, grains do need to be minimal compared to what we were providing, because we we're overdoing it. There are things that like I definitely do agree with, But I also think everything should be more based on the individual person, their gut microbiome, and what makes them feel their best.

I want to echo what you said because I 110% agree. So again, my suggestion is not eat less fruit. My suggestion, is it's personalized, much like you've said.

And so when people come to us and they say, hey, you know, what's the right nutrition plan for you? I usually say well, first, let's look at your microbes.

What's going on under the hood? because that will dictate instruction. But second is, I usually suggest eat what your ancestors ate because, that's going to be the microbes that are passed down to you that you're typically going

do better with.

Second to that is eat seasonally. We have largely evolved around the equator where we can consume foods that, are higher rich and kind of more carbohydrates, but as we've moved away from the Equator, Some sex of the population, they don't do so well with that anymore.

And that's indicative of eating seasonally, which we've largely lost because now we go to a grocery store and berries and avocados are provided to us all year round, 24 hours a day.

The timing. also matters dramatically when we're eating certain nutrients. And a lot of us are, you know, burning the candle and we are trying to stay up later to be more productive and eating later at night.

Well, with Sachin Panda's book, we saw that circadian biology certainly matters and the timing of our nutrients will also dictate our metabolic health.

When we were looking early on, You mentioned ARFID, a lot of these kids who are coming to us with sensitivities, worse yet, allergies are very, very kind of picky eaters.

To me, Bifidobacterium is the missing link and Biffido bacterium should make up 80 to a hundred percent of the infant's microbiome at birth. But yet three in four babies we see now have severely deficient levels of BIFIDO bacteria and one in 4 have no detectable BFB bacteria.

This is interesting. One in three C-section born babies had no detectable bifidobacteria. And that then confers a three times more likelihood of developing eczema, asthma, or allergies by years to.

of age. How interesting how our microbes are dictating the health of our physiology, which we then see later. And worse still, we see much later in life, as I mentioned previously, and we're not making that connection of how it was set up earlier on.

That's why I think in terms of infertility, And again, we're not maybe going to discuss that too much today, but as that is aggressively on the rise, I look at my circle of friends and it's crazy to see how this has become a very big problem.

And we treated patients who come to us with infertility and we start with cleaning up the microbiome, understanding what's going on in terms of immunology, Problem starts earlier on and we can make a change with lifestyle factors.

So how are you discussing this in terms with your patients? Obviously, because you know, we're talking to kids, but kids aren't doing the grocery shopping, right?

I ask parents all the time when when they tell me what their kids are eating, I'm asking you. Who's paying for this? The child is not driving to the grocery store, right?

They might be putting it in the cart, but ultimately it's the parent's decision, you know, to what we purchase and what ingest. So really it starts with educating the parents, which there's kind of this novelty shock when they come into our office, because ultimately we are kind the servants of our child in that regard.

How are you discussing lifestyle modifications with your patient population? So I have all my families usually that are working with me have like a food log that they create.

So, I can actually see over a course of three days what their child is eating. And that's how we start to make changes. Some families come to me, they've already gone gluten, dairy free and things like that.

They've started removing processed foods and we're focusing on whole foods, which is great. Then some families are starting with and they're like, okay, we can't get my kid to eat anything.

This is all they eat. So I say, okay, let's just work on snack first. Okay, so if you give a child a bowl of, you know, cheez-its, because that's what they love.

That's their safe food. What we're going to do instead of giving them that whole entire bowl, of chee-it, we are going give them half a ball of cheese, and then a side of fruit or something else that they've eaten before in the past, or they do like to eat.

And we going plate it and walk away. So we get into this routine. So a lot of our kids, especially with autism and ADHD, are routine kids. We never want to really always disrupt their routine, so we just go with the flow.

But what we need to start doing is challenging that a little bit and saying, okay, let's just add a couple of things. Let's take half the Cheez-Its away and add some fruit next to it and walk away.

And let see what happens. Nineteen percent of the time they eat it, you know, because it's still safe foods. It's those things that they've eaten. But now instead of a whole entire bowl of Chee-iits, they're also getting fruit with that instead.

And then that's when we branch off, when start making swaps. And I say, just swap one thing for one. So your kid likes Cheez-Its. Okay, great. Let's go see what's a gluten, you know, dairy-free option that is out there that they could, maybe they like Pop-Ums or Simple Mills crackers or something.

Maybe we can just swap that out, but if we go one food for one, it makes it more manageable than a family trying to literally change breakfast, lunch, dinner, and snacks.

We're just literally changing a one thing for a thing. Take a pasta, let's try a different type of pasta. let's try a gluten-free pasta or a lentil pasta and see what happens.

But we're making these small changes just so that the child understands that we are not changing everything and usually when we make them feel a little bit more safer and comfortable with those changes, it does make it easier to change it overall.

Rome wasn't built in a day. I'm not asking my families to changed everything overnight. Let's just start the process. It's going to take time. it took me months to get my son gluten free because he has RFED.

But he's been gluten-free now for almost two years. It's interesting because I also had William Davis here and his book, Wheat Belly, and a couple others, very much an advocate against any consumption of wheat.

If I look at my Italian heritage, When you look at gluten, the protein in wheat, they are not stripping the wheat of the germ and the brand and only leaving the endosperm, which is largely gluten carbohydrate and very starchy, much like we do here in the U. S.

I think 90% of wheat is derived from southern Illinois here, where it's bleached and it sprayed and hybridized and again, it is stripped of micronutrients.

that are beneficial that confers some of the vitamin E, vitamin B, some these other vitamins. If I look at MTHFR as an example, so going back to genetics, I have a 67% reduced capacity to methylate.

I had patients that come in to me all the time that saying, well, you know, I have this gene, as if it's like deterministic or their destiny. And yes, that impacts methylation and histone decetylation, and samin and methyl donors and the ability to produce glutathione.

So the list continues, so I help educate them. But that's one small component, what about glucuronidation and acetylation, transylvation, etc. some of these other pathways in our phase two detoxification.

I digress. But the point there is that if I look at my Italian counterparts who eat pasta every day and one of the blue

zones that exists in Italy, what's the disconnect?

Well, the disconnected is they haven't manipulated their wheat. So that's why when you go there, you don't feel as sick as you do when your consume the wheat here.

And second is the nutrients that are in the weed actually support the reduction in methylation. How interesting. If nature made it, it's OK. Man made its day away.

So when you said trying to find a substitute, I couldn't agree more. But I take it even one step further, because to me is if things are coming out of a bag, box or plastic, again, if nature may it is OK if man made to stay away, so my question is, OK, why are we allowing this in our homes?

Because then we are normalizing these foods. And this to be is no longer food. This is ultra processed food, So we don't have a garden back here because where I live, we just don' have that much land, unfortunately.

And we live by a forest preserve, which is nice because high trees, We have clean air, but we can't our own garden. But what we do have is herbs on our back porch and we have shallots growing or garlic shoots growing, chives growing and our kids just go out in the summertime and they start chomping on that because kids love to kind of eat all the time in one respect.

But we now normalized what food actually looks like. And so what I encourage with, with my parents and patients is that. We redefine the paradigm of what food means.

And again, if it's coming from mother earth is largely okay, right? And the goal is to find that healthy balance that you lose too. So I'm not restricting fruit by any stretch of the imagination.

What I am suggesting in fact, is eat as much as you guys want to eat. Allow your kids to you eat, as long as it doesn't come out of a bag box or plastic.

I completely understand what you're saying with that. With certain families, that is 100% doable. And so for some families it is not doable, so we also have to take into consideration that when working with autism kids, depending on where they are in their life and journey, that may not be feasible.

And we have to be able to work with the family and say, yes, if we could get them to eat everything whole food, that is ultimately the goal. But again, what's sustainable, because some of our kids are gonna be adults, and we also don't wanna restrict too much where they feel that they can't go do these things because it's going to harmful for them.

There's a fine line. So I'm not the person that says, We have to get rid of everything, especially early on, because remember, we're dealing with families who might not have this education and understanding.

And it's a journey and everyone's going to have a different starting point. So by just making some swaps and changes early, on we do open up the path of saying, okay, now that we have, this let's go to here, almost like a step ladder.

Sometimes when parents are coming to me and they're changing supplements and diet and then they are doing toxin free, it's a lot coming at them. And that's where I've seen families falter and not progress is because they get so overwhelmed and bogged down that they just can't handle it.

So if we use it as a staff ladder and say, okay, let's go from this step to this, step and this steps to the step, making those meaningful changes, it's no different than when I used to focus on medicate supplements.

And, you know, we would talk about diet, but we will just do supplements and then once those supplements stop, they never made the diet changes that and things went right back to where they were before they didn't progress.

So I always take it in steps with my families and see, Okay, that's just to do this. And then when we get here, then we can go to the next step. And that's how we make those meaningful changes overall that work best and take that pressure.

We're under a lot of stress and pressure for a of us autism parents. That's what I'm trying to take away from them so that they don't feel that So I want to applaud you, how you've been able to treat this, you know, subset of the population that continues to grow.

Think with, again, much like our patients have blinders, so too do clinicians and practitioners, right? I'm speaking to kind of a subset other population, that we treat, which is growing in terms of autism and neurodivergence.

But ultimately, I think what you nail in the head is that it starts with education. And my goal isn't to. speak in terms of tyranny here or in a one-way model, my goal is to empower.

And so how I look about that, and I can speak with a degree of conviction because I have three girls. So I understand what it means to be a father. One thing is, what do we normalize?

And what I say is we no longer live in congruent with our evolutionary biology. We're staying up too late. we normalized food that's coming out of a bag or a box.

But who's making that decision? That decision comes from the parents. And so that's why it largely starts with educating the parent. So when I have a team family meeting in my office, the, parents come out with 110 new ideas of what healthy lifestyle medicine actually looks like.

My goal isn't restriction, my goal is inclusion. How I like to educate is I'll give a very, very brief kind of anecdote with my children. Let's look at Halloween.

So Halloween obviously is crippling our kids in terms of sugar consumption. There's no other way to say that. You go out and you collect candy. And if you look, unfortunately, as kids begin to age, I think it's estimated that teens now consume 145 grams of added sugar.

If you're looking at early onset in life, babies, infants, our young children should have no grams of added sugar. But yet, what parents aren't doing with some of these foods, there has that component of adding sugar, which again, doesn't come without consequence.

Okay, so what did I do? I took my children and I said, okay, let's read. I bought some this sugar these, you know, these candies. And I say, Okay. Let's look in the ingredients.

They couldn't pronounce some stuff and said does that sound like nature made it? They go, no, what is that? Heck, okay, those are synthetically derived.

So again, if nature made it, it's largely okay. If man made, probably best to stay away. And my goal was to empower them. I didn't restrict, I don't tell them what they need to do.

GI Map Testing and Pediatric Treatment Strategies

They can't have it. All I told them that you can have as much candy as you want from Halloween, but if you have any cavities and we have to go to the dentist, you're paying for it So that's one, which parents are already blown away by kind of that concept.

But then two is I educate them on what nutrition is. So in my home, we don't necessarily restrict fruit either. I just help educate him with how much sugar is in each fruit.

What are the benefits? What do the fibers in issue? One of the phytonutrients, one of them micronutreents. One are probiotics, prebiotics that are conferred.

And I'm speaking to them almost like an adult that I would educate in terms of what healthy nutrition can be. and what happened was. When I, my aim is to empower them when they came back from Halloween, they all went to the garbage can and threw out every single candy that they collected.

I didn't, I don't say anything to them. That was one of my proudest moments as a father. And I. Didn't encourage that. Like I said, nothing was said to him.

They just understood is this is not healthy eating. That's the point, that's my goal. Which I understand. So with, say for instance, for example, my son has ARFID, avoidant restrictive feeding intake disorder.

It is more of a psychological aspect where he has zero pleasure in eating. Eating to him was always a chore. You and I could go out to dinner and be like, oh, I want this.

salmon risotto and it was so good. And he would be like, man, I guess I'll have a burger. Like, you know, like there's just no excitement when it comes to eating for him.

So from having a kid who had zero interest in eating, getting him, who was malnourished, he was behind a whole entire year, bone scan wise, because of malnutrition and stuff.

You know when someone brought in Wendy's chicken nuggets and he ate them, You have no idea I cried. Okay, and again, my background is in nutrition and I was like, I'm gonna have a kid that eats this healthy diet that has all these vegetables and then I have kid who has RFID, which is irony in its own self.

I've had to learn and be humbled by the fact that I have to accept those small wins if I can get my son to eat something. Now he's great. What did I make?

I made crab cakes and he ate them. Okay, we have come so far, but I understand the challenges of stuff when you're dealing with neurodivergence and you are dealing a kid who has ARFID where I can educate him.

Now he understands he has to be gluten-free and so he learns to read the labels and we've gotten to certain aspects of reading labels of what has wheat and gluten and how he deciphers and if something's safe because it's made in a manufacturer with.

because I have to be able to make sure that if he goes out and lives on his own, he's got to makes these good choices for himself too. But I also know that we have be careful because there is components, there education and knowledge knowing that, if we restrict kids too much, this could develop eating disorders later in life too, my son has ARFID, that is technically an eating disorder.

So I had to careful with what I say, like when he go down, say, for instance, a cereal aisle, he'll be like, well, these Lucky Charms are gluten-free.

And we'll have a conversation and go, okay, I understand that they are a gluten free. You're right, 100%. But is this something that we think is going to be helpful for your brain and give you the food and the fuel that you need to healthy and to do well in the morning?

He goes, no, you're, right. It's got all this extra stuff in it. I want families to understand that we can have a happy medium, okay? There are people that live like you live in this type of world where if that's how you wanna live, it's 100% fine, but there is an alternative world that is still okay to live into.

I don't think it is always one extreme or the other. There is a medium for everybody. Again, I'm never looking for perfection. Yeah. And I don't want to undermine, you know, what you've made work within your patient population or particularly with your child.

This is the whole notion that medicine needs to be personalized and what works for one doesn't always work for another. So again, I only want you to applaud you.

I also want speak in terms of helping our Parents understand what healthy eating actually looks like and what we begin to normalize because our modern grocery stores to me is not normal, but yet we normalizes as healthy, right?

If you look at the produce section, it pales in comparison to the packaged food section and that's by design. And so looking at our fit in particular, that it's interesting because again, end of one, you can speak to that too, because we've had patients that come in with similar background.

And yes, there's a neurological basis there. As I had prefaced early on, in terms of our microbes, that changes brain chemistry. That changes our neurology.

In terms our nutrition, That is instruction to feed it. But looking at a sensory basis with our ARFID patient population, There's a lack of minerals. Often enough, I will find zinc deficiency.

I'll find many other minerals or vitamins, B complex, iron, vitamin C, folate. There is a very apparent deficiency in terms of how the body can repair and heal and if we're not providing the right context in terms of nutrition, not that you're not.

I'm sure what you are doing with your son largely works. My goal is again to educate and help reframe our parents' paradigm in term of how we can improve outcomes.

And again, what works for one doesn't always work for another, so it becomes personalized. But one way that we do it is I call it a one-by challenge. So our goal is to pick a food that they've been too afraid to try or they haven't ever tried and just take one bite and see how they feel.

And to me, what's happened is we're no longer eating the right kind of foods. I always say bitter equals better. Sugar used to be sold in the pharmacy.

We understand the addictive component. And we understand why we crave certain foods, these hyper palatable foods these packaged foods but yet again, that's not serving us anymore.

and we see this with the chronic conditions that continue to rise in our kids. So maybe let's segue into other treatments because when you're going through GI map consults, right?

And so that's one of the tests that we do a lot with our parents, but now also with the child population. Perhaps you can unpack for us what that test is looking at, the depth of test, they power of this test.

And then in terms of treatment, how you are considering treatment suggestions for our younger kiddos. Yeah, so everything will depend on age where that child is because the first three years of life is kind of like different stages.

So there's three main different ages, zero to one, one to two, and then two to three. We, you know, at any time there is say an antibiotic use, there a really bad GI sickness or illness or something.

I even saw this in COVID when kids were getting really hard cases of COVID. Anytime that there are anything that could be detrimental to the microbiome, we do suggest doing a stool test just to, you know, make sure everything is okay.

And then working with practitioners, were asking all these questions like what's going on with your patient? What's the background? what are their diagnoses and And we're kind of looking at the microbiome and seeing where there's issues.

And the GI map looks at several different factors. It looks that upper GI, so it looks Fusovacterium, which is in the mouth. Looks at H. pylori in your gut and your stomach acids, elastase.

Its looking your small and large intestines and all the different things that are going on. Parasites, beneficial

microbial species, inflammation, gluten sensitivity.

And we're kind of trying to put the puzzle pieces together. I always call it a puzzle piece because every single case is a Puzzle. So what we are trying do is get all the information and then figure out a And depending again on the different stage of one, two, and three, what the interventions are going to look like.

Obviously for a kiddo who's zero to one years old, the intervention might be very minimal. You know, we might have to just do, because the cool thing about a pediatric microbiome is you don't have throw the kitchen sink at them.

antimicrobials, antipyrocytics, all these probiotics. We don't have to do that to a child, which is really cool. That's one of the main reasons why I love working with little ones.

It's because we don' t have do all this craziness. But we can do a lot of diet interventions and diet changes and stuff like that, to kind of just push the gut into the right direction.

And that's ideally where we want it to go. Or what we have to do is say, okay, maybe we just should use a probiotic during this stage for about a month and then see how the child is doing.

And then again, at different stages, we to say okay this is normal to see this. Like, you know, I had a patient, a provider the other day who had And Klebsiella, which is a very prone proteobacterial, you know, inflammatory organism was like super high in the pair.

And the provider's like, do I need to give an antimicrobial? I'm like no, totally fine. You have a baby's breastfed, haven't even started feeding yet.

Totally normal to see this really high and a child. Same with the SEGE, which is inflammation and the zonulins, coming down. you could tell that there were some areas that we could work on, but totally normal to see this in a five-month-old child who hasn't started feeding yet.

So we have to take those nuances into consideration, and that's why it's important for providers to consult with us and say, hey, we need to make sure we're doing the right things and we are looking at this at the You don't want to give a child, you know, supplements or antimicrobials or antifungals or anti-parasitic and mess with the immune system responses that is trying to develop by the time a trial is here.

We want certain natural progressions to happen. So you mentioned a lot of different markers, which are key to, I think, understanding what's going on under the hood, as I always say, kind of in our microbiome.

Also understanding the interplay with our mycobiome, so while we have decoded the bacterial genome, we're kind continue to scratch the surface on inter play with the myco biome or kind the fungal Um, same with, you know, how did we evolve with virus and parasite fungus and bacteria?

We haven't evolved to deal with them all the same time. And now what I've turned my unlucky seven, so those four plus heavy metals, environmental toxins, and then stress or trauma as we continue to age.

And so again, the environment is really set up early and then it dictates the outcome later. In terms of treatment, so you mentioned the addition of probiotics are a very gentle nudge in some cases.

Let's look at maybe first in your kids with autism because it sounds like you see that a lot more common. What are certain treatment suggestions or treatment therapies that you have seen work very well in this population to make a shift?

Yeah, so early on when we were talking about the bifido, the microorganisms, there are four main biphytos that are super important early-on. So a lot of times that's why it's certain.

There's actually, you have like these infant probiotics and then you like kid probiotic. And a little of the infant probiotics are going to be all of your different types of biphytos.

And then as you get into the kid probiotics, you might be seeing lactobacillus and some bifidose, but then also some other strains. So depending early on in the first couple of months, which we've seen amazing results with just using Bifido supplementation for eczema, acid reflux, and things like that, especially with stooling if a child is having issues with constipation and diarrhea.

So using probiotics early on with the bifido strains have been shown to do wonders within the first year of life. And then after one year, they could still get Bifidos, but then usually they're getting some other strains with Lactobacillus in them as well.

That just also can kind of push the gut into the right direction as Any specific brands that you have found that work very well? Yeah. So Metagenix has like a liquid probiotic for kids.

I love the designs for health. They have an individual packet and the Designs for Health one also for that one specifically also has digestive support in it, which can be really helpful for kiddos with acid reflux.

So those are kind of like my main ones that I kind go to that. I like the best. Anything that's like a liquid probiotic is usually what you're going to find for the infants because it's easy to mix in bottles and things like that or stick it in their mouth.

But then again, that Designs for Health one with the packet is like one of my favorites too. And then in terms of immune support or let's say obviously is our microbes will dictate the level of immunity or what's conferred.

But if you do see prevalence of parasite or severe overgrowth, obviously that's then portrayed in the skin, let say later in age two plus, what kind of treatment or therapeutics are you integrating?

I don't like to use a lot of combos. I do not use an antimicrobial or something that has a ton of combo in it because that can sometimes be really harsh on the gut.

There are some combos that I've used for parasites and things like that, but sometimes I'll just use food. Pumpkin seeds, pomegranate seeds. We can definitely use herbals a lots of the times for stuff like Or you could individualize like wormwood, black walnut, and tincture those individually.

Earthly, you know, cause a lot of parents and practitioners are kind of very scared to start using a lotta herbals. But like Earthley has amazing brands for parents, practitioners to use that are super gentle and glycerin based.

And I find that those work very well for the population. And so that's what we're looking for. A lot more of these glycerin-based ones for compliance and adherence.

It really helps when things kind of taste good. But we also use a lot of tinctures that are very approachable and less so the combo products that you allude to.

Sleep, CBD, and Closing Advice for Parents

Anything else in terms of lifestyle modification, obviously the necessity of movement or better still exercise in your young kids and how that influences the microbiome and confers immunity.

Anything that you're discussing with parents or with kids in term of life style medicine. Yeah, so clean water because, you know, kids drink pound to pound like way more than adults do.

So having clean, water, having a water filtration system with purified clean food is always a big top. Getting whole foods, like really trying to avoid packaged foods early on, and working with the kid on like baking together and cooking together because I always feel like The more you could do together and get the kid involved with food is

the better of the options.

Movement, sleep is super important, and sunlight and grounding. Those are like my musts for every kiddo to just go out and touch the ground, getting that sunlight or, you know, because a lot of our kiddos are short, low in vitamin D, so getting them out in the sunlight as much as possible is vital.

In terms of sleep and actually before we say go, I love when you said cooking. Um, cause I was taking my daughter to, to dance last night, which again is crazy to me because of the timing and it's so late and how that is again, not conducive to our evolutionary biology to be up so lake.

But needless to say, took her to the dance. There is something to to stay about loving. What you do and engaging in playful, mindful activity that provides a lot of utility.

So I'm a proponent of that. And so I took her to, to dance and I, I sat on the way home. I said, you know, we should really start a cooking channel. Like cooking for kids.

Right. To kind of empower young children, because once you take ownership of the process, you're much more likely to make better choices. Right? And so it goes again to the same thing in terms of empowering.

And she's like, can we make sushi? Cause they love sushi. I go, yeah, let's absolutely make. Sushi. Yeah. So the other day, what I did is I just pulled up on YouTube, how to.

Make sushi, And so that's, I love that you said that because it makes it enjoyable. It makes. And then they dictate the ingredients too. Right. They understand then what, what healthy eating can look like in terms of sleep.

Cause that is a huge pillar that we focus on with our adults. Really. That's kind of the first pillar to be honest. How are you. getting kids to, if one of your patient comes in with sleep issues, what are you, and I understand that it's very contextual, but what, are some considerations?

Are you suggesting melatonin, any other herbals, tinctures, teas? What are looking at to improve sleep? Which to me again, is very much the foundation of optimizing health.

So one of the first things we're going to look at is tablet use and how late we are using tablets because a lot of our kiddos are sufficiently needing tablets for winding down and stuff.

So how close do we have the blue light on? How close are we to bedtime? Can we kind of move it, decrease it? And then what does bedtime routine look like?

Are we doing Epsom salt baths? are reading? Or are trying to just relax and sit down? or are just running amok? I have two boys, so I don't know what having three girls is like.

I had two guys and it's like WWE wrestling every night in the living room at 8 and 30 at night. So it was like, all right, guys, come on. You had all this energy earlier.

Stop. We've got to take a look at those types of things. I don t like to use melatonin. Very rarely, a lot of our kiddos do have adverse reactions to them. So I will use magnesium.

For sleep, worst case, CBD oil is actually really helpful for sleep too. Ashwagandha and valerian root, they do have tinctures with that as well. So supplementation is the last resort, but a lot of times when we start working on supplements and getting iron in there and nutrients in their, sleep actually changes.

Many times I don't actually need to add in a lotta things for asleep, because when work on the gut and nutrition, it kind of already helps the situation.

Yeah, that absolutely makes sense. And it's interesting that you mentioned CBD because, and we're going to have

him as a guest on our podcast. One of the speakers, I was just at a medical conference on pediatrics and he was suggesting the use of CBD.

and in some cases, a blend of CBD with THC, obviously in a much older population. But historically, that's something that we use very effectively with our adults, less so children.

At what age are you integrating CBD and in what context? It depends on the child. I mean, they do, the companies that I like have like gummies and they have liquids.

They have ones with THD and ones without. So I, you know, talk to the families and what they feel comfortable with. And it really just depends them what the family is dealing with I've had kids that are just violent, aggressive, not sleeping and just self-harming.

and that is, I'll always tell them to check with their primary care or their neurologist. And a lot of times they've never had an issue and it's worked amazingly at all different ages.

Any specific brands that you like? You said that found to be effective? Yeah, I love a company called Lazarus Naturals. They're one of my favorite brands out there.

Awesome. We use Miriam because you can also dictate the terpenes and you kind of customize things. But we'll definitely check that one as well. Sandra's Naturals has an assistance program.

So if you sign up, if your a veteran, low income or have a child with a disability or a person with disability, you can upload their IEP and get like 60% off their products, which is amazingly helpful for some of my family.

That is a great shout out. That always helps trying to be conscious of costs because things can add up very quickly, especially when you leverage on the testing.

So the GI map to me is while the power is in the test, the real power's in interpretation. When you said having clinicians schedule time with you or someone else on staff, I know when I started integrating a test years back, going through that process and continuously to learn and grow, because I knew you guys added on to the stool omics and looking at bile, primary secondary bile.

Maybe let's speak to that just for a moment, how you're interpreting that. Cause I remember when I, when you guys added it on a lot of clinicians, we're still learning kind of in terms of what, what that all looks like.

Because often I will find, uh, you know, total short chain fatty acid looks pretty good. The distribution of short-chain fat ass is pretty. But then in term of some of the bile metabolize, it's kind all across the board.

Do you correlate that with anything in particular? Um, so it depends. I don't really run the stool omics on too many kiddos unless they're having chronic diarrhea or just a lot of GI issues.

But a of it goes back to, you know, just the gut being in balance, low short chain fatty acids, the liver being overly abundant by toxins and things like that.

So, You know we're still learning how, especially in the pediatric population with the Stool Omics, but it has been really helpful and useful just so I could balance out the microbiome of the, of gut for the child.

Absolutely makes sense. Biosecretion and adequate biosecreation is so relevant and most people don't realize a lot of that is dictated by vagal nerve tone and it's going back to RFID and kind of brain chemistry and things starting off in digestion, partially starting of in the brain, looking at.

how the vagus nerve iterates every step of digestion and will dictate the secretion of stomach acid and pancreatic enzymes and then which will follow with bile and the ability to bind to toxins for adequate elimination.

And then what actually adequate eliminated looks like really quickly. I mean, I had a patient that was referred to me, a high school athlete. She was defecating.

she was going number two once every 21 days. Can you imagine how sick someone must be? But often enough, when I have patients in my office and I ask them, you know, how often, with what frequency is your motility?

How often are you going number two? And they go, yeah, every other day or every few days, but that's normal. And then they say, it's normally for them.

I went to a gastro and that was normal for me. We begin to normalize the abnormal, just like allergies. Oh, I had seasonal allergies, that is barrier dysfunction.

That to me is not normal, We just normalize the abnormal and we begin to live with it. We adopt that again as, as what's normal. And over time that impacts quality of life, but we're not making that connection early on.

Right. So setting the stage is key. I have to go, we're over time, I'm sorry. This was no, my apologies as well. Sorry, but this was amazing. I appreciate your time and your expertise.

We'll do round two later on, But thank you so much, Grier. Thank you anytime. It was a pleasure having me. And I think this is important for other parents to actually understand overall.

For everyone listening, thank you so much. Please share this with anyone that could benefit. If someone can reach out to you, find you. Where do they tune in?

Biomedical Healing for Kids. That's my website, Facebook, Instagram, Biomedical Healing For Kids There you go. Until next time, everybody stay healthy, stay wealthy.

Thank you Bye. Sorry. Thank you for tuning in to the TBD Fit podcast on Dr. Talks, where we unpack all things health and longevity. If you enjoy the show, like, review and subscribe.

This allows us to have a greater reach and help others on their health