How Eating Habits Affect Digestion

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When we're not having a communal meal, it makes such a difference. I think that's important for families to understand, too. Yeah, and when we are rushing, It's our sympathetic drives that stop, right?

And so it's fight or flight. And then we increase in cortisol, which only increases more need for glucose and more insulin resistance. So you can totally set that whole pathway on.

And remember what our mother said, don't go swimming after you eat. Well, that's because your blood flow is shunted away from your gut. When you're in fight, flight, freeze, same thing is happening and you can't appropriately digest.

Welcome to Demystifying Pans and Pandas, the podcast where we uncover the mysteries, breakthroughs, and hope behind these life-altering conditions. I'm Dr.

Nancy O'Hara, a board-certified pediatrician, educator, an advocate with over three decades of experience helping children and families navigate the challenges of neurodevelopmental and neuropsychiatric conditions, especially pans and pandas.

These disorders can feel overwhelming, but here we'll break down the science, explore transformative treatments, and share stories of resilience and recovery.

If you've ever wondered what's possible for your child or how to find answers, this is the place to start. Let's dive in. I'm Dr. Nancy O'Hara and this is MAPS, the Medical Academy of Pediatrics and Special Needs, Healing Tomorrow's Futures Today.

Introducing the Podcast and MAPS

And I am really excited to talk to Dr Christine Saba. Chris is a pharmacist and a pediatrician and on the many boards of the International Lyme and Associated Diseases Society, trying to bring more pediatrists to that society.

But most importantly for today, we heard your great talk on sugar as a toxicant. So, you know, we all know we are what we eat. Our guts are not the second brain.

They're the first brain, but sugar is a toxicant. Talk about that. I thought it was fascinating. Yeah. So when I saw that toxic, it focus for mats in the spring.

I was like, what can I bring that would be sort of a different aspect and thinking of other than aluminum, mercury, fluoride, they're all very important.

But what else are we doing? And I said, well, sugar. We know sugar is not good for us. And, I thought, wow, but that's really hard to say. Toxicant. That's like honk.

And I was like, but it is. And so that's what led me to look at that and start researching and seeing and realizing that sugar has many pathways it goes.

Sugar as a Toxicant

Even though there's like about two to five percent that goes down this one pathway, it's a very important pathway because it ends up taking our glucose which comes from sugar and sugar is sucrose.

And so that divides into fructose and glucose 50-50%. And that goes through this one pathway that then ends up taking glucose and utilizes it as a regulatory signal.

which is not the way most people think about sugar. We think of it as you eat too much sugar, you're gonna get diabetes, mothers who eat to much, they'll get gestational diabetes and we just have to prevent that.

But there's so much more to that Wow. So what does that really mean when glucose is doing that? What is that doing in our body? Yeah. Well, I could talk about it for hours.

Let me try to think about how I can just sort of put it. It helps actually to regulate Certain proteins and how they fold it helps with transcription to give certain messages to our body and So and it also helps to get glucose into certain cells without having to use ATP Yeah, so that's really key.

So we're not using more energy to it there, but it's needed and Biologically, we are starting to understand the regulatory signaling that is so needed.

And so it really starts even pre having a mom being pregnant. It starts in adolescence to affect us. And because women have their ovaries, the oocytes, they're already being exposed.

Then you go further down the road, and even the male sperm is being expose. So even that is having its effects. Right. If we're seeing a child, how do we see that affect them?

Yeah. So we're starting to get linkage from the studies that have been done that it actually affects development. You can see developmental delay. Wow.

And in researching this, I even found out that even if a mom doesn't have, quote, gestational diabetes, even in a normal glycemic state where they've passed all the tests, if they decide to drink a whopping thing of Coca-Cola or a thing or orange juice, there's so much…

Or a Frappuccino. Oh, yes, definitely the Frappecino, right? Can't miss that. No offense, Starbucks. Yeah, exactly. You will get too much glucose and more will go through this pathway and override its ability to do a normally regulatory signaling.

And that's the key part. Right, right. And then we see the children with hyperactivity, impulsivity. Exactly. Agitation. Inability to sleep. Right. Anger.

Yeah. So then it translates what is going on with their ability in their pathway. They may actually have a SNF that doesn't allow them to be able to regulate it as well either.

It just goes down the line and transgenerational. We're seeing that it has an effect down-the-road with chronic disease. So why are we seeing so many children who have fatigue or they can't handle an infection as well as they used to or repeated strep infections?

What's really going underneath all that that's causing that? Or the child who handles that strepinfection with a fever and tonsillitis and we give them the antibiotics and they do well, but then four or five weeks down the road they present with pandas.

And the neuropsychiatric symptoms that we see, the meltdowns, inability to go to school, they can't write. They've got the basal ganglion encephalitis.

And this is how it all ties in. Right, because there's that baseline that they're not going to be able to detox, that have the over-activation of the inflammatory system, etc.

And then they get the exposure. It's never about one thing. One thing? It is about what lawn are they growing in, how many weeds there are, and then what you put in on top of that.

And then what's really important too is we have all this refined processed foods, right? So if you just had that alone, it's toxic. You add a refined sugar because that's how they get people to want to continue eating their foods.

And that has this whole other aspect of addiction and craving that gets turned on. and you add that and then it gets even worse. The system cannot use it as a good, positive, biological nutrient signaling signal.

Right. And it really is the refined sugars, the processed foods, those sort of things. Now, does it happen, you know, we always talk about good sugars or good sweeteners.

Does it happened in other, like if we're using honey, for example, or stevia extract?

Refined Sugar, Sweeteners, and Labels

You know, can things like that still happen? So with honey, it's a different composition of biological matrix. It has other components. That gives us antioxidants, phenols, that has some antibacterial, antimicrobial activity.

So you have a more complex balancing of the glucose that's coming from it. it helps it to be more biologically positive is the best way I could explain that.

Regarding the other artificial sweeteners, just as bad, if not worse. Stevia specifically, I would have to look more into that. Yeah, and when I said that I meant the industrial stevia we don't want.

Oh yeah, then we do not want that! Again, we're processed, all of that, the steva leaf extract can be a very good herb. Exactly, so there we are fine.

It doesn't do the same mechanistic negative effect. The other part is, I want to sort of clarify, cane sugar is also refined. What you need to do is actually have an actual cane of sugar that you break open and you have it raw.

In that, we have something called Rabinocyte, and that actually also doesn't get digested in our GI tract, which is fascinating. In the small intestine, it cannot be digest.

It passes to our colon, where it actually gives us good bifidobacteria, good organisms to help us in out gut flora. So if we could all just open up raw cane and put that in to hope bake whatever, And we can get that at our co-ops and Whole Foods.

It's not expensive. And there are alternatives. I can hear the parents and even practitioners that are listening. Now you're taking away sugar. You're taken away any treat.

That's what I do to get my child to behave. But when we use foods and refined and processed sugars and foods in that way, we're actually making it harder to help them.

Not better, yeah. I remember when I was first teaching children with autism long before medical school. That was when the fine gold diet and the fail safe diet first came out.

And that was my first inroad to see that these flavor enhancers, these salicylates, this processed foods can be very hard for our children. We've said this with others to be able to handle it because they are more susceptible.

Yes. And with what you just brought up, I thought about something else, having been a pharmacist all these years and dispensing antibiotics years before I went to medical school and then became a pediatrician.

When I first started practicing, didn't see a lot of this chronicity or allergies and all that. It's so increased. One day I What's changed? And everyone's talking about how antibiotics are so bad.

But I got curious and I looked up and all of a sudden the manufacturers started to change and they added aspartame as the sweetener to our antibiotics.

So I'm very questioning and i want to look more into this. What is it really the antibiotic or is that the Spartan that we have now added to all these liquid suspension antibiotics that is causing the gut dysbiosis and causing this increased?

Absolutely. That we just don't even realize, right? because it's feeding the dysbiosis, the germs that we don't want to grow more. Clostridia, parasites, yeast, whatever it may be.

And it is fascinating what you were saying about refined sugars and things like that. When you don´t want do sugar, dont go out and buy sugar-free.

Exactly. Look what it says. Right. What did they add? I mean, and there was numerous sweeteners that they put in. It's not just aspartum. There was others.

No, absolutely. And so look at the labels. I means, you and I both say, if the label is this long, there are probably a lot of fillers, additives, artificial sweetener, things like that, that may be more, well, are.

Are. They are. Not maybe, are more harmful to our kids. And to go with that, when you're looking at foods, it says low sugar, right? And you look at the label and you see that there's a low amount of sugar.

But you need to look further. There's sugar that comes from the lentils or the legumes. What is the added sugar? So if the add sugar part is greater than the sugar comes the carbohydrate part of your grain or your legume, It is not good because now they've added the sugar.

There is no need to be adding this sugar into our food supply like they are. Right. And it's the same thing when you think about fruit versus fruit juice.

Exactly. You know, the fruit has the fiber and the nutrients, whether it be vitamin C or vitamin B or whatever it is. But when we make it into a juice, we added sugars and refinement of that.

That's a very different kind of worm. So also when a child is eating or an adult is the actual fruit, right?

Meal Timing, Stress, and Digestion

It takes time to digest that. It doesn't go and in and then you don't feel full. So you then more. But if you're taking the time you are eating, you've got that fiber, it takes a time the digest and your body doesn' see that spike in the glucose this quickly.

That makes a big difference also. That also reminds me of something that I think is so important that we often forget is in that food pyramid is not just the foods, but it's how we eat our foods.

That when we're rushing or doing it in front of the TV or on the go or grabbing this or that, it really changes the way we process the food, the ways we digest.

And if we do it when were angry. when we're not having a communal meal, it makes such a difference. I think that's important for families to understand, too.

Yeah, and when were rushing, its our sympathetic drives that stop, right? And so it's fight or flight. And then we are increasing cortisol, which only increases more need for glucose and more insulin resistance.

So you can totally set that whole pathway on. And remember what our mother said, don't go swimming after you eat. Well, that's because your blood flow is shunted away from your gut.

When you're in fight, flight, freeze, the same thing is happening and you can't appropriately digest. Right. So my mom, being Swiss, was a very hard, fast rule, 30 minutes before you could go back in the water.

But it was also because if you are not in that flight state, your body shunts all the blood to the gut to digest. Well, then you're going to go and throw yourself into swimming and your buddy needs the flood to help with your heart.

So you are depriving your hear and muscles of blood because it's trying to digests. Right. There you causing problems. I was raised with 30 minutes and she kept it to that 30 minute.

Yeah. All the time. And I still do it today. We're not talking about just swimming, we're talking anything that takes the activity away from the gut, away form the calmness and what it needs to do.

So fascinating. Oh, I know. We could talk about all this stuff for hours. But I did want to talk a little bit about ILADS and NAPs and our relationship, and you have been so crucial to really bringing pediatrics and the understanding of vector-borne diseases to both communities.

Can you talk just a bit Yeah, so I learned about maps a couple few years ago and came to my first meeting and really just was like, wow. I saw right away the aspects that I really wanted to bring to the community I've been in, which was looking at root causes of infections.

as a cause for these neuropsychiatric symptoms I had seen for many years. For me, that started way back when I first was learning about pandas due to strap.

And I have a 10-year-old young male come to my office, unable to write, able to go to school all of a sudden. I did the typical, what we understood 20 years ago, roughly, ASO and the anti-DNA titers.

He came back negative. And I said, oh my gosh. And then I think when my training as a clinical pharmacist and having been in the PICU at Hopkins and seeing many different disease states that didn't just always fit the book because they were critically so ill, I was like, well, infections cause inflammation.

So why couldn't it be another infection? And so I checked mycoplasma titers on this young man and it was sky high. I put him on Citrimax. And he really turned around and mom said, well, what do we do now?

And I was like, Well, it works for another week. Since we did the five day course, I'll do another month, another weak, Another course. And then I Was like Oh, now I'm stepping beyond the literature.

What's there? I sent him to a neurologist who was wonderful. She was from Australia. she did developmental peds and neurology at Children's and she continued.

ILADS, MAPS, and Root-Cause Medicine

And that was my first foray into knowing other things were causing things. But at that point, we didn't understand as much about the vector-borne illness.

So that's been my route into this. And then that is where I was so happy to see PAN starting to come out. I knew I needed to learn more about physiology that happened in children.

It was only here at MAPS that I'm getting this, I wasn't finding it elsewhere. And I think, you know, in both cases, these are often invisible illnesses.

In autism, it's not about just putting them on risperdal and they're all better. And in vector-borne diseases, It's about the way that the immune system is dysregulated.

that then the neurologic system or the musculoskeletal system, or metabolic system is also dysregulated and it's getting at how that infection is interacting with the immune system with a child and with kids, always with family too.

And I think in both organizations, what we're trying to do is really get at not just that root cause, but also all the ways we can bring about healing and bringing it to children because, you know, in vector-borne diseases, and when we say vector borne diseases you, know traditionally people have been calling it Lyme.

Right. But that's only Borrelia burgdorffii, and there are so many others. So many other, it's just the co-infections. And we weren't as aware of the coinfections like in 2010 and 2011. with having gone to ILADS back then because I knew I needed to learn more.

And I was like, why are we not testing for these co-infections? How do we do that? And so things have really been evolving to a great place right now where it's not, I see us teaching about the children in ILads, to actually help the adult practitioners understand the complexity of the patients they're seeing in front of them.

The mothers, the fathers, and the aunts, uncles of these children that we're caring for, right? And if we can bring that complexity, of understanding our complex biology, when it works normal, it's complex, but when its abnormal, its even more complex.

And that's the key. And these vector-borne diseases, I keep saying vector born because it's not just ticks. It's fleas and everything else. But in the co-infections, you're talking about Bartonella and Labesia.

I mean, in The Northeast, where I live, Labesi is now the most common tick-born or vector borne disease. And, you know, what we know is that children, as well as the elderly, are much more likely to have more complex, prolonged, underdiagnosed, misdiagonosed undertreated.

And we've really got to look at all of that. We are both here at MAPS and at ILADS. Yeah. You bring up a really great point. I'm thinking about a case that I've had.

individuals since they were baby and at about five years of age. It wasn't strict selective mutism because the child was fine with me, family, friends, but school was very difficult.

And we've trajectory now to college and definitely anxiety is present. We're looking now at other causes and she, the person's the B's are positive. So I went back and said, well, we're having a fight.

I'm like Clayton, and the mother's like, oh my God. playing in the sandbox at school and this is when it started to happen. So this individual's immune system has been all fine and handled everything until in college went to play volleyball and was in a hotel room that was filled with molt.

And then I went back through her whole record and actually since an infant has had severe eczema. So this is this individual that is as complex it all comes together and now and I knew back then.

20 years ago, this eczema is inflammatory. But as Dr. Klain was saying, what were we taught? Put the steroids on, send it to the immunologist. They didn't have the data yet.

And this is what we did. And it's about putting the pieces of the puzzle together. It's a bout being a detective. And its about understanding it is not about any one trigger.

Its not that babesia or that mold. Right. Or that its that this particular child has an immune system and therefore usually a neurologic system that is dysregulated.

Yes. that is not reacting to, not handling any of the triggers it may be exposed to. And we've got to not just slap a medicine on there, but we got a look at the whole child and treat that.

in the past 20 years what's happened to our environment and the toxins that now this individual in a time of where can't get enough sleep, which is really important for our whole system, stressed with school, very productive type A self-motivated individual.

Probably a little constipated. Yeah, cannot do what they were able to do prior to all this coming together. Right. And so thankfully, this is a parent who understands through the education I'm able share because of being at ILADS and MAPS to bring this to them and we're getting her well.

Yeah. Yeah, and it takes a village. And it also, you know, for both of us, there were things early in our careers that we didn't know that, we couldn't, know we hadn't been exposed to it.

It's the same thing for our parents. You know one of the things I tell my parents, I should have known back in that sandbox when she was five that there was and then she wouldn't be there.

No, no regrets just where you are now and we do put our best foot forward And you bring up a really great point, right? Because I really work with the families, we have got to live our life.

We can't stay secluded away from everything. My role as their physician for everyone, you still need to Live, because living we know helps our immune system become stronger.

we need be out in sunlight, We need have fun, run, move. So you can get cloister. Because then it's not gonna work either. And we have to just, our body is smarter than what we will ever really know.

We just have help it when it gets trapped a little bit. Right, and in that same vein, bringing it back to the sugar. Don't beat yourself up because you just had some refined sugar and oh my God, I'm gonna die.

No. You know, you accept that the stress and shame and guilt about having it is going to be worse. Right. Just don't have a big piece this big, right?

I went to Amelia French Bakery here and they had the little tiny meringue and the one with the cream and fruit on it. I'm like, I am going enjoy this.

It's okay. Right, and do enjoy it and then say, okay, now how do I reset? And that also, like, if we're utilizing that glucose more towards energy that it needs because you're moving and you are exercising, less will go down and overwhelm that other pathway.

And that is the important part of all this. So yes, I'm going to enjoy that. And then I want to go swim because that's what I love to do. I like horseback riding.

Like I probably, you know, got exposed to horse back riding, was I going stop being with those lovely animals I loved so much? You don't know. They're amazing.

Right. Can you see how I get joyful thinking about it? Yeah. That helps our immune system. We have to do things we like and be able to feel well enough to it.

Hope, Collaboration, and Closing Remarks

Absolutely. And that's why I tell the families. Yeah, well, before you go right off on your horse, first tell our families how they could find you. Yes, so on my website, sabahintegratemyself.com.

Thank you, I think. Got it, there we go. How would they find somebody that is well in, besides at NAVS, how at iLADS would find someone? It's iLADS.org?

Yes, yes, exactly. And then you can get in touch. We have our practitioner list, and hopefully you could find some one around the area. You can also call and speak to our Stein.

And of course, those of us here at MedMaps.org are also very integrated with ILADS, very much helping the training there. And also many of the practitioners from ILads come to MAP.

And we integrate all of that, so the practitioners at MedMaps.org are also very well informed on how to treat these diseases, both through diet and nutrition, herbal medicine, nutraceuticals, and antibiotics and medications as we need to.

What I say is there's a time and place to do certain treatments and if something doesn't necessarily work at that point We were missing another piece that needed to help support The next and you sometimes go back and retry something you try to lower dose You help get through the little bumps that the person was feeling To get them to be able to get to our dose whether that's herbs or the anti-infector So it's that kind of collaboration and integration that is so necessary, both on an organizational level, to help teach everyone who's involved in this whole arena of having medicine be where it needs to be.

Mara McDonald, one of my mentors, very early on, always said, you can't go through a window, got to go though the door. And what I take that to mean is you just can put an antibiotic on and think they're going to get better.

You've really got a look at the whole child and their diet. They're eating a ton of sugar and you're treating their tick-borne disease with antibiotics.

Their gut is going get destroyed and they are not going better, so think about the child just the way my friend Chris Saba does. So Chris any last words of wisdom or hope you want to give our families?

I think there's as I wrote in one of the books for endorsement it was like never give up hope keep knocking on that door that you Nancy were talking about right and realize that a certain practitioner will have their skill set and if you come to them they will give what they can And a great practitioner will tell you, this is where you need to go, because that's where I think, and that where's you'll get that expertise.

And I'm here to help navigate that. That, I thing, is what you and I do. We always look and we find ways, we always find that door that just won't open like we want it to.

we go to see what we can find. What is that next door for them? So I say never give up hope because we'll find it. We'll figure it out. Exactly. Together.

Well, thank you, Chris. It's always great to talk to you. And thank for joining us at MAPS, the Medical Academy of Pediatrics and Special Needs. we're healing tomorrow's children today.

Thank you so much. That's it for today's episode of Demystifying Pan's Pandas. I hope you're walking away with insights, tools, and hope to help you and your child on this journey.

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And if you have a moment, leaving a review helps us reach even more families who deserve answers. Also, for more information, training, and community, check out our website, drohara.com and join our annual membership.

And remember, every step forward, no matter how small, brings us closer to healing and understanding. Until next time, be present, Be hopeful, And we look forward to seeing you next on Demystifying Pan's Pandas.