Introduction and guest expertise

Welcome back. We are returning to the conversation of reversing chronic gut conditions and we are going to do a deep dive today. With me, your host, Sinclair Kennally, and my wonderful friend and esteemed colleague Margaret Floyd Barry.

I really wanted you to have access to Margaret's brain on this segment because she is such an expert when it comes to really interpreting lab work in depth and understanding the granular details of what it takes to understand what your digestive tract is doing and how that relates to your systemic health issues.

So we're going to do a deep day today together. Margaret is very modest, but she actually runs a school for certified practitioners to actually deepen their wisdom in understanding functional lab testing and how to really take nutrition to the next level.

So she is quite the bright light on the scene and I'm thrilled to share her wisdom with you guys today. Welcome, Margaret. Thank you, Sinclair. It's so wonderful to be here.

Hey. Okay, so let's dive right in. We have a lot we want to cover today, and I know that you as a clinician, have robust experience with this in your own practice and then now running your school.

You can really see this at the bird's eye level. And I want to give the layperson watching today and also the practitioners here in the audience who are really on the search for new tools and clinical gems, the benefit of your expertize.

So why don't we start by going through the digestive process itself, where things can go awry and how that creates systemic health issues elsewhere? Because it's just a small question.

It's a difficult question, just a small question. We take several hours to teach this in our class, but I'm going to I'll do my best to bottom line it here.

I believe in you. You can do this. So I think one of the most important just big picture concepts to remember is that the gut is the mother of the body.

Right? It is what nourishes us. It is what feeds us. It is the absolute starting point for health. It's also the starting point for dysregulation. And so if there's any kind of issue going on, something that might seem completely removed from the gut, specifically skin health, migraines, people I have clients all the time who don't necessarily present with digestive symptoms per se.

Digestive flow and stomach acid

When we heal the gut, it is amazing what else can shift because as the mother of the body, it is what nourishes and supports us. But if it goes awry, it can be one of the biggest, biggest sources of inflammation and toxicity.

So we really need to start there now. So that's big picture of why this is so absolutely imperative. Even if you don't specialize in the gut, even if you think, well, I'm just here, this is I'm curious, but it's not my jam.

It needs to be your jam. That's just he just needs to be so really, you know, the digestive process, it's basically one big long tube right from mouth to anus.

And different things happen along different stages. And there's some really integral moments and it's quite a profound process, if you think about it, right.

It's this is where the outside world, something that we eat literally becomes us. I mean, is that that saying we all know you are what you eat? We kind of throw this out, but it's like literally true, right?

We're walking food. Every single cell in your body was once food and your body processed that it mechanically broke it down. It chemically broke it down, and then it actually absorbed there's this moment that we're going to talk about where the outside world literally becomes you.

So really, the digestive tract is still the outside of the body. That's an essential concept. We're basically one big, long, complicated donut, and the donut hole is our digestive tract, right?

So this whole process, you know, we think about it comes it goes north to south and it's very important. The order is very, very important because dysfunction and dysregulation, anything north in the process will affect everything further south.

So something as simple as eating really quickly, not paying attention to what you're eating, not chewing properly, can actually have really significant impacts further south. Right.

Like certain enzymes are not trigger to be released unless you're actually aware. You probably had this feeling where you sit down and you eat a meal, you eat it really quickly from a caloric perspective, from a nutrient profile, it might be perfect, but you're still kind of hungry and in like jonesing for something more at the end.

And then your brain hasn't actually had the opportunity to register it. So we really need to think north to south. So I'm going to start. So, you know, there's, there's, there's the brain component being aware of the food, there's, you know, the mechanical breakdown as well as well as the chemical breakdown, of course, starts in the mouth when we're chewing.

And there's that saying of, you know, to your liquids, drink your solids. So, you know, I'm not going to sit here and say you got to chew things 100 times.

But I do. We need to be mindful of this process. The more we can support anything further north and supporting this clinically with our clients are for those of you who are who are not clinicians thinking about this, just chewing your food.

You are setting everything else up in your digestion for much, much better success. Now we swallow and the food goes through our esophagus and then it ends up in the stomach, which is this basically this bladder, right?

Like it's just this pouch. And it's quite a magnificent pouch. I think of it as like a very complicated Ziploc bag. Okay. So the food comes in and it should be mass ticketed.

So we've got all those nice salivary enzymes mixed in with it. We've broken it down with our teeth to, you know, that mechanical breakdown. It comes into the into the stomach and the stomach has we think of it as churn and burn.

So there's the it's a it's a muscular pouch. And that those muscles are kind of massaging and moving all of the contents while it also is mixing with hydrochloric acid, which is what drops the h of the stomach, which allows the conversion of things like carcinogen to convert into pepsin, which is the primary enzyme that breaks down protein.

Critically, critically important. Hydrochloric acid is also important for sterilizing the contents of the stomach. Right. We don't have enough hydrochloric acid.

We are basically rolling out the red carpet for any kind of foodborne pathogen parasites, you know, any kind of bacteria. Instead of killing it, we just digested it and allow it to take residents of further south in the digestive tract now. So one of this is actually let's pause here and talk about some of the areas of dysfunction, or would you like me to keep going and then come back to dysfunction?

You know, I think we should pause and talk about dysfunction along the way. Otherwise, we'll never get we won't bring dysfunction parts. We will have dysfunction.

Let's let's well, when it comes to the stomach, the biggest the biggest and most common source of dysfunction is low hydrochloric acid. So what we call hypochondria, a bunch of different reasons for this.

You can have an H. Pylori infection, which is a bacteria that basically damages the parietal cells which secrete hydrochloric acid. That does happen. A lot of other things, though, that are super, super common, high stress eating, too much starch and carb up, too many carbohydrates, high sugar diet, high alcohol intake, getting older, a low protein diet.

So for our vegan and vegetarians out there, that's a very, very common to have low hydrochloric acid because when the body doesn't sense that protein, it doesn't sort of trigger that response.

So a lot of and we think about what I've just said here, even if you could maybe don't drink in your diet's really clean. Well probably getting older because that's just what happens in age and stress.

You know, a lot of these things are very common. So it is incredibly rare for someone who has not paid attention to this to actually have a really robust hydrochloric acid.

So even in the absence of something like an overt H. Pylori infection, we really need to pay attention to this because the dysfunction, it goes so much beyond just the stomach, right?

So we're not just thinking about, okay, we can't breakdown our protein properly, which is already in and of itself a really big deal. Right. We also need hydrochloric acid in order to absorb really key vitamins and minerals, especially those all important B vitamins.

Right. Says one of the other reasons I'm not trying to come down on our vegetarian vegans out there, but it is actually one of the reasons why that type of diet is very challenging is because not only is it deficient in those nutrients, but the chemical processes required for the absorption of those vitamins are triggered in the absence of consuming animal protein.

So that's so. Important to break down and highlight because so many people don't even know that or they skip over the importance of that. So maybe we could highlight just very briefly why B vitamins are so crucial to overall health and well-being.

Why does that matter so much? I mean, for for all the things for energy production, for I mean, one of one of the clinical dealbreakers in practice is if you see an anemia, so it's and a B, a B vitamin deficiency is going to translate as an anemia.

And that's actually going to impact the body's ability to actually shuttle oxygen through the cells. Our energy regulation growth, I mean, it is it is absolutely essential.

You will you will see you know, it's interesting I sometimes Wirth work with athletes because I myself run and so my coach and I have work with athletes and we see a massive difference in their performance when we incorporate more animal protein into their diet.

And I attribute it largely to the B vitamins as well as the iron as well. That's a that's a big piece of it. Yeah. It's so interesting. A 100 careful not to derail our beautiful linear progression here, but as a almost lifelong vegetarian myself, it was very difficult for me to come to the realization that clinically it was just undeniable.

Good people who are willing to eat animal protein forward as on screen animal protein heal faster from chronic illness. It is just like it is undeniable.

You might have it short and people get really confused because of the primacy effect. So you know, you can have

a short term reduction of symptoms immediately becoming vegetarian or vegan. Also because going off of a super inflammatory diet, usually the sad experience.

And the. Concern and but long term you waste away and it can be an onramp to chronic. Illness. So it's that balance between you need to cleanse and you need to build, right?

So, you know, a vegan diet based diet can be very cleansing in the short term but is not building. You need the building component and back to the digestive piece of this is when your body senses animal protein like you eat that piece of steak or chicken or fish, that stimulates the release of intrinsic factor in your stomach, which is another critically important component to being able to access those B vitamins. So, so actually consuming the food and the nutrients in the food is always the best way to get those nutrients.

And so you need the hydrochloric acid, you need the protein in the diet in order to access those B vitamins as well as the minerals. Right. Like they're really, really important to be able to access those and from the diet.

And we know already that our diet, even the cleanest, healthiest diets, tend to be quite deficient in minerals. So if you compound that by making it more challenging for the body to absorb the minerals that are in the food, you're just you're just worsening an already not fabulous situation that they have to think further south in terms of the digestive process.

Gallbladder function and bile support

And I think this is the piece that often gets missed is when you have a head drea and you have insufficient hydrochloric acid. What that does is it affects everything that happens next because the pH of the chyme, that's the contents of the stomach as they leave the stomach and they enter the duodenum.

So that's the first part of the small intestine. It's the end of the chyme that, first of all, allows the pyloric sphincter. So it's that little valve that sits at the bottom of the stomach and doesn't let the contents move into the duodenum until they're at the appropriate state of digestion.

So until the end, it's a located it's like 1.5 to 3. Like you stick your finger in that, you're going to burn your finger and that's it. It's designed that way. That's the chemical.

That's the that's the burn part of churn and burn, right. It's that chemical breakdown. And your finger doesn't have, you know, the protective mucosal layers that your stomach does.

Right? So, so your stomach is designed to be this incredibly acidic environment and it's that acidity that triggers the pyloric sphincter to open up and allow the contents into the top of the small intestine into that duodenum.

It's also that acidity that then stimulates a bunch of hormonal releases that are so critical for the next stage. Right. So it stimulates the sodium bicarbonate released to the neutral allies, the contents of the stomach to a rate of seven.

Right. So what it's doing is, is balancing that because the small intestine and everything further south in the in the digestive tract, it doesn't have that same thick layer of mucus.

It has a mucosal there, but much, much smaller than what we see in the stomach. And so it neutralizes that that neutralizing doesn't happen properly. If we don't have a sufficiently acidic kind moving into the stomach or into the duodenum excuse me.

It also stimulates the pancreas to secrete those all important pancreatic enzymes. Right. And that those those are really important in helping to complete the break down process, that chemical breakdown of the food that we're eating.

This isn't something that's just done in the stomach or just done when we're chewing. You know, it's a it's an

ongoing process that continues. And we absolutely, absolutely need those pancreatic enzymes to complete that process.

It's also what triggers CCK cholecystokinin to stimulate the gallbladder, to root, to inject that little flush of bile into the duodenum, which is critical for breaking down fats.

We think of bile as that emulsifier, right? Like kind of like the the the dishwasher detergent. I always think of that old sunlight probably dating myself with that old sunlight dish soap detergent commercial where it was like the super grimy water.

And then we thought, oh, here's this one last wine glass that we need. And they squirt the sunlight in and all the little fat globules will was split up and break apart.

That's basically what bile is doing in your duodenum, right? It's helping to break up those larger fat globules into much smaller globules. None of that because they are liquid gold detergent, because it's so expensive for the body to make at once to recycle it.

Yes. Yes, it's so critical. It's critical. It's a critical detoxification pathway. I think the gallbladder is one of the most important and unsung organs of digestion.

Unsung hero. Yes. See, now you're speaking with language right now as well. Think of what it's doing. It's not only so it's helping you, of course, break down the fats, but it's also squirting all of those toxins out of the system.

It's stimulating the peristalsis. That's the muscular contractions, helping to move food along. You know, it's funny, when people come to me who are presenting with constipation, most of the time they're thinking, oh, I'm not hydrated enough or any more fiber.

And it's like possibly and possibly. And more times than not, we discover that they have very sludgy, thick bile, and it's that bile flow. And when we support the bile flow, then regardless of fiber consumption, regardless of hydration status, I mean, they're both important, but we see this beautiful resolution of their symptoms.

So I'm a big believer in the. Gallbladder of it. So do you want to pause here about dysfunction for because, of course, 700,000 gold letters are removed a year in the U. S..

Oh, God. What do you want to say and highlight about for those who are missing that gallbladder in the digestive process? 150%. I'm really glad you paused here.

This is such a critical piece of the puzzle now. So gallbladder absolutely essential. What happens when they remove the gall? The gallbladder is it's basically.

So the gallbladder is like a little pouch you think of. It's about the size and shape of a deflated balloon a bit a little bit larger. Right. And it's going to sitting right there underneath the rib cage.

And it's a storage that's basically a little storage bladder, again, for bile. And when you eat a meal, particularly one containing sufficient fat, the gallbladder squirts some of this bile directly into the duodenum to do all the wonderful things we've been talking about.

When you remove. The gallbladder, what happens is they basically attach surgically the common bile duct directly into the duodenum. So what you have now is a steady, slow drip of bile into the duodenum, which means not enough when you need it too much when you don't.

So the good. News is there are some very simple but lifelong clinical strategies that you can use to rectify this situation. So you can't get your gallbladder back, but you can replace gallbladder function essentially, or mimic it by supporting the digestive process whenever you eat consuming bile salts with your meals.

So that's going to replicate basically providing the bile that you should be getting. And sufficient quantities when you eat. But as I said, not enough when you need it.

This is addressing that first piece of the puzzle. The second piece of the puzzle, as I said it, bile is very caustic, you know, I mean, not to get graphic, but any of us who've been sick long enough to sort of throw some of that up, we all know how gnarly that stuff is.

And as I explained, with the acidity of the duodenum or the acidity of the contents going into the duodenum, the duodenum is not designed. It doesn't have this kind of protective layer. Right.

So when you. Have. A bowl, the bolus of food in there and there's, there's, there's stuff for the bile to deal with, it's fine. But a steady, slow drip when you don't need it is incredibly caustic and is going to do a lot of damage.

It's very irritating and inflammatory to this very, very delicate, small intestinal layer, which we're going to talk about more in a second. So my favorite parts of the digestive process, but it's very, very, very damaging.

So you need to mitigate that damage. And so what I recommend to clients is that they do some kind of gut healing support every day. It's just part of what they do from here on forward is just mitigating that damage doesn't necessarily need to be at full doses.

But something and I will recommend, you know, you can do different things from like marshmallow root glutamine, slippery, like there's different strategies.

The one thing I would say is don't just like find your favorite product and never change it up. I think it's a really good idea to kind of cycle through some of these different strategies, some of these different herbs and nutrients that can really help to build that and support that layer, that mucosal layer and the lining of the intestine.

But but those are two pieces that and I say that means lifelong because the gallbladder is gone. So it's not something that you sort of correct. And then it's done like this is something you need to be thinking about.

Small intestine, leaky gut, and immune activation

But I have had many clients in this situation and they have gone from extremely symptomatic to just functioning completely normally. They don't need to be micromanaging the amount of fat that they're consuming in their diets totally regular and consistent bowels, happy gut.

So it is not it's not the sort of life sentence of misery, but it is like you need to be paying attention to this. Yeah, I totally agree. Beautifully said.

Okay, so what else do you want to share about the small intestine processes and dysfunction? And I'm like, she's rubbing their hands together. And this is my favorite moment.

So I mean, the small intestine so fantastic in my said, you know, at the beginning of this I mean really, we're still on the outside of the body here is such a mind bending thing to think about, is it?

This is literally still the outside of the body. And so but this is this moment, this, you know, particularly the journeyman ilium. This is second to components of the small intestine.

This is where the vast majority, 95% of your nutrients are absorbed here. And so, first of all, the lining of the small intestine is one cell thick. And so that it's not very thick.

Right. As so incredibly delicate. And, you know, we have it has we have the microvilli. So these like finger like projections. So when you stretch that out, the surface area is incredible.

Although I'm you know, there's new research that showing we used to say, oh, the size of a tennis court, it's now

apparently the size of half a badminton court, still really big.

Like it's a ton of surface area for your body to actually. Absorb. Nutrients and these little microvilli that that one cell thick lining has all these little tight junctions sort of lined up, kind of like little bricks in a wall.

Okay. And when we say tight junctions, that's exactly what they are. They're cells. They're really tightly stacked next to each other. And what happens is that they open up very selectively.

And this is a process that's regulated by the immune system, by certain proteins, like. Is. Online and occlude and decide when, you know, I think of this kind of like the body's bodyguard, right?

Or the body's bouncer, right? Sort of standing there at the tight junctions, being like you, you're in you. I don't know what you are. You're out. You feel.

You're toxic. You're out. You oh, you're well, you. You're in, right? It's like they're constantly evaluating everything that kind of comes by and determining what gets absorbed in.

Because when that passes through that tight junction, especially the proteins and carbohydrates broken down, that's going directly into the bloodstream.

That is like the. Moment where this the food becomes you critical moment and we need to have all hands on deck, right. We don't. One of the things that I one of the ways I like to describe this, because the area of dysfunction is that we can have what's called leaky gut, which is when those tight junctions become dysregulated and start to kind of open up.

Just to be technical, because I know you like technical, fat does not get digested through the tight junctions in terms of between them. It goes actually through the lack tails down the middle of them.

So sometimes it's inside the the actual cell itself. Sometimes it's between. But the point being is that when you have when you damage the integrity of that border, that very, very delicate border, what happens now is that all sorts of things that shouldn't get into the bloodstream can get directly into the bloodstream.

You know, a good analogy would be like, let's say you live in a big, beautiful house with lots of doors and windows. And I was on a super, super busy street.

You know, if you had like, you know, I think of like the house in Manhattan, although I don't even know if there houses in Manhattan. But I think about the house on a really busy street in Manhattan and there's like the butler at the front door, sort of like letting people in very selectively, right?

That is the way we want it. We want very selective entrance. What happens with leaky gut or intestinal permeability is it's like all the doors and the windows are suddenly open and it's a free for all.

And of course, that butler at your front door and maybe it's others if you're trying to like, oh, don't come in, don't come in. But what happens is all sorts of things come in that you don't necessarily want in there and that can be mal digested food.

So it's just not yet ready. It's could be perfectly beautiful piece of broccoli from your lunch, but it's not actually in the right form for your body to recognize it as a nutrient.

It could be a pathogen, it could be a toxin. It could be I mean, we think about the end, you know, where's the end goal for things that don't get absorbed into your into your body?

That's the toilet bowl, right? Like so think of it that way. There's lots of stuff in there we don't necessarily want absorbed directly into our bloodstream.

And the challenge with any kind of compromised gut barrier is that it allows all of that's kind of just like a free way in, which means that we're dramatically increasing our inflammatory processes and up regulating our immune system.

And this is the birth place of systemic inflammation. This is why I say this is where, you know, the gut is the mother of the body. But if it's not functioning properly, you have a leaky gut.

Now you're in a lot of problems because this is this is a key source of what we call endo toxicity. So that toxicity from within a here, I realize I'm talking a lot.

I want to make sure you have the opportunity to ask any questions. I think this is really important for people to remember because we often talk about leaky gut in a passing way and in isolation.

So what we're really talking about is your your digestion rules have been thrown out the window and and I also really want to take a second to highlight you mentioned the vlei and of course, we want to, you know, discuss like the like tails and how those are really where that fats get observed. And that's such an important distinction.

I also want if you could just like speak to pairs, patches and like tails and how, how are the lymphatics really keyed into the gut and why does that matter so much, you know?

Yeah, yeah, I know. So this is I mean, 80% of the immune system lives in and around the digestive tract. Right. And so what's happening is the immune system is constantly sort of sampling what's going on in there, what's going on in there.

You know, it's like, oh, is this friend or foe is this something that we can actually use as a nutrient or is this something that we need to mount an immune response against? Right.

That's that is happening all day, every day. And when that when we have compromised gut barrier and this can happen. So, you know, we have that one cell thick layer and then you have two layers of mucus, mucin one and mucin two.

And that mucin is it mucin always get the you know, mucin two is so mucin one is the one. I was like which ones? One and two. Anyways, the one closest to the actual gut lining.

It should be sterile, right? Like nothing should be like nothing. There shouldn't be anything in there. Microbes. And, you know, we think of our microbiome that lives in that layer that's closer in to the gut.

And that's where all sorts of this activity and when you have something that has compromised in that, you have some things that have gotten into that mucin layer, too.

That's when the immune system is like red alert. Red alert. And it's it's an it's an integral, integral part of our first line of self defense, ultimately with the immune system.

And and we talk about the integrity of barriers a lot in functional health. And this is just one of those barriers. I think you're absolutely right. We sort of flippantly talk about like, oh, leaky gut.

It's profound what happens. The stress on that immune system when it's sampling and when it's like just the sampling activity is dramatically upregulated.

And then the response as if there's sort of a breach of that barrier, the immune response that needs to be mounted is is quite significant. And that's can this is you know, this is why we sort of have the birthplace of a lot of autoimmune diseases, because when you mount an immune response loud enough, it can actually damage tissues around it.

And the you know, the immune system is doing what it's supposed to do. It's coming in and it's cleaning things up.

But sometimes things get sort of caught in the fray and tagged as the enemy, but it's actually self.

And now we have an auto immune response. So it's, it really is, you know, any kind of immune challenge, anyone who's immune compromised, we have to think about the gut because we are eating normally multiple times a day, every day.

You know, if you're somebody who notices that you feel significantly better when you just don't eat and that might not be just digestive. You know, I have some clients who have just been like, oh, gosh, if I don't eat, then, you know, my knee doesn't hurt.

It's something, you know, and it's. Your energy is more even. You're not getting brain fog, you know, all of the above. You're not inundating your immune system.

You're not overwhelming it with, you know, these highly inflammatory compounds, things like, you know, lupus, lipopolysaccharide that are just coming in and causing havoc throughout our system.

You know, it's the source is the same. The destination in terms of where that inflammation is felt is very bio individual in my clinical experience, you know, where that sort of wherever the constitutional weakness for that individual, for one person, it might be migraines.

For another person, it might be joint pain for another person. It might be skin issues. It might mean it really sort of manifests in different ways. But when we address these key pieces, we see resolution of all sorts of things.

I mean, I've gotten to the point where if I specialize in autoimmunity and I've had some people come in and I, you know, they share their diagnosis. I've never heard of that before.

You know, and had to go and do some research. And I remember my first myasthenia gravis was very serious and you know, and talking to a couple of other functional docs, they were like, Oh, don't touch that.

You know, there's nothing we can do. And I, I was very clear with my client. I said, Here's the deal. I've never worked with this particular autoimmunity before, but here's what I know about the body.

And I explained to her much of what we're talking about today. And I said, So I let's start with the gut and let's just see how far we got. And I followed the process that we're talking about today.

And she went into full remission. She used to have to take these incredibly, she was allergic to all of the medications, so she'd have to go to the hospital for three days.

They load up with Benadryl, they'd give her the treatment. She'd react horribly. But it was the thing that kind of kept her symptoms at bay for a few months, and then the symptoms would start creeping in and get worse and worse and worse.

But you couldn't have another treatment yet, you know, and she went into full remission just with this. Just I mean, it didn't do anything fancy. She did this.

We addressed the gap. We removed, we identified and removed inflammatory foods. So it's a. Story of hope. So I really want to give you a chance to like I want to make sure we get into your lab preferences. Yes.

You like to look at. So I don't want to I don't want to rush you, but I really want to give you a chance to finish up, like the process, because I know people are going to look, you're in. The homestretch.

We're in the homestretch. So, you know, once we get past the small intestine, what happens is, as you know, sort of the remains and go into the large intestine.

And already, as I said, 95% of the nutrients have already been absorbed at this point. So what's happening in the

large intestine, it's a much more a much richer from a microbial diversity perspective.

It's a much richer environment. So this is where, you know, our gut bacteria have a chance to get in there and have a little party. And so we absorb we reabsorb a lot of the water that from from the you know, from the remains that have kind of gotten to this point.

We also this is where our gut bacteria, they produce vitamins like vitamin K from our from our food. This is where, you know, we have the production of short chain fatty acids, which are really potent anti-inflammatory agents in and of themselves, and really help to maintain the health of the lining of the gut and and really, this is, you know, where we are at this point.

Then we loop it out. What's left to be technical. Looking for technical word. It's true accounts. So I mean, the kind of imbalances we see here are largely when we see imbalances in that microbiome. Right.

So we will be seeing things. You know, we have an incredibly diverse microbiome that we are just we know this tiny little bit about it. I mean, I feel like this is the new frontier and this is the new research that's coming out about this on almost a daily basis.

It's fascinating. But really what we know is that it's incredibly diverse and you have, you know, some beneficial species that are really important, some keystone species that are that are, you know, they're to maintain the health of the mucosal lining and to to produce these short chain fatty acids.

Then we have opportunistic species, some of which are highly inflammatory. So they produce we mentioned the LPs, the Lipopolysaccharide they produce, which creates that Indo toxicity situation.

And, you know, some are histamine producers, right? Some produce methane and hydrogen. And we can get some clues into all sorts of different types of dysfunction.

If you don't have sufficient beneficios, then we create an opportunity where we can have things like yeast overgrowth, fungal overgrowth of all sorts of different kinds.

You know, this is where one of the many places where parasites can take up residence and have a little party and do some damage. So we you know, there's this is one of the key things that we're looking for when we're thinking about testing.

We're looking at the balance in the diversity of the microbiome and seeing is there, you know, are we having imbalances because too many opportunities that are feeding on mal digested protein, maybe because there's hypochondria up north in the digestive process, you know, we have dysbiosis, which is just essentially an imbalance in that bacterial balance.

It can happen just because you're not digesting your protein enough because of lack of hydrochloric acid. And you know that some of those opportunists are just having a little field day party eating down on the mal digested proteins.

So a lot of different subtleties and nuances here. But and that's actually one of the places that testing can be incredibly helpful to us is understanding what's what's really growing in excess, what species are really low, and how can we kind of support that to regain balance?

It's not about regulating and down right using. It's the balance that's so important. Yeah, absolutely. So why don't we why don't we transition to talking about your favorite labs to start with, especially for budget conscious people that are not sure where to start.

They just know they have chronic gut issues. And these are. Two main types of testing. When it comes to still testing, we have what was used as the gold standard for many years, which is culture based, tool testing, which essentially you take a sample of the stool and it goes in some kind of a substrate, basically a chemical reagent that

is there to feed the organisms that are living in that stool, to keep them viable until they get to the lab.

And then they would, you know, take a little bit of a storm, look at it under a microscope. So in some cases, this can be really beneficial. For example, it's one of the best ways to identify yeast, anything fungal.

But in a lot of cases, particularly with bacteria, they all sort of like different reagents.

Large intestine, microbiome balance, and stool testing

So you don't get and you need to have the the organism needs to be still viable when it gets to the lab. There's a lot challenges with that. Then another type of stool testing which has become a lot more popular recently is PCR testing.

And this is, you know, just in simple terms, this is basically looking for genetic evidence of things that are you right. And it's very, very sensitive and also very quantifiable, which is which is very helpful because we can detect things at very, very, very minute amounts and we can get a sense of the amount of it.

When we did the old culture based testing, we'd have some sense of quantity, but it was really quite limited. It was sort of be like low, medium high, you know.

And now we can really get a lot more granular in terms of the amount of certain species, both in terms of what's ideal as well as what's out of range either above or below lab.

Super important distinction. Absolutely important. And there's some, you know, some labs are strictly PCR, some labs are strictly culture based, and some labs have integrated the two.

So a strictly PCR lab that we love is a GI map by a diagnostic solutions is strictly culture based, is the doctor's data comprehensive stool and parasitology.

And then we have some, you know, doctor data also does it's called the GI 368, which is a combination of the culture based as well as some PCR technology.

The GI effects by Genova is also one that is a combination of PCR and culture based, the one that we love and get the best results with clinically. It's also happens to be the most affordable of the bunch is the GI map from diagnostic solutions.

To. Depends a little bit on where you get it but it's going to run you anywhere from low three hundreds and you know maybe as high as I said it kind of depends on where you get it might be up as high as like 500 bucks.

But really in the land of stool testing so affordable, what I would say is its weak point is the fungal area and all stool testing is a little finicky when it comes to parasites.

I don't know that we've perfected the art of detecting parasites. Thank you for saying that. It is the tech is not there yet. Another commercial testing to the public?

Absolutely not. That's super depressing. So don't don't make huge decisions about what's there and what's not there, but being present. No. And I want to say to as is so important to realize, there is no such thing as a perfect test.

It's just we just have to hammer that in over and over again. It's more data. It's not perfect data. And we and we're also using it in the context of the bigger symptom picture and symptom presentation.

It gives. Us. Clues of where to focus and how to structure, how we support the body to heal. But we're not chasing numbers. I think that's so easy. Once you and I love hey, I love objective data from Last Love.

It wouldn't practice without it. And it's not about chasing numbers. We can get into that like, oh, I see a little bit of density a little bit that's I want this perfectly clear and especially those type A's like true confessions.

I am so calling myself out on this, but that is not what's important. When we were highly symptomatic and trying to understand how to support the body, this testing is invaluable because you have even something, a simple presentation, as I mentioned earlier, something like constipation.

There's endless things that can drive constipation, right? So it can be about gall bladder, you know, it can be about, you know, stagnant bile or sluggish thick bile or insufficient bile.

It can be hydration. It could be about it could be food sensitivities, it could be a fungal overgrowth, it could be a bacterial overgrowth, it could be insufficient hydrochloric acid.

It could be some nuanced combination of all of these, which is normally what it is, right? Yeah. And you could say, well, wouldn't you just sort of support it all?

There's aspects you definitely would support. You know, you're going to always support the microbiome overall. You're a big believer in supporting fat digestion and hydrochloric acid.

And, you know, these kind of that sort of the digestive function. But if we're talking about, you know, is this yeah, I'm not going to throw someone on an antifungal protocol just because I think they might have fungus.

That's a big deal. It's a lot of work from a dietary perspective. It's a lot of work from the supplements perspective. Like it's just it's a big investment.

And so when we go into thinking about things like eradication, we really need those test results to inform what we do. Because, you know, let's say that that low stomach acid is a piece of the puzzle, but it's due to age pylori of course we want to support the stomach acid production, but if we don't recognize there's an H.

Pylori component and that that's what's causing the low stomach acid, then we're never going to get anywhere. We need to identify by the really allows us to identify that root cause so that we can then support healing very specifically.

That's beautifully said. So could you give an example of what it means to support healing very specifically based on tests. You 100%. So there's some aspects that we've gone through in terms of dysfunction that are that there's very specific markers that will tell us how things are working and there's other aspects that we need to use other forms of.

So clinical assessment, but starting with the stomach, so h pylori, you know, one of the reasons I love the GI map is it's extremely sensitive for picking up H. Pylori.

I've had a number of clients where we suspect, you know, they've suspected H pylori for years have gone to multiple practitioners. No one's ever done this test.

Someone said, No, you don't have it. No, you don't have it. We do this, they have it, we support and they get resolution of their symptoms. So just determining H.

Pylori would give us a clue as to the hydrochloric acid status. Now, there isn't a good way of testing hydrochloric acid production specifically. There's this really uncomfortable and hard to get test called the Heidelberg Test where you swallow a little capsule with a string.

It's just it's awful. And it's. It's miserable and it's not accurate. And so the way that we work with hydrochloric acid is we follow a very carefully supervised, slow titration process.

But knowing if it's h, h pylori is a component or not is absolutely essential to guiding that healing protocol. For

example, you know, we talked about the bile flow as really integral for fat digestion.

And so there are some markers on each one of these tests. For example, on the GI Mark, that's the still adequate marker, which is basically fecal fat.

And if that's high, what's that? That's a really good indication that the body's not actually breaking down, that appropriately. This is a good point at which to say, again, we're not just chasing numbers.

If your client has a or a you yourself has all the indications of impaired bile flow. So things like nausea, motion sickness, feeling really disgusting when you eat fats, constipation having these symptoms and you do the GI map and the C adequate looks great does not necessarily mean that you don't want to support the gallbladder.

So I think it goes both ways. Like we're you can't just forget that you don't want to just chase the numbers, but you also can't forget client symptoms and your individual symptom presentation.

When you're thinking about structuring this, there's always markers for enzyme production, so we can get a sense of whether there is a need to support enzymes through supplementation or not.

And then in the microbiome, you know, we can get a sense of different types of bacteria, can give us clues as to what impact that microbiome is having on one's health.

So I mentioned there's some species, you know, some examples like streptococcus and staphylococcus species that that can overgrow in the gut. They feed on mal digested protein.

We see that. Then we're really wanting to support hydrochloric acid, which we kind of wouldn't anybody. But we know that we need to double down on nuts.

We see elevations and species like Klebsiella or like strep actor or some of these more inflammatory producing bacteria. Then we're going to be really thinking about inflammation.

We're also going to be thinking about bringing in some eradication agents because we're not necessarily going to just try to rebalance and hope that they leave.

Like we when we're seeing high producers of histamine, which Klebsiella is one more denier is another one, when we're seeing high producers of those LPs, we want to get rid of them.

So we're actually bringing in herbs that will help to eradicate those alongside doing the other healing components. So there's really I think there's five things you always want to consider with any healing protocol for the gut.

You want to be thinking about digestive functions. So that's what we're talking about with the hydrochloric acid enzymes, the the biliary flow. That's the, the actual function of the digestive process.

You want to be thinking about that gut lining we talked about. There are test markers that will give you some indication of the integrity of that, things like an elevated zone, urine.

There's a lab called Vibrant that has a whole leaky gut panel. Here's the deal. I'm a believer that we just want to support the integrity of the gut lining because so many things can damage it.

It repairs quickly and easily. So it's it and it just it's one of those things where it's like, well, if you don't see Xinyu Lin elevated on a lab doesn't mean that there is a leaky gut.

It just means you're not elevated zone your own. The new mechanisms, right? Yes. We know we're getting micro exposures at the very least to life saved every day.

And of course, that's going to, you know, immediately disrupt the gut within 15 minutes of exposure. So why are we

spending money on something? So we could just make.

The use of in that if but if resources are precious and you need to spend money on solutions. Let's focus on the solution as focused on that solution and just bring in some gut healing.

We want to make sure that that microbiome, that the beneficial species of commensal species are nice and robust, if there are any pathogens that are highly inflammatory, are really interrupting the processes of digestion like an H.

Pylori, some like the Klebsiella and some of these more inflammatory opportunistic bacteria. We do need to eradicate them alongside all of these other pieces.

And then finally is identifying and removing those foods that are in and of themselves inflammatory. And there are some that are the usual suspects, you know, gluten, dairy, soy, you know, industrial seed oils, sugars, highly processed foods for everybody.

Those are you know, those are just out. But each of us has food sensitivities that are hidden, meaning that they're not the usual suspects and they might be not overt, meaning that you unlike something like an allergy, like a peanut allergy, where you consume the peanut and break out in hives.

10 minutes later, food sensitivities can take up to three days to manifest and symptoms. Yes. Thank you for underscoring that. Yes, people forget this. Yes.

Almost impossible. I don't want to say completely impossible. I would not want to try to figure that out through an elimination diet alone, because you'd have to go down to nothing and slowly introduce things one at a time every three days.

Targeted testing, food sensitivities, and healing strategy

I mean, it's virtually impossible to do a true elimination diet to identify all the food sensitivities. And some sensitivities can be moderate versus some can be really a really overt inflammatory response.

And so. I'm a. Big believer there's a food sensitivity test called the multi that mediator release test. And what it's looking at is not is very different than a lot of food sensitivity tests that are looking at mechanisms like IgG.

IgG mostly, some IGA. Those are evidence of the immune system mounting an activity but not necessarily directly connected to inflammation. That's a super important distinction because what causes symptoms is inflammation.

IG, for example, is a normal and natural process of the body's housekeeping and you can have elevated levels of IgG without a corresponding elevation in inflammation.

And so what happens with those tests that look at the mechanism is that you have someone who's removed all these foods. Some of them they probably do trigger inflammation, but others that don't.

So they're necessarily avoiding foods. There's also a whole class of foods sensitivity that don't involve antibodies at all. It's a mechanism that's driven by the cell inside the cell itself.

And it you miss all of those entirely. So it's this sort of like false negatives and false positives. So I'm not a big believer in those food sensitivity tests, but I love the MBTI because it gives us information about what foods are triggering inflammation, regardless of whether antibodies are involved or not.

It does not give us any information about food allergies. It's a very important distinction as a totally different mechanism. Why the inflammation happens does not happen in the blood, happens in that tissue, but it but it can be powerful.

And so what you're doing here is we get the information from the gut test that informs how we support the gut to

come back into balance, to restore function and to heal.

At the same time, we use the information from the food sensitivity test to. Remove those. Foods that are causing inflammation right now. And this is a right now things is not a here are the foods you're never going to eat again.

This is a 3 to 6 month long process while we do the healing. And then there's a reintroduction process because the goal here is not to make life hard and have a very restricted diet.

The goal here is to eat as many as great a diversity of your diet as possible, but to allow the gut to heal. And if you don't remove those inflammatory foods, it's a little bit like if you had a big old cut on your arm and you're doing all the healing bombs and all the things, but every day, multiple times a day, you're running that open wound along a brick wall.

Like it's it's a sort of gross over analogy, but it's basically what's happening. It's just it's irritating while you're trying to heal. And we don't we want to remove all irritants while we're allowing the body to heal.

And you think I mean, my arms are totally healthy. If I ran it along a brick wall, I mean, it might get a little like a little scratchy, but it's not to hurt me.

Right. So it's a similar thing, you know, what's the what's the digestive processes working? It's nice and robust. There's no imbalances. You should be able to tolerate most foods.

Oh. Oh, that's right. That's what we're supposed to do is just to be resilient. That really is the default. It's totally the deal. That's. So you covered a lot of great insights about what people can test for.

Are there any other thoughts that you want to share with our newbies that are just taking control over their health for the first time? Are advanced students for calm or lovingly call them or so junkies they know more than their general practitioners.

Just looking for that step that they've overlooked. Here's what I will say. If you have not yet gone and done a deep dove into your gut health using the tools that we're talking about here today, and you have any kind of health issue, you need to do this as a piece of your puzzle.

If you're a newbie, you know, we can share some resources with you in terms of how to get started. What are the tests? What are some of the key markers to be looking for?

If you're somebody who's been doing this for a while and you're feeling stuck, which in my experience, a lot of people who have been doing this for a while, if they're still doing it, is because they're stuck.

Then really go back here and and I really encourage you not to write this off if either you have oh I've already done got healing. Oh, I've already you know, I've already manipulated my diet like that.

Some of these strategies that I'm talking about here, they're very nuanced. And you want to work with somebody who really understands the balance of these pieces.

And it is even if you don't have those digestive symptoms, if you have some lingering health thing that won't go away, this is the starting point. It might not be the ending point.

I'm not going to promise absolute miracles with this, but it is an absolutely essential because of what we talked about at the beginning. It is the mother of the body and it's either really supporting and nourishing every single body system.

Or. It's one of the biggest sources of stress on your immune system. It's one of the biggest sources of systemic inflammation and it is sort of the birthplace. Of.

A lot of chronic disease. It's beautifully said. Thank you. I appreciate it. Anything you want to share to the practitioners in the audience who are listening and want to know how to deepen their work?

Yeah, absolutely. Well, I run a great school. Yes. Yes. And our school is called Restorative Wellness Solutions, and we do a deep dove into everything that I'm talking about here.

We start with the gut. Unsurprisingly, it's a 12 week intensive program called Mastering the Art and Science of Gastrointestinal Healing, and it is exclusively for practitioners.

So This is we're able to really go deep because we assume already that you have your foundational training, you're working with clients. This allowed this gives you the skills to work with tests like the GI map and the MRT in a very, very clinically nuanced way, understanding how to interpret the information you get from these tests and how to how to take that information.

Marry it with your clients symptom presentation and then craft very precise and effective healing protocols for your clients because the whole. The whole.

Purpose of this is to get our people feeling better as fast as possible. So many people have been struggling for way too long and it's time to stop that this time to get them well and get them well in a hurry.

And so there's there's very specific strategies for that. And that's what we teach. Which is not sharing with you folks because she's so modest. Is that some of the biggest names in functional medicine today studied with Margaret, and that's part of how they became thought leaders, is because they started doing stuff that works so that's something just to note, and I think that's absolutely worthy of note.

So thank you so much for sharing so many clinical gems. And I'm just it was like a fun magic school bus service that they gut today. It was been tastic and thanks so much for giving people hope because I absolutely agree with you.

The whole point is resilience and health is the default. So and if the gut lining replenishes itself every three days, like what is that? What are the conditions right now that need to be shifted so that as it replenishes itselfand heals.

Thank you so much. And thank you.