

Michael Roesslein:

Steve is the founder of Healthy Gut Company. He was the founder and educator at SCD Lifestyle. He's educated a bazillion people and practitioners over the last, I would guess, 15 years now probably, maybe longer. They make at Healthy Gut what I think are the best line of digestive support products that there are. We've done podcasts where you share your story so we don't have to get into it, but Steve did that because he wants products that work because he needs them. That was what started the situation. He is a, I would say, borderline obsessive researcher in a good way and has read more studies than probably anybody I know and puts more time and energy and effort and heart into the formulation of their products than any company that I'm aware of. I'm sure that has a lot to do with why they work so well.

So that was a very informal bio there, but anybody who's been around here for a while, we've done a lot of webinars with Steve. He's one of my favorite people to have on here. Lately, between the course that we are running with Kiran and just in general, we've gotten a lot of questions about best-use practices because he is educating quite a bit around your products as well in his course and recommending them for certain instances and uses and put them together in a bundle for microbiome foundations. The Tributyrin-X is in a microbiome foundational bundle that he's recommending, and we've gotten a ton of questions about layering or when to do what or dosing or what if this happens kind of questions. I figured instead of me answering them, you would be better to answer them all at one time. We'll get everybody the information that they need to make best use of products. Because I heard you say several times, "For something to work for somebody, they have to be taking the right amount of it for them and using it in the right way." That can be very different for individuals, so it's like a learning process for each person on where their body's at, right?

Steve Wright:

Yeah, a thousand percent. It's not just like-

Michael Roesslein:

Yeah, but it should be simple. We should just be able to give them one of this thing and one of this thing, and it should work for everybody, but...

Steve Wright:

Well, that's the reductionist way to do medicine, and it happens in integrative and functional medicine just as much as it happens in western medicine. The truth is life is messier than we want it to be. Life is more gray. There's really not that much black and white in the world. It's very true with all supplements and all drugs for that matter. There's this whole Ozempic thing right now. If you look at the lower dose studies, there's hardly any side effects and the results are pretty awesome and it could be very useful. But then when you push the dose really high, you get significant side effects, for some people with stomach paralysis, suicidal ideation, the issues. And so if people were just educated that, hey, there's a range of possibilities here with this product, this peptide. And for some people it might make perfect sense, it might be a wonderful product for a lot of people frankly, but at a lower dose than what the doctor might come out recommending for you.

And so the same is true with supplements. And so I think it's super helpful for people to learn about the products they're taking because you could listen to this show, you could listen to any show, you get super hyped about curcumin or resveratrol or vitamin D3 or whatever it is, I don't care how new it is or how old it is, and then you find the right manufacturer who's really done their due diligence and put together a really well-made product. But then if you dose it just one pill too little or too many, you're

either going to have all these issues and be like, "Fuck these people. I did it again, another supplement graveyard bottle, another lost week of my life." Or you'd be like, "I went through the whole bottle and I didn't see anything. Those guys are liars." It could have just been that you just needed slightly more.

Michael Roesslein:

I didn't learn this until probably 10 years in myself and started varying my range of what I try with something in a wider range. If the bottle said two, the furthest I'd ever go off that is one or three. And then I was like, "I wonder what happens if I take seven of these." And then things happen. The first time I did it was with your HoloZyme and popcorn. I've told this story a few times, but popcorn is my guts only nemesis and I love popcorn and I have very little self-control with popcorn. And so I rarely eat it ever, but if there's this much popcorn, that's how much I'm eating. If there's this much popcorn, that's how much I'm eating.

One time I was like, "You know what? I'm not going to get bloated this time. I'm going to take six HoloZyme." Mira made fun of me, my wife laughed at me like, "Oh, you think that's going to solve your popcorn issue, eat a handful of HoloZyme?" I was like, "Well, if it doesn't, I'm going to complain to Steve." And it did. I ate a whole bunch of popcorn and I didn't get bloated and I was like, "Well, six is the trick for when I eat popcorn." I would've never done that before.

I want to talk about four products today, three for sure and a fourth one if we have time. But the three for sure I want to get to are the HCL Guard, the HoloZyme and the Tributyrin-X and HoloImmune if we get to it, I think. I think we can, I think we could do about 10 minutes per and get to it.

I want to start at the top, and that would be the HCL Guard. We've done a lot of education both with you and other people and in general around stomach acid and the importance of stomach acid not only to digest and break down food, but also to start all these chain reactions through the digestive system that if you don't have adequate stomach acid XYZ, things behind it are going to go sideways and it can mess up the small intestine. It can lead to things like SIBO. It doesn't trigger enzymes to be released. It doesn't trigger bile to be released. So you're starting off the game behind the eight-ball. And we've also done a ton of education that way more people have much less stomach acid than needed, and very, very few people have too much. Kiran cited a study or statistic on that, and I think it was less than 5% of the population has too much stomach acid.

Steve Wright:

It's pretty rare.

Michael Roesslein:

Yeah. And that's out of the people who complain about symptoms, I think. I don't think that's just the overall population. I think that's the symptomatic population and it was a fraction. And then he parlayed that with how much money is spent on antacids and PPIs and billions of dollars of things that make the actual problem that people have worse. So we're going to skip that. We don't need to get into that, that exists. So I want to start with symptoms of low stomach acid. When you hear people saying, "I have this issue or this issue," and then your mind goes to maybe starting here with this product would be a good idea, what's that symptom cluster look like.

Steve Wright:

Yeah, I'll break it down into slam dunks. If you tell me the following, I'm like 99% accurate with you could use HCL Guard, and then I'll follow it up with likely but not as likely category of symptoms. So burping

after meals, like frequent burping after meals, any sort of brick or heavy feeling upon eating, especially meat or protein. The other way this shows up is some people will be like, "Man, I really want a steak or I really want some chicken," and then they eat it and they're just like, "Oh, I feel so heavy. It feels like it's sitting around." So that's like a home run.

Any sort of heartburn is typical, but we'll come back to that case. People who have constipation are high likelihood, and then people who are constantly stressed around eating and then have bloating. So those are pretty much slam dunks. If you are over 60, if you have autoimmune conditions and other inflammatory conditions that you're trying to get your hands around, you're trying to overcome and get rid of, if you have diarrhea, constipation, all the rest of the cluster of IBS and IBD symptoms, you're seeing pieces of food in your stools, you got just issues throughout, you lost your gallbladder, anything around those types of cluster, you have low energy, these are all signs that you should do the HCL challenge. But they're not as much of a slam dunk as if someone says, "I'm burping after meals. I have heartburn. I have a brick sitting in my belly. I have bloating or constipation." Those are like I can almost guarantee it.

Michael Roesslein:

Okay. Before we go any further, we're talking about it as if everybody knows what it is. HCL Guard is a stomach acid support product that you make that does contain betaine HCl like actual acid, and then it has a few other ingredients in it. And what are those?

Steve Wright:

So we're the only company in the market. There's like 1,000 stomach support products like this. This not some brand new thing I thought of, it came 30 years ago, 40 years ago. But we are the only company that I'm aware of that has put betaine pepsin, which is the proteolytic enzyme that's active in the stomach, intrinsic factor, and then we also include ginger as a motility agent and DGL for mucus membrane healing and protection.

Michael Roesslein:

The intrinsic factor aids in the absorption of B12, right-

Steve Wright:

Right.

Michael Roesslein:

... which is often low in people with low stomach acid. [inaudible 00:11:04]-

Steve Wright:

A percentage of people. It's a smaller percentage, but yeah.

Michael Roesslein:

Pepsin helps with protein...

Steve Wright:

Breakdown.

Michael Roesslein:

... breakdown. Okay, so synergistic ingredients and the DGL to help soothe and the ginger for motility and movement because low HCl contributes to low...

Steve Wright:

Utility.

Michael Roesslein:

... utility and movement through, so it's a really comprehensive like synergistic HCl support. Because, yeah, there's a gazillion HCl products on the market, but most of them don't have that other stuff in them. All right, so those are the slam dunk in the likelies. Now you mentioned the test that you guys recommend doing. How exactly does that work?

Steve Wright:

Yeah, so you could try to go to a doctor. The problem is that Heidelberg tests and GI pill capsule tests are few and far between. Literally, there's I think less than 100 providers in the United States. It's 300 to \$600 if you can find one and get in. It's a lot of hassle. And it's much faster because if the test results come back, the epiloemic acid, they're going to tell you to supplement with BTN HCl and pepsin. So it's much faster and cheaper, like less than 50 bucks. And you can find out in a week to do an at-home test called an HCl challenge.

Now, you can just google HCl challenge if you want to read up on it, but the gist of it, I've been writing about this for 14 years now, it's one of the first supplements I discovered on my journey that really made a huge difference for me. I would say the easiest way to do it that I coach people now is, whatever your normal dinner is, take one capsule at dinner the first day. And then you keep escalating in dose like two on day two, three on day three, four on day four. Say on day four you feel some sort of hotness, heat, burning sensation or you have loose stools, if you have the hotness or heat, you would take a half teaspoon or a teaspoon of baking soda and just a little bit of water. Baking soda is a base and the acid was in the capsule, and so it just neutralize it. You haven't harmed yourself, there's no long-term damage. Everything's going to be good.

And then you would take one less than that. So if four was hot or burning, then three is your number. Again, I think I've been educating longer on this than almost anybody besides Dr. Jonathan Wright, there's 10 to 20% of folks that don't feel a burn. What they will notice is loose stools. So you want to be monitoring your stool quality because a lot of what we're trying to do is lower inflammation, lower and improve stool quality because we're doing all those suite of amazing things for the stomach and the small intestine. And so people who don't feel the burn will probably notice loose stools first.

And also, I would just say, if you're some sort of champion and you made it up to eight to 10 pills, there's a lot of diminishing returns. Most people shouldn't probably need more than eight per meal. I did that. I was unfortunately in that category for a year or two. But luckily how it works for most of us is that you get up to that high number and you can then go down to seven and then you can go down to six. Basically your body starts to reengage with the acid on its own and you start to, as you work through your micronutrient issues, your nervous system issues, maybe you have H. pylori, all the issues that would make it difficult to create your own stomach acid, as you work through those things and heal your body typically responds with its own production and you just taper down and off of it.

Michael Roesslein:

That makes sense. And you're also getting more nutrients out of your food-

Steve Wright:

Significantly more.

Michael Roesslein:

Significantly more HCL, so it's starting a cascade because mineral absorption, everything else goes up. All right, so that's the test. And then you mentioned using that test to determine starting dosing and how to navigate that. So I don't think there's a lot more there. What else would you want to add? It's taken when?

Steve Wright:

Ideally you're taking it with your first bite of food, but you can also take it at the end of the meal. If you're super sensitive and this is your sole focus, the ideal dosing is right before you start eating with a little bit of water. I'm lazy and so I take it at the end of the meal with the rest of my pills. And then I've also had instances where I just made mistakes. So mistake number one, don't take your capsules of HCL Guard and then have life happen and then not actually eat the food because you will have the burning sensation. You will get a free ride into that experience. So that happened to me a few times and so I'm just like, "I'm just going to take them at the end of the meals."

But if you read through the reviews on our website or something, you'll notice that some people are very like, "Wow, it didn't work as well when I took it at the end of the meals. And then I talk to a health coach and they said, 'Take it at the beginning of the meals.' And holy cow, it works so much better." So for some people it is important to do it at the beginning of the meal.

Michael Roesslein:

Okay, that makes sense. All right, anything else you want to add on that one before we would go on? Any contraindications? What about people with gastritis, ulcers, things like that?

Steve Wright:

You'd take it at every meal that it has protein, vegetable or animal protein. So for most people that'll end up being two to three meals a day. So contraindications are active ulcers, so any active ulcers, what that basically means is you don't have a mucus layer protecting that part of your intestine and now there's an inflammation pocket that's gotten bad enough to be very painful. And so you do need to do temporary usually acid suppression to kill those ulcers. You don't want to be adding extra acid in at that point.

Individuals who are on long-term prednisone or any sort of long-term NSAIDs are typically told not to take it as a contraindication. The reason is not that there will be some sort of deathly interaction. It's that all of those drugs thin your mucus membranes and then give you ulcers. And so people don't tend to take them at the same time. But obviously, if you are an adult and you understand what I just said and you're working with a provider who can help you manage things, you might come to a different conclusion. Beyond that, if you take it and it causes you pain, that's a contraindication. Most people, when they feel the pain, they'll be like, "Oh, I have high acid." Actually, most people who feel the pain have mucosal membrane damage. They are part of that group who have the gastritis, they're on their way to their ulcers, and they just didn't know because the body maybe had turned down its acid

production for a while. And so it normally doesn't mean that your acid is fine. What it typically indicates is your mucous membranes are needing some love.

Michael Roesslein:

Okay, that makes sense. And yes, meals with protein, you responded to that. Please put, I didn't say this earlier, questions in the chat... Not in the chat, in the Q&A, there's a Q&A section. We'll try to get to questions. But please put them in the Q&A, things get lost in the chat. So let's move on the next [inaudible 00:18:22]

Steve Wright:

And then there's a question in here real quick. The intrinsic factor that was put in the product was put in there for pernicious anemia cases. We do not believe it worsens the autoimmunity, but you have to be an adult, you have to try it and see if your B12 numbers and your iron numbers and your ferritin numbers go up. Or if you feel worse, obviously don't take it then.

Michael Roesslein:

Okay. We'll get to less direct product related questions at the end if we have time. Next would be HoloZyme, which I mentioned [inaudible 00:19:02]

Steve Wright:

Let me add one more thing.

Michael Roesslein:

Oh, go ahead. Yeah, yeah, yeah.

Steve Wright:

So why would you take HCL Guard versus something else you find on the internet that's maybe cheaper per capsule? The reason why is you'll most likely end up needing two to three less capsules versus the other brands. So other brands may have more BTN HCl or more pepsin per capsule, other brands might be cheaper per capsule, but because of the synergy of the motility activation and the intrinsic factor, you're going to get more nutrients from the combination in our product than you will those other products that don't have the combination. And then with the motility activation, everything that's going on, what we find is that on average it's two to three less pills per meal when you use HCL Guard versus Designs for Health or versus NOW or versus whoever you want to put us up against.

Michael Roesslein:

Okay, so more bang for your buck. Any other things to add on HCL Guard? All right, we'll go to HoloZyme, which is digestive enzyme, which digestive enzymes are released by the pancreas after the food leaves the stomach if there's adequate stomach acid, because the acidity is part of what triggers the release of the enzymes. So is fat being present and a few other criteria or the expansion and shrinking of the stomach, but the acid plays a big role. So where deficient in stomach acid tends to release inadequate enzymes. This is me reciting what I've already learned from Steve and Kiran, is that we make less enzymes as we age, just like the stomach acid.

And so enzymes break proteins, break down carbohydrates, break down fats. Well, breakdown isn't always the right word, but yes, help in breakdown digestion, absorption. And when we don't have

adequate enzymes, we have trouble with certain foods, and that food may be different for people. For me it's popcorn, for a lot of people it's raw vegetables or leafy greens or cruciferous vegetables, which everybody tells you to eat lots of. Eat lots of these things, and you eat those things and your belly blows up like a balloon. That can often be linked to enzyme issues. Do you have the same kind of slam dunk list for enzymes?

Steve Wright:

Kind of. Enzymes are extraordinarily universal, meaning every single time you put something in your mouth, you are using enzymes at three layers. There's layers to all this and we don't need to get into salivary amylases, and we just talked about the proteases in the stomach, but the major digestive enzymes at work are your pancreatic enzymes, your brush border enzymes, and then your microbiome enzymes. Basically, your microbiome makes enzymes to help us further break down the fibers and the polyphenols and all the cool crazy stuff going on in the microbiome.

Individuals who have gas or bloating, however you want to classify yourself, are almost universally low in enzymes. Food sensitivities almost universally low in enzymes. The reason why is that you're literally unable to cleave the food into the right size pieces fast enough to absorb the nutrients. There's windows inside the intestinal track of when you can absorb certain things. I haven't tried this analogy, but let's put it to test. I've never actually done this, but I've seen the videos of those sushi bar things where the food is coming by and you have to grab the plate. If you miss the plate, the chef might not make that dish again. It just went by, you didn't claim it, so it's not yours.

Very similar inside the intestinal track, the food's moving through and there's certain windows for magnesium, there's certain windows for iron, there's certain windows for protein. If you miss that window, you've missed that opportunity, and then it goes into somebody else's opportunity. The other people's opportunity are bugs. And so SIBO, CFO, candida all typically have an enzyme issue as well. Basically those bugs have so much food that they're able to migrate up. There's obviously a cluster of issues that allow them to migrate out of the large intestine up into the small intestine, but one prerequisite is that they need food and they need abundance of it to be able to grow in a lot of numbers.

I would say, anybody with food sensitivities, bloating, gas, and then you have those cluster of people with SIBO, CFO, candida, those people are slam dunks for enzyme issues. Anybody with the diarrhea, constipation, loose stools, just like stool inconsistencies, erratic bowel habits is also usually a slam dunk. The reason why is, this is a new paradigm that I'm teaching a lot in the new course that I've built, but we've missed this idea that the gut has a list of structure things and a list of function things. You can't just support the structure. So the structure would be like, "Is the microbiome healthy?" But what the microbiome makes, the post-biotics would be the function. The structure would be like, is your leaky gut not leaky? But the function is it keeps the food in the right positions to do the job.

And so if you are trying to handle your autoimmune condition, your inflammation or your gut issue with just probiotics, prebiotics, colostrum, L-glutamine, you're probably going to miss your target and you're not going to get the results you want. Because all those things are really important, but they're working on the structure side. None of those things are going to do anything for the function side. And so function is HCl, function is enzymes, function is butyrate. It's literally the actual organ's capacity to do its job. And so I would say universal gun-to-the-head moment if someone has any sort of gut complaint, I would go with HoloZymes if my life was on the line versus any other product.

Michael Roesslein:

Yeah, it's usually my first go-to as well. And it's the one that I always have on hand where the other ones I use for troubleshooting or situations like that. I've taken digestive enzymes with most meals that I've eaten to some degree for probably close to 10 years. All right. Dosing with that, what I personally do is I just take one or two of them when I normally eat normal food that is not a problem for me. But if I'm going to eat stuff or consume things that aren't what I normally eat or too much of something or whatever, I'll take a little bit more. I don't know how you specifically instruct people to utilize it or starting it and titrating or how does that work?

Steve Wright:

Yeah, so if you're highly sensitive, I guess we should have said this in the beginning, so HCL Guard, you can't open the capsule because you'd be sprinkling powdered acid on your food and-

Michael Roesslein:

Don't do that.

Steve Wright:

I've done it just to make sure no one dies and you're not going to die from it. But long-term usage, don't open the capsule. HoloZyme, you can open the capsule. So if you're not a person who does well swallowing pills, if you have somebody who struggles with that, they're younger, whatever, you could just open the capsule and sprinkle it on your food. If you're also extraordinarily sensitive, you maybe have histamine issues or MCAS, you can start with a sprinkle. Most individuals in the study dose in the pilot trials was two per meal. It is built to be two per meal for the majority of individuals. But HoloZyme and all enzyme products, it's not just HoloZyme, are very individual. This can be very individual. We have a lot of case reports of women who are like 100, 120 pounds and they're taking six per meal and they're finally getting rid of their bloating that they've struggled with. They've taken a ton of other product and they're like, "Wow, this is a godsend."

We have large men, over six foot, 250, 280, and they write in with the same story like, "Wow, this is amazing," and they're taking one or two per meal. And so body weight is not an indication of dosing. What is an indication of dosing is literally testing and observing whatever it is you're frustrated with, annoyed with, trying to overcome. If it's bloating or farting or burping or stool inconsistencies, whatever it might be, what I would say is if you're sensitive, start with a sprinkle, work your way up to a capsule. If you're regular, start with two. And then if you don't get what you want, like in Michael's case, he didn't get what he wanted, he wanted to eat the popcorn without problems, keep going up. Majority of people don't get above six. It's a super rare case.

There is no theoretical upper limit because, number one, enzymes have been used in humans for... I don't even know if it's been a century, but it's been a really long time, many, many decades. In other realms of integrative medicine such as cancer, they use dosages of 160 capsules per day all the time no matter what the body weight is. So we're talking about six per meal times three meals, it's 18 per day. It's almost 10X basically of what other use cases for oral enzymes are.

What I do is two to three per meal. The more stressed I am, the crappier the meal is, meaning if I'm eating some sort of processed gluten-free pizza, if I'm eating corn chips, if I'm having alcohol, I definitely take six myself in order to avoid the bloating and the farts. And then it is encouraged to be dosed before bed systemically too as well. You don't have to do that. That's the other use case if you're trying to work on inflammation and if you say you have high blood sugar for meals or high uric acid or some other

things, that was part of the studies that were run in order to get the patent behind the product. But not everybody has to do that.

Michael Roesslein:

Yeah, that's a little bit different of a use. That's the proteolytic aspect of it. They digest things that are going on in the body and break stuff down and reduce inflammation and such. All right, so that is start at two, sensitive, sprinkle, go up to a cap, go from there. Up to around six seems to be the high dose for problematic or people with severe symptoms. Give it a try there. And timing is before, during, after?

Steve Wright:

Ideal timing would be right before the first bite. I, again, am lazy, I take it at the end of the meal altogether with everything. But it's up to you. Again, if you're in an acute situation and a flare and you're really trying to get a hang on this or... sorry, a handle on this, I would definitely take it right before your first bite. Jennifer, it breaks down to everything. One of the things that sets HoloZyme apart is we have pancreatic enzymes, we have the full suite of brush border enzymes, and then we have a full suite of microbiome enzymes, which if you have dysbiosis, there's a strong chance you don't have the right populations of bugs that are making the extra enzymes to work on your prebiotic fibers, your polyphenols, and your just cellulose and other fibers.

Michael Roesslein:

Very cool. And brush border enzymes are what we are deficient in when our gut lining gets damaged and the little villi are damaged and we're not producing as many there either. So yes, protein, carbs, and fats. "Some functional practitioners are saying that proteolytic enzymes can break down mucin in the gut." I've never heard that before.

Steve Wright:

They could theoretically. Yeah, I mean theoretically.

Michael Roesslein:

Okay. All right.

Steve Wright:

Yeah, you're right, whoever attendee anonymous is, there is no DAO, so diamine oxidase. Brush border enzyme, there is no DAO in it. Sorry, it's your normal suite of brush border enzymes.

Michael Roesslein:

Okay. Any contraindications or problems with the enzymes?

Steve Wright:

Contraindications, there are select individuals, this is very low, this is why it's like my gun-to-the-head product, probably less than 1% of buyers and users will have burning or some sort of heat from taking an enzyme product. The mechanism behind this is usually trash mucous membranes again. And so their mucosal membranes are really shot and they just can't handle extra enzymes. In my opinion I've only seen two ways to deal with this because, again, this is enzymes, these are very inert substances in general tolerated by almost everybody. If you fall into this camp, you have two options. Old school way,

the old naturopath, the old ASD practitioners would say you start with a sprinkle and you just power through it slowly for the next month as you increase dose and it'll go away. And usually it does. A newer school approach would be take 30 to 60 days and take a bunch of mucus-healing products basically to try to improve your mucus membranes and then try again.

Michael Roesslein:

Okay. Old school, hardcore, powder that enzymes.

Steve Wright:

Yeah.

Michael Roesslein:

Okay. And I think that's all the questions for that one. And then that would lead to... Actually, we just did an entire webinar on tributyrin, so I'm going to go to HoloImmune and then we'll do tributyrin at the end. Now, HoloImmune is a paraprobiotic or... Oh, yeah, paraprobiotic. Postbiotics are the stuff that the probiotics make. So paraprobiotic, meaning it is made of dead organisms that I believe are freeze-dried, right?

Steve Wright:

I mean, they're killed in a bunch of different ways. Most of them are heat killed actually in our product.

Michael Roesslein:

Oh, okay. And then yours also has beta-glucans in it. And if nobody's ever heard of this before, we did a webinar with Kiran where he went microbiome nerd on what is a probiotic by definition, what is a prebiotic, what is a paraprobiotic, what is a postbiotic, and he even did psychobiotics. And then I think there was one category I'd never even heard of before. But paraprobiotics are ones that are newer on the market, at least as far as people talking about them. They've existed for a long time. But people are like, "How can it do anything if it's dead?" And what happens with certain organisms is when they arrive in the gut, even when they're dead, or especially when they're dead, they probably have different effects, they cause a response from the immune system. That's the gist of it. And that's what you're going for with that.

Beta-glucans are super cool. I went down a rabbit hole after our webinar on it and I found some website of some doctor who works with beta-glucans and is like the beta-glucan guy. I wanted to believe everything I was reading on the site because it was fascinating. But I was like, "Man, if beta-glucans can do all of this stuff, we should be consuming them more." So give us the lowdown of what's in the product and how it works, and then I'll ask similar questions about it.

Steve Wright:

Yeah. Let me just expand on your definition. So I would say probiotics are healthful strains with proven health benefits and studies. They're a live version, sorry. The dead versions with proven health outcomes in humans are paraprobiotics. Not all dead bugs are helpful in the way that studied paraprobiotics are. One of the hypotheses on why when they do this, because these are billion-dollar companies who are trying to develop these things, it's not us, and they give the same dosage of the live bug and the dead bug, same strain, and then they do crossover. That means you as the person get the live and the dead version. They do all these crazy lab draws. They're measuring every immune marker,

every inflammation marker, the microbiome, all kinds of crazy stuff. What they find over and over, and I've read I think probably more paraprobiotic research than anyone that's not an actual scientist working on them at this point, is universally paraprobiotics alter the immune system function in the gut better and in really cool ways that nothing else does.

The live bugs alter lots of other things. They can alter the mucus layers, they can change the microbiome, they can change the leaky gut, they can change psychobiotics, they can do all kinds of cool stuff themselves. Live bugs are really cool, but dead bugs really work on T regulatory cells. They work on excessive IgE formation. They do these very niche and specific things. One of the hypotheses is because it's dead, the body's always reaching into the lumen of the gut, it's always reaching and sampling, it's almost like going in there with, what are those things, like those droppers or whatever. It's almost always going and taking a dropper and then pulling it into the cells and sampling it and seeing what's going on, what's the makeup of in there. Live bugs, they would be killed. We don't want to bacterially translocate live bugs into the rest of the body. That could set you up for sepsis or something nasty.

But dead bugs are already dead, so they get more access when they're sampled because they're not a threat. They can't actually do anything as far as replicating or colonizing or anything like that. And so there's a belief that that's one of the reasons why they preferentially are taken up more and help with the immune system more. So why I love them, and beta-glucans, I mean technically if you get them from yeast cell walls, they're basically dead yeast. It's like a para-yeast biotic if you will. But beta-glucans are also super cool. Like you said, you can fall down a beta-glucan rabbit hole. It's kind of wild some of the claims they make. I don't know if I believe all of them. I have mega-dosed beta-glucans in an effort to achieve immortality and superhero strength, and I didn't get that, but they're really cool and they definitely do really cool stuff.

So in combination, what you're doing in HoloImmune is it's the only product that I'm aware of where you're actually rehabbing your immune system's experience of life. What does that mean? Well, we can give the immune system vitamin D and vitamin C and zinc and we can give it all kinds of different things. Those are just building blocks. That's the structure of the immune system. But the function of the immune system is when the immune system sees mold, when the immune system sees corn, when the immune system sees beef, whatever it might be, wheat, gluten, what does it do? What is the response like from that point on? In functional medicine, in integrated medicine, we have all these protocols to detox, we have all these protocols to kill thing, we have all these protocols to modify the immune system and build it up, but we have no protocols that really modify how the immune system interacts with the world.

And so that's what paraprobiotics do, that's what beta-glucans do, is they retrain almost like if you had a shoulder injury and you literally had to go learn how to move your shoulder again with a rehab specialist, the paraprobiotics are essentially helping your body retolarize and retrain its patterns and its signals, which is signals are typically cytokines and things like that that travel everywhere. And so you see these really cool studies in humans. The strains in HoloImmune have been studied in humans and kids for eczema. They've been studied for influenza, less lost work days, less intensity of influenza. They've been studied for exercise. Basically you don't fatigue as fast. They've been studied for hay fever. You have less hay fever, less symptoms, less dry eyes, things like that. The studies are not out yet, but we see personally in our customers with neuroinflammation as well, people having responses in the brain either they're post-TBI people or they're people dealing with menopausal neuroinflammation is a big one.

It's just like your gut is sending constant inflammatory signals up to your brain. And if you can modify those signals, you can turn off part of the inflammation in the brain.

Michael Roesslein:

It's super cool. We've done a whole deep dive webinar on it that we can link also if people want to get more into them, but it's really fascinating. For the people out there who are like, "I can't tolerate this. I react to this. I respond to this. I am always sick," those kind of folks, this can be really helpful for them. So what would be, this one's a little trickier I think, but slam dunks or home runs or this is a general get the gut immune system to function normally, but...

Steve Wright:

Yeah, I mean generally helpful for anyone, but slam dunks for it are eczema, rosacea, acne. Slam dunks are hay fever, any sort of environmental allergies, people that are constantly taking Claritin or things like that. People who have food sensitivities and they're struggling to add back their foods. People that have histamine intolerance or MCAS who are past the point of reacting to everything. You have to get your mast cells and you have to get your immune system to relax in daily life, whether that's pollen from a tree, whether that's mold spores that are naturally in the air, there's no such thing as a mold-free life, and so we need to get our bodies back in tune that, hey, a little bit's okay.

Because those have been studied in humans and I've also seen that, you can see that in our reviews and everything that those very helpful. What I will say is that HoloImmune is also dose dependent. And so the study dosages for humans is what's in every capsule. Technically, if you want to get the outcomes of the study such as less hay fever symptoms or less lost work days due to cold and flus and things like that, you would take one capsule. But what we found is that a decent amount of people could do a lot better and they'll feel it. They'll actually be like, "Holy cow, that rash is gone. This unexplained rash I have is gone. I'm so much better at my word games." And that's with two per day.

It's really rare for people to go to three and four per day, and it's typically in cases of... We've had a number of team members, I don't know why, but we've had a number of team members get concussions or TBIs. They've done HBOT, they've done-

Michael Roesslein:

What are you guys doing over there?

Steve Wright:

I don't know, man.

Michael Roesslein:

[inaudible 00:43:23].

Steve Wright:

No more football at the team retreat.

Michael Roesslein:

... staff in the back room, playing rugby in the office. All right.

Steve Wright:

Yeah. But these are health coaches. They're doing keto and a ton of supplements, HBOT, all the things for concussions. They weren't getting any better, and so they were asking if I had any ideas. And so we

dosed them at four per day and almost immediately the nausea, the frequency of headaches and things like that were almost immediately gone. And then they stayed at that dosage for eight weeks and then came down to two or three per day. I've dosed it as high as 12 per day just to see if I would grow a third eye. I didn't. There's no real upper limit or safety issue, but I don't think there's much benefit going above four per day.

Michael Roesslein:

Okay, one capsule. When you mentioned with HololImmune and then some other products that we work with too, there's sprinkles. Does this one not generally trigger sensitive people or do you have sensitive people start with sprinkles as well or is it one cap?

Steve Wright:

No, it's sprinkles. I mean, this will trigger people because it's modifying your immune system. So if your immune system is highly sensitive and then you throw this at, it could react and be like, "Five alarm fire, I don't like this." So yeah, definitely if you're sensitive, open the capsule, sprinkle it. Most of those individuals are MCAS individuals who struggle with it.

Michael Roesslein:

And timing, you mentioned one cap or two caps, is it meal with, does it matter or not matter?

Steve Wright:

It doesn't matter.

Michael Roesslein:

Okay. It doesn't matter if you took two if they're together or not together?

Steve Wright:

Doesn't matter.

Michael Roesslein:

Okay. I'm going to write that down for my own notes. And then is there anything else you want to mention about it?

Steve Wright:

I mean, somebody's asking the source of the beta-glucans. It's *Saccharomyces*, it's a yeast, it's 80% or higher beta-glucans. We did that on purpose. If you get into the beta-glucan world, you'll get into these factions who are like, "You got to have 1,3, you got to have 1,6, you got to have 1,4. You got to have it from mushrooms, you don't want it from yeast, blah, blah, blah." When I went through all that data, and again, I'm the guy that believes everything and then I try it and I wonder, what I came to the realization is that majority of all the research ever done on beta-glucans is yeast-derived 1,3, 1,6 mixtures. The best quality is above 70%, so we want to go with higher quality at 80%. And for the outcomes we're looking for, I need reliable outcomes. And so 1,3, 1,6 from yeast, 80% or higher is the reason why that was chosen. I don't need to get into any debates about blah, blah, blah. We haven't seen anybody react to it, and we think it is pretty synergistic with the other paraprobiotics.

Michael Roesslein:

That brings us to Tributyrin-X and butyrate. For those of you that are in our course with Kiran, this has been brought up several times, not only the product but butyrate itself. Our third module is Thursday, and it's going to be on leaky gut and endotoxemia, and there's a ton of stuff in that module about butyrate. So there's going to be even more for people. But butyrate has come up a lot, and it is one of the short chain fatty acids that's produced by a healthy microbiome, arguably the most important one, but it has a lot of functions. It feeds the cells of the gut lining, it provides energy, it lowers oxygen in the gut, which makes a healthier environment for microbiome to flourish. And it does 52,000 other things, which you mentioned down-regulating some of the immune response and the mast cells calming things down in the gut for people who are really reactive.

One of the main benefits of having a healthy microbiome is that it makes a whole bunch of butyrate. That just keeps coming up over and over and over when we're going through microbiome stuff. And so you can supplement butyrate, and originally it was often sodium butyrate, which there's a question in the Q&A about sodium butyrate. Your product is tributyrin, and we have done a full webinar in August, which wasn't that long ago on butyrate, so I'll share that. We have webinars on every one of these products that are an hour long, so we'll link that are older, but the information doesn't really change. So we'll link those underneath this video on the replay page, so don't worry about that. If you listen to one, you're like, "I want to learn more about that," boom, go there. So we don't need to get into an hour-plus on butyrate like we just did. It's important. It does a lot of amazing things. The microbiome [inaudible 00:48:53]. Why tributyrin instead of sodium butyrate?

Steve Wright:

Okay, so there's several reasons. Number one is the safety data in humans is exponentially better for tributyrin than sodium butyrate. There was a time period in the '90s in which they thought because of the way cancer works that they could dose tributyrin in a way that would kill cancer. So they took cancer patients up to 42,000 milligrams per day orally and did, I think it was a phase two trial on them. What that does is that gives us this data point on a supplement orally tributyrin. What they found is that some individuals had nausea and stool issues and blood sugar related issues. 42,000 milligrams is all but four pills of one of our entire bottles. So not a standard dose that anybody's going to be using on this call or anybody's going to be using in clinic. Sodium butyrate has never gone above four to 4.5 grams in humans. And part of the reason why is that the sodium bound to the butyrate, it just starts to stack up. You'll pour salt on your yard, you can write your name in your yard with salt, and it'll kill it. Salt at some level, it will kill things in the gut.

Salt is also obviously an electrolyte that's highly important. But the other thing that happens between sodium butyrate and tributyrin is there's an extreme differential in its pharmacokinetics. And that's just a fancy word of saying they act totally different inside the body, even though they sound like they're the same. There was a study done where they gave IV sodium butyrate and they gave oral tributyrin. The oral tributyrin produced much higher plasma blood levels than the IV sodium butyrate, which is that should never happen. An IV should always be an oral dosing of anything, but it didn't.

And then part of the reason why potentially is that sodium butyrate... Well, not in that study, but one of the reasons why it works differently in the gut is because sodium butyrate is absorbed with the sodium across what's called a gradient. Basically, if the sodium inside the gut is higher than the sodium inside the blood or inside the wall of the gut, it'll suck it across in order to try to balance the sodium on both sides of the membrane. Tributyrin is not bound to sodium, so it doesn't get absorbed right at the top of the small intestine. It actually goes deeper because, number one, it needs a little lipase, which is one of those enzymes we talked about earlier, to break it apart. And so it's like its own time released molecule,

if you will. And then it also doesn't have the sodium, so it's going to hang out potentially longer inside the gut, which is where we want the majority of it to hang out.

Michael Roesslein:

Gotcha. Again, we do get into a lot more detail on that on the other webinar, so we'll link it. And so the tributyrin is part of a foundational microbiome bundle that Kiran suggests and put together, and mainly because it helps create an environment that is hospitable to healthy organisms. It helps repair and feed and give energy to the gut lining. It's kind of foundational. You can almost measure somebody's state of well-being by how much butyrate is in their gut. After everything I've learned about it I would confidently say that.

The rest of them we've talked about as a troubleshooting agent, sort of, like here's the home runs, here's the probably. Now if you're older or if you have known deficiencies and things, they're an all-the-time thing for me, I always take the enzymes. But this one can be used as troubleshooting, can be used for certain situations like overactive mast cells. I know it's really effective for diarrhea type things. And so it can be used as troubleshooting, but it's also foundational for people who benefits systemically and overall for microbiome and gut. I guess, are there still the slam dunk or home run usages? Who are the users who are like, "Hey, this just totally obliterated this symptom or problem that I had."? What are you seeing as the most common home runs there?

Steve Wright:

Yeah, most common home runs are, like you said, histamine intolerance or mast cell activation syndrome. So we see a significant change when they switch from sodium butyrate or whatever other product they're taking to our product. The other thing that's different about Tributyrin-X is we're the only company with a true enteric-coated capsule. And that sounds like, "Oh, that's fun. It's not that cool," but it's actually super important. Our capsule will not open until the pH of seven or higher. And so every other company in the market, even if they have acid resistant capsules, that means they'll go up to 45 minutes inside your stomach and then they'll start to open. If you know anything about digestion, hopefully you've learned that your food is going to be in your stomach from somewhere around 90 minutes to two hours, a little bit longer. And so you want to get that tributyrin all the way through into the small intestine and then as far as you can close to the top of the large intestine where the majority of your microbiome is, where the majority of butyrate is.

So Tributyrin-X is definitely different than any other tributyrin supplement out there from any other company for those reasons. And if you do trials on these issues I'm about to say from other tributyrin supplements, you typically will see in our reviews people saying, "Wow, I didn't think it would matter. I tried to go with the cheaper product, but it definitely matters." And so those things are histamine issues. Those things are loose stools and diarrhea that, let's say, you've already changed your diet, let's say you've already done HCl and enzymes and maybe you're so far as you're using prescription drugs trying to control your diarrhea, I've never seen something as universally awesome for loose stools than Tributyrin-X for that.

That doesn't mean if you're constipated you shouldn't take it. That's not the case at all. Anybody who has known microbiome dysbiosis, you have a test from whatever company, I don't care the company, and it shows that you have dysbiosis, you're going to need butyrate to rebuild that and get out of that dysbiosis. And then the last thing is leaky gut/food sensitivities. Anybody who is trying to overcome leaky gut and trying to add back foods but you're stuck, this will be significantly helpful in essentially repairing all the factors that might be keeping you stuck.

Michael Roesslein:

Okay. That's a pretty solid list. And that doesn't even get into some of the stuff we talked about on the podcast. We accidentally did a butyrate podcast. I had Steve on the podcast, and I was like, "What kind of cool stuff have you learned in the last five years that you didn't know before?" and it turned into a holy crap 20 minutes on butyrate. But we were talking more about how there's brain benefits, there's blood sugar benefits. It's one of those things that when you look at the research, it's incredible that there's such wide-ranging benefits. It reminds me of the first time I ever looked up a TUDCA, which is a bile acid that people can supplement. Somebody told me like, "You got to see, it does this and this," and then I'm like, "No, it's just a bile acid." And then I looked it up and I was like, "Oh, wow. Okay."

You go down the rabbit hole of butyrate and there's not much that it doesn't do or help with. But on this webinar, we're talking specifically around digestion and gut health, so it's the sensitive people, the diarrhea, the dysbiosis. The dysbiosis mainly because it's so imperative that there's adequate butyrate to flip the environment. If there's too much oxygen in the gut, there's bad bugs that like that. The butyrate is used as fuel by the gut lining cells, and it also uses oxygen. So when the butyrate is present, it'll use the oxygen, and the butyrate it will use that for its metabolism, which reduces the oxygen. When the butyrate is not present, it switches fuel sources, the oxygen stays there, the oxygen is too high, and the bad bugs like it, and the good bugs can't flourish. Good bugs, bad bugs is my scientific language, but I think everybody will get the gist of it. All right, so dosing with Tributyrin-X, how do you recommend people start or titrate it or figure out their dose or what's the deal?

Steve Wright:

Yeah, this one's one of the stickiest ones for dosing because it is a universal supplement in that majority of people could see some help from it, but it's powerful, and so you have to respect it. So if you are sensitive, if you're constipated, you need to go low and slow. We usually say one pill every three days with dinner for sometimes up to a month. And then you go one every other day and then you go one every day. And then your goal is to get up to at least three per day. The therapeutic dose is a minimum of three per day. Some stool tests and some clinical work that we're doing, some practices is around six per day. So I know that there was a doctor on here that I was talking about doing a clinical study, so if she wants to reach out to me, please put her in touch.

But we'd love to run more testing on this, trying to find the actual clinical dose that moves the lab values for certain types of individuals. So your goal is between, I would say, three to six per day, unless you're someone who's on that rare side who has this diarrhea, loose stool issue that you cannot get passed, you've tried a lot of other things, you can keep escalating. We have a case of a woman who's tried every known drug on the planet, every known supplement on the planet, and she takes 16 per day, four four times per day, and she has perfect poops now, and she's like the happiest woman because she hasn't had it in like 40 years. So it's a very wide range. There are some individuals, and I see that someone anonymous here is saying this, that they cause gassiness and stool changes when they first introduce it.

We call it gut remodeling, but my hypothesis is that in the next three to five years we're going to have research that shows that folks that are constipated have the lowest levels of butyrate. And so if you think about the environment, go back to seventh grade biodome. You got a dome and there's birds and rain and a lake and all kinds of nice things. You change one little element and you're like, "I don't like mosquitoes," and you get rid of the mosquitoes and then the frogs die, and then the lake becomes toxic and then the rain becomes toxic and then the whole thing falls apart. So it's an ecosystem down in the gut. Ecosystems have this beautiful way, just like the planet is doing right now, of adapting to whatever conditions are present. Life wants to live, in my opinion, and it will do whatever adaptations it can to try to live even if the circumstances aren't the best.

So for constipated folks and for folks that have this gut remodeling, what we think is happening is when you introduce tributyrin or butyrate back into their gut, they're so deficient in it that it kind of freaks everybody out. Some of the gut species get really mad, some species die off. You're kind of restarting the metabolism a little bit. Probably not enough at just one pill every three days, which is why you got to stick with it and build. But we have these... it's not even a few now, I don't know if it's 100 yet, but we have these case reports of severely constipated individuals who are willing to go slow and low, like they're still using their vitamin Cs and their magnesiums and whatever they're doing to have bowel movements, but they dose it. And somewhere around week 10 or 12, when they finally get up to three per day, they have this spontaneous bowel movement change where they stop their other stool softeners and their other go products and they're just finally having normal bowel movements. That's part of my belief on the fact that these constipated individuals, their ecosystem has become so normalized to such low butyrate that when you introduce it's such a change of what's happening with the body and the microbiome kind of freaks out a little bit.

Michael Roesslein:

I buy your logic, your theory is sound, I think. But yeah-

Steve Wright:

Well, thank you.

Michael Roesslein:

... anything that causes drastic... not drastic, but sudden changes to the gut can have strange immediate effects, but that explanation makes sense to me. Any contraindications for butyrate?

Steve Wright:

You got to be able to swallow. You can't open the pills. So someone is asking about what's the difference between our butyrate and SunButyrate. So SunButyrate is a liposomal liquid, so some people can't handle the flavoring agents and everything that's in some butyrate. We don't have that. Ours is 99.9% pure. We have a unique source out of Spain. No one else has our source on the planet.

Michael Roesslein:

Come on over, let's do a podcast from there.

Steve Wright:

That'd be cool, man. Yeah, we're going to plan an EU tour next year.

Michael Roesslein:

Let's do it.

Steve Wright:

The contraindications are mostly just the folks who are super sensitive and super constipated, they just need to know and be aware of what's going to happen and how they need to maybe up their magnesium for the first week or two or whatever. Obviously, if you can't swallow, you can't take it, do not open the capsule. I think it smells like vile vomit... not vile, bile vomit. There's that distinct smell, and once you have smelt it-

Michael Roesslein:

I did it.

Steve Wright:

You did it?

Michael Roesslein:

I did it immediately after the webinar when you said not to do it.

Steve Wright:

What do you think it smells like?

Michael Roesslein:

I actually cut one in half and was concerned that I ruined my cutting board. It smells bad. I don't even know, it's just bad. It smells like something you wouldn't want to put in your mouth. I didn't taste it, but if it tastes like it smells, you don't want to do that. The capsules are tiny, so for people who can't take normal capsules, these are much smaller. They're, I don't know, like a third of the size of a normal capsule. They're like little pellets. I never remember to bring them in here to show them because they're cool, you can squeeze them. They're like little gel balls, but they're tiny, they're really, really small. So I think other than small children, they should be able to be swallowed by people who can't do the regular capsules. And to the companies who put out those capsules that are the size of my thumb, come on, dude. All right. Okay, I think that's all the things. What else you got?

Steve Wright:

I was just looking at the Q&A here to see if there's anything.

Michael Roesslein:

I can do a few minutes. I got to go soon. I have-

Steve Wright:

Ruth, with clients with diarrhea, with Tributyrin-X, you just keep escalating. Most individuals are not going to go above six, but like I said, some people will end up at... the highest I know of is 16 per day. But their bowels will slow down at some point.

Jennifer, if you don't have enough butyrate, low butyrate is so far linked to every single chronic disease ever studied. If you think about the mechanisms and you back up a few paces here, if you believe that the microbiome is very critical to every part of healing and health and wellbeing and living, it's arguable, but butyrate is probably the most important compound made by a healthy microbiome. So if the microbiome is down and you believe that the research shows that all diseases can have a connection back to the microbiome, which I do, you will, I think, find that butyrate will have a connection. We already know that it's connected to neuro issues, bone loss, muscle building, lung allergies, essentially kidney problems. There's a whole kidney crisis going on in the US I didn't even know about, but there's a butyrate access with kidneys. So low butyrate essentially means you have too high oxygen in the gut, and then you'll have dysbiosis forever. You'll never get rid of the dysbiosis. And then that of course is linked to every single chronic disease.

Michael Roesslein:

Just every single one.

Steve Wright:

I mean, I don't normally say shit like that, but it literally is.

Michael Roesslein:

Yeah, I know. I went down the rabbit hole too, and it's pretty outrageous. But yeah, you just have to follow it up. Disease processes, you follow them backwards a few steps and it shows up almost everywhere. A bunch of thank-yous in the chat, very helpful. I have to go. I have baby duty bedtime time and get in trouble when I'm late for that. You guys can email questions, we'll try to get them answered if we didn't get them answered here. We're going to make this available. We will link... Maryann, please. Everyone say, "Thank you, Maryann." She's the one who makes everything go. So Maryann, please link the... and I'll help you find them because a couple of them are old if you need, but there is a webinar for each one of these four products essentially. So we can link them below this video for people who want to go deeper into each one.

But this was super helpful, I think, for people really learning best-use practices and dosing. Also, there's a bunch of people in there asking about UK or Europe. You're going to have to get a distributor over here at some point because there's demand. So we'll get it figured out. We can ship to some of the countries.

Steve Wright:

Try to buy from Rebel Health if you can. You can check-

Michael Roesslein:

On our website, we ship to more countries. I put in the chat, let me put it again, I put in the, I even forgot to mention, every time we have Steve on, we do a celebratory couple days discount on Healthy Gut products. I'm putting it in the chat again. I'm a bad salesperson. [inaudible 01:08:10]-

Steve Wright:

Thank you, everyone, for the kind words. It's nice.

Michael Roesslein:

Yeah. Here's the code, HEALTHYGUT15, there you go. I am not a good salesperson. We just focus on the education around here. So there is the link to the Healthy Gut shop and there's a code. You're also going to get it in an email. It'll be valid for a couple of days. So if you want to try any of those things, it was worth waking up at 3:00 A.M. That is dedication. Maybe watch the recording next time, but high five for being here. I'm tired just reading that. So yes, thanks, everybody. The code's there, the link's there, copy that now because I'm going to close the Zoom. Steve, you can take off. Thank you so much. Always appreciate the time, man. I got to reach out, I want to see what you put together and what you got going over there, so I'll reach out to check that out.

Steve Wright:

Yeah, I got to watch all Kiran stuff too.

Michael Roesslein:

We'll trade nerd videos.

Steve Wright:

Yeah. Thanks, everybody. Thanks, Michael.

Michael Roesslein:

See you later. All right. I'm just sticking around so people can copy that link if anybody needs to paste. That's so weird, now my everything freezes. Oh, because the screen is bigger. Okay, Zoom doesn't like my high-end video and audio equipment. But with two people, it was small, so it worked, and I just made my screen a lot smaller, so it might work. So yeah, I'm trying to put the link again in the chat, but it's frozen and maybe I'm frozen, so it's pointless anyway, but the link's in the chat. We will send it out to you via email, HEALTHYGUT15 in our shop, works on all Healthy Gut products. They're really, really good.

And he has a magnesium glycinate. I never know how to pronounce words that I only read, never say out loud, but a really good magnesium product. It's 100% pure and doesn't have any fillers in it. He's got HistaHarmony, which is for people with histamine issues and BeSerene, which is a topical or oral that is a stress calming agent. So all of those are also on sale. We just didn't talk about them today because they're less involved in digestion. So thanks, everybody. I hope the people that are in the course with Kiran have found this valuable because we're going to get into troubleshooting. This week's module is Leaky Gut and Endotoxemia. There'll be a little bit on supplements in there, but modules four and five in the coming weeks will be a lot on troubleshooting. And Steve's products will be featured quite a bit, so it gives a little preface on them.

So thanks, everyone. Appreciate you guys. We'll see you in the course for those who are in Kiran's course on Thursday. And everybody else, we'll see you sometime soon. We don't usually go long without doing these.