Introduction to Gut and Vaginal Health

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Jen. Welcome back to the Healthy by Dr Jen podcast. Today we're going to talk all about gut health, everything from tiny baby's gut helps to a menopausal women's got health and vaginal health.

So stay tuned if you are interested. Today we're going to be talking with Cheryl Soho. She is the CEO and founder of Tiny Health and this is a leading microbiome health platform helping individuals and families optimize their gut and vaginal microbiomes.

So TinyHealth launched in 2022 and it's the first at-home gut microbiom test for moms and babies. This is using shotgun metagenomic sequencing, which we're going to talk about what that means.

And since 2022, it expanded to serve adults and older children, offering advanced testing for chronic conditions, performance, longevity, and overall health.

So Cheryl is a repeat founder and entrepreneur. She was previously director at FlexaRome, CMO at Hacker Reactor and founder, and CEO at ReClip at acquired by Walmart Labs in 2023. So with her expertise in brand building, fundraising and scaling startup, Cheryl has raised $34 million across her venture ventures and advise numerous startups.

Cheryl lives in Austin, Texas with her husband, daughter, and two sons. Welcome, Cheryl. Appreciate having you here today. Hey, Dr. Jen. Good to see you again.

Yeah. Yes, yes, of course. And I remember in 2022, when you first started and you, this is a passion project, like you created this specific lab for a reason.

Can you tell us your story behind it? Yeah. I mean, I guess you can qualify as a passion project, but I knew this was going to be a venture-funded ordeal because it's not easy to just kind of create a microbiome platform, right?

There's new off-the-shelf gut health tests or vaginal health test. It does take years to create. In fact, we started creating the proprietary algorithms in 2020 when my son was just a week old.

And that's when I incorporated the company It took us two years to basically create the fundamentals of the testing platform and launch to market. So my founding story, I'm sure you've heard a few times before, has its roots in my first two kids.

Cheryl's Founding Story and Tiny Health Origins

was born by a C-section. And, you know, I've always kind of known that gut health was really important for overall health, but I was curious how that's relevant to my kids in C section.

The reason why that piqued my curiosity with the C sections was that I knew that I'm being exposed to antibiotics, right? And then obviously my daughter, the infant is also exposed the antibiotics.

So I was wondering, okay, would that wipe out her gut? Then also not passing through my vaginal canal through

labor. what does that mean? So it really got me on this research journey, even before I had my C-section, because, you know, I tried for a vaginal birth and I read about vaginoseeding with the C section.

So kind of putting a gauze in the vagina, an hour leading up to the operation, and then swabbing the baby with vagino fluids after Csection. Right? I'm like, fascinating.

And this is to mimic the vagina canal, the birth through the Vaginal Canal. And so I was reading all the literature and there was a lot of evidence pointing to chronic conditions or infants being higher risk for chronic condition like eczema, even colicky symptoms as a precursor to exema.

But ectoma is more common and then that leads to food allergies and asthma and hay fever. So this progression of allergic diseases was a factor way higher in c-section born babies than bachelorette borned babies.

And so I was like, then, okay, like I didn't want my baby to be at risk for that. What do I do? Can I intervene? And it turns out there's a body of literature also showing that if you intervene early enough, my daughter's asthma risk would be four times less.

So I'm like, okay, let's do it. But there was no test to test. All the research I was reading was using the gut microbiome research was a technology called shock and sequencing.

So all the tests in the market at the time were PCR or culture. There were a couple shotgun emerging, but only for adults. And then I learned that the reference range for adult, what's healthy in an adult is unhealthy for a baby, for an infant.

What's healthier for the infant is not for and adult. So it's the opposite. I couldn't just use an adults test, right? So then, I created this test for myself and then felt like everyone needed to understand their baby's microbiome and how to course correct to reduce chronic condition risk.

So when I was pregnant with my son, that's when it started Tiny Health. And I had a magical home be back with him, a magic home birth, and I felt like, oh, this is like God wanted me to do this.

This work is my life's work. You know, so I incorporated TinyHealth a week after he was born. Wow. Then spent two years of R&D, creating the pipeline and then launching 2022. Yeah, that's beautiful.

Well, so you're saying to the mothers out there that if they look at the gut microbiome of their child, they can intervene and lower their risk for these atopic diseases like asthma and such.

Yeah, and what is more critical here is that these microbes that seed babies' gut initially, because babies sterile in the womb. The baby doesn't have any gut microbiome.

On their way out through the vaginal canal, the baby first swallows vagional fluids. Some vaginals microbes seed baby's gut, which helps then the beneficial bacteria in mom's seed babies' gut.

But what I found out through this, one is the types of bacteria that colonizes babies gut trains their lifelong immune system. So while eczema allergies, asthma are kind of known to be like these early life diseases, And they may morph into something else in the future, like metabolic health issues, autoimmune conditions, GI issues later in life, could be linked to early life imbalances.

So now we know as many as 90% of chronic conditions are linked to imbalances in the gut, right? And so it's just so crucial if you're acquiring it in early life, then we really want to know what kind and how if there's more unfriendly bacteria in a baby's gut than friendly bacteria, you really wanna course correct early on.

So, I mean, really, if everyone got this test on their newborn, it could really help them if maybe they are going to give some of the infant probiotics or, you know, looking at breastfeeding, maybe, they want to push that a little bit more or what things have you seen with mothers that have gotten this, how they kind of course corrected and the

differences they saw?

Oh, yes. And I remember my second point now. So, you know, through a vaginal birth and through breast milk, the mom is passing on her beneficial microbes to baby.

Specifically, we want to see bifidobacteria, specific strains of bfb, that's very adapted to digesting the prebiotic fibers in mom's breastmilk. What we see now, like some moms come to us and even though they're vaginally their vaginally born baby and breastfed baby also have eczema and don't have any friendly bacteria.

When we check mom's gut and dad's guts, we are also deficient as adults and parents of beneficial bacteria, so while birth mode and feeding mode is really crucial for your child's health, mom and dads gut health matters too and vaginal health matter too.

So typically in C-section born babies or even just babies being exposed to antibiotics in early life because, you know, recurring ear infections is a thing.

And most doctors unfortunately prescribe antibiotics even when it's viral. Most ear infection are viral, not bacterial. We tend to see like bifidobacteria just either absent from an infant's gut or in very low amounts, and that is the bug that's crucially training the baby's life-long immune system, right?

So oftentimes we recommend parents, if the child has low Bifidobacteria, we would recommend supplementing with a the specific probiotic. And then if mom is breastfeeding, then she would have the prebiotic fibers to feed the pro to keep it around.

If mom's not breast feeding, we would recommend that she added an HMO supplement so that the probiotics actually colonizes and blooms, right? So absent of breast milk or HMo supplement, the propyotic you're feeding the baby is just going to pass through and not colonize, so there's kind of a a protocol to this, so to speak.

And then, oftentimes, if we don't see it present in the infant, we really do encourage the mom and dad to also do a gut health test because more likely than not, they're also deficient.

Why Early-Life Microbiome Health Matters

Yeah, the HMO prebiotic, they actually put that in a lot of formulas now, I know, or they did. I've seen it, you know on there and it's like- We do, but if they don't disclose it and oftentimes you can check they do not disclose the amount of it.

It's there for marketing purposes. HMOs are really expensive. And just to give you an example, what goes into like, let's just say, breast milk is like eight times more than what you can ever get in one dose of supplement and HMOS, they kind of tell you even with a supplement, don't give your baby more than like one dose a day.

And that's equivalent to like, one feed a really, when you are feeding baby in early days, eight, 12 times a, right? So yeah, it will never be able to replace the quantity of HMOs in mom's breast milk.

But again, some people have to formula feed for medical reasons or by choice. Some HMOs in formula is better than none. Yeah, I donated a lot of my breast milk because I was still working a lotta nights in the ER, so I pumping even when the baby was, you know, at home sleeping.

That's so sweet. So for two of kids, yeah, got to donate a lots. There's that option too. But yeah. Any mamas listening out there that are about to have their first baby, breastfeeding is hard at first.

first and then it's so easy and you save so much time. So I guess, so someone was just talking to me about this at this Christian health fair I was at, that it is like a thing now that's cool to do to be like, to pump and even though they could breastfeed their kids to pomp and bottle, it was weird.

I'm like no, I am like that should not be a think, like just get the baby latched If the baby has a tongue or a lip tie and actually if the Baby isn't breastfeeding well because of they have a Tongue or an air you know an Airway issue fix that now so then they Have nice strong jaw bones when they're yeah Don't quote me on this.

I think I read some was it a paper or review paper there is a difference between latched fad and bottle fag And I don't remember exactly what the paper said.

I remember thinking away that latch fed is better in some ways. But you know, bottle feeding, there's risk of E. coli kind of growing with equipment if it's not clean enough and things like that.

Not a whole lot of risks, really, but we do see, like, you know, obviously there's a bi-directional signal, right? The baby's saliva gets rubbed into mom's breast milk to signal what the mom should produce.

And night-day matters, too. The night milk is different from the morning milk. Even, there is a new paper I recently read, a summary of, boys and girls, they have different fat content.

It's really fascinating. Yeah, it's really cool. I remember when I was donating my milk, so I would write on it the date, of course, and sometimes I'd write funny stuff like, you know, night shift or Thanksgiving or whatever.

But this was when i was working in the ER more. With my last baby, he was during the pandemic or in 2019, I barely had any like milk because I didn't pump.

It was so nice. He was just there all the time. Ladies, it's nice to stay home too with your babies or I brought mine to work with me. But when I looked at first couple of weeks of life versus a year out versus three and four years and I still have frozen breast milk in my fridge right now, I'm going to make soap out of.

Rather than mix soap, save it for if one of your kiddos gets sick. It's so old though, it's like, well, the last one would probably be like three years old.

So it is funny, I made breast milk soap out of it and I like disclosed it to my family. You know, make it and not tell people what it was, which it's funny, my husband one time made pancakes for my kids with my breast milk.

Oh, yum. I didn't tell them. But I feel like that's something you should disclose, but maybe not because we're drinking out of cow's milk, you know. You may not have the active ingredients, the HMOs might still be there, they're prebiotic.

And so the reason why I said keep it because and if you're a mom who pumps and I have a few in my freezer right now, so it's like my infant now. My son is 14 months now so not an infant anymore.

I'm my third. And if he gets sick I know when you see so many tests from babies, right, or toddlers, if they get sick, sometimes the bivs just plunges back down again.

And if you want to give them a bit of probiotic and then feed your pumped milk, then if your no longer breastfeeding, it could help them recolonize, the BIVs recolonize.

Or even if like, you know, your child happens to need antibiotics or some medication, its always good to have handy to help repopulate that missing Biv.

Interesting. So you're talking about Bifidobacteria. What's the difference between kids' population of Bipidbacterial and adults? Oh, so in babies and infants under one year old, we expect to see at least 50 to 90% frankly, not like 100% because actually some E.

coli in a baby's gut is helpful to train their immune system. So it is fine balance, but I would say 90%, 95% is ideal. And unfortunately, Most babies have either zero, especially if they have a lot of like colicky symptoms, eczema, things like that, or they half like 20%, which is way too low.

And when there's not this protective for bacteria, then Other unfriendly bacteria like E. coli, Klebsiella, Streptococcus, Staphylococcius could inhabit baby's gut and then cause silent issues like immune issues.

Sometimes they're not acutely sick, but they are chronically uncomfortable, maybe have constipation issues or bloating, spit ups. Now any infant who has symptoms, I'm like check their gut because most likely they have an imbalance there.

That's really interesting. So if your kid, if you're infant is kind of struggling or looks uncomfortable or constipated or having gas, then definitely doing one of these tests would help because you see that a lot, especially around that six months, you know, when they're switching to solids, they are like, well, their consti-pated all of a sudden.

And that could be because they don't have the right gut bacteria and they aren't breaking down the solid food well. Maybe they were coping with it before, but then it's not working.

Yeah, usually science doesn't really appear until solids start, right? And there's this shift in diversity with solids, and that's when the baby reacts to it, so you ask, what's the difference between babies and adults?

Now, in adults, depilatory bacterial levels, we expect to be between 1% to 5%, so, you don't want it dominating the adult gut, because post six months, actually, once you introduce solids the babies diversity of microbes explodes and you want as high diversity as possible.

And so, as you can imagine, when I say 95% of the herd of bacteria before six months, that means the baby's gut should be very low in diversity and very simple and immature, because the only job of an infant's guts at that point is to digest mom's breast milk.

And with formula feeding, we do see higher diversity, which is then, or if you introduce solids too early in a baby's life, then it may lead to other health, metabolic health issues or, yeah, like metabolic issues later in life.

So technically you want to keep it very low diversity and six months issues off, right? So then as adults, when your child's gut becomes adult-like, in maturation and diversity by the time they are about three years old.

So our guts should have wide variety of species, ideally four or 500 species. When a baby's gut should maybe 10, you know, an infant should of 20, 10-20 maybe.

Feeding the Infant Microbiome

And so our bifidobacteria is still important, but like now I have about 2%. I realized though with my son, when I had the vaginal birth after C-section, I has zero biferbacteri at that point.

So I felt like, okay, I finally got a VBAC and I was breastfeeding him for two and a half years, but I had no bifidobacteria. It took me eight months of hard work myself to regain bithrobacter in my gut.

Now I don't even supplement with a probiotic anymore. I did initially for a good eight infantis and I had an HMO supplement for adults and then I maintained it through a healthy diet with a variety of fermented foods and fiber and until now I'm not having to take a supplement.

Right, right. That makes a lot of sense. And yeah, tiny kids are, you know, kids, are not just tiny adults. We hear that a lots. So it's good to know the difference.

I know one thing I like about tiny health is you guys are very pro-like. what you're missing instead of like, just take everything out and kill the bad bugs.

So what I mean by this is like pro like butyrate or anchormancia and like things that you are missing that needs to be there for the right bacteria to flourish.

Kind of, like you know, we have a mini farm here in Tennessee. Well, you need to have the environment for your chickens to flourish. And, if you don't, then they're not going to thrive.

Exactly. So, you know, the name tiny health is not just tiny babies. It really is about the tiny invisible microbes in your gut. And we knew we were going to start with babies, but taking what we've learned in early life, first 1000 days, we're now adapting it to the last 1,000 days, so to speak, you know, hoping that you live to 100 years old and healthy, healthy aging, right?

So a lot of our approach is really different from, I would say, maybe the more conventional still tests that's based off of culturing or qPCR, where it's a smaller, limited panel very accurate and precise, but it's measuring mostly unfriendly stuff, right?

And I think as a society, we've conventionally been very obsessed with, do you have parasites? Do you E. coli? All these H. pylori. And then, oh, you found it.

Let's eliminate it, let's give you this really harsh antimicrobial Hopefully, no functional doctors are prescribing antibiotics. Sometimes they do, right?

And sometimes it's warranted. But as a functional stotus, we see that a lot of adult chronic conditions and also kids, are linked to missing beneficial functions.

They're not necessarily the presence of unfriendly stuff. And it's really, if you think about what I said earlier with the babies, right? When you have an absence of beneficial functions, then what takes hold?

Unfriendly stuff, so you kind of have to fix the root cause, which is if absent of these protective functions and bacteria, than obviously the parasites and whatnot can take hold.

So is the solution to kill further? Because if kill something bad, you might actually be killing the good stuff too. killing everything in our gut right so our approach and sometimes that's necessary if someone has a really messed up gut and really high pathogenic function then yes but most of the time we like the approach of are you low in butyrate function which is important for your gut lining Butyrate helps with also natural GLP-1 production, right?

It helps your serotonin, melatonin production to help you sleep better and feel better, things like that. It really does have a lot of protective effects.

Most people are low in butyrete. In an upstream of buterate, this is a really important short chain fatty acid, are you eating a wide variety of fiber?

to um because what your gut bacteria does is it takes these fiber you're not digesting this fiber it's the gut bacterial that's digusting and fermenting the fiber into butyrate so upstream of butylate function are you eating the kind of the right kinds of fiber to to turn it into energy right so we we go upstream uh of that and show you Some people are, you know, in our wellness community now, we're really obsessed with protein.

What is the 1.2 grams of protein per kilogram that you should be eating? Great, that's important for muscle building, but people were forgetting the fiber equation in there.

If you don't have the right balance of fiber to protein ratio, then it's feeding unfriendly bacteria too, right? So we tell you, are you needing more leafy green type Fiber, is it more the chitin, which is from shellfish and mushroom, that's a type of fiber too?

Is it resistant starch from cooled down potatoes and greener bananas rather than riper bananas? Or is is like pectin which you can easily get from fruits, right?

So we are seeing that a lot of people's digestion issues and chronic conditions are linked to missing beneficial stuff. Hmm. Yeah. So let's talk about, you know, protein and carnivore diet and that kind of stuff, because I tend to be

more in the middle.

Adult Gut Health, Fiber, and Resilience

therapeutic means for gut health sometimes. So especially for like SIBO, if I have someone with small bacterial intestinal overgrowth and they're pregnant or nursing and I can't really use anything like botanicals for that, sometimes I'll use the carnivore diet to get that under control because it will kill off certain kinds of gut bacteria, kind of starve it off.

I have seen though most carnivores end up shifting back and putting some fruit in their diet and put in certain vegetables. Now, Some vegetables I'm not a fan of like spinach because it's a high oxalates.

Some other things that have fiber, they also have, you know, a lot of anti-nutrients that we have to watch out for. So I think it is really balanced and it also, how do you prepare your food?

So if you cook your spinach or cook something, some of the oxalates are gonna be cooked out. If you soak your beans, soak you rice, you're gonna get out a lot of, the lectins and stuff.

So I'm kind of more balanced on all that. I love green beans and broccoli, and there's certain ones that tend to be less reactive for people. But I think people are dramatic that say all plants are going to kill us, you know, you can't eat any fruit.

So I think it's a balance. And I also think You know, our microbiome is different, like we're all different. So some people do better with some things and some without.

I also think you can get, you know dairy products, so you get fermented. You can have the yogurt and get good bacteria from there. Yeah, I tend to be more balanced on this.

so I would love to see how you feel about these extreme diets or anti-plants and stuff like that. Yeah, for sure. I mean, I have the data from seeing 125,000 samples now of a variety of background.

And I also have my personal opinion, which is informed with some of the date that we are seeing, right? So I'm also the same philosophy. Like, on one hand, like I've heard so many stories of vegans kind of like, you know, feel good initially, because, frankly, a lot of meat, it's more about how you source your meat, right?

So well-sourced meat is perfectly healthy, but if you're eating processed meat or meat that's grown with antibiotic environment where they're getting shot with antibiotics all the time, then you are not going to feel good.

And when you cut that out initially, you can feel better, Right? But long-term, I've always heard that vegans who've been doing the diet for 10 years tend to have a lot of gut issues as well.

And on the flip side, people with extreme carnivore diets who don't, like you said, eat any meat or fruits, sorry, any vegetable or fruit, their guts look really bad.

Most of them, we do data science around this, have low bifidobacteria arcumensia and high E. coli type bacteria. They kind of almost have higher gut inflammation like hydrogen sulfide producing bacteria and things like that.

you don't have the sufficient fiber protein balance, right? So there's a new kind of faction of the carnivore diet who now have learned that and there are like animal-based diets, so they are adding certain fruits and certain vegetables in.

So kind I think that's better and I kind of was in that camp for a little bit myself, frankly. But what I saw when I was doing the animal-based diet is that my butyrate function went down.

So from when was eating a salad, a lot of leafy greens. once a day for, you know, the three years I was the first two

years of tiny health and then the kind of final two-years, my butyrate kind went down.

So I'm kind like, okay, this is impacting my buret function and I am seeing other, I've seen some skin flares and some autoimmune condition popping up.

Uh, of course due to other things too, but now I'm adding back my leafy greens. I don't like them. Um, But I, I eat them cause I know it's healthy for my gut bacteria and I've seen the beauty rate kind of, uh, increasing, right?

So it is, you can see that reflected in someone's gut tests. Uh I personally think that, um, You know, protein is really important for sure. For many, many reasons, muscle and health in general, well-sourced protein meats, organ meats are really But fiber, not just any fiber but a diversity of fiber is so crucial for feeding the right gut bacteria.

And the reason why you want a wider diversity fiber Is because our guts are supposed to have, like I mentioned earlier, a high diversity species, which means you have a more resilient gut.

Ideally, if you have high diversity of unfriendly bacteria, that's not great. So ideally, diversity is driven by a friendly bacteria. And again, these fibers that you're eating, they're feeding your gut bacteria most of the times undigested by the person, right?

And so if have a high resilient gut, what that means is if I went on a trip to Bali, got one day of diarrhea, and I didn't have a resilient gut before.

And I had 32% of E. coli when I hadn't none before and that persisted for a year and a half. It was like seven to 8% because I did have beneficial redundancy in my gut.

My whole family, my kids, weren't affected by it because they had a high resilient gut. So if you get hit by COVID or flu or a travel bug, if have healthy functions, you should be able to bounce back, right?

Which goes back to the whole obsession with parasites, parasite cleanse and finding the bug and eliminating that. Again, Resilient gut you shouldn't have to be obsessed with eliminating that your your natural immune system takes care of it, right?

But we don't then then yes, it may really impact you Yeah, we we were in Mexico a few years ago and like everyone was having symptoms My husband the worst his gut health is is not ideal and you know, and I was fine.

I'm fine I mean, strongest gut wins, but yeah, I don't know. It's just been off like the last few months. I'm trying to do the things, stress can impact that so much too.

One bug in particular that people, it's like kind of wiped out and I think glyphosate has something to it, is acrimacia. Yeah, and we see that low. But what's interesting, remember before the anchormancia probiotics were out, like 10 years ago I'm talking about, even five years, the only way to increase it was to feed it with prebiotics, specifically pomegranate type things.

Yeah. So it's so interesting because now we can take it, but we still need to eat it. But if you don't have the bug, then you're not really feeding it, right?

Right, well, but what could we, you remember like, five years ago, I think they just really, that one came to market and was tried and true like three or four years.

So that was always interesting because that would always correlate with leaky gut, a low incarancia. Yeah, so what do you think, like so you have people take that supplement, to kind of seed the gut with some of that bacteria.

This is interesting, it is so crucial for gut lining and metabolic health. I don't have it, I haven't been successful in increasing it unfortunately. It's one of those bacteria that if you don t have and it's very sensitive to antibiotics.

and exposure to, like you say, probably glyphosate and things like that. When it's wiped out, it is just really hard to recolonize. Different from Bifidobacteria, you know, I mentioned I managed to colonize BIFs in my gut.

If you don't have any to begin with, it's hard. If have some and low levels and then you eat more polyphenol rich foods, which are like your dark sort of like rich color like reds and purples and so like chocolate or berries and, you know, dark colored stuff is really good and rich in that.

I just haven't seen it even in the tiny health R data. that it's just really hard.

Diet Extremes, Diversity, and Microbiome Balance

And what that means is you might have to keep taking the Archimedesis supplement with the polyphenols if you see an improvement, right? I have yet to do a CGM taking that probiotic at the same time and seeing if it changes my But I know back when I was wearing a CGM with my husband, my has been has Archimansia, by the way, and I don't have it.

So when we eat the same foods, My glucose spikes and his doesn't spike, you know, so I knew that arguments impact from for my metabolic health specifically.

So my kids and I want my kiss to have it. And this is where like, you know, when, and when my case for babies, I told my husband, just pretty sure the meat and give it to our babies and share your microbiome with our baby.

So now our kids have Archimedesia and attribute that to, to him. That's amazing. Yeah. Crazy that you are just not, yours is just, not kicking it, that it's not coming up.

mind, but a lot of other people, if you don't have it, don t be disappointed. If you're trying to help it colonize, it's just one of those that it s just really hard.

There are some, you'll see in our results portal, If You Don't Have Any Archimansia, one the lifestyle tips is have a pet, because there are studies showing that if that you're more likely to have argumentia.

And maybe an association, we don't know, but pets, maybe pets can, you know you do share saliva and the microbiome with your pets right? So pets bring diversity to the household.

So that's why households with dogs and cats have a lower risk of allergies in their kids is a known fact. And I think my theory is that when you have mostly a dog, you bring your dog out for walks, right?

You kind of have to do it, so they're bringing the outside diversity in because we used to spend a lot of time outdoors, like 90% of our time out outdoors and now we spend most of it indoors.

So we're not getting the diversity or gut needs. Having a pet kind forces you to go out and bring that in. Yeah, that's really cool. So get a pet. Let it lick your face, I guess.

Yeah. Or go to a Petting Zoo or kind of, you know, a barn or something like that. That's great. Well, hey, That I can tell my husband, yes, we need even more farm animals for better diversity.

I don't know if we'll buy that we're pretty tapped out. but okay well let's switch gears a little bit because this is really interesting to see what is going on with your vaginal flora because some people don't understand that the vaginocanal yes it can it's its own little world down there and Perimenopause specifically, the estrogen decline can make a difference.

Not only that, I know that things like birth control, so I was put on birth-control to regulate my cycle. So dumb. I remember I messed with my vaginal microbiome.

I would get bacterial vaginosis, which is just an imbalance of the bacteria down there. When we look at as we age,

though, when would you say would be a good time to see what's going on in the flora, probably in that perimenopause space?

Right now, what you want to do is get a baseline, right? Because you don't want a measure when you start seeing imbalances because you wouldn't know your original state.

Chances are it could have been that there's an imbalance to begin with because not everyone has a perfect vaginal microbiome now or like healthy vaginomic microbiomes.

You know, when it comes to the gut, there's no one universal healthy microbiome. There's many, like you and I can have a variation of a healthy micro biome or not.

Right. We can, we're basically trying to see hallmarks of healthy, microbiomes for the vaginal canal. It's kind of very similar to. the infant gut. It should be low diversity, very simple.

You should really only see 10, maybe tops 20 bugs. If you see 50, 100, that's a really bad sign. So there's categorically a healthy vaginal microbiome type, which is you want it dominated by this bacteria called lactobacillus, and not just any lacto-bacillas, it should be lactabacilla crisparos, which is the most stable kind that can produce lactic acid.

And the reason why the lytic acid production is important is because it keeps your vaginal microbiome acidic, And when it's acidic it fends off pathogenic disruptive bacteria from colonizing your vagina microbiomes.

So when you go to an OB-GYN and you do your anal pap smears, sometimes you'd do a pH swab, and that's how they tell if you have an infection or not. If it's alkaline, then they're like, oh, you might have a yeast infection.

And doctors actually traditionally even misprescribe because they didn't have the technology we use, which is shotgun sequencing, when there's low pH, it really is just a signal of an absence of lactobacillus.

But what takes hold? Is it yeast? is it BV type bacteria? That's the kind of resolution we need to know. Because if it's yeast, then you should be prescribed an antifungal.

And then it's a bacterial imbalance. Traditionally, what doctors would prescribe is antibiotics. Then it kind of, again, like kill, kill kill. Right? We're making it worse.

Our protocol and our approach is you boost, you're just lacking lactose. So you take a lactobacillus crispatus vaginal probiotic. there's suppositories now that you can do and we would recommend both.

Because as you imagine, if you take an oral probiotic, it has to survive the gastrointestinal tract, the acidic environment in your stomach and things like that, and make its way down to the vaginal microbiome.

But sometimes it does kind of persist, but we recommend that along with a suppositor because you It's just closer to where it should be colonizing. And then half the right prebiotic fibers.

So some brands sell you a gel that acts like the pre-biotic food for the probiotics to stick around. If someone has a really imbalanced vaginal microbiome, you do that for two to three months and hopefully see some improvements.

Vaginal Microbiome, Perimenopause, and Postpartum Changes

Sometimes women need to do it for six months to see So if someone is having maybe the odor down there, it just seems off. They're probably having a microbiome dilemma and they should probably test it and then support with the correct…

So symptoms could be odor, it could itchiness, dryness, all the symptoms of low lack of bacillus. And many things in life could disrupt it. So like antibiotics could disturb it, stress, and usually it's pretty stable.

But again, if you don't have a productive vaginal microbiome to begin with, then all these stressors could really disrupt. Hormones, 100%, right? You mentioned perimenopause, menopaus.

So it's interesting, because I am 14 months postpartum now. When I was six months, post partum, I did a test. I'm about to do one again. My score was 100%. I had 99% lactobacillus crispata.

It's the perfect vaginal microbiome you can imagine. And then post-partium, just because they gave birth, My lacto went from 98% to zero. Zero. So because I'm an estrogen plunge and progesterone, so what women go through in perimenopause as estrogen declines is the same thing.

So you can imagine a lactobacillus from being like 99% just kind of gradually comes down and you gradually see symptoms. Or it could be a shift down, right?

Depending on how quickly you lose estrogen. And so I was actually really curious, we were about to, kind of do a study with HRT, you know, will that help actually restore even the vaginal microbiome function, right?

Well, because the estrogen, the loss of that is making the pH higher. So then once again, going back to that environment, it's not like a good environment because I know that with women that are having loss of function down there in menopause, like a lot of the OB-GYNs, they're like, oh, here, there's this new probiotic vaginal suppository, and it shows in the studies to help short term, but it doesn't show any long term.

For me, it would have to do the estrogen, the estradiol with that. than to create the perfect environment. The environment, that's right. Yeah, exactly.

There's really not enough studies in this area. And this is a very emerging area that I'm super passionate about because now we have the tests and technology to see.

So why? Yes, right? We should really test and figure out our own biology. We have to wait to know. And as far as like even treatment, right, HRT, a lot of…

I'm hearing again from… I'm getting into the perimenopause age, I am like 42, so I starting to like, you know, oh, when is it going to happen to me? But I hearing that we're given a too low dose of HRRT right now that is pretty conservative when we need more.

But again, more evidence is needed, and more resources needed. It depends on where you're at, so it has to be balanced, and we don't want to super therapeutic.

So in perimenopause, what I'll do with women, I always ask them, 40s and up, how's your vaginal health? Have you noticed any difference? And they'll tell me, yes, it feels drier down there.

It feels more floppy. You know what i mean? We talk about it all. It's drier. So it's the function. That's everything. And that's because if they have that, estrogen is going up and down and up in down in perimenopause.

Very erratic. Not a nice steady down climb. Then you know, then what's relevant, sorry to cut you, the gut microbiome rate. We talked so much about just the vaginal, but your gut plays a huge role in recycling estrogen.

Well, yeah, but even with that, we will have, I mean, it's erratic with these women. So sometimes because they're systemic overall or, you know, like recycling of the estrogen in the gut or all of that.

Then they won't have a lot of symptoms until they are late perimenopause. And then I usually do Estriol, which is a weaker estrogen but does still it binds and does what it needs to do to the vaginal mucosa and then they do really great with that just topical with also they're getting progesterone.

But estriol can be great until they need the estradiol and they are very, very low. Postpartum though, what women can ask for is a small dose of estradiol, not Premarin because that's conjugated equine estrogens, but a low dose

of estradiola.

I would just get mine from the compounding pharmacy and they can use that topically postpartum. And then what that will do is keep You know, also you're feeling heavier, you know with like prolapse type feelings and that's like a whole nother podcast.

But then I'm thinking with you were saying about how your lactobacillus dropped to zero if you had that just topical as trial there while you are breastfeeding, it could be helpful.

And I know I used such a small amount, like a little pea-sized amount and it really helped. And then after you're cleared, you know, for intercourse with your husband, then it's enjoyable too.

So I think, yeah, I that would also be like, a really cool study to see someone when they're using just that little dose of topical bioidentical while breastfeeding, not too much, just a bit because we don't want to affect breast feeding.

That would be really helpful to me too My take on this was and I'm pretty much like don't kind of there's maybe a reason why things happen the way it does because my scientist and i were like why is God punishing us postpartum with uh like where's my laptop you know and but it's through two kids now I have all the trajectory of like pregnancy, postpartum, and then when my vaginal microbiome returned to normal, it coincides with a weaning of breast milk and also menstruation returning.

So then I kind of, I went from zero to like 98% again. It's very sensitive to estrogen levels, right? But we also hypothesize that it's uh, nature's natural child spacing mechanism, you know, so you can easily get pregnant with, with uh this type of vaginal make-up biome, no lactobacillus.

And if you do get pregnancy with low or no, lacto-bacilus you're at higher risk for preterm labor. and we know there's paper showing evidence showing that if do back-to-back babies, um, under 12, uh under 18 months, sort of like 12 months you are at high risk of pre-term labour, right?

So we were like, oh my gosh, the answer is the vascular microbiome. So if you're wanting to have back-to-back babies, I would actually highly now recommend doing a battle test to see if your vateral microbiomes has returned to its full function.

If not, then either wait or do what you said to restore that lactobacillus function, because otherwise you are at higher risk for preterm labor. That's so interesting because I was just at a conference last weekend and I met Sally Fallon for the first time and she's big with the Western A price.

And she is all about spacing out those children like, you know, like three years she was saying and mine are like naturally spaced out. So, um, to let your body recover and maybe for them microbiome to recover.

One more question I want to ask you about, well, what do you think about boric acid? Because that is more of a crunchy natural way to help rebalance the vaginal microbiome and help with these recurrent bacterial vaginosis.

infections and you know while we're it makes sense like oh you make it acidic and then that Lactobacillus cristae that comes back like hey now we are good.

What are your thoughts on it? No. You don't like it. No, it's contraindicated. If you're keeping me, yeah pregnant, don t do it, pregnant. I mean just.

Just in general. In general we also don' recommend it I don''t remember specifically the reason why it''s Maybe it might be disruptive, but let me find it out.

But I think what we found is if you, again, boost beneficial bacteria and have made the environment friendly, give it what it's lacking, we've seen a lot of success that women who have low nolacto do course correct, right, given the right treatment, and it is not necessary to do boric acid.

Yeah.

Testing, Treatments, and Closing Advice

No, I love that because a lot of women, it's becoming trendy. So I think- Really? Yeah, so I guess we could say the least thing we want to do is flagell, you know, metrodial.

The second, maybe boric acid, but the best thing that we wanna do, is oral and vaginal suppositories of the lactobacillus cristae, right? And then there's some other things, like I believe vitamin C actually helps, you know, these bacteria colonize and maybe omega-3s, I can't remember specifically, but we have all that in the action plan.

And we, by the way, the tiny health does recommendations is we don't make supplements, we make money or affiliate revenue from supplements. So we want to be very evidence backed.

If you click on the about on any of the recommendations, linked you to public articles supporting the evidence of that. So these suppositories or the vitamin C that we recommend, it's because we saw lots of high quality human studies showing that in clinical studies, this has moved a needle for XYZ, whatever treatment there is.

Yeah. Yeah, I love it. Well, thank you so much for all your time. I just think it's been great talking all about women's microbiome. It's so important and how we can be proactive because a lot of the times it feels like we're not in control of our health or there are so many things against us, but we still reign it in and be in our control health.

So I loved that and the practical solutions. Okay, what is your favorite biohack that actually works? Oh my gosh, I have so many. I mean, honestly, sleep has really, you know, wearing an aura ring and tracking my sleep, the REM versus deep sleep and really whipping my ass to sleep earlier has been a game changer for me.

So that would be my top top if you don't fix your sleep. Fixing anything else is kind of useless in a way. My number one is sleep number two is sauna, actually for detox, because my detox pathways are not very good.

And so I not support it better with actual detoxification methods like sauna. Those are good ones. If you weren't doing what you're doing now, what would you be?

What was your backup plan? If I wasn't doing what I'm doing now. Oh my gosh, I don't know. Now that I have my third kid, who's like 14 months, and like, oh, maybe I'll spend more time with my kids.

But I think I can never do that. I just need to keep busy. Uh, uh, don' know I am very passionate about the wellness space, but evidence back to wellness.

Um, so I would be doing something in the space. Love it. What is the favorite part of your morning routine? I actually started, I don't know why I'm so late to the game in hydration and electrolytes, but the first thing I do is my morning water.

This is a new supplement called morningwater that combines creatine and electrolites, magnesium, sea salt, and amino acids all in one little packet. So like we're so dehydrated waking up and you know that from your pee, right?

Your yellow pee. And then I also breastfeed overnight my child So, that is like, oh, I look forward to that first glass of mooring water. I love it. It also delays caffeine consumption, right?

Sometimes when you wake up and you do caffeine right away, ideally you wait one to two hours. Yeah. That's great. So you're not even more dehydrated after your caffeine.

Exactly. If you could eliminate one toxin from the world tomorrow, what would you eliminate? I don't know, it's not a toxin, but it is bad. It's everywhere, in everything, so sad.

And then sauna, sauna can remove it. Yeah, and then what is one word to leave the audience with for the week?

Oh, test, dont guess. Yes, love it! Well, Cheryl, thank you so much.

Tell everyone where they could find you and Tiny Health. Yeah, so tinyhealth.com is our website, and we have a B2B arm called poweredbytiny. com where we serve the practitioner enterprise partners and do research with supplement companies and academic partners.

But feel free to reach out to us on Instagram too, tiny underscore health and DM me there if you want to. Well, awesome. Thank you so much for all of that information about the gut health.

Probably more information than people wanted to know about vaginal health, but it is, it's so important and we appreciate it so