

Michael Roesslein:

How are you doing? I haven't talked to you on here since yesterday.

Steve Wright:

Yeah, yeah. It's been a minute. I slept, so that's good.

Michael Roesslein:

One of us did. Yeah, we recorded yesterday for, I don't know if you guys have caught the new series that we've been putting out, the Rebel Health Spotlights. I recorded one with Steve yesterday. It'll come out pretty soon. It'll be fun. It's a very fun recording. It was fun to do. So you guys will learn a lot more about him on that.

So I'm going to be brief on this with the background and the introduction, just so we can get into the good stuff. I was just filling them in that we're going to talk about common GI dysfunctions, and you're kind of an expert on this, not only because you voraciously study things and read studies and have been trained by some of the best in the industry, but because you have been fortunate enough to experience most common GI dysfunctions and symptoms yourself. So thanks, Debra. Loves the short recent recordings. Everybody checked in, everything's working.

So this was out of necessity, and we've covered your story at length in other webinars. We've done it in the recent recording. So we don't need the long version. But I just want to introduce Steve. For those who don't know, Steve Wright is the founder of Healthy Gut. We retail a handful of their products in our shop. They're one of our partners. He also was one of the founders of SCD Lifestyle, which if any of you have been in the studying about how to heal gut problems world for a long time, it is very, very likely that you wound up on their platform because it was the biggest one in the gut healing space for quite a while, which Steve created out of necessity because he suffered from really, really severe digestive problems that were resistant to just about everything that he tried to do.

So now he produces what I feel are the most effective digestive support supplement line that there is. And now you guys have gone a little bit outside of purely digestive support supplements, but that's where it got started. It's basically because he got sick of things that don't work and of companies that put crap in supplements that aren't needed in there. And I know I'm selling it a little short, but Steve is a voracious researcher. He has read more studies than I will in a hundred lifetimes, and really looks for the best possible ingredients, the best possible formulas, the best possible things that will work, and the lowest amount of it, which is what I also enjoyed about your HoloZyme enzymes is that I could stop eating a handful of digestive enzymes with my meals and still feel okay afterwards.

So if I left anything out, I think that was a pretty good informal, non-reading off a script bio. He's also a funny dude. He has a poop behind him there that I always enjoy seeing on the screen. And we've known each other for quite a long time. So that, I think, did I leave anything out?

Steve Wright:

I mean, that's pretty good.

Michael Roesslein:

All right, I remember things. So that's where we are. Today we're going to cover tricky, frustrating, embarrassing, shame creating, I would guess there's an aspect of that in there too, of common dysfunctions of the gut, whether it's symptoms or actual dysfunctions. What are people experiencing? Why are they experiencing it? What is the root cause of that common problem? And what are some things that we can do to try to troubleshoot that? And I think first is identifying if I have this symptom, here's a couple things that might

be going on. And so I didn't know if it would make the most sense to cover it from symptom or cover it from dysfunction, but-

Steve Wright:

I don't think there's a right way.

Michael Roesslein:

Do you have a preference there? Do you have a preference?

Steve Wright:

No. We can just hop into one of them and it'll lead into the rest.

Michael Roesslein:

All right. I like to start with the one that is the biggest misconception in medicine in my opinion, and one of the most dangerous things is stomach acid, in that, I don't know, I've read some statistics on how many people take antacids and PPIs and either prescription or over the counter or things like Tums because of certain digestive issues that actually probably stem from them having an insufficient amount of stomach acid.

And then they take something that stops the production of what little stomach acid they do have. And then there's really, really strong correlations to various types of bowel cancers and nutrient deficiencies and all kinds of problems like that. And it's the numbers of people that take these and the amount of money that is sold of antacids is some obscene amount. I'm sure we've talked about it on webinars where we talked about stomach acid, but I'd like to start there. So what's the real story with stomach acid?

Steve Wright:

Well, to tie it to a root cause, you'd be hard pressed to an argument with anyone who understands motility to not link motility to essentially constipation, diarrhea, bloating, all the common pain points of digestive upset. There is a strong motility related component if you will. And so if we just start there, we're going to talk about motility on and off this whole talk today. Stomach acid is probably the most underrated or the most important of the motility regulators. Are you hearing a little feedback on your end?

Michael Roesslein:

I'm not.

Steve Wright:

Okay. Let me just check one thing on my audio.

Michael Roesslein:

Which means I'm guessing that the recording is not, but it would be obnoxious for you to hear it constantly.

Steve Wright:

Okay, so both of mine are coming through my headset here, so all right.

Michael Roesslein:

Does anybody else, does anybody hear feedback in the audio on your side? Like any strange sounds?

Steve Wright:

Just a small echo? Just a delayed echo of my voice.

Michael Roesslein:

No. You are the only one hearing yourself twice. All right.

Steve Wright:

Okay.

Michael Roesslein:

So by motility you mean the movement within the bowels of the food basically?

Steve Wright:

Yeah. Yeah, from the top to the bottom basically. We've got a few people saying yes, or at least one. So can you double check your audio set?

Michael Roesslein:

What do you want me to check?

Steve Wright:

Just your microphone, headphones, and input on the left.

Michael Roesslein:

They are both set up to here, to this correctly. There's a clicking noise. I don't think that's the same thing. Is somebody not muted? No, everybody is muted. I don't even think they're allowed to unmute.

Steve Wright:

Okay, well-

Michael Roesslein:

I think we're just going to go with it.

Steve Wright:

We'll rock and roll.

Michael Roesslein:

All right.

Steve Wright:

So stomach acid is probably the second step in digestion. Eating is the first step, and chewing that is the first step, I mean, and so stomach acid is the next step. And so stomach acid is, as you mentioned, painful when it's not working properly, and the experience of the pain is almost universally experienced by humans as you feel like it's coming back up towards your mouth, it's burning your esophagus.

And that is as universal when we make up a story about that pain, it's like I have too much acid, because that's what it feels like. That's like a universal human experience. And so the normal thing that people want to do then is I want less acid. If the pain means I have too much, I should take something to lower it. Unfortunately, medically, that is typically not what's happening. Like 98, 99% of the time it's not too much acid.

It's actually that the low acid state causes an extra pocket of gas, a fermentation of gas in your stomach. That gas is pressure, just like from chemistry in high school. You're creating a gas pocket and that gas pocket is pushing open the flap that we have between our stomach and our esophagus. And then we're refluxing either actual acid or stomach contents of some type or just gases that feel hot and burning and a little acidic. And our esophagus is just not that well protected from this type of acidic environment. And so it's painful, and long-term if that continues, you get Barrett's esophagus, you get throat cancers and esophageal cancers.

And so the thing has to be stopped, right? It's painful, long-term consequences if it continues. Unfortunately, everybody fell for the trick a long time ago that we should just suppress it. And so what that does then is it lowers the amount of acid released every time you eat. And so why is acid even important? Well, one of the number one things that acid is going to do is do the job of killing all the microbes that are coming in. So you have microbes on your food, on your hands, in the air, in your water, in your drink or whatever. And we just want to kill off all those as much as possible, such that it's a first layer of defense because the defenses below that in the gut are more permeable on purpose, and we'll talk about that later.

But the gut in the small intestine is much more permeable. The stomach is really harsh, compared to the small intestine is much more inviting location, which is why if you could name any infections of the stomach, pretty much there's only one, it's *H. pylori*. But if you wanted to name infections that happen in the small intestine, there's probably hundreds, if we were able to make an entire list of them. So that just tells you that the environment is so much more harsh in the stomach.

So the acid kills these microbes. And then the other big thing that it's going to do is it's going to allow proteins to unfold. Now that sounds like not that important, but it's a really big deal. If you think about meat fibers like a chicken breast, if you cut it and you just look at it before you eat it, it's very striated, it's dense, it's hard. You're not going to really break that apart with your fingers. You actually have to masticate it with your teeth. You have to break it down.

And then the next step is the acid actually begins to rip apart those fibers and open up those fibers in a macroscopic level. The protein is folded up and it's really hard, almost like your fist, and the acid allows it to begin to open up, which is important because all these little openings, you can kind of think of them as peptides or amino acids, and you need this opening so the digestive enzymes can come in, the pepsin or the protease can come in and actually cleave apart those protein structures so you actually absorb your protein.

And so what you find is folks who have low stomach acid, not only do they have more GI infections, not only do they have nutrient absorption issues with B12 and calcium and magnesium and zinc, mineral stuff, because that acid allows those minerals to be released as well. But you also lose intrinsic factor, which intrinsic factor has to basically bind onto B12 and it becomes its shepherd or its bouncer, it protects it through the acid bath down at the small intestine, and then it shepherds it across the intestinal barrier lining area in the small intestine so you actually get the B12 into your body.

And so that's just kind of what's happening there. And then I said the motility matters, right? Motility problems. So if you have a GI issue, I would argue a component of it is a root cause in motility, it's either too fast or too slow. Stomach acid, the intensity of the pH or the acidity of the pH basically sets a clock on the system. It's a factor in how fast everything goes because enzymes only work in certain pH ranges and then the rest of the functionality in the small intestine is kind of based off of the pH.

And so if you dump too high of a pH, so too high means basic, too high means acid reflux, it means low stomach acid. It's really counterintuitive and confusing. But if you dump high stomach acid, I'm sorry, if you dump low

stomach acid or the state of acid reflux typically, or fermentation that we're talking about, into the small intestine, you mess up the rest of what's happening there because there's bicarbonate that's coming in from the pancreas and from the rest of the digestive organs right at the top of the small intestine to make that acidity go away.

And it opens up the ability for the pancreatic enzymes to work because the pH in the stomach should be around a 1.5 to a two, somewhere between one to two, two and a half. That's the proper range of the pH in the stomach. There's so much bicarbonate that comes in that the proper range of the pH at the top of the small intestine is seven to nine. Now seven and one are only six apart, but the pH scale is not linear, it's exponential, it's logarithmic. And so that is a massive difference.

Michael Roesslein:

Like earthquakes.

Steve Wright:

Yeah, like earthquakes or hurricanes, even. The hurricanes.

Michael Roesslein:

[inaudible 00:14:27] anybody lives where there's earthquakes, they'll know the difference between a one and a seven is exponential, not what you're saying. So what you're saying with the high, you actually mean high pH, low acid, and so enzymes aren't going to get released, enzymes aren't going to be activated. Certain things that happen after the stomach aren't going to happen.

Steve Wright:

Right, right. The enzymes just basically won't work because pancreatic enzymes only work, the ones released inside our body only work from a seven to nine in that pH range. And so if you dump in at say a four pH, which is universally considered way too high for stomach acid, and I can show you studies that show that you could have about a 2000 times, not percent, this would be like 20000% increase in LPS dumping from your stomach into your small intestine, if your pH is at a four versus a two or less.

Michael Roesslein:

I'm going to pause there for a second. LPS, or lipopolysaccharide, they come from gram-negative bacteria. It's something that Kiran talks a lot about in his webinars, that high LPS in the bloodstream is linked to a host of ... Pretty much every chronic disease state or symptom can be linked to access LPS. And so what you're saying is when the stomach acid isn't strong enough, it doesn't kill the bugs that make the LPS. So then there's a ton of LPS that gets dumped into the intestine that should never be there in the first place or get there, right?

Steve Wright:

Exactly. Exactly. And that's just from your oral cavity essentially. You can't eat differently. It's coming from the bugs inside your mouth, which is mind-blowing if you start to think about that. And so what you find is that this extra dumping of LPS toxins and the improper breakdown and acidification of the food you eat, not opening it up so it can be broken down by enzymes, you increase the probability of food sensitivities after that point. You basically increase the allergic potential of every meal you eat, according to at least one or two mouse studies that have some human prick tests that are done after them.

So there's not a ton of data on this. There's only like three to five studies in the world that have ever been done on this. But what they suggest is that improperly acidified food has a higher allergic potential, no matter what it

is, in mice and humans. And so you can be eating paleo and still develop food sensitivities and other food problems just because you didn't properly acidify the food in the stomach and properly break it down.

Michael Roesslein:

That makes sense. And so then we're in the small intestine, we don't have the enzymes. The food isn't getting broken down. It's way more likely to trigger reactions and sensitivities. There's way more bugs that are getting in there. You're way more susceptible to infections. And then-

Steve Wright:

The timing.

Michael Roesslein:

The acid also influences the motility.

Steve Wright:

Right. And so this is where it's really confusing for folks because I say the cheapest test you could do for your health this month or this year is a HCL challenge test because you cannot say, I have constipation, therefore I have low acid, and my friend has diarrhea, therefore, they don't have low acid. Low acid states occur for people who just have bloating. They occur for just constipation, they occur for diarrhea. They occur very predominantly if you have SIBO or any other infection. If you've had any gut infection show up on a test, again, that acid was supposed to hopefully kill as many of those bugs as possible so your immune system inside your small intestine didn't have to go into overdrive that day and figure things out.

So the checking of low stomach acid using an HCL challenge test is under \$50. If you do it from Healthy Gut or Rebel Health Tribe and it doesn't work out, we'll handle, most of your money will come back to you and it's all good. The reason why you can't take a symptom list is because of what we just described. If you have low stomach acid, you could just have also an autoimmune condition or you could just have food sensitivities, but you may not have a constipation, diarrhea, bloating state.

And so that's one of the reasons why I think starting the stomach is so important, but so overlooked. What I just described to you is 14 years of me trying to figure out why do some digestive conditions heal and why do some not? Why do some people with autoimmune conditions get better and why do some not? And it's not that every person with acid reflux or autoimmune conditions or whatever it is ... Can Fran not raise her hand anymore? It's really interrupting me. Michael, you're on mute.

Michael Roesslein:

Can we use Q&A instead of hand raising, please? We're not going to use the hand raising. I am not going to be using that. So if you could use Q&A. Don't push the hand raise. Put a question in the Q&A. So all questions can go in the Q&A, not in the chat. All right.

Steve Wright:

Yeah, happy to deal with them there.

Michael Roesslein:

All right.

Steve Wright:

Cool. So now the feedback's really big.

Michael Roesslein:

I still don't hear it, but I'm happy to try to troubleshoot it if there's something I can do on my end.

Steve Wright:

Okay, so somebody asked ... Try muting real quick, Michael. Somebody asked ... I think it's on your computer potentially, so we can just mute back and forth while we're talking. Somebody asked, well, what about doing a test? So there are GI pill capsule tests, there's the Heidelberg test, there are tests you can get for this, but those tests are going to cost you 300 to \$500. They are pretty intense. Sometimes you swallow a capsule on a string, sometimes you swallow a capsule that you have to click in your poop. You have to filter your poop until you get it. Sometimes you can just flush the capsule.

It's awesome if you have access to it. Unfortunately, the tests are just not widely available. And so if the test comes back as you have low stomach acid, they're going to put you on an HCL supplement, hydrochloric acid replacement supplement. So that's why I said you could just flip all the way to the intervention, test the intervention using HCL challenge instructions. We have them on our website. I know Rebel Health Tribe has posted them. They're almost universally all the same. We don't need to go into them on this call. Just do the test. If it doesn't, if you're confused, if you're concerned about your situation, email support at Healthy Gut. Our health coaches will walk you through it. It's very doable and very easy once you get the courage up to do it.

So that's why I say sometimes testing is not even worth it because you're going to spend a couple months probably finding the person, getting the test, getting the results, and then if it comes back that you have it, you're going to take HCL. That's what's going to happen basically.

And then Grace is asking about too much acid. So yes, there is a potential, like a 1% potential, maybe it's 2% that you have high stomach acid, like too much acid. And so that's where the tests can be supportive. However, if you failed the HCL challenge test, that's essentially also telling you that you have normal or high acid. And at that point you could work with a provider. You could go on a short course of a PPI or something like that, just to see how you feel and see how you do. But at that point is when you'd probably want to seek practitioner help and begin the process of trying to figure out is this a congenital issue? Is there something else going on?

Michael Roesslein:

Yeah, because it's actually quite rare, high stomach acid. I rarely ever ran into it when we were doing those type of tests. So you get into the intestine, the acid is not enough, so it's too high of pH, the enzymes don't work, the food sensitivities go up, there's more bugs, there's more infections. The motility is going to be negatively affected by this.

So what about bile? Where does bile release come from here? Where does it, because we're probably at the point where the gallbladder is now. So what triggers the release of bile into the, isn't that pH related also to some degree? So that triggers the release of bile, which breaks down fats. So then not only are you going to be inhibited in breaking down and digesting proteins, you're also going to be inhibited in breaking down and digesting fats with low acid, even though it's not the acid directly that breaks down the fat.

Steve Wright:

Yeah, correct. You'll be inhibited carbohydrate wise and plant matter wise, as well as protein wise. And then yeah, you're correct. Bile release, and also motility, they have multiple feedback loops is what it's called. So they have multiple ways of sensing what should be happening. There's redundancy in nature. Nature doesn't build

fragile bugs. It doesn't build fragile humans. Whoever you think, the way that we came about to have this conversation today, either way, we are not built with a fragile body. It has a bunch of feedback loops that can kind of take over or do part of it.

And so yes, part of bile release is the pH and the dumping action, like the muscles and the electricity of the food sort of basically squirting from the stomach into the small intestine. That's part of it, one of the things. Another thing is just smell in the nervous system of eating. And so I mentioned, I did several recordings yesterday. I can't remember if I did it on yours, but I said, and this is like a takeaway for you, the number one thing you could do to have better digestion today that's completely free, you just have to be willing to look a little crazy and a little wild eyed is just go [inaudible 00:25:18]. Just sniff the heck out of your food.

Because number one, if you do a double inhale, you're going to trigger a parasympathetic reflex inside of your brain. You can tune into Dr. Daniel, Dan Huberman, I think that's his name, or Dr. Huberman. And he talks about how that's a great way to switch into parasympathetic if you're having anxiety. But a great way to trigger your proper enzyme and bile and stomach acid is to sniff the heck out of your food before you begin eating.

And part of that is that the smelling, the action of the smelling goes into your body and between the smells and the mouthfeel and the sensing in your mouth, your body actually begins to learn and know like, oh, this is like a 30% fat meal or this is a 50% fat meal, and so I need to dump more bile or I need to dump less bile.

And so all of that happens through mouth, as well as smell. And so when people are saying like, "Hey, could you please slow down when you eat? Could you please chew more when you eat," part of that is what I'm talking about here. And that's one of the reasons why you have better digestion if you just go slower and chew more, is that you're giving your body more time to smell, feel, chew, and then it makes it easier for it to know what to do with its enzymes and bile later.

Michael Roesslein:

That's fascinating. That's almost like, we just had a baby and there's some really fascinating stuff that happens with breast milk and the mother's breast milk adjusts to the needs of the baby. If the baby's exposed to a certain microbe, antibodies to that microbe will come into the breast milk. Really wild stuff happens there. And this is almost on that level, to where I smell butter, my body's like, sweet, get the bile ready. And so often we eat stuff without ever smelling it or chewing it or tasting it.

And so it's not just the mechanical part of chewing, of actually physically breaking down the food, which does help digestion, it is that your body's actually almost reading the signs and prepping for what's coming. The longer the process, so slow food, slow cooking, slow eating, slow meals, so there's probably something to it that in the cultures that I was involved in a film project a few years back where they studied all the places around the world where people have the least chronic disease. They live the longest, the healthiest. Every one of those cultures, one of the things they had in common was that meals take forever.

And now I live in one of them. Now I live in one of those cultures and I can vouch for the fact that meals last forever. Restaurants here will take reservations at 7:00 PM, which is the early seating, and that's for tourists, mostly Americans and Northern Europeans. And then around nine will be the second seating for Italians, and that goes until 12, like one seating. It's three hours of a meal. And the courses are slow. Nothing is rushed.

If a server acted like they do in the US, where they're clearing the plate, bringing the next course, bringing the next course, asking you if you want more of this, then bringing the check, then they would get fired. People would complain about this. They don't want to be rushed. You won't get a bill here unless you ask for it. The meal never ends unless you end it. So I'm curious how much that cultural thing in those places play a role in their better overall health?

Steve Wright:



I think it's a brilliant observation and a worthwhile question. And I'm just as guilty as everybody of eating while standing up, not pausing throughout the day, because I'm trying to build Healthy Gut. I'm trying to do a lot of these types of trainings and teachings. I'm trying to have dogs and go have hobbies and all the things. So I'm just as guilty as everybody here probably.

But I think it is meaningful. I think it's a meaningful variable in our health because the other thing that we know is one of the top impediments to making stomach acid, other than if you had an H. pylori infection or a zinc calcium magnesium deficiency, so you could be mineral deficient, will cause low stomach acid. You can have an infection called H. pylori that it legitimately basically attaches to your body and then shuts off stomach acid production around the attachment.

But the I would say likely cause, or the most common cause is being in sympathetic dominance of your nervous system. You need to be in parasympathetic to allow the feedback loops to work in order to release the proper amount of stomach acid. And so that is, we live in, at least here in the US, probably in Northern Europe as well, I don't know about Canada and Australia, but I think they're also pretty sympathetic dominant, our entire culture is sympathetic dominant, and it's just very hard to switch into parasympathetic, which is the rest and digest.

And so if you're wondering, does it really matter, this whole sympathetic/parasympathetic, and what's the magnitude of mattering? Michael, have you ever eaten and then been told by an adult when you're a kid, "Don't go swimming?" And then you were like, "Yeah, whatever dude." And then go swimming and then have-

Michael Roesslein:

We had a pool when I was a kid. I did it literally every day.

Steve Wright:

How did your belly feel?

Michael Roesslein:

Sometimes okay, sometimes not so okay. But I would act like it was okay to not make somebody else right.

Steve Wright:

Totally, totally. So one of the reasons why that's so important and why grandma said, or your mom said, or somebody said, "Don't go swimming after you eat," is because after you eat, your body is hopefully switching to parasympathetic. And when that happens, the blood flow rushes to your abdomen area and it brings with it all the possibilities to digest your food, but it's also looking to take nutrients away from your food and take it out to the rest of the body.

And then swimming is a very active action. It's a sympathetic dominant action. It's an athletic event. And when that happens, your body is forced to take the blood and force it back out into your fingers, your hands, your feet, your legs. And so then you don't have the proper nutrients in and around your body to digest the food. You don't have the proper sympathetic dominance or parasympathetic dominance to digest your food. And at least for me and a lot of people, you'll end up with extra bloating, extra cramps, extra abdominal pain.

And so this idea of blood flow and parasympathetic and sympathetic dominance is super annoying if you ask me. I hate it. I wish it was not the case. But I think it really matters for proper health. And I'm taking active steps every week and every month to keep reminding myself that this matters. And I'm still, a 90 minute dinner or a two hour dinner, it's like a long, long time to me. But I do know from traveling Europe when I was in college that sometimes I'd be waiting like 10 to 15 minutes between the appetizers and even when a waiter or a waitress would show back up to take my entree order, and it just naturally took two hours minimum to even have the fastest meal you could.

And so I think that cultural template sort of forces slowness, it forces parasympathetic, and probably is part of how you could eat even inferior food, like inferior, nutrient dense food or higher inflammatory foods, but do it better because of that environment you're in.

Michael Roesslein:

That's really something you said there caught my attention that I've never heard before, and I've studied this shit a lot, is that the blood comes to the gut not only to aid in digestion, but to increase blood flow for removing nutrients from the intestines to collect. It comes to collect nutrients. And I'd never heard that before and that's really interesting.

But yeah, the first time we were in Italy, we went out to try to go to this restaurant. It opened at seven. You couldn't make reservations online or anything, but it opened at seven. So we're like, we'll get there right at seven. And they said, "No, that we don't have any tables. It's full for tonight," which is normal. Now I understand that. And then they were like, "Well, there's one table, but it's booked for nine o'clock, so you would have to be out of that table by nine o'clock."

And they were saying this to us as if this was some sort of really ridiculous ask on their part, that this would ruin our meal. They don't really recommend. It's like, you really want to do that? And we were like, we didn't even understand what the problem. Of course we're going to be gone by nine o'clock. Why would we be sitting there for two hours? And now it's like a joke when we go somewhere that we remember that we didn't understand it and that they thought it was like we were getting put out by having to eat our meal in two hours.

So yes, it definitely shifts. You're forced into it. There's no way to do it. And they don't put all the courses on the same plate ever. That's like a never, ever, ever thing. You get your soup and then you get your meat and then you get your vegetables, and even dessert and coffee here aren't the same course. You can't get those together either. So everything is intentionally drawn out.

But I want to get into a little, I want to do just a few more minutes on this and then I want to start getting into some more solutions. I know we could talk for four hours on this, but the bile not being released due to the low acid will inhibit the fat digestion, toxin detoxification in the gut, and then also that's like a double whammy with the bugs. You're saying that the low stomach acid allows in all the LPS and the organisms and the microorganisms and the stomach acid is the upper, upper GI's like killer machine and bile acts as a killer machine also in the small intestine. And all you SIBO folks out there with overgrowth in the small intestine, I would be willing to wager that there's low bile or sluggish bile implicated in that. Is any of that on-

Steve Wright:

Yeah. Yeah. So like you said, you need the bile acids and everything that's happening there to basically, just like the acid had to open up the protein and carbohydrate structures and basically at a molecular level, at a 3D modeling level, it had to change what was happening to allow the extraction of nutrients. Bile and bile acids are doing the same thing for fats. They're essentially reorienting the molecules and changing things around such that lipase can begin to access the fats and break it down into things like medium chain fatty acids or short chain fatty acids. And so almost every fat we eat is a long chain. It's like literally you don't have to be a biochemical nerd to really get this. It's literally just a long chain of molecules.

Your body has a screen. This is a really crude way of looking at it, but it's a really helpful way. Your body can only accept certain size molecules into it. If the molecule is too large and it doesn't fit the receptors or it doesn't fit through the mesh holes, if you will, or through the cell, it doesn't come in. It literally doesn't come in. And then when that happens, whether it's a carbohydrate, a protein, or a fat or a fiber or something like that, you essentially, there's also windows inside of our small intestine. You probably heard that our small intestines are

like 30 feet long. They're very long. Part of that is to increase the surface area to try to extract as much nutrients as possible.

But there's phases of the small intestine that are optimal for grabbing certain nutrients, basically. That'd be a way to look at it. The upper part of the small intestine is the most active area to try to grab nutrients. And then each third as you go down, it gets less grabby or less nutrients binding efficiency or absorption efficiency as you go through the small intestine. By the time you get down to the lower third of the small intestine, you have a lot less capacity to harvest nutrients essentially.

And so why that matters is that right at the top there where all the bile is coming in, where the bicarbonate's coming in and the pancreatic enzymes are coming in, those enzymes are trying to, and the bile is trying to break down the carbohydrates, fats, and proteins as fast as possible to get them into smaller chunks, amino acids, peptides, short chain fatty acids or medium chain fatty acids, things like that that you can easily grab from different receptors and then take them through your cells or take them into your body.

If you miss that window, basically you are giving more opportunity for an overgrowth of anything. So SIBO, SIFO, this is candida. All the small intestinal infections fall into the group of they have to live on something. And they're not like living on our blood. They're not eating our cells. They're typically eating nutrients that are freely available to them that shouldn't be freely available to them. And it's like a stupidly simple idea, but it's like if you threw peanut butter on the sidewalk in front of your house every day, if you do it enough, nature will grow around it. There will be fungus and bugs and maybe a dog, maybe a bear starts coming every day for the feeding.

So that's literally what's happening in a small intestine that doesn't have enough brush border enzymes. It doesn't have enough pancreatic enzymes, it doesn't have enough bile, it doesn't have the right stomach acid. When that process goes wrong, then you essentially increase by orders of magnitude the possibility that you are going to be A, vitamin nutrient macronutrient deficient. And two, you're just going to multiply the chances of an infection in your body.

And then the problem is everyone's so focused on these infections that they treat them. They go in there with antibiotics, herbals, whatever the killing program is. I don't care how cool or good the killing part is, but as soon as that phase is over, and soon as that four, six, eight, 12 weeks is over, the body didn't change how it's processing food.

So the food process of potentially low acid, low bile, high pH, low pancreatic enzymes, low brush border enzymes is still there at the end of the killing phase. And then boom, the bugs come back and everyone's mystified, like how did this happen? I was killing them. And I'm not saying that you shouldn't kill them, you should, but I'm just saying that without after care about why did you get infected in the first place, you're kind of just missing the whole point of digestion and the gut.

Michael Roeslein:

That's a really simple explanation. It makes a lot of sense, and it doesn't have to be super complex. I like that you said they're eating nutrients that are freely available to them that shouldn't be freely available to them because they should be getting gobbled up at the beginning. And if you couple freely available nutrients that shouldn't be there with slowed motility due to high stress, due to all these other factors, you're creating a quagmire of bugs eating a bunch of stuff and then not being pushed out or being able to come back. That's a whole nother thing.

And I'm realizing right now we're going to have to do a part two of this at some point in the near future because there's no way we're getting to the end of the line. So we are only at the front third of the small intestine. So what I'm going to propose on the fly here is that we turn towards a couple questions and some solutions for upper GI related challenges. We turn this into a part one and we come back in a little bit of time, not too long so

that it's not fresh anymore, and we'll do a part two where we talk the rest of the small intestine, large intestine problems, get more into stuff like butyrate. Think we can swing that?

Steve Wright:

Yeah.

Michael Roesslein:

Because otherwise I don't know how I'm going to, I'm pretty good at managing these situations and this one's impossible because we're only halfway through the game and we're-

Steve Wright:

Yeah, I don't have a hard stop, but if you do, then I'm good.

Michael Roesslein:

I have a hard-ish stop, so I would like to-

Steve Wright:

Let's do it.

Michael Roesslein:

Swing that, and then we can, the second one would be a little shorter, I think, because there's a lot more to talk about in the first half, and we could do additional Q&A on the second one too. So yeah.

Steve Wright:

I love that.

Michael Roesslein:

I just put Steve on the spot by inviting him to a second webinar with all of these eyeballs on him. So no pressure. No, but this is really good stuff and I don't want to have to blow through something in a way that's not honoring how thorough it's been up to this point.

Steve Wright:

Yeah, I mean, I think that works because number one, the more optimized you start digestion, the easier it is to handle any inefficiency that comes later. There's this sort of idea in engineering, which my background is partially in electrical engineering, that's at least the degree I got, the first one. And the starting conditions of a system are some of the most important things that could happen for the entire system.

And so if you start your meals off with high quality food, low inflammatory potential food, if you optimize your nervous system while you're eating and before you're eating, if you go slow enough, if your stomach acid is working pretty well, like 80th percentile, 80% or better, and your small intestine is kicking off the game with the right amount of bile and the right amount of enzymes, it becomes actually very hard to have a messed up microbiome. It becomes very hard to have constipation, diarrhea, bloating, infections, like all the other things, histamine reactions, oxalate reactions, lectin reactions, nitrate reactions, and on and on and on, all that stuff.

The more things you get right at the beginning, you can have a few inefficiencies or messes up later, if you will, and the outcome can still be pretty top notch. I think you and I talked about this yesterday in our call, but I think

the number one thing that can make you a great cook is starting with the best ingredients on the planet. You could know nothing about cooking and temperature and oil, and you can use some stupid seed oil and you could burn it slightly, but if you start with fresh rosemary and fish that was caught that day and a citrus you picked an hour earlier, it's so much easier to mess up and still produce a great result. And the same thing's true for digestion. And so we can stop there because that will lead into microbiome dysbiosis, and all those other weird-

Michael Roesslein:

We can talk about that next time because that's mostly in the large intestine. Just like most of the food absorption is in the small intestine, the microbiome mostly lives in the large intestine, so that's a different game. So it's much easier to win the game overall if you're winning the first part of the game, which is the things you mentioned.

So you talked about, I'm just going to throw some tips out there that I heard, is high quality food, not super processed food, not super sugary sweet, super processed foods, high nutrient quality, nervous system. And this is so important to me personally that I've shifted my entire study and career around nervous system regulation and practices for nervous system regulation. Because it comes in not only with digestion. Having a regulated nervous system is key to things like anxiety and depression, and tons and tons, just go down the list. A wonky nervous system's going to literally throw everything off because it's what gives everything its instructions.

So nervous system, which can be something as simple as sitting and taking five breaths before you start eating. It can be as simple as something like if you're doing something really stressful, don't eat while you're doing it. Don't eat while you're driving, don't eat while you're running around.

You mentioned stomach acid, which will respond to that. Also, we're going to talk about some solutions for the stomach acid, the enzymes, the bile. Your formulas that you created for Healthy Gut that I would say would be most linked to upper GI health that we have are HoloZyme and HCL Guard. And I guess HCL Guard starts first because that's the stomach acid. You mentioned that a lot of practitioners, if somebody fails a stomach acid test, they're going to say, oh, take supplemental HCL.

And when you first told me you were making an HCL product, I was like, dude, there's like 9,000 HCL products on the market. And to me at the time, I was like, and they're all the same. So who would be a candidate for HCL Guard? Why did you create an HCL product when there were hundreds of them on the market, and what's different about it?

Steve Wright:

Yeah, so the reason why I created one is because as you can see behind me, I have a lot of books, and I actually love finding really old books, like 1800, like 1800s, early 1900s medical books, because they contain details in small, like they don't have preconceived notions about science in those books. They're just a lot of theory and a lot of ideas and a lot of observations.

And so when stomach acid was discovered, it's a story for another time, but essentially it's a dude with a hole in his stomach that a doctor's keeping him alive essentially and testing his stomach. He's feeding him stuff, and then he is poking the hole and he's pulling stuff back out. It's an intense story.

So anyways, in this book, and then many books after that, they talk about the gastric juice, because it's not just acid. It's also pepsin, which is a really powerful protein degrading enzyme. And then there's this other thing called intrinsic factor that is mentioned in every single textbook around gastroenterology in the stomach. But as somebody who had low stomach acid, that was one of my core issues that would make things really hard for me in my life, I was like, well, I need the intrinsic factor too. I got the pepsin, I got the acid, but what about the intrinsic factor?

And there was nothing on the market that had it, and that just annoyed me. That just means that the product creation process wasn't followed properly, in my opinion, from an engineering perspective.

Michael Roesslein:

And that aids with B12, right? Intrinsic factor is absorbing B12.

Steve Wright:

Yeah. And so what you have is you have a bunch of people supplementing with HCL and pepsin, and they're still having to take a bunch of B12 supplements. They're still struggling with fatigue. And my theory there is that they don't have enough intrinsic factor to bite into their supplements or their food to get it past the stomach lining, or not the stomach lining, excuse me, the small intestinal lining. And so the intrinsic factor was a huge piece. I understand why they don't do it. It's really hard to get, it's very expensive, but that doesn't matter to me. I mean, that's part of why our product's a little bit more expensive.

But then the other thing that I really felt was necessary is that most people who have had low stomach acid have some form of mild gastritis. And if you have really high gastritis, this is like the worst gastritis becomes an ulcer. And so if you have an ulcer, you cannot take an HCL product. You can't take HCL Guard. You can't take any HCL until you heal your ulcer. And one of the reasons why that it's not recommended to take HCL products with a corticosteroid is because corticosteroids have a side effect where they thin out your mucosal linings and then they expose your stomach, and the rest of your body frankly, it's not just stomach located, it's throughout your entire body, basically to the outside, whatever's happening. And for the stomach, that's high acid.

And so people with corticosteroid usage, even if they're on a low dose for a long time, they tend to end up with ulcers and gastritis. And so that's typically why HCL is not recommended to use on a corticosteroid. Now, you can work with your provider, get their sign off on it. As long as your mucus layers aren't destroyed, you can still take it, but that's something you have to do with your doctor and your provider. And so that was the first innovation.

But the second innovation is that I was like, why can't we, if someone can't take HCL, they have gastritis and ulcers, the number one thing that you're going to probably recommended is something called deglycyrrhized licorice root, or DGL. And DGL is used extensively in Asia to heal gastritis. It's a really cool compound. They take out the glycyrrhizic acid, the stuff that makes your blood pressure a little bit higher, it can help modify your blood pressure if it's low or high or something like that. And it's just this really healing property.

And so I was like, why can't we just put that in the pill? If we just assume people have mild inflammation of the stomach lining, why not put it in the pill? And then also, like we mentioned, part of what is a motility problem is when the acid is low, you don't get as strong contractions. Your food moves through your small intestine through these contractions, basically these long waves going through a vacuum hose or something.

And so just like you can lift three pounds, like a bicep curl, and you can lift 20 pounds, the contraction the muscle needs to lift 20 pounds is significantly more than a three pound lift. If you're not getting the right motility contraction, then it can be slower in your digestion process. And again, as you mentioned, Michael, that means the food could hang around too long or we may over harvest our food, and that's where you could pick up extra stuff you may not want to pick up. So we want the right amount of speed, not too slow, not too fast.

And so ginger happens to be studied in humans, where they gave them organic ginger, they gave them regular ginger. I put organic ginger in ours. And it made a stronger contraction for the motility wave. And so to me that was like, well, if we have low stomach acid, we're probably going to struggle with our motility. We're probably going to struggle with these contraction capacities. Why not put the thing that's been studied in humans in the capsule as well? And so that's where HCL came together.

And I agree, there's a ton of them out there. You don't have to use ours, but what people find when they use ours versus other brands, you could read this in the reviews on our website, is that you typically need less of our capsules per meal. And then typically, people have more energy they don't often get on the other brands basically. And so I believe that's kind of related to the DGL, intrinsic factor, and ginger part.

Michael Roesslein:

Okay, so it covers a lot more than just the HCL, and that was your response when I asked you why you're going to make a product. And I was like, you know what, I often recommend to people to take an HCL with pepsin and a DGL supplement to help heal their gut lining and something for motility.

And that's three pills, well, that's three supplements, probably about six pills per meal. So it really makes a lot of sense to put it all in one package there, to help the motility, help the stomach acid, help the gut lining. People don't realize that they're not digesting their food until they start digesting their food.

Steve Wright:

It's true.

Michael Roesslein:

They'll be like, "Wow, I feel pretty good." I've heard of this product and the ingredients in it helping with skin issues, with energy issues, with focus issues, with all these things that seem totally unrelated to stomach acid. And it's incredible what the body does when it's actually getting the nutrients that you're putting in your mouth. So that would be the help for the first step.

And then you mentioned pancreatic enzymes a lot when you said that they only function within a certain pH. They don't get released as much if the stomach acid is low, that we are, and we gradually become more and more deficient in enzyme production as we age. Enzymes break down all kinds of different food substrates from proteins, different proteins, different carbohydrates. There's even lipase for fat. So you created HoloZyme, which was the first product, and the one that got me the most excited right out of the gate was this, because digestive enzymes I think are really important to help people with a lot of different GI symptoms.

It's a really versatile thing you can bring in. If somebody has constipation, it might be helpful. If they have diarrhea, it might be helpful. If they have bloating, it could be helpful. It helps the body do the thing that it's struggling to do, which is properly break down the food. But decent ones are always, they were extremely expensive and people had to take handfuls of them. And even then, they were kind of hit or miss. There's a couple of brands that are, I don't know, the quote bestsellers, and I was paying 90 bucks for a tiny little bottle of enzymes that would last about two weeks for somebody who really needed to take a bunch of them, and it wasn't really sustainable.

So you put them in a giant bottle with tons of pills instead of a little bottle of 60, which was great right off the bat. But what did you learn about enzymes that made you think you could make a digestive enzyme formula that's more effective than the other ones that are on the market? Because again, there's a lot of them.

Steve Wright:

So essentially there's four types of enzymes, essentially, digestive enzymes. There's your mouth amylase, you have your pepsin, which is a protease in your stomach. You have your pancreatic enzymes, which you just mentioned, at the top of the small intestine. And then you've had a number of these shows. But basically there's this little thing called villi that are inside your small intestine. And these villi release brush border enzymes.

These specialty enzymes are the ones that sort of, lactase is the most well-known. They basically do the final digesting or the final cleaving of various types of fibers and phytonutrients and proteins and fats. But a lot of it,

most of the brush border and the specialty stuff is around phytonutrients, fibers, and sugars, turning polysaccharides into monosaccharides. And so the issue I had was I have a body that goes to bloating. When things go sideways for me, I get bloated and farty. And I would have to take, because digestive enzymes, like you said, are universal. Even Western medicine uses digestive enzymes. They're so universally accepted that they're kind of boring to people.

But as I tried to break things down, they still kept seemingly being the one thing that clearly my body was not producing enough of, and it was causing extra bloating while I was under stress. And so what I was having to do was take a pancreatic supplement that costs 80 to a hundred dollars a month, and then I would take a specialty, like all things, like all of them together with brush border. And then sometimes I would take an even extra special supplement for gas and bloating, for fiber breakdown.

And so I was having to take two to three brands together to find my special blend of enzymes. And that was confusing, annoying, expensive, all those things. And so when we started Healthy Gut, I was like, I'm just going to put all those in one pill. That was my first thought. I was like, clearly what the market needs, what I need, is just why are we separating these, put them all in the same pill. And what I learned is that the reason why I was needing all of them in one pill is because I was deficient. But when you put them all in one pill, you don't have enough room. There's not enough room in the pill to stack. It's three pills into one, right? It's kind of simple. I didn't really realize that, but duh, there's not enough volume to put all of them in there.

So then I started asking the question, why do I need so many units, all the milligrams and the units of activity? How come? How come the first one doesn't just work? How come the all purpose one doesn't work? Why do I need a special bloating one for fibers and plant stuff? And why do I need a special pancreatic one when this one in the middle says it should do the whole job? And what I found out is that because the enzymes that are vegetarian and vegan are grown in a lab, and those lab enzymes either can extract them from a cow or a pig, or you can grow them in a lab, there's no other choices on earth. I don't care whose aunt found what nutritionist. I'm in the industry, I've talked to them all. That's the only way you're going to get enzymes, okay?

So if you grow it in the lab, it is missing a mineral co-factor. Think of it like your best friend. If you're hanging out by yourself, you're having a good life. But if you add a best friend in, life is better, right? Life is more fun. You dance, you sing, you do whatever you do. But an enzyme needs a mineral co-factor to turn on and do its job. If we extract it from our body or any other animal body, the enzyme and the mineral co-factor are already together. They're built together. But when we do it in the lab, they're not.

And this was like, I had talked to so many scientists and I talked to so many manufacturing companies and I finally found this one scientist who just, he's like, "That's in the textbooks, but no one pays it any time. And so I got mad and I made a patent on specifically figuring out which minerals are best with which enzymes. And I've had it on the market for 15 years. No one wants to talk to me because it's boring to them." And I'm like, this is mind blowing to me because this explains why I needed so many milligrams, so many units of activity, and why the regular brand that says it should do it all doesn't do it all.

And so that's why HoloZyme was born. We were able to strike a deal with that scientist, license the patent, and then take his formula and add in the extra brush border enzymes and those specialty enzymes like [inaudible 01:01:20] that are missing from the majority of your do it all type of enzyme brands out there. And so that was the creation of HoloZyme, and I think that's what separates us from everybody else out there. Literally we have the patent and then also we put [inaudible 01:01:37], phytase for phytic acid, things like that, that I know are important to people in our industry who are suffering with poor digestion.

Michael Roesslein:

Thank you for sharing all that and for how thorough you are with these things. You think of everything, and we talked about it yesterday, so that Rebel Health Spotlight interview will air pretty soon, so make sure you guys



check that out. Because Steve talked about his kind of engineer's mind and how it works and how you see the different areas, like why not put this with this? And this goes with this, because if this is broken, then this is broken and it doesn't work. So why isn't it all in one thing?

I had never heard before you taught me that there are certain minerals with certain enzymes that activate the enzymes and that people are often deficient in minerals, so taking the enzymes doesn't work very well. You need a zillion of them to do what a little of them could do. And I gave your enzymes, the day I got them I gave them the popcorn test. Everybody has their food that they love to eat that doesn't love them when they eat it usually. And I am fortunate that I have one, and it's popcorn.

And I wanted to give it a real test, so I only took two. And then I ate a whole bunch of popcorn, which would usually leave me feeling like a balloon that is in pain. And I didn't. I had a tiny, tiny, like I could tell I ate popcorn, but I wasn't uncomfortable. I wasn't bloated, I wasn't in pain, I wasn't anything. The next time I took three, I felt absolutely nothing. And I have taken handfuls of digestive enzymes in the past to try to eat popcorn. Now, this is not a lesson in get Steve's enzymes so you can take them and then eat a bunch of crap and not feel like hell about it. But it was my test for it because it's the only food that gives me problems. There's a lot of people that have a lot of foods that give them problems.

So it can help you diversify your diet also, which is key to healing and a more diverse microbiome, help people with restrictive diets be a little less restrictive, and help you just not feel like shit after you eat. That's the technical term. I think that's the medical term for it. So the HoloZyme is really effective stuff. The HCL Guard is a really thorough formula that's really effective as well. We have some more Healthy Gut in the shop too, but we're just going to talk about those today because those are the upper GI related, mostly upper GI related products that we have.

So I put a link to the Healthy Gut shop. We're doing a little promo right now on Healthy Gut products. Just got a bunch of them in stock. So there's a code there for you that will save you some cash on Healthy Gut products for a couple days. And check them out. We have more webinars with Steve. We'll link them. When we post the recording of this, we'll link them there.

I do have to go. I know there's questions. I copied them all into the, I have a document open where I copied all of the questions, so we will answer the questions. I publicly pressured Steve into doing a part two of this about 20 minutes ago, and he agreed, and we will get these questions. They're important questions about getting off PPIs and absorption issues, SIBO, histamine, all kinds of, gallbladder, gallbladder's a big one, especially when it comes to bile. So we will get to them and we will try to schedule that as soon as we can both do it.

And we will lead with these questions. We'll talk about the second half of the digestive system and some things that you can do to really boost the second half of digestion in the large intestine. So I do have all the questions written down. We did record the webinar this time. Good job, me. And we'll be sending it out probably tomorrow, which is Friday. Friday. Yes.

And thanks, Steve. I love the way that you explain things in ways that people can understand it. And it really, I've started, I teach a lot of different things now that are kind of outside the scope of functional health and functional medicine. And what I've learned is that to be able to teach something in a simple way depends on your level of mastery of that topic, that you can only teach something in a simple way if you know it really, really well, because you can then take that complexity and turn it into something that easily makes sense to anyone.

And I have noticed that in my best teachers, that they teach in a way that doesn't feel like you're getting fire hose blasted in the face, but you're getting the information that you need to get and you're getting the skills and the things that you need to get in a really simple way because they know it so well that they can distill it down into two sentences that somebody else would teach in two hours. So kudos to that. I wrote down four different quotes of yours today that I'm probably going to steal.

Steve Wright:

Well, thanks. Send them to me so I can post them too.

Michael Roesslein:

Yeah, let's see. But yeah, no, we'll throw them out on social media. But yeah, just the thing about the blood flow coming down to the abdomen is also collecting nutrients and not just going there to aid digestion. I wrote down around why sniffing can actually increase, improve your digestion, from bile release to stomach acid production, that they're eating nutrients that are freely available to them that shouldn't be freely available to them. And that that's a stupidly simple answer to a complex problem.

And that why treatments for SIBO and small intestinal overgrowth infections don't often work because the body didn't change how it's processing food. And so the buffet for the bugs is still there, and you kill the bugs. But if a bug exists afterwards, which it always will, there's absolutely no way that you can kill all of them, nor would you want to, because if you kill all the bugs in your gut, you'll probably die. So you kill most of the bugs. And then the ones that survive are like, man, that sucked, but here's a buffet, so we're good. And I like the way that that was explained.

So thanks to everyone for being here. I know these middle of the day ones aren't as convenient, but we've had great attendance on them since I switched to them. When I first moved here, I was still trying to do webinars at our sweet spot time in the evening that the most people can make. And I was starting webinars at 1:30 in the morning and I'm like, I can't do this. By the end of it, I'm nodding off and clicking the wrong button. So yes, there's a recording. It'll go out tomorrow.

I see all your questions. We will have them. We'll get to them. So you have a lot of happy people in the chat, Steve. I linked the Healthy Gut shop in the chat there. We have it separated for you guys. Easy to find. I put a little code there for you if you want to try the HCL Guard or the HoloZyme or the magnesium or HoloImmune, which is super cool. I want to talk about that next time. We have a whole webinar on that. But paraprobiotics are super fascinating. And then tributyrin, which maybe you'll know that top secret, really exciting new research on butyrates that you told me exists yesterday, maybe you'll know what that is by the time we talk about it next.

Steve Wright:

It's possible. Thanks for having me, everybody. Thanks for the questions, and thanks, Michael.

Michael Roesslein:

Awesome. Thanks, man. Take it easy, everyone.