

All right, everyone, let's go over a little house cleaning. Please, we're here for Q &A. So we're not going to, there's no presentation today, no specific topic. We're doing microbiome related Q &A.

Any gut microbiome, skin microbiome, any sort of microbiome, you can ask questions about the last couple webinars we did with the CIV serum and the endoaccess and the Dutch testing and the hormones. So any of that stuff is on the table. So you can put the questions that you have in the Q &A. Try to keep them in the Q &A. I to the people saying my volume is low. I'm pretty close to shouting. And if I talk any louder, I'm going to get in trouble with my wife and the neighbors.

So I really have no idea what to do. And we will get to the questions and answer them as they come in. Any news on what's going on endoaccess wise? I know that I think by next month, April, we should have the reports available. Yeah.

Yep, we will. I know we've gone through them and I think we are for the first few thousand reports, we're doing extra checks just to make sure that the system is completely 100% accurate. But yeah, we'll have those. And then of course, the specific solutions for each of the pattern dysfunctions will have those by the end of April as well. So all of that will come come to a head at once.

An update for people as we've gone through this, you know, we're now we have over. I think it's over 250 patterns that we've identified of dysfunction in women and over 100 in men. So the story of hormone imbalance is quite complex.

That's why we need super nerds like Liz involved in it to be able to to figure it out. And, you know, you take estrogen dominance, for example, right, which is probably the most common type of hormone imbalance. And, and, you know, most clinicians can likely diagnose an estrogen dominance issue. But we're finding that there's over 100 different versions of estrogen dominance.

So it's, you know, which version do you have is a question and what and the approaches may be different. So so it's super exciting to have this technology and have this capability now to really help people with what I see is one of the biggest issues kind of scaling for us as, you know, millennials are now in their forties. And of course, you know, our generation of people are now in their fifties and sixties and so on. So it's it's incredible and it's exciting. Cool.

To only 250 patterns, you guys are slackers. Exactly. That's all this could figure out.

The poor thing she was smart. We we let her sleep like five hours a night. So that's probably where the slack is coming from.

OK, if you guys haven't watched them yet, the videos that we put out last month, four part video series on hormones with Dr. Liz Bartman are awesome and she's great. And then we did a live webinar with Kieran and Dr. Liz talking about the endo axis hormone reports, reporting software and interpretation software that go with the Dutch test. And then I did a Q &A with Dr. Liz the Friday before I left for Poland.

So about a week and a half ago, also fantastic. So tons of new hormone content on the site. They're all under the Education Videos tab.

If you want to watch the recordings, it's like probably four and a half hours of really, really good educational content on hormones and hormone testing. So we have some questions in the Q & A. I'm going to just mark them all. Answer live. And we will go from there. So yes, again, one more time, Q & A in the chat or in the Q & A thing and anything else in the chat. Please don't put the questions in the chat or they will possibly get lost.

So first question, love your content, Kieran. Can you please explain the connection with oral birth control and microbiome? I have heard that their oral birth control is a microbiome disruptor, but not sure how or why. Also heard that it can cause vitamin deficiencies.

Yeah. So so oral birth control, of course, is whether you're taking progesterone or estrogen. It's designed to mimic, you know, ovulation and trick your body into thinking you're pregnant by increasing the amount of certain hormones in your body throughout your cycle. The reason why you can disrupt the microbiome is because hormones are very closely, especially sex hormones, are very closely regulated through the gut.

Right. And one of the ways in which it's regulated through the gut is these hormones actually act as food sources for certain groups of bacteria. So when you have optimal hormone balance, what you tend to have are a high diversity of microbes, especially within this constellation called estrobalome. And these are microbes that affect the processing and metabolization of estrogen, for example. You tend to have these organisms feeding off of the dumping in of hormones into the gut, right?

And that feeding actually increases diversity in your gut microbiome. So think of hormones as a prebiotic, if you will. And the prebiotic feeding of the hormones of the gut microbiome is also a critical part of regulating the amount of hormone, your sex organs, in the case of women, ovaries. So the metabolization of estrogen or progesterone, for example, tells the body how much more estrogen or progesterone to produce. So it's an important cycle between the function of the hormone and its relationship to the microbiome, where the hormone actually feeds the microbiome and helps maintain diversity.

This is why as estrogen and or progesterone levels start to decrease, as women reach perimenopause, you start to see a shrinking in their diversity of the gut microbiome. So what can happen? Oh, and this is an interesting tie there. So, you know, we know that women, for example, when they reach perimenopause or their menopausal, their risk for things like heart disease and all that increased dramatically, right? Prior to that, their risk compared to males was much, much lower.

But then they catch up during menopause and postmenopause. The reason for that is now largely believed that it's the changes to the microbiome that is observed when hormone circulation is altered in women. And the changes to the microbiome leads to lowering of diversity of the

microbiome and increased risk for leaky gut and endotoxemia. And that increased endotoxemia increases the women's susceptibility to metabolic dysfunctions, including diabetes and so on, and then Alzheimer's dementia and also cardiovascular disease, right? So what's happening in peri and postmenopause is similar to what happens when you start taking oral contraceptive or oral birth control, because it's screwing up the normal cycling of hormones that helps feed the microbiome. So that's likely the most, the most prominent connection between how oral contraceptives can do that. Now, can it increase vitamin deficiency?

I'm not aware of a specific connection there. The only connection I can think of would be if you disrupt the gut microbiome and you reduce diversity in the gut microbiome, you will increase inflammation in the lining of the gut. And then flame gut absolutely absorbs vitamins at a different rate than a non-inflame gut. We know this from studies on celiac patients or gluten sensitive patients because their lining of the gut becomes very inflamed and damaged over time. They actually absorb the fat soluble vitamins, for example, at a lower rate than non-celiac and non-gluten sensitive people, right? Because a lot of those vitamins have what we call active transport, which means that they have receptors and they have carriers for them that come across the lining of the gut and pull them in when the lining is damaged, those receptors and carriers and all that don't work well. So I think that may be a connection for why you may see vitamin deficiencies. And then, of course, I think is the most prominent connection why you end up with hormone, sorry, microbiome dysfunction when you use oral contraceptives.

I'm muted. Thank you. Very thorough, very clear. Thank you for that. The person who asked through a wow in the chat. So thank you. My pleasure. Yeah, so much. Man, it's I get I don't like getting ranty anymore. I used to love going on angry rants about health things because there's so many you can when it comes to stuff like oral contraceptives. But when it was Dr. Jolene Brighton's a friend of mine. And when I first interviewed her when her book about the like recovering after the pill, I don't remember what it's called, but it is something to do with the pill. I think you know, Jolene.

Oh, yeah. When I hosted an interview with her and she went, it was actually for a master class we did. I don't remember which one, but she gave a presentation on like, maybe it was how the pill relates to autoimmunity.

But then in the in the presentation, she covered like 207 other consequences of it that 95 percent of them are never mentioned to anyone. There's a lot beyond the pill. Thanks, Karen, like young girls, they put girls that are like 14 on this and keep them on it forever. And then for women with pretty much any hormonal issue, this is the slap and fix solution, just let's throw you on birth control. Oh, by the way, if you also smoke, this combined raises your cancer probability by about 75 percent, et cetera, et cetera, et cetera. And it's just infuriates me that they don't educate women about this, like at all. And if you take out the package of the pill, there's like this ultra long yeah, and then they expect you to read that with a magnifying glass and, you know, update yourself. But yeah, anyways, rant rant over.

But I wanted to point out this is one out of a infinite amount of ways we can talk about how that causes problems. So Stephen wants to know, can you comment on probiotic prebiotic combos that

exist like in the seed supplement, which I'm vaguely familiar with, but I don't know that product directly.

Yeah, so a true probiotic, prebiotic combination where you can verify that the probiotic or actually you can verify that the prebiotic enhances the function of the probiotic. That's called a synbiotic S Y N B I O T I C synbiotic. Right.

So that's a defined term in the literature and in science. The only thing is that in order for it to truly be a symbiotic, which a lot of, of course, companies misuse the term, you have to be able to demonstrate clinically that the prebiotic enhances the function of the probiotic. The problem is in the case of these kind of these kind of products, these what I call kitchen sink formulas of just adding in 15, 16 random strains to mix it all together, is they haven't even shown or demonstrated that the probiotic has any effect to begin with. Now, a common strategy with many of these companies is to use research on the strains. And two or three of those strains may have research on its own and then apply that research to the formulation, which it doesn't work. We know, and I know this is one of the last things we were working on at microbiome labs was the cycobiotic strain, the Zenbioam strain. And what we saw is that when you mix it with other bifidobacteria, it actually knocks out the effect.

Right. So we know that you can't just mix bacteria and assume that it's all going to work well together because they're complex biological entities. It's not like taking vitamin C and vitamin E and mixing them together and go, OK, this is fat soluble. This is water soluble. They absorb differently and they will still have their own function. These are complex biological entities with thousands of genes and competitive drivers and all kinds of stuff.

Right. So you can't just throw in 15, 16 strains and assume that they will collectively work right. So products like that don't have research on the probiotic itself, let alone that the prebiotic actually enhances the effect of the probiotic. In some cases, the prebiotic could negate the effect of the probiotic. Right. Maybe one of those 15 strains has a propensity for consuming that type of prebiotic and so feeding the prebiotic with the probiotic only enhances one strains effect and not the others.

Maybe the prebiotic enhances the growth of certain endogenous species that compete against that probiotic. Right. There's a thousand and one scenarios there. And that to me is a big fault of these companies that spend so much on marketing and advertising and storytelling and none on research. Right.

So what I would do if you're looking at a company that's marketing a probiotic and prebiotic, I would challenge the company and write into them and say, what studies do you have to show that your prebiotic enhances the effect of your probiotic? Because that's what it's supposed to do. Right. If they're putting it together.

Yeah, that makes a lot of sense. And I bet 95% of them won't be able to produce that, but maybe maybe there are some that do. In your research or anything you've observed or by what you know of

the mechanisms, does taking Megaspore have any effect on blood pressure, either raising or lowering? I don't. Maybe that was in the triglycerides one.

We never studied blood pressure with Megaspore. We did show that we can dramatically reduce triglycerides, which is great. I would say that, you know, maybe an indirect effect would be through lowering inflammation. That could have a positive effect on blood pressure, but it's not through the normal mechanisms that surround blood pressure reduction, which is working through something called the angiotensin system. That is the vascular compliance and the stiffness of the vessels itself.

Right. So the angiotensin system controls the smooth muscle cells that allow blood vessels to expand and contract. And what tends to happen to people with hypertension is that the smooth muscle cells no longer contract effectively or expand effectively.

So they end up with stiff vessels and that increases the pressure in the vessels. There are lots of things that improve blood pressure. So I would, for me, if you're looking at natural options of improving blood pressure, I would look at nitric oxide. One of the most prolific things I use the Berkeley Life products because they have the good research on their nitric oxide products with blood pressure, specifically. Vitamin K2-7 also has been shown to be able to improve blood pressure. I actually did a couple of big studies on nanokinase being able to reduce blood pressure.

Nanokinase works through a slightly different mechanism. It actually reduces the viscosity of blood because one of the things that dictates the viscosity of the blood is the amount of soluble fibrin in the blood. Fibrin is a kind of a fibrous material that forms clots. So some people can have excess amount of fibrin in their circulation and that kind of thickens the blood. The problem with the thick blood is it creates a lot of pressure in the environment. Imagine trying to pump maple syrup through a tube versus water.

The maple syrup is going to provide more pressure. It also makes it more abrasive on the inner lining of the vessels. So it can create more damage to the inner lining of the vessels. And then it also makes it harder for blood to make it through the tiny microcapillaries in your peripheral circulation. This is probably one of the reasons why nanokinase is known to help with issues like dementia and so on because it improves vascular circulation in these microcapillaries. So those are the things that are probably better for blood pressure versus megaspore, but it may help through reducing inflammation.

OK. Thank you. Very thorough. I want to let you know that we are 23 minutes into the hour. We've answered three questions and there are 16 more. So we might have to go a little more rapid fire on the answers.

Rapid fire. Got it. I don't want to give up too much. I know that these are complex answers to some of them because our audience is awesome, but I'm just being mindful of that to let you know. Kathleen, I would like to hear about ENDO-Axis. We have two webinars about that.

So I'm going to ask Mary Ann if you're here, if you can put the link to the ENDO-Axis webinar with Kieran and Dr. Liz in the chat. And that will cover anything you need to know about that. It was very, very thorough. I think we did an hour and then Liz stayed around for another half hour to answer questions and there's a Q &A with Liz also on the site.

So tons of info there. How I can work with you as a practitioner. Kieran does not work with patients or clients. And I do now, but not on this stuff. I'm working in another field that is unrelated to hormones.

And if you want any recommendations of practitioners.

We have people we can find for you. So send Mary Ann an email, Mary Ann at rebelhealthhive.com. And she will get in touch with me and I can give you a referral to somebody. And we're working on getting a little network of practitioners put up on our site in the next few months too. That would be helpful for situations like this. Any information about how the Megasport product might interact with an old case of toenail fungus? I would guess there's a better option in the microbiome labs catalog for that. But yeah, I can answer that.

Well, OK, so it depends. And so the so the Megasport can help to a certain degree by improving the function of the immune system, which is of course important for going after things like toenail fungus. But if it's largely on the surface, I think you're better off treating it topically. We actually have had success with sieve dealing with topical fungal issues, whether it's on the scalp, on the toes, on the body and so on.

Fungal issues on the body are very common in conditions like in a parioral dermatitis, a seborrheic dermatitis or toenail fungus or even dandruff can be driven by fungus. So I would look at sieve as a topical use for that. And then the Megasport is more of a passive help for it by improving the function of the immune system. But often, toenail fungus is so much more surface, you'd want to treat it on the surface level.

Just take something in that. Please put the questions in the Q &A because now I'm getting sucked into the chat. So put them in the Q &A, please. I take formula, your formula for Candida works well. Can I take it indefinitely? You shouldn't have to. Yeah.

Yeah, you really should. So the idea with that product is that it provides you a period of time where you're controlling Candida through the use of the product itself. But the goal should be to rescue the microbiome so that the microbes control the Candida. That's the most normal homeostatic state in terms of the relationship between Candida and the rest of the microbiome. Candida is always present.

We all have it. We have upwards of 200 different species of Candida that live in an onus all around our bodies, but they're largely controlled by the microbes. So Candida is opportunistic in that if you have Candida overgrowth, it indicates that something else is wrong with your body.

Right. So you want to really work to a point where you're increasing the diversity of the microbes significantly. So that's through Megaspore, Megapree, you know, increasing the diversity of your diet, getting outdoors, managing stress, all of those things that we've talked about over the years that increase diversity. But then you also want to look at things that are that seemingly are stressing your system. Another thing is heavy metal toxicity, immune dysfunctions.

Right. So you might want to work with a practitioner and get some heavy metal testing done. You might have too much lead or cadmium exposure, and that's an opportunity that Candida can take advantage of. You might have an immune dysfunction where you're seeing a lot of inflammation in your system and you want to tackle that. That can bring Candida under control. So you don't want to have to take this product forever to control Candida.

You want to take it to get it under control and then you got to supplanted with the other issue with the other components, which is the microbes, your immune system and so on.

OK. Yeah. There's we could we have whole webinars on that from many years ago. I was actually going through our old videos because we're making clips and making them easier to consume. And there is one on Candida overgrowth from when I lived in San Diego. So I moved from there five years ago.

But I don't see this has changed. Is that where you were? I lived. I lived at the time I lived in South Park, which is just north of Balboa Park, like near.

I never lived in North County. It's beautiful up there, but I never I would go up there to eat at all the little hippie organic grass fed restaurants that exist up there. Like on a cliff looking like a postcard and North County, San Diego is ridiculous.

When I know it's probably off topic, actually, this is completely on topic. Is there a trick to using sieve without getting the serum everywhere? It comes out fast and seems difficult to control. I haven't found that to be the case. Maybe the one I don't know what to call that tube applicator container that you have is something's wrong with it. I don't know if you guys gotten that feedback.

Not a lot. No, if anything, we get that it's the tip can sometimes get clogged. Right. I have one here because some of the some of the solids, the microbes can actually settle into the tip. And if that happens, what we say is we just you just pound it like this with the bottom and it undoes it. So most of the time it said it doesn't come out fast enough. I haven't had it where it comes out too fast.

It is a gravity system and you can enhance the the the amount of flow by pushing the bottom of it, which is like a little diaphragm. So I would say you just kind of you don't invert it completely. So you by invert mine completely, it takes a while for the drop. It's just hanging. It's not really dropping. And then yeah, it took about five seconds for the full drop to come out.

So you can angle it instead of a full inversion. That's that maybe the only thing that you could do to slow it down. But that's an unusual the next tube you get probably won't have that issue.

That's it. That makes sense. I think that's backwards to how I would instinctually think that it would make it come out. So Mary Ann, if you're still here, can you please post the links to the SIV webinar? I also linked them in the emails about this webinar. It mentions this and has a link to those webinars.

So if you have those emails, it's in there as well. But if Mary Ann's still here, can you please post the link to the webinar? SIV is a biomebalancing skin serum that we began retailing about four months ago, maybe it was before Christmas. I don't know.

It was last year. It was October. Yeah. So there's webinars on that. Thank you, Mary Ann, for that.

So anybody can watch that to check that out. Just don't watch it right now. Bookmark it for later. I have started with the spores and started slow and low. I place in my smoothie. I find even at half a capsule, I get gassy. Is this normal? I've not been consistent with consumption. I may take a smoothie with a partial capsule every couple of days. How should I take this to get over the gas stage? First, I would recommend taking it with food that isn't a smoothie, like something with protein in it. And then I would go less than half a capsule and every two or three days. That would be my I'm not your answer. How do I do?

Yeah, I think that's great. I do recommend taking it with. So if you're putting in a smoothie, you're blending it and, you know, it's probably fine, but but it's probably better to do it in some sort of soft food, just mix it in a bowl of, you know, oatmeal or whatever it is you may you may eat. So try taking it that way.

And like Michael said, you can go slower, right? So experiencing some bloat, some herksheimer, some cramping and all that is perfectly normal in about 10 to 15 percent of people that start the spores. It's an indication that change is happening in your system, which is a positive thing. Now, if it's not that uncomfortable, just plow through it. Because you will come out on the other side where where that those symptomologies will be gone and you can actually increase the dosing. But if it is really uncomfortable, then like Michael said, reduce the dose, either cut it in half, go with a quarter of capsule or do the half of capsule every other day and slow it down and just taper up a little slower. Right. But if it's not uncomfortable and you can deal with it, it's just kind of annoying to have a little bit of bloat. It can kind of power through it because you will get through it at some point soon.

OK. I was on antibiotics a few months back for tick bite. Send Mary Ann an email, maryann at rebelhealthchive.com. We have guidelines for antibiotic recovery. So send her an email, maryann at rebelhealthchive.com, and we'll get you an answer for that.

Oh, just a quick message on that. Just know that you can recover your microbiome, right? So a lot of people get very nervous and paranoid that, oh, I had a couple of course antibiotics and I'm screwed. You're not. Your microbes are still there. You can absolutely recover them. So just follow the protocols that will send you and you can absolutely recover it.

Yes, have less fear. Does an itchy skin, especially in exposed areas, face, neck, arms and legs have a microbiome cause and resolution? Before he answers, I would recommend watching the webinar that Mary Ann just posted in the chat because we talk about that at length. Serene skin is not shipped to the UK. I don't know if the, yeah, the, the, what's the name of the distributor in Europe?

Oh, TMC ventures. Oh, you, yeah, yeah. Well, well, well, yes.

Well, Liam has serene skin. OK, I'm sounding like a broken record, but reach out to Mary Ann and Mary Ann, I'm giving you a whole bunch of new work and we're going to help these people get ahold of some of the stuff that they're looking for. And also I would watch the the webinar that's in the chat right now, the one that's right near the bottom of the chat on the skin microbiome.

That would have a ton of very useful information for you, Beverly. And I am typing. And email, there you go. OK, done. Boom.

They are making them faster than we're answering them, but that's pretty standard for these. So I'm a 65 year old female with Hashimoto's and suffering with chronic constipation. I've added Bifido and other probiotics as well as taking magnesium, sick trait capsules at bedtime to slowly get things moving. Anything else I can do to improve my bowel health and hemorrhoids? I'll let you take that one.

Yeah, well, and a quick comment on the on the skin one. Most reasons for itchy skin have something to do with the microbes on the skin. So absolutely, once you balance the skin, even if it's just dryness of the skin, it has to do with the microbes because the dryness of the skin is dependent on the ceramide layer being intact. And you need a healthy balanced microbiome on the skin for the ceramide layer to be intact. You can also then take some phyto ceramides. So your skin tends to be very dry and itchy. Look up phyto ceramides.

I use one from a company called Source S-O-U-R-S-E. It's a chocolate. It's a product called Skin Glow. But it has a clinically effective dose of phyto ceramides in it, and it really can help with dryness of the skin. And then you balance the microbiome of the skin with the sieve on the outside. Almost all of the reasons that itch that skin can be itchy will be, you know, positively impacted by that. With regards to the question, was it more along a chronic constipation? Is that is that the primary issue?

Yeah, yeah, yeah, I think so. Okay.

And assuming that you've tried a variety of fibers and prebiotics, because of course those are some of the key things to start getting the vowels to move effectively. One of the unsung reasons, I think, for constipation and slowing of vowel movements is leaky gut, is LPS. I've described this in lectures before, where when your gut is leaky, and LPS migrates through, it ends up in an area of your brain stem called the dorsal vagal complex. There, it actually attenuates the signals from the brain to the gut, which tells the gut to move. So it's a brain that's signaling the gut to do the peristaltic activity to move the bowels. So those signals get completely attenuated, and then you end up with chronic

constipation. So resolving the leakiness in the gut becomes really important, which means spores, prebiotics, and all of the things that are really helpful for your gut, diversity in diet, and so on. You want to get that mechanism under control.

Then you can start using prokinetics. You know, I like ginger, caffeine, magnesium, all of those common things. You can use a product called Megaguard, which we had formulated to improve gastric emptying and bowel movements. There are some old school products like Iberogast and so on that you can also use, but know that prokinetics don't actually help if your gut continues to be leaky, and you've got that block in the dorsal vagal complex, right? So it sounds like that's probably the first thing you need to do is really work on that leakiness in the gut.

And I don't remember if there was a mention early on in the question, if she had started on Megaspore and so on. But if you haven't, then consider the Total Gut Restoration Kit. That's one of the things that could potentially help with alleviating it.

Perfect. Thank you. If you have any questions about those products, just shoot us an email and we can send you links. How does hormone supplementation like biote, I don't know what that is, affect the microbiome after menopause? Probably similar to the first answer question about birth control. Yeah.

So here's the thing. I like the primary treatment right now postmenopausal or menopausal for hormone imbalance is to replace the hormone, right? And granted, in many cases, you actually need that because in some cases, women may just not be making any estrogen. So you need estrogen replacement.

They might not be making any progesterone. So you might need that as a progesterone replacement or even testosterone in that case. So biote is an injectable pellet that you put under the skin, subdermally, that releases hormones over time. It's as opposed to patches or creams or injections of the hormones, right? So there's many mechanisms for hormone replacement therapy.

The thing of it is, those hormones can actually help the microbiome because where it's warranted, it's because the individual's not making that hormone anymore. So you do have to replace it, but you have to go one step further because what you're doing is putting in the hormone. What happens to the hormone in the body still needs support or help, right? So that's the metabolic component of the hormone.

So we are working with a lot of doctors that do hormone replacement therapy to do the Dutch tests, for example, and then provide systems to help the hormone be properly metabolized in the system. Because you may still need, if you're getting testosterone, you may still need aromatization. You may still need detox pathways, enhance, and so on. So it's not enough just to replace the hormone. You would need to actually improve the metabolization of the hormone as well.

And that requires a Dutch test and doing the endoanalysis. To answer the plain part of the question, is that replacement therapy can help the microbiome in women that are no longer making those hormones, because those hormones are needed for the microbiome. In the case of birth control, it's like an overt expression of that hormone when they are still making the hormone naturally. In the case of postmenopausal, they're not making the hormone anymore, so we do need to replace it in.

Harbone replacement, I would highly, for the next question, the videos with Dr. Liz, I'm gonna, how about this? This is gonna be easier than me summoning Mary Ann every time, is that in the email, emails that I send out that has the recording of this webinar, I'm going to link all the other webinars that we reference in this one with a little thing that says this one's about this, this one's about this, this one's about this, and then you'll have them all in one place, because this is getting chaotic and I don't want things to get lost. So I will handle that, but Stacy, your question about hormone replacement, the videos with Dr. Liz on hormones and the video on the endoaccess and hormone testing, and then the Q &A with Dr. Liz will answer that upside down, left, right, sideways very, very thoroughly more so than we would be able to now.

So I'm gonna skip this one for now and I'm gonna link all of the videos, and we're actually working on a system on how to better organize the videos for you, so you can find them on your own. Role of beta, glucuronidase, and hormone metabolism, when to use calcium deglucrate and or probiotics to support. Gut microbiome and dysbiosis, those are two pretty different things. I think also the role of beta glucuronidase and recirculation of neurotransmitters.

I don't know if this is really on the subject, but if you have anything knowledge-wise on those things and want to throw it out there. I think this would be more a Dr. Liz question with the hormone metabolism, but have at it.

The quick answer is, of course, beta glucuronidase is predominantly made by microbes in the gut. It's a very important enzyme for the recycling of estrogen, and it can play a role in other hormones. I'm not quite sure about its role in neurotransmitters, but maybe some of the effect of it provides a precursor to neurotransmitter formation. Nonetheless, whether you need beta glucuronidase or you have too much beta glucuronidase activity, it's hard to determine unless you do a full metabolite test on hormones.

This is where the Dutch comes in. You don't want to assume that you have under-functioning beta glucuronidase because you may have dysbiosis, and thereby that may be your cause of estrogen dominance. You want to test it because you don't want to take extra beta glucuronidase because it could cause other issues within your system.

This is exactly why endoaccess exist because these issues are far more complex than we thought that was. As I mentioned earlier, often estrogen dominance is related to beta glucuronidase, but there could be 100 different versions of estrogen dominance. If you have that question, and that's part of your system that you're trying to figure out, I would highly recommend doing a Dutch test and then doing the endoanalysis so that you get deep insights as to what exactly you need. Then there

will be a specific product that's specific to your pattern of dysfunction. It's a perfect question to illustrate why we need that deep redive.

Is there any connection between the microbiome and tinnitus or tinnitus? I don't know the right word to use. I don't know how to pronounce that word. I never know. Have you ever heard of anything like that?

My default way of pronouncing it is tinnitus because I think it sounds better. Every doctor I talk to about it says tinnitus, which sounds awkward to me. Tinnitus is a very good- Let's go tinnitus and be rebels. Yeah, let's go tinnitus because then we are rebel mouths.

Tinnitus is a phenomenal problem and there's so many people that deal with it. I actually had tinnitus myself at one point about five years ago. It just came on out of the blue and it was so bothersome.

I couldn't sleep for a few days and then I did some things, which I'll mention quickly. Tinnitus is an issue of inflammation. It's neuro-inflammation specifically and more than likely it's the little tiny hairs in the inner part of the ear that are either broken or damaged or being damaged by inflammation. There's a lot of people that will recommend things like polyphenols and bioflavonoids that may be helping it. Anti-inflammatories are even doctors that may try a core supraesophageal, which is a steroid to try to reduce inflammation. None of those things have been shown clinically to be effective.

I've talked to people who have tried it and I tried bioflavonoids and all that myself as well. Through the gut, gut is the biggest source of inflammation. It's certainly not helping if you have a significant amount of gut inflammation, but there's no direct connection between the microbiome and tinnitus. I would say the indirect connection is if your gut is really inflamed and you've got lots of stress and anxiety, which means you have a lot of neural inflammation as well, that may be kind of a precursor to developing tinnitus, but you can develop it through sound damage and all that to the ears as well. Here's what I did. I will mention quickly that may help people if they have tinnitus.

Your brain is really good at forgetting sounds that you shouldn't be hearing that aren't useful for you to hear all the time. This starts in utero itself. One of the loudest sounds you may hear throughout the day of your brain didn't cancel out sounds is the blood moving through your jugular vein because it moves at a high pressure. It's very volatile and it moves through just past your ear drum. If your brain didn't cancel out that sound all day long, we would predominantly be hearing loud swishing noises. You can do that actually if you do something called using ultrasound to look at the jugular vein and looking at thickening of the jugular vein. When you put the ultrasound machine on there, you can hear the loudness of it.

Your brain is good at forgetting sounds. What this means is that what I did is I found an app. I can't remember the name of the app now, but if you look at tinnitus apps or tinnitus apps, you'll find it. It's an app that produces sounds and you can adjust the pitch of the sound to match your tinnitus or

your tinnitus. The pitch you're hearing in your head. I would put the phone next to my nightstand and I would play that sound at the same pitch so that my ear is externally hearing that sound. It drowns out the inner part of the sound and what it does is over a few days, weeks and so on, it helps your brain learn that that's just white noise and to cancel out that pitch.

That worked for me quite dramatically. The main thing is you also have to be conscious of not trying to listen to the sound. One of the things that people with tinnitus will do all the time is they'll plug their ears to see if they can hear it when they're in a loud environment. Or if they forget about it for a moment, they plug and see if it's still there. It's always going to be there if you try to listen for it.

That's the key. The whole idea is to forget about it and it's really hard to do but use something like the app to try to help you. Reduce inflammation as much as you can. That may help as well but that was a strategy that worked really well for me.

Thank you for that. That is like one of the trickier health conditions and one of the more maddening. I've had it randomly on and off for like a day or two at a time and every time I want to rip my ears out of my head.

Yeah, that would be crazy. I blame loud rock concerts but for me, I've noticed that it only happens when I'm really sleep deprived, if I have excessive stress or if I ate crap or had more than one drink or something like that. If I don't do those things, I never get it but yeah, it is obnoxious. My sympathy goes out to you. Great answer though. I've never heard of that. That's a cool thing that they created.

It's like how noise cancelling headphones work. Yeah. Which are game changer. I just flew yesterday so every time I'm reminded of how fantastic the people. I never realized how loud the ambient noise is on airplanes until I got those. I'll take them off or something and it's like,

what does that do to the nervous symptom? What does that do to the body to be immersed in a loud sound for sometimes 12 hours when I fly to California? It's like, man, I love those headphones.

Any reasons you can think of off top of your head that might cause loose stools for someone taking pyloguard?

Loose stools specifically from pyloguard. It could be a die-off response. You know that *H. pylori*, which is what pyloguard escorts out of the system, is a gram-negative bacteria, which means it has LPS. Maybe part of the removal of the *H. pylori* is exposing the body to a little bit more LPS.

Or at least a gut and increasing a little bit of immune activity in the gut. That may be the only reason. That's not a common thing that we've seen. Pyloguard has like 10 published studies on it and that's not a common adverse effect. So if it's persistent more than a week or so, I would discontinue it and see if it stays.

If it's not persistent and it goes away, I would say it's maybe a coincidence that something else affected your loose stool and you were taking it at the same time. It's just not something that we've seen reported even in large-scale studies.

Okay. BJ says that her husband, an electrical engineer, developed a patent about noise canceling for tonight's patients using the same wave frequency of the noise. That's really cool. Somebody else uses a sound machine. It sounds like we need to do a tinnitus masterclass. For sure.

Yeah. People in the chat about it. Chinese medical practitioners say clear damp or heat for tinnitus. So if somebody could solve that puzzle, it looks like it would be valuable. Another one, tinnitus. Okay.

I would say use the Zen bio. I would absolutely use that because Zen biome has shown to reduce neurological neuro inflammation. So that is definitely going to be a help. Reduce LPS if you're using spores.

That's fantastic. You can take bioflavonoids and all that to try to reduce it, but on their own, they're not going to necessarily do it. Do those things while you're doing the technology around the sound and you should be able to get that under control. For me now, since doing that, because I got such a good handle on my brain understanding that it's a noise that if I try to listen to, I can hear. And if I don't, my brain just doesn't care about it, that I can actually just close my ears and listen for it and I hear it. But then the moment I stop doing it, the sound kind of goes away. So you could train your brain to do that, and it doesn't take a lot of time. So there's lots of hope for that because tinnitus can really cause some anxiety in people, which then makes it worse because anxiety is of course neuro inflammation.

Okay. Makes sense. I'm answering a couple of them by typing answers if I know the answer to try to get to the bottom of these. Can you comment on the glycocalix and the effect on microbiome products? That's a word I've never seen before.

Yeah. So glycocalix is really the system in the inner part of the vascular tissue. Right? So glycocalix is what kind of controls the thickening of the lining of the vessels. And there's some function of it in the gut as well, on the lining of the gut. So think about any sort of tubes in your body will likely have glycocalix function in the lining of the tube. Now how it relates to the microbiome, I think if you're taking a product like, you know, I use arterial cell. I'm always concerned about heart disease.

That's a big prevalent thing in my family. And so I use arterial cell, for example, to modulate the glycocalic system so that you don't get that thickening, you don't get the inflammation in the lining. I use it for my vascular health, but it could be beneficial for gut health as well. The microbiome relation to it is really through inflammation again. Inflammation up regulates that intimal thickening and the damage to the lining that could modulate glycocalix activity.

So they're kind of independent. They work independently, but inflammation from the gut can absolutely enhance intimal thickening and modulate glyocalix activity. So you want to control the glyocalix activity by looking at a product like arterial cell, but you always want to modulate the gut microbiome and inflammation related to it. So there's no direct component like that that I'm aware of that the microbiome produces some sort of enzyme or peptide that affects glyocalix. I think of anything it's through inflammation.

Okay, they're still going faster than I can get rid of them, but that's okay. We can do a couple more. You have a thing in four minutes?

I do. I can go just let me see. Yes, I can go about 10 minutes over just to ensure we get through enough. Okay.

The effect, oh that one got answered. Done. Oh, I missed this one. I am aware this is a practitioner question probably, but I'll throw it out there and see if it triggers any sort of thought with Quran. And if not, we can probably help you try to find a practitioner, but I'm aware this question is not necessarily concerned the gut, but can acid reflux cause to have a person? Yes, acid reflux can definitely cause a persistence or throat. It would be the thing I would think would be causing it. My son had a tonsillectomy 14 months ago at age 40, two weeks after the operation, he started having pain in the chest, which ended up having to be a bacterial, that he a bacteria that he caught during the operation finally had to have an operation where his ribs were cut open during the operation to remove the liquid in his lungs that the bacteria had created or you know, probably the inflammatory that's what happens in the body cavities when there's something that shouldn't be the body.

There's a lot of liquid there. After a month of agony, he finally returned home and two months later he started waking up to a sore throat every morning to this day, which has been a year later. He's taking medication for acid reflux, taking Megaspor. We have a webinar on two of them actually on upper GI stuff that I'll now add to the, I'm just going to link every video we've ever created, I think in this email, but the, we do have a full training.

I think it's actually a two part webinar on upper GI stuff that we did. I don't know what year anymore because time isn't real, but do you have anything that you hear in there that is a red flag or a simple low hanging fruit?

Yeah, I think he should definitely look at H. pylori as a potential issue here. You know, often H. pylori is also opportunistic in its function. If he's gone through surgeries and multiple rounds of antibiotics and all that, that could be very well a component of H. pylori causing the reflux, which can also cause the inflammation in the trachea and so on. He should also consider post nasal drip, which, which can occur at night when you're sleeping and cause you to wake up with a sore throat every morning.

Sounds like he's had lots of respiratory issues and that could be inoculation of difficult microbes in the sinus cavities, which can be causing post nasal drip throughout the day. So he may want to

consider a mucolytic. You know, you could take an OTC mucolytic like mucinex in the prescription world, or if you want to take a natural substance, it's more like the seropeptase or protease enzymes. So different types of protease enzymes have mucolytic function, which can then cut down the mucous and helps it drain better throughout the day so that it doesn't accumulate and drip out slowly at night. So, and then maybe he should consider looking at rinsing his sinuses from time to time, you know, not necessarily every day, but kind of rinse it so he gets some fluid through there and clears it out.

So I would say there's a few things to look into. It's, you know, sinus post nasal drip, looking at a mucolytic to help the sinuses drain to a certain degree. He could have easily have colonization of dysfunctional bacteria and the sinuses from the respiratory issues that he's had. He could also have H. pylori is an issue that's causing reflux and soreness in the throat. So a few things to look into.

Okay. Thank you for that. Probiotics such as Megaspore, that's a good question. Be effective in the oral microbiome example of rinse or swish, or is there another oral probiotic product that is more effective for an oral inflammation? Antibiotics were prescribed, so I'm asking for additional way to improve condition of the oral microbiome. There's a company called, what the hell is it called?

I interviewed this dentist for the summit we have coming up, Dr. Mark Burhani, who's great and he created a toothpaste that's oral microbiome friendly, and there's a company that does an oral microbiome testing. Do you know of that? Bristol. It's called Bristol. Yeah. And they have a product that they sell that's marketed as an oral probiotic. I don't know anything about it, but I'm curious about it. Do you have an answer to that question?

Yeah, I would say there's a couple things. So yes, the spores can absolutely help with the oral microbiome if you swish and you hold. And you hold, I'd say for three, four minutes, and then swallow the liquid, right? So just use water. There's a couple of the things that actually really help the oral microbiome that are very simple. One is rinsing and swishing with salt water, where you actually increase the amount of salt in the water to a point where you don't want to swallow this. This is going to be bad for your gut if you swallow it, but it's a high amount of salt where you can't actually consume it, right? So you do that a couple times a day, morning and evening, that can really help with reformatting the oral microbiome, in part because a lot of the opportunistic organisms that can overgrown the oral cavity, including fungus, really don't do well in that high salt environment. And you want to help acidify or sorry, bring up the pH a little bit, reduce the acidification in the mouth to a certain degree.

So sodium chloride can help you do that. The other thing that has probably the most amount of studies that show that it can enhance the oral microbiome is xylitol. So xylitol chewing gums, chew a xylitol gum a couple times a day, use xylitol toothpaste. The doctor, Michael Sarkovaldi, he has a friendly microbiome friend, oral microbiome friendly toothpaste. He's likely removed things like fluoride and some of the preservatives and things that are normally found in toothpaste and he's probably added xylitol in there. So I use a xylitol toothpaste from a company called Himalayan something. And to me, that's a phenomenal toothpaste.

So this is how xylitol works, right? The most predominant dysfunctional microbe in the oral microbiome, when your oral microbiome becomes dysbiotic, is an organism called strep mutans. And strep mutans is a predominant microbe that causes cavities and gingivitis and so on. Now strep mutans does really well with sugar. This is why sugar can really disrupt your teeth and gum health is because strep mutans metabolizes sugar, produces a significant amount of acid that acid can erode away your tooth enamel and your gums and so on. What strep mutans does is it actually really does a good job eating xylitol. The problem with it is that when you when it consumes xylitol, not only does it not produce the acid, it kills the strep mutans and it increases the growth of the beneficial bacteria.

So that's a very simple thing you can do. Salt rinses, swish and hold with the with the spores, get some xylitol in your toothpaste, chew some xylitol gum once or twice a day, especially after a meal, chew xylitol gum because when you when you finish a meal, you're going to have a bunch of sugar and substances on your teeth that the strep mutans will start consuming. You chew xylitol, it inhibits the growth of the strep mutans. Also the chewing action will get more saliva to kind of wash through your teeth as well. Saliva is protective for your gut for your oral microbiome.

Okay, thank you. And I put a doctor in the chat, his name is Dr. Mark Burr-Henne. He's great. The interview was fantastic. It's actually if you if you sign up, I've sent like three or four emails, you guys have probably seen them about the Beyond Functional Medicine Summit. It starts next Monday. And his interview is one of the three that you get access to right away. If you register, you don't have to wait for the event.

They picked it health means it because they thought it was good. So if you have those emails, click the link sign up for the event and you'll get the interview right away. I don't I think we talked about oral microbiome in the interview, but overall it's really good and you'll get to meet him. I should connect you guys, you would like him.

He's really smart and on the ball with all this stuff. And yes, there's no fluoride in the toothpaste. Done. Topical, the first question you mentioned a topical application for toe fungus. I didn't get the name. Can you spell it? I didn't know I don't remember what you said you like.

It's there. Probably the sip. You put the sip on there. Okay. Oh yeah. Yeah. Yeah. All right. That works really well for instead of fun goal issue.

It's in the RHD shop. We'll send links to everything in the follow up emails to this. I'm actually going to link that now because whenever we have Quran on a webinar, we discount the microbiome labs products and the civ products for you for the attendees of the webinar. So I will link them right now. There's that one. And let's get another question while I'm doing this.

I have been using interesting. This sounds like fat malabsorption. I've been using Megasport and Megapree for a long time, but I have noticed that it causes an issue where I can almost never wipe completely clean when I go to the bathroom. But if I stop Megasport, it stops.

So I've narrowed it down to the spores by stopping and starting again. Why do you think this could happen? Is there anything I could do about it? That sounds like a fat malabsorption thing, but I have no idea why that would be related.

Yeah. Are the bowels loose as well? Is that a factor in this? If that person can update? No, no. I'll give other thoughts while they're clarifying that. It could be fat malabsorption. It could be increased production of short chain fatty acids. So it may be an overproduction of short chain fatty acids. So you're getting a lot of things like butyric acid and all that coming out. And maybe it's an increase in bile production or an underutilization of bile.

That's hard to say. But I think if you could clarify, if you're also getting loose bowels as an association with it, I can't say I've heard of that before as an effect. I'm not saying that it's not, but I haven't heard of it.

So we haven't investigated that. I wonder if using a digestive enzyme with a light pace may help, because it may help break down the fats, make it easier to absorb fatty acids, free fatty acids if there is a fat malabsorption issue. It may be a lot of short chain fatty acids I can mention. So there may be a lot of butyric acids and so on coming out as well. But to see if we can clarify, I don't know if that person wrote back about whether or not it's loose bowels or associated with it.

Okay, they haven't yet, I don't think so. No bowels are not loose and does not happen if not taking Megaspar. So I am stumped by that. It's been almost 10 years and like thousands of people that I've not heard that one yet.

Yeah, I haven't either. So it's hard to say what that is. If there's no other effects like you're not seeing any cramping, bloating, weight gain, anything else that's negative. It may be just a unique artifact for your bowel system, but it may not be bad outside of the annoyance of the amount of cleaning one has to do. It doesn't indicate a bad thing to me necessarily.

Okay. All right, I know we got to go in a minute. I put the links to the SIVS serum and the microbiome labs shop on the chat. There's a code there. We like to have rewards for everybody who attends live and brings us all these fantastic questions. So check that out there in the chat. Oh, good.

This is fast and easy. The instructions for SIVS say to avoid contact with the eyes and nose, will you please elaborate on the possible complications? I want the positive benefits of SIVS for my under eye area, but I wonder what the possible negative implications could be. And I would guess if you just literally don't put it in your eyeball, it will be fine. But yeah, was that the idea?

It's just a precautionary measure. And part of it is because we haven't tested it as an eye drop. And so when you work with labeling and you work with lawyers, they always tell you to put certain warnings because people will do things that you don't expect. And you can absolutely rub it all around your face, including your under eyes. Certainly don't drop it into your eyeball itself.

Even if you did that, I don't know if there would be any real issue. It's just we haven't tested it for the eyes. There are very specific studies that you have to do to test something for eyes. And we have not done that because we have no interest in making this an eye treatment product. So for that reason, we have to put that caution.

Okay. There are a few more, but we're out of time. So there are five questions here. I will copy them. And then I'll see what I can do.

We try to do one minute per question.

Do quick five minutes. Yeah, yeah, yeah, I'll try it. For people of COVID, do you find that it continues to affect the microbiome over time? And if so, what would be important to achieve better balance? That is a long, not one minute answer. There are entire institutes now going after long COVID and how to rebalance. So I don't know if you've seen a one needle mover or one thing or one, but it's a very, very, they're going to be entire departments in medical schools that teach about long COVID.

So I would say there is and it's especially for people that were particularly susceptible to COVID to begin with, which means you had high pathobioids, you had high amounts of pathogens in your gut microbiome. So there's a mapping of the microbiome that's associated with long COVID and long term implications of COVID in the gut. I would follow the work of Dr. Robin Rose, who's an integrative gastroenterologist. She's done a phenomenal job on really looking at spike protein and all the impact that it has in the body. But the short answer is yes, it can have long term effects on the gut. Okay.

Robin Rose, Dr. Robin Rose was the name. I should interview her.

She's phenomenal. Yeah, you'll like her. That's going to be a topic for the next forever. So any additional things might add additionally to the phyto serum, seromids? Pheromides when the liver and gallbladder have stalled and the skin is now presenting with chunk and scalp hotspots similarly to a lupus response. Yeah.

So okay, so the liver is very important in utilization of phyto ceramides, right? So I would continue to take it, provide support to the liver with things like milk, the soul, and so on and bile, bile support may be important as well. But if you're not getting all the utilization of phyto ceramides through the digestive tract, you can also look at utilizing topical seromides. So that's the brand Serovie. That's a lotions product with topical ceramides or synthetic ceramides, which can be useful. They have tons of studies on the use of the product in that manner. There are also some seaweed products.

So if you look at, if you Google topical seaweeds or skin moisture, there are some natural, seramide enhancing topical products that come from like red seaweed and so on that could be very, very beneficial as well. And of course, you have to balance the skin microbiome. So I would absolutely use the sieve in those areas or throughout the body. I use sieve throughout the body by taking my lotion and then I put three or four drops on the lotion and mix it up and I use it all over. So that could be important as well because microbes play a big role in the maintenance of the seramide layer.

Okay, perfect. We're going to get there. One of the questions is about SIBO. We have an entire webinar training on SIBO. Actually, it might be two parts also. That one was really detailed and really good. And we have an article. So put that in the video webinar replay for email for this. Sorry, words are tough for me right now.

I'm like jet lagged, but I didn't jump time zone. So I have no idea. Yes, we'll send that out. Recommendation for, can you see the Q &A? I don't know how to read that word.

I don't have it open now. What is it? Okay. Recommendations. Is there a recommendation for Perigo nodularis?

I would say an IUD could definitely contribute to the flares of anything, but I don't know what that condition is.

Yeah, if I'm not mistaken, I'm not that familiar with the condition either, but I would guess just from the term that these are nodules on the skin.

I just googled it and I got you an answer, but it's in Italian. Oh, what does it mean? Anyway, a condition chronic debilitating the skin character. I'm translating characterized by cutaneous nodules, things on the body are associated with intense discomfort. Yeah, that's the best I can do. That's as far as I've gotten the medical terms in Italian are a little past my grade level.

So, okay, if there's huge nodules on the skin, or in the case of acne, they're called comatones, right? And they are, they fill with pus, which means that their immune activity and all that, then often the skin microbiome plays some role in either stimulating the immune response that can lead to the development of the nodule, like in the case of acne, the microbiome plays a role there, or the alleviation of the nodule. So, I can't say that we have any data or any experience with that particular condition with Civ or any other treatment from a skin microbiome perspective, but there certainly will be no harm in trying it. Does a gut microbiome impact it? I'm not sure. I don't have any reason or research to believe that there's a direct connection there either. Okay.

Yeah, and I did good. It says nodulars on the skin cause from itching. I don't know the word for itching. So, if that would have been on there, I missed it. That was pretty good. That was a tough translation. That was not like I'm going to be distorted by apples. So, I'm impressed.

Like most of the lessons are. And then last thing, constipation and piloguard. There was a question about diarrhea and piloguard. I would guess anything that is doing something can cause a movement in one way or another. Yeah. Yeah.

So, in fact, some of the latest studies are that constipation and diarrhea are kind of the same mechanism, right? And it depends on certain nuances in an individual's gut where it becomes loose stool or constipation, but the mechanisms that cause both are the same. So, it's about changes that's happening in your gut microbiome. So, I would say, if you can bear with it, stick through it because it's important to get rid of *H. pylori*. If you can't, then maybe slow down on it and then use things like prokinetics and use more spores, use more fiber to try to move the bowels better.

Perfect. Q and A, number zero. It's like getting inbox zero. That's quite an accomplishment. Thank you for all the awesome questions. That was a lot of questions. So, thank you, Kuran, for sharing so much and for staying a little over. Everybody, I put the links to the microbiome lab shop and to the civ serum in the chat. And the code there is 15% off those products.

Kuran, 15 biome. The links are there. The code is everything will be going out in an email along with video links of every video ever with a little description of what's in them.

If you want to do some follow up watching and learning, that will be helpful, I think. So, thanks, everyone. Thanks, Kuran. Thank you, everyone. You can take off. I know you got another thing.

Okay. Appreciate it, everyone. Thank you for the awesome questions. Thank you. Thanks, Michael. Yep. Thanks, everybody. Those questions were great. And I was doing my best. I'm a little zoned out today. So, they're great.

We have another Q &A next week on I have no idea which day I have not gotten back to work yet after being gone 10 days at a very intense thing. So, next week, we have a Q &A with Steve Wright, who is the founder of Healthy Gut. He comes on a lot with us. He's great. Can also answer a lot of digestive problem questions. Might be different answers than Kuran.

Probably pretty, they're usually pretty on point, pretty similar. But gut digestive issues, digestive symptoms, they also produce a great magnesium product. Now they have the B serine, which is for stress and anxiety. And that is great as well. He can answer questions on that. They have digestive enzymes, HCl, AIDS. So, some of the things that we're asked about today about SIBO and other conditions, his product line at Healthy Gut, whereas microbiome labs is fantastic for microbiome balance and microbiome diversity and all of this. Healthy Gut products are direct digestive support. So, enzymes, HCl, the butyrate for the large intestine.

There's a holoimmune, which is a paraprobiotic, which is really cool and interesting. So, Steve's products are awesome too. And he produces, like he drops so much knowledge in our webinars. And we have a lot of fun. The last time I got three emails and messages from people who attended saying Steve and I should host a podcast together. So, we're actually talking about doing that.

And we'll, we'll let you know because we enjoy hanging out and chatting. So, thank you, everyone. Thanks, Joanne. I did my best.

I saw this on my calendar this morning and wrote, remembered that we had it and was like, oh no, I need to get my act together. So, hit up a little espresso and got my brain straight. And I think it went well.

Luckily, he does most of the heavy lifting. Thank you, everyone. Thank you, Mary Ann, for jumping in a million times to help us out. And I'm glad everybody got the information they needed. And he actually got the Q &A to zero.

I don't think that's ever happened with Kieran before. I think we have always had to like email him questions and stuff. So, fantastic.

We will see you next week on Wednesday. You haven't gotten an email about this yet. So, don't freak out. But it's Wednesday at this same time, which is a different time for me than it normally would be because your time changed a week and a half ago.

And my time changes on the 31st because humans can't figure out time change and change them at the same times, which makes my scheduling life super fun. All right. Thank you, Elise, Rachel, Kathleen, Joanne, Donna, Jezzal Rosa. I don't want to mispronounce that. Another Elizabeth, Kathleen, Kristen, thank you so much. We'll see everybody next week on Wednesday with Steve. Have a good rest of your day.