## Introduction and Stephen Wrightu2019s Background

Welcome back to the reversing Message Activation and Histamine Intolerance Summit. I'm your host, Beth O'Hara of Mast Cell 360, and I am really delighted to have my colleague and, really good friend and someone who is on the cutting edge of gut health with us today.

And this is Stephen Wright. And if you had any kind of GI issues related to histamine tolerance for mast cell activation, you definitely want to catch this interview and listen to the whole thing.

Because when you talk about some cutting edge and new developments in this area, that may be a game changer for you. So let me tell you a little bit about Steven and then we'll bring him on.

So he's a medical engineer and a Kailash Functional Medicine Institute graduate. He's a gut health specialist. Similar to me, he spent close to $400,000 overcoming his own health challenges.

So he's tried everything from Western medicine to shamans. And today, he's the founder of Healthy gut.com, and he lives in Boulder, Colorado with his fiancee Shae and their two dogs.

Welcome. Steven is so good to have you with us. Thanks, Beth. Thanks for doing the summit and having me on. So I know, like most of us that get passionate about an area of health like you are and like I am, that there's a story behind that and I love to hear a little bit about that.

Can you start us off just with what got you involved in gut health? Because I know there's a quite a journey in there for you. Yeah. I mean, there's, a really long story in a short story, so we'll keep it on the shorter side, but it's definitely one of those sort of, we teach what we struggle with or sort of the wounded.

Healer archetype. So I was born with, hydro seal hernia, birth defect. And that was pinching my intestines. And so for the first 12 weeks in my life, I only gained a pound.

And I basically the stories from back then are that I spit up almost all the food that I took down. I cried all day long and slept all night and then just repeated it.

And so basically, I was kind of born into this world with intestinal pain. And, that progressed into way too many antibiotics from a dermatologist in high school and then too much beer and pizza in college.

And by the time I graduated college, my health was out, a real wreck. I mean, I had been having IBS symptoms, alternating constipation, diarrhea for many years.

At that point, I was really gassy and bloated. In fact, my family and nicknamed me the Gas Man and, just where I came from and the way that I was orienting towards life was that, hey, just suck it up.

You know, you can make it through, suck it up. There's a lot of other people out there with a lot more pain than you, a lot more issues than you. And so it wasn't until despite, like, exercise induced asthma and acne and depression, anxiety and IBS and all these things are building up.

I was still sort of not thinking anything was too wrong. And then, a few years after college, when I was really trying to get healthy, I was trying to lose weight and I was exercising like every day trying the whole bodybuilder sort of athlete ideas of like 2007, 2008.

I just wasn't losing the weight. And my boss, basically called me into his office one day and said that you're sticking up the office and your coworkers are complaining, and you're going to have to get this figured out if you want to

work here.

And so that was like the big wakeup call for me. And it was true at that point in time, it didn't matter what I ate, whether it was chicken and lettuce or pizza and beer, I would just be totally bloated with visceral hypersensitivity, which basically, is a division of IBS where you have extreme pains in your gut, every day.

And I would just fart and hope that nothing happened. And I have all kinds of embarrassing stories, but, that was my, you know, journey into this. And then that sort of pain fueled me into seeking alternative options when when Western medicine didn't have any more answers for me.

I changed my diet. I started, you know, gut supplements and all kinds of supplements right away in 2009, 2010. And each little improvement in my health fueled me.

It was like, okay, I can use all this anger, all this determination to realize that, like, hey, no one's going to do this for me. No one has as much interest in this as I do, and I don't want to live the rest of my life in this kind of pain.

So I'm just going to use my engineering degree and the the framework for dealing with problems, and I'm going to reverse engineer each issue I have. And it also happens to be that I've been taking supplements for, nootropics and athletic performance since I was 13.

And so you couple that with this desire for not just living in a box.

## Personal Gut Health Journey and Wake-Up Call

So, I mean, I understand that in the beginning, and I do believe in this, restricting your life down, cutting things out, whether it's your environment or your diet or whatever else to stop symptoms and get stable is really important.

However, I was not happy with this idea that I had to lead a really regimented life. I couldn't have dairy. I couldn't I couldn't eat out all these things.

And so I'm of the orientation in this life that I, I want to become a hedonist. I want to try it all. I want to experience it. I don't want restrictions.

I don't want my health telling me I can't do an experience things. And so between already using a lot of supplements for other things and then realizing that they could be used for health.

I've just been on a 12 year experience here trying to figure out how can I live the fullest life possible and use supplements and diet and anything actually that works to to lead that life.

So I really appreciate you sharing the vulnerability, saying that story, because I think it's something that many of us can relate to and we don't talk about.

And I've had that myself with the hydrogen sulfide Sibo and been really grateful that I work from home. And also and those tough conversations with my husband telling me, I don't want to sleep in the bedroom with you tonight.

And that's that's a hard one, you know? But what I also know about you is when you're you're bit under, you understate what you've you know, what you've done and I know you ran a clinic that worked with some of the most difficult, challenging gut issues.

You've got a lot of clinical experience with people, and you took the story and then, did all this one on one work with people and really made huge inroads for them in terms of their gut health.

And I had some of the most stubborn gut health, that of all the practitioners I've seen with over 75, had no idea how to deal with. And you were one of the few people that were able to help me with inroads into my own gut issues.

So I just want to let people know who who don't know you, that part of you. And then you've built this, company that's really doing all this cutting edge research, which I love and excites me.

Let's dive into the role of the gut in mast cell and histamine issues. And we talk just some more about what happens with the gut when you have these chronic illnesses, what is going on and how they can be driving histamine and mast cell problems.

Yeah. Yeah. I mean, it's a massive question, and the simple answer is, you know, that the gut literally is the center of the interaction with the immune system, the center of the interaction, mostly with the mast cells.

And the majority of them are located in and around the gut, like if you only had like a hundred, like if life was a video game and you were a creature in that video game and you had 100 immune cells in your body, 70 to 80% of them would be located, you know, just underneath your ribs, between your ribs and your your groin, like they were. They're centered right there.

And and so all your nutrients, everything you need to lead a healthy life and repair from any sort of chronic illness, they have to go through the gut.

They have to be broken down. And so there's this massive focus on what we eat, which is important and what we don't eat. But there's a real underappreciated for can you break down what you eat, and can you take those nutrients and pass them to the body parts that need them to recover?

And so the gut really is the the core functionality. If it's not functioning properly or if it's, you know, out of whack in a number of ways. It cascades down everything.

So it's going to cause decreased ability for even the supplements you want to take, like quercetin or curcumin or even prescription drugs. That may be helpful for you if you have low stomach acid, those drugs and those supplements are going to be less absorbed and less able to to help you basically.

And so there's this massive cascading, underlying assumption that our stomach is working properly, that our enzyme function is working properly. Our, our gut wall and the microbiome in there is working properly.

And it's it makes sense. We can't see it. We can't really touch it. We can't feel it really. Measuring it's very difficult. And so it's way easier to focus on other things when I think the core of relaxing histamine and mast cell activation syndrome is, you know, number one, obviously all the stuff you teach around removal of offending incoming agents, but also anything you can do to to optimize your gut to be able to actually just do its main job, just the job it was designed to do every day.

Will will basically multiply every, every other thing you do, or it will divide everything you do. And people really struggle with non-linear equations.

But multiplication division can become non-linear equations over time. And so basically what that means is like if you have less hydrochloric acid in your stomach, if you have less enzyme function, if you have less butyrate, things like this, everything you do will be working like one fifth or one quarter or one third as good as what it could be working.

Should you make inroads in your gut health. And so it's it's I think, the key to a lot of stuck cases, if not the key to the cases, yeah, is huge. And your work has greatly influenced the development of our MC 360 method that we use in the clinic.

And we do start with removing the the triggers. And we have to make sure that we're optimizing digestion the best that we can at that point in time, make sure that people are getting their nutrients broken down from the foods, make sure that, particularly constipation is super common, or the types of diarrhea that I've had where you run in the bathroom six and seven times a day and you're just not hanging on to anything, get dehydrated that the nutrient loss or the constipation.

We've got those talks and just sitting there and re absorbing. So I know when we're not digesting our food properly, not only do we have that nutrient loss, but then it's going to be agitating and inflammatory in the GI tract.

And then we have mast cells that completely line from the entire, epithelial cells of, the mouth down the esophagus, the stomach, all the intestines. So anytime there's that agitation is now cells are going to be creating inflammation, creating mediators.

And then we have this Dao enzyme made in the gut in the small intestine. And inflammation is going to affect those freshwater cells that make that Dao.

So then we start opening up more mast cell activation has to be intolerant. That's where this digestion piece can be so critical. And I'm wondering if you can talk more about the role you kind of started into, about digestive enzymes and stomach acid.

Can you talk about what these are, the differences in and their roles and how they're important in maintaining that immune health and integrity in the gut?

Yeah, yeah for sure. And I just want to highlight really quickly what you said there, which is that there are human studies on histamine intolerant people and healthy controls showing that there's higher markers and intestinal inflammation, higher markers of villi destruction, which is the brush border and where the Dao is released.

Higher markers of Zani Lin, which is a marker of leaky gut, diverse, or basically dysbiosis of the microbiome and reduced diversity of the microbiome.

So this is not like conjecture. I mean, it is theory to practice where I've seen it in real life in hundreds and hundreds of people, and you've seen it in your clinic.

But we have little research studies now that are saying like this is legitimate issues in histamine intolerance. So it's really important to highlight that in case people are still focused on other areas.

So one of the first stages of digestion is low stomach or is stomach acid and just a stomach. And what it does there. And then the next phase is, is the small intestine and digestive enzymes.

And so I think that, what people may, may not be aware of is that your stomach is this really cool organ that can, like, get down to a less than a one on the scale and the pH scale?

Super annoying. It's I don't know why they constructed it the way they did, but, one is like really acidic, like battery acid levels. Coca-Cola and apple cider vinegar are like at a two point, four ish, 2.6 ish on the scale.

So you even know, like maybe from from your grandmother or somewhere in life, you know, upset tummy. You can take this acidic thing and it helps your, your gut.

And so your, your, your stomach is really cool and it should be hanging out in those lower pH ranges. And then when it hangs out in a higher pH, we tend to see things like heartburn, acid reflux, burping after meals, meals that sit in your body, you tend to then see decreased protein absorption.

So you start to see things like hair, skin and nail issues. You get decreased energy. Typically you'll start to see mood dysfunction, everything that relies on protein and amino acids basically.

And the really cool research that's coming out in the last decade or so is that in mice, they've actually shown now that, if you take mice and you give them a proton pump inhibitor and you create higher acidity, which is not what we want, we want lower acidity.

We basically make the stomach function worse. Their ability to create IgG antibodies in, in response to food, and they're like, sort of histamine like experience goes way up.

And then they can give them, beat HDL and gastric enzyme. So digestive enzymes and they can knock with the food and they can knock that back down.

## Why the Gut Drives Histamine and Mast Cell Issues

And so what we're starting to see is that the stomach and the acid in the pepsin that that are made in the stomach, pepsin is the main sort of protein degrading, enzyme that we make when these two, I don't know, variables can do their job.

We see less LPs going into the small intestine. And this is also a study that's been done on humans where that light label polysaccharides are a toxin.

They're part of, the cell wall of bacteria. We have them every day in a certain amount of LPs is normal, but we want the stomach and the stomach acid and the pepsin to break that down and nullify it when it gets through.

That increases intestinal inflammation, which we just talked about, then starts to degrade. Dio release. But also, the pepsin and the acid basically open up the protein structures and like eat away at it, reducing the allergy potential of even normal proteins.

And because a lot of the studies are done on fish, fish proteins, which of course is a histamine inducing food for a lot of folks. But in general, fish is not an allergic food, if you will.

And so the fact that it's just doing this to fish peptides is pretty amazing that that's what they're working on. They're not working on like dairy or some sort of complex food.

And so I think the moral of the story, if you will, is that if the stomach is functioning properly, it sets the stage for everything, the speed. You talked about constipation, diarrhea earlier.

It sets the speed for your digestion. It sets the right conditions to have lowered inflammation, less toxins going in your small intestine. And it helps to create the right environment for your digestive enzymes to work in the small intestine.

And so optimizing right at the beginning, the stomach is a really big overlooked variable for anybody with chronic health issues. So just to recap, we covered some really great juicy stuff in there that we have to have this correct digestion happening in the stomach and in the small intestine in order to not just get our nutrients out, but to decrease histamine intolerance and to also decrease food immune related food sensitivities.

So it's important that REM to to help turn that around. And one of the other things are just thinking about so many people in the Marcel community have earlier danlos eds, hypermobility, connective tissue issues, and the connective tissue is gets made out of amino acids.

So if we don't have the stomach acids break down the protein, not only do we have what we talk about a lot, neurotransmitter issues, but we're going to have trouble making your collagen and our skin in our in our joints and our ligaments.

Even the lining of the intestines to repair that. And I just saw somebody post, just today that coming off of a PPI, which is going to be like a map result, with, that reverse Turk histamine intolerance after three months.

And I think she was doing some digestive supports like you're talking about. Can we get into more details for people who just don't know a whole lot about these kinds of supports, like what is betaine HDL?

What is pepsin? What are the brush border enzymes versus pancreatic enzymes. Yeah. So so betaine HDL is hydrochloric acid in a powdered ice form. Or it could be liquid.

But in this case most of the supplements on the market are powdered. And basically it's replacement acid for your

stomach because what we find is that as we age, but also due to stress, due to micronutrient deficiencies or infections like H.

Pylori. And also I believe histamine is, histamine disruption is also part of it because histamine is actually released to make stomach acid. So if you're always trying to like down regulate all your histamine because it causes so many issues, you may be accidentally down regulating stomach acid production as well.

And that might be okay in the short run, but what you're going to want to do, and what they've shown in humans is that you can use powdered acid, basically in capsules to re acidify the stomach and allow the normal functioning of the stomach to happen.

And so that acid is just one component of what's called gastric juices. Gastric juices are very complex, but at this point in time we know that they're primarily made up of at least three things, probably all kinds of cool stuff we don't know about or can't measure yet.

But one is the acid that we just talked about. The other is pepsin, which is the main protein degrading enzyme, and the third thing is intrinsic factors.

And so pepsin helps. Acid basically kills off any incoming bugs any of the LPs. And then it it's an acid bath. And so if you if you look at YouTube videos about what happens when you put stuff in acid, it kind of like bubbles and then it opens.

And so what acid does is it helps open the protein structures from these balls of like say, steak that you just ate or chicken or whatever. And it helps open it up.

The pepsin can come in then and cleave the big protein structures down to smaller. So that the other enzymes we'll talk about a minute can go to work.

Meanwhile, if there's any B-12 that's released the intrinsic factor kind of swoops in, binds to it and then helps, basically a b allow it to be absorbed in the small intestine later.

Otherwise the B12 can be just, broken or not absorbed, by the stomach acids. So that's gastric acid. And it should, you know, you should basically make a lot of it in proportion to your meal.

It should drop down, you know, food should be in your stomach for like 2 to 3 hours, and then it'll slowly start dumping into the small intestine as it dumps in the small intestine, bile and bicarbonate and all kinds of things dump in, as well as pancreatic enzymes at the top of the small intestine.

And pancreatic enzymes include proteases, which is another protein degrading enzyme also includes amylase, which is a carbohydrate degrading enzyme, and lipase, which is a fat degrading enzyme.

And so these pancreatic enzymes flow in and they're activated by the baking soda that hits the the the low AST or the acid, basically foodstuff, turns on and those enzymes start working on the food right away.

Meanwhile, as it the food travels a little lower into your small intestine, it's going to start hitting the brush border, the villi and the filler little hair like projectiles that increase the surface area of your small intestine up to like 4000ft².

It's kind of crazy, like the way that nature is constructed. Your small intestine, the villi actually excrete, another set of enzymes called brush filter enzymes.

And many of these are around carbohydrates and most of them are carbohydrates. And so this is where you get your lactase for for the lactose enzyme in milk.

You also get invertebrates and multis which are disaccharide degrading enzymes for like sugars and milk or sugars and, and weeds or vegetables, things like that.

So if your brush border is messed up due to the inflammation or infections or whatever, not only do you not get your dough, but then you don't get your, brush for enzymes.

And so that increases your likelihood that your carbohydrate intolerant. And when you do that, you also leave carbohydrates around for other things to eat them because you're not breaking them down, absorbing it.

So this is where we start to see, concurrent infections of Sibo, yeast, Candida in the small intestine. While you have, like, say, a histamine reaction happening has to be intolerance happening or you have another say, another root cause issue happening.

At the same time, you start to create this snowball where if you don't, if you can't break down, absorb the food you're eating, the bugs will do it for you and they will just grow up out of your large intestine.

They should not be in the small intestine. There's there's a small microbiome there, but it shouldn't be very like, diverse. And so for those people with like the gas, the bloating, a lot of this is going to be coming from this.

Carbohydrate intolerance is vegetable intolerance. And what may be overgrowing in your small intestine. And so this is why we have we need these different types of products.

If we've got these GI issues. So that's a question I get a lot in the clinic as well. Can I just take this one enzyme. But they have these different properties.

So we have what's happening in the stomach specifically with the intrinsic factor, the hydrochloric acid which we usually called betaine HDL. And then we've got the pepsin.

Then we have the brush border in the pancreatic enzymes going on the small intestine. So we've got these two different locations that are so critical.

And you alluded to something I just wanted to highlight a little more, which is you said that when we swallow the food, the hydrochloric acid in the pepsin are helping to reduce any kind of bugs that are on that food.

Or we found bugs, that bacteria. And we don't like to think about this, but there's always some parasites in food. And so we need that to help reduce those parasite infections.

And they should be getting killed in the stomach and not making it now getting even help with food poisoning. Imagine. Yeah, definitely. I mean, I think, the stomach acid is part of the immune system, if you think about it from that way.

And if and when it's reduced, that is a great time to catch a bug. We do know that, studies on proton pump inhibitors. So again, class of drugs that reduce your stomach acid production, your risk of having Sibo after that is like well above 50%.

I haven't seen a parasite study on it yet, but I think if you do enough case histories like I have, like you have, there's like this really, really common story, which is I was very stressed.

Life was hard. I went on vacation. And when we all know what happens when we go on vacation, we, like finally relax, right?

## Stomach Acid, Pepsin, and Digestive Enzymes

And you're so you're super stressed. You finally relax. You kind of like, go out and be a little adventurous and you get exposed to a parasite. And that's when you come back from Mexico or Europe or somewhere Asia.

And you're never the same because you have this parasite. Would have been avoided if if you weren't so stressed and you were making enough stomach acid.

Maybe. Maybe not. But it's definitely one of the, defense layers that often comes down, before the infection starts. I just want to clarify for people because this is super common, confusion as well, that when we're talking about these puppies, we're talking about brand names like Prilosec, Nexium, Pro tonics, those types of medications which are really tamping down that stomach acid production, that proton pump inhibitors.

But we're not talking about the category that usually gets conflated in there, which is the H2 blockers like promoted and or Pepcid is the brand name or Tagamet, which there used a lot to help calm mass cells and they block the H1 blockers.

So I just wanted to let people know that difference, because people get all worried when they hear about PPI. They think they're the same as those now.

One of the things that you have taught me a lot about that also changed my practice is the role of butyrate, and particularly involved in things like histamine intolerance, mast cell activation, Fodmap issues.

And we're seeing all kinds of interesting things with butyrate. Can we talk about what that is and how it's created, what what kind of benefits it has for people?

Yeah, definitely. So, so let me start with why you should care. So so there's really cool research on butyrate helping with, allergic reaction like, symptoms or conditions in humans such as asthma.

And so taking things orally can impact other things in your body, whether it's your sleep, asthma, endometriosis, bone, bone loss, osteoporosis, and a lot of it can not all of it, but one component of it tracks back to beta eight coming out of the microbiome, which is really cool.

And we can kind of work our way back from that. And also think about histamine release and mass activation. So one of the underappreciated things that's not talked about when it comes, I think, to histamine intolerance is how often are you giving the mast cells a chance to get mad about what's happening.

Like how exposed are they? In other words, like, are you driving on a moped on the highway? Or are you driving in a giant SUV where you're very well protected from whatever might happen?

If you're driving on a moped and you don't have much protection, anything could aggravate you. A little pebble in the road, a bug, a bird can be life threatening.

We want to have a gut with a really thick mucous membrane that's really healthy. That allows the mast cells to not be affected by everyday life. And so, underappreciated thing is that part of leaky gut, part of histamine reactions, part of the gut breaking down is the mucous membrane shrinking and getting less healthy.

And one of the things that actually helps create a really solid mucous membrane is butyrate and butyrate production. And so, butyrate to define it is a short chain fatty acid that is mostly created in the large intestine, the upper large intestine by the microbiome.

There's other short chain fatty acids. Butyrate has a significant amount of research that blows away the other ones. As far as how good it is for us, how important it is for us.

It's not that the others aren't important, they are, but they're nowhere near in the same category of importance as butyrate. Now, 90 ish 9,095% of all the butyrate is consumed in your gut by the colon, a site by the intestinal epithelial cells.

It is the preferred source of their, energy. They're they're basically metabolic processes. And we can go into that in a minute if we want. But basically that when that's happening, it's sucking oxygen out the gut and it's creating the right environment for a really healthy microbiome.

The cells are very healthy. And 5 to 10% of all the beta eight you make, is going global or systemic, and it's helping

to regulate all different areas from your brain to your lungs to your bones.

And elsewhere, even your muscle cells. What happens when we start to lose butyrate, due to maybe you can't consume fermentable foods because they blow you, and they just like FODMAPs, so they just, like, wreck you.

Or maybe you've taken a round of antibiotics or a couple rounds of antibiotics and you've just, you called dysbiosis and you can't basically tolerate certain foods.

Maybe you have Sibo. There's lots of reasons why you might lose your feed rate production. When that starts to happen, it creates another downward spiral where you get less and less butyrate production over time, and then you have less ability to regulate, these other areas of your body and part of what it does is create T helper cells or T suppressor cells.

These are cells that help balance our, adaptive immune system from not getting too out of whack. The butyrate, like I said, up, regulates, mucus production through the Msi2 gene.

And so there's a whole host of things that beta eight does across the body. And if we start to lose it and then we and then we actually need to go on an elimination diet to get symptom free, we actually create further butyrate loss and further dysbiosis.

And so that's where supplementing with a really high grade, try beta and supplement is is what I believe in based on the research and based on what's happened, what I've seen in clinic, can really help stop that slide, reset everything over the coming months, and create the opportunity for you to reintroduce those foods that you've lost or reintroduce.

Other things that may be high histamine that you weren't able to tolerate prior to this. When I have some firsthand experience around this because I had pretty significant histamine intolerance.

I've had Fodmap intolerance, I've had issues with oxalates, as I mentioned to lectins, and I had tried so many digestive enzymes. I had actually tried numerous types of butyrate, different kinds of betaine, HDL, and I hadn't seen a big difference other than a little decrease in the food particles I've seen in my stool.

I still ran in the bathroom all the time of loose stools. I was still having a lot of histamine issues, and one of the things that you told me about was the difference between these different types of formulas and what makes it more effective, and I think that's important for people who are trying things, because looking back now, I feel like I threw years of money down the toilet using things that weren't working.

Because and I really trust you in this because of my firsthand experience. And then I've seen this over and over in our clinic when I have people come in and they're taking this digestive enzyme or this butyrate, this a mineral based food array, and they're not seeing anything with it.

And I shift them over to the to the types of formulas we've talked about. They're seeing some big changes in my histamine tolerance took about six months.

It's it's almost entirely gone as long as I take my digestive supports and take my, tribe uterine. I'm eating half a pound of strawberries, which is one of my joys in life.

And I can eat out in restaurants. I'm not paying for it like I used to. It's really gotten me some great pleasure back in my life. I love to eat. Yeah, well, I'm so happy that that it's worked out for you.

And, yeah, you hit on something that that I don't think clients who don't see, like they're not in a practitioner shoes and they don't have exposure to like, hundreds and hundreds of data points.

They really like when I was a, when I was a patient or a client and I was paying people and they would say, like, you have to only use this brand. And I'd be like, well, this other brand says it's the same and it's way cheaper or

whatever.

I would always be so pissed at the provider, the health practitioner, because I felt like they were maybe trying to pull one over on me or trying to make profit margin or something.

They were trying to do something, and I was just, you know, I was pretty broke back in the day. I had to go very in-depth to, to make it to where I got, my health back.

And so every dollar mattered. And the truth is, when you cross the line and you become a practitioner, and you and you look at the science, you look at how supplements are created and formulated, there's actually a significant difference between the products that work and the products that don't.

And once you find the products you work and then you start to notice how to dose those products based on symptomology you, you also create a massive leap in your capacity to get results for people.

And so, we've talked about things like digestive enzymes on the show so far, and there's a massive difference between a $30 bottle of enzymes and a $70 bottle of enzymes, and the numbers on the back of the bottle don't tell you as a consumer, the difference, the difference is actually like the raw enzymes, they buy it.

You know, some of it sure is brand name, but a lot of it is actual, increases in what is in the product and the quality of the product. For instance, like Ha enzyme includes a patent that turns on the enzymes and make sure they work no matter the conditions.

And so the same thing is to true in butyrate supplementation. There was generation one butyrate which were have a lot of data in humans. And the data is mostly positive.

But it's not like really amazing. It's just mildly positive. And those where the sodium beta, it's a cal mag beta, it's these types of beta rates. And so it's not that they're bad, they are good and have good data on them.

But the breakthrough in tri beta in which is a fat backed, butyrate compound, is especially for histamine induced issues and support around histamine stuff is like next level.

It's not even that you're not even playing the same game at that point. And people again, there's a bigger cost difference because it's really hard to work with.

And we have to use like our products in our capsule. And that's very expensive to obtain all these things that go into it. But I do want to encourage people that like, let's say you've already tried HDL supplementation or enzyme supplementation or even sodium butyrate supplementation.

You haven't seen any effects yet. I really would you encourage, you know, trying our company or something that, you know, Beth, proves as another option besides our company, because the difference between what works and what doesn't work in the clinic is, like a big deal.

And if you marry them together, they also have a synergistic effect. And so, again, as a consumer, as a non-health provider, you probably don't understand these things.

Why would you? It's taken Beth, and I'm like almost $1 million in many years of our life to realize that, like, oh, if you if you get the right mast cell support in the right diet and then you get the right, HDL plus the right enzymes, it's not just like one plus one plus equals four.

It's like it's like one times two times three times four equals whatever. That is like 40 something. And so stacking the right products at the right dosages for people can really have an amazing effect.

And doing it all together since the gut, the stomach effects, the small intestine, the small intestine effects, the large intestine, the large intestine test and affects basically everything.

And so stacking those things together also can also provide like really big breakthroughs. And I think that's something we, we had worked on together as well was like, yes, you've tried them, but can we try them all together one more time?

Yeah, it's it's been really huge. And we've talked a lot about in our clinic that we've got to have the right supports in the right order. And that's so critical.

And I've had I mean, we don't even have time to go through all the case stories, but I'm thinking of a woman who had severe cases and nothing was calming it down.

And she was, you know, on the verge of having to be hospitalized. And we got her on those higher doses of tribute. And we did, Miracle Guard. Plus we did your whole design in higher doses.

And, it probably saved her life. So we've seen, a lot of that.

## Butyrate, Gut Barrier Health, and Food Tolerance

Not always not extreme, but these major shifts, and you, you just barely touched on. You're so you're so humble around these things. So I just want to highlight a little of this, that the in the, in the enzymes that you're talking about that they're activated.

And that's been a big difference as well in what we're seeing in our clinic because so many people in our practice have significant nutrient depletions from being on limited diets, from having mold toxicity, which depletes so many nutrients.

And then one of the things I learned from you is that these enzymes have to be activated with cofactors. So if we're low in the co-factors it doesn't matter.

I can take 810, 12 of this non activated enzyme. It's not going to do anything. It's just going right through me. Whereas if I act if I it already has the cofactors in there.

And I was it makes a big difference. And I was you know, you've known me for a long time too. And you know that I'm super cautious with bringing things into our clinic.

And we work with some of the most sensitive and most sensitive people. We have to be really careful. And I, I have people in our clinic who can't tolerate water and people who can't tolerate baking soda.

So I can't ever say that we've got something everybody handles does. That's not how it works here, but I would say about 90 to 95% of people in our clinic do great on these, which is astounding because we don't have that success rate with this super sensitive population.

So many things. And I just wanted to share a couple little tidbits for people, because so many in our community microdose and open capsules and start with little drops that that's fine to do on the activated enzyme, but if you want to open a botanical or stomach acid capsule to make sure to wear gloves and put it in another capsule, you don't want to put it that on food because it might burn the mouth.

And then on that tributary next, we don't want to open that one. Can you tell people why we don't want to, open that? That's our job. Yeah. So be check acid.

It smells like, I don't know. I think that it smells different to other people, but to me, it smells like deep vomit. Like, I think it's those, like, chitlins.

Yeah, but I'm from the south, right? Yeah. I don't I don't have a reference point for chitlins in my head, but, it is, it can be a really intense smell.

And if you're someone who's sensitive to smells, you may develop, you know, a psychological reaction to it and not be able to ever take it again. We've had people do that and we'll we'll give you your money back if that happens.

But, we really encourage people not to open the capsule. Instead, go, spread it out one day at a time. I go every three days. And so put a lot of time in between each dosage.

And that seems to work for people. Yeah. And that's gone pretty well. I haven't had many reactions, surprisingly. And we usually have to start with everything with a little sprinkle and water.

But for some reason that one is is going really well and is a is a marceau supporter. It's it really helps lower the release. And so I think it's immediately providing relief.

While it might be aggravating certain characteristics, the relief it provides, I think typically allows it to be very well tolerated. Yeah. And it really has and I, I was suspicious when we started, but I'm suspicious of everything when I start.

The oh, I had one more thought around it, but I think I've lost it. Oh, oh, I just want it also that when you swallow it because of the type of enteric capsule you have, it's not going to open until the small intestine.

So, you know, people don't have to worry about getting that burp. Like sometimes they get with fish oil or you're not going to burp. It doesn't have a nasty flavor. I've never had anybody tell me that.

Yeah. No, it's I mean that's part of like what makes our product different is that it's 99.9% pure tri beta, and we're the only company on the market that that's where that pure.

And then we're the only company with the true enteric capsule and the difference capsules and not capsules, but gastro resistant capsules. Again, as a consumer I always thought, yeah, they're the same.

Why would I pay, you know, why would it matter? Why would I pay more? And now that I'm on the other side and, formulating and working with people like it's a really big deal, it's basically the difference in an iPhone 12 and an iPhone six, the iPhone six, you drop it in the water, you're like freaking out. You got to put it in rice.

You got to protect it because, you know, it can get a little wet, but not very wet. That's like gastric resistant. You know, our, our flip phones back in the day, that one drop of rain and your phone was fried, that's like a regular, cellulose or or, gelatin capsule.

So it does matter. You know, when we went from iPhone one to iPhone six, the water tolerance went up. But once we went to like ten and above, you can you can go into the ocean with it.

If you stay in the ocean with it all day long, it will fail at some point, which is what in a Terex Caps it's supposed to do. It's supposed to make it through the acid and then open in the small intestine, because the pH dependent capsule.

But that difference might seem small, but it does make a massive difference in outcomes. So then, and, and I know also you've got a couple other things in your betaine product.

You've got ddgs, you've got ginger, which have been shown in some studies to help reduce histamine or block some histamine receptors, which is pretty cool too.

And I've seen that, be helpful for most people, as long as they don't have salicylate intolerance, those go quite well. Now there's a new, exciting area I want to talk about as well, and I'm still getting up to speed on this, so you'll have to help me out with it.

But it's the the area you've been researching called Para Probiotics. And there's some really amazing stuff coming out. Reports about mass activation, improving histamine intolerance, improving.

We're seeing, possible improvements in things like autoimmunity. Let's talk about that. What are pair probiotics. How are they working? What are they doing.

Yeah. So so pair probiotics are heat killed or dead probiotics. But they're also typically immature cells. So cells grow from little to big. Just like we grow from little to big.

Your your standard probiotics in the market are full adult, probiotic cells. And some of them are alive. Some of them are dead. What researchers noticed was that the cell wall and the receptors on the cell wall changes as it, as a cell grows and matures.

And that composition of that cell wall and those receptors causes, specific immune, changes or immune, modifications. If you will, inside of a human as well as inside of mice and rodents.

And so they realize that they they've done multiple trials now of the full grown probiotic in a immature he killed non a lot like so this one's alive and full.

This one's dead and smaller and these ones preferentially the pair of probiotics preferentially help modify the gut immune access in the communications that are happening there.

It's it's really exciting I think it's the future of probiotics will be these very specific applications of bugs in what we're trying to modify, whether it might be our eyesight, our brain, our lungs, are our bowels, whatever it might be.

In this case, I started to realize that, there was, you know, part of what I deal with all day long, other than histamine is food intolerances. And then people who have gut skin issues, gut brain issues, things like this.

And so I was fascinated by like, okay, if if the immune system's mostly in the gut, then maybe we can change how those things relate, and maybe that will change how we are in the world.

Like it'll change our daily lives. And I found that there was like the last 20 years, these companies have been building these these probiotics. Most of them are in Japan and they've had them on the market.

But no one's really talked about them in the US as well as no one's really started to play with what happens if we combine them. And what if we strategically take certain mechanisms of actions from from studies and say like, well, we want both of these at the same time, and what have we created like this adaptogenic blend of them for your immune system?

Because other than one test from Vibrant America, there's no real way for us to challenge or figure out if for one dominant, two dominant, how is our natural killer cell function doing like these?

Very important components, the immune system are very hard to measure. And so we can take all the immune support we want. But what happens if we're driving our immune system in a way that's already in balance?

Like we're just making it stronger but weaker at the same time? And so I think the last couple years of the pandemic have helped us realize that we don't want a strong immune system, because if it's too strong, it actually kill us.

We actually want a smart immune system that can use a feather if it needs to use a feather and use a hammer if it's time to use a hammer. And so these pair of probiotics are really cool because they help the immune system recalibrate to food, to the environment, to, itself, even around what it can it and or how it can behave.

And in this case, a lot of times we're trying to break sort of rebalance its behavior. And so what you're talking about in terms of that balance is where we've got one is that innate immunity.

It's the side that's killing viruses, bacteria. It's it's that initial response. And then we've got this two side. So our mast cells have a role on both sides.

They'll be part of the initial response. But if this response fails with viruses with bacteria then the two side can take over. And that's where we get this chronic mass activation chronic inflammation.

That's where we can get cytokine storms. But also it's about rebalancing these. So things like mold toxicity will flip us where we have this low t H1.

And it's hard to fight off infections. And we have this high chronic inflammatory mass oxidation kind of thing going on.

## Activated Supplements and Product Formulation

So I think which if I'm understanding correctly, is we're talking about helping restore balance, system. And that's a lot of what we're doing with our mast cell support.

So now this is a way of really targeting it in the intestines where we have so much of the immune system resigning. Do I have that right? My understanding is that the A1 and A2 side are our T cells.

They're only on the adaptive immune side. So the the innate immune system is more white blood cells, natural killer cells. And intrinsic cells. And the 22 is on the adaptive side.

So basically you had it right. Other than that I think that one little technicality there, the one of the two has to be in balance like a teeter totter.

And when you're seven, it's really fun to fly around. But if you're dealing with mold toxicity and histamine, issues, you don't want your teeter totter flying up and down, because every day your experience is going to be all over the place, and you're not going to have a understanding about where baseline is.

And so, yes, the probiotics can help either, raise up to one if it's too low or lower it if it's too high, the same thing with two, it can help raise it or lower it so it gets more in balance.

And then on the t on the on the innate side, histamine is also part of that side as well. It's just a different type. It's more the white blood cells, more natural killer cells.

Secretary IGA is over there. And those are like, inflammation, fever as well. That's also innate. And so you you have to have innate immunity. And innate immunity also becomes chronic inflammation if it's chronically turned on.

So, really common for people in this category of, of patients would be your clients would be to see a stool test with a really low secretary IGA. And the assumption is you've had an infection so long that your body's like, I can't do it anymore.

I can't make enough immune cells to fight this battle anymore. I'm tired. And so it starts to get depressed. And so we can use things like beta glucan and other things to help boost that production back up and hopefully balanced or balance innate and adaptive immune systems.

So it is complex because you can get out of balance from innate adaptive. Then the adaptive can get out of balance over here. And that is definitely, to too much to one is is typically associated with things like, hay fever, atopic dermatitis, things like that too.

Dominance is typically, you know, autoimmunity, things like that. And so I actually think that the same person is is oftentimes experiencing both. And so I think depending on the environment, depending on their Marcel's and their diet, they're actually driving one really high and not getting that balance that they need.

When the study is done. So what's available? This is a real new area. What is available about in the pair of probiotics now. And people want to look into this more.

So there's probably like 10 to 12 strains you can find in the research. Only maybe like 5 or 6 of them are commercially viable at this moment. And you can actually find, many of them you cannot get in isolation.

So, our product is the first in the market to include three studied product strains that, are studied in humans as well as animals together. The product has over 50 studies on it.

And with the individual strains combined not together in the product. And they were chosen because each one either modifies one, modifies two, or modifies the, the innate adaptive connection.

Some of the the names you could Google and look into are called a muse AI and then us. And this is also, the strain I was telling you about. That's a, lactic acid producing strain, which I found some research prior to this interview that I had never seen before, showing that you can give lactic acid bacteria to, histamine.

You can make mice histamine intolerant, and they will have histamine issues. Then you can give them lactic acid producing bacteria that are killed. In this case, they were freeze dried, killed.

Bifidobacteria. And basically it will down regulate histamine receptor one as well as HTC expression, which is the enzyme that converts IL histidine into histamine, I believe, if I get that right.

Yeah. You got it. Yeah. Okay. So that's really cool that we can we also know from microbiome research that, you have lower, fecal bacterium per nici, which is a butyrate producer for histamine intolerant folks.

And you have other higher, there's higher counts of histamine producing bugs in histamine. So the microbiome interaction and using para probiotics or other types of, of substances to modify the microbiome is, I think, a really cool and emerging area for anybody with histamine issues.

## Para Probiotics and Immune Rebalancing

So I love how we've gone so much deeper beyond just using digestive supports or immune supports like this that supports for modulating constipation and diarrhea, or for helping with, breaking down food and getting nutrients out of food.

We really been diving into how to train the immune system and the immune response, the mast cell response, how to help histamine intolerance, even how to help things like Salicylates and FODMAPs, food intolerances that are immune mediated, all this stuff.

So this has been really exciting and I'm so grateful for the generous sharing of your knowledge and all of the work that you do in the world. It's it's truly game changing.

And we get emails all the time from people because we use your product so much in the clinic. And then we talk about them in our courses and on our website, and, and people will let us know how they've been doing with them.

Can you let people know more about how to find you and, the names of the products that that you have formulated? Yeah. So, healthy gut.com is the best place to to get more info.

The all the products are on there. There's info about them there, that also has articles about various types of the products and their relation to histamine.

And we don't write as much about that specific interaction on our site. The products are our HDL gard is the stomach support formula, hollow times is the digestive enzymes support formula Tributo and X is the beta support formula.

And then hollow immune is the para probiotic sort of gut immune retraining product. And so we do offer a 60 day money back guarantee. We know that 3 to 5% of every single person who buys from us will have some sort of either they won't get a result with the product or they'll have a reaction to the product.

And so we want to give you your money back and let you go buy whatever you need to buy to get better. We don't want to keep your money if it doesn't work for you.

So we build that into our business model. We have health coaches on staff, ready and willing to answer questions. If you're a special case, if you're worried about dosing, because of best, support of our company as well as usage of the products, we do have a lot of really sensitive folks in our in our user base.

And so we're very trained up on these issues and can try to help you with their, their, usage basically. Yeah. Your, your support for people on the products is amazing.

I've never seen a supplement company that did that kind of level of support that you guys do. And if you didn't catch all that, don't worry. You can find links to all of these over at your summit Resources page at masshealth.

Three six E-commerce summit Summit. And see this giving us generously a coupon code that I'm going to have that listed over there for you guys to see.

Just go over there, click those links, you can find those products and everything else we're talking about on the summit. And if you want more details on how we use those in the clinic, we cover that in our, mold masterclass.

And, we do use these extensively in the clinic if you need one on one health. Thank you again so much for being with us. I'm just really, really appreciate you.

And you know how much I, I just respect you and your dear friend. I'm really grateful for you being on our summit. Well, thank you for that. Thank you for doing the summit.

Thanks for doing the work that you're doing to support the people out there for.