**Base Hits 2021 Session Two: Autonomic Balance and the Brain**
**Week Three: Fatigue with Dr. Tom Transcript**

Dr. Tom O'Bryan:

I'll tell you a story that just happened today, I received an email that an article I've been working on for almost two years was accepted by the *International Journal of Celiac Research*. And that's a big deal. MA, let's put the link to the article. It was in the announcement I sent out to the entire team today.

Mary Agnes:

You got it Dr. Tom. Will do.

Dr. Tom O'Bryan:

... in there. This was a 16 year old boy who had been diagnosed with Celiac disease. And he had a failure to thrive, he was 4'8 and 92 pounds. Or it might have been 88. I don't know. Not great at all. A failure to thrive is a fairly common about 20% of the children diagnosed with Celiac disease, have a failure to thrive, meaning they're the smallest kids in the class. And it doesn't mean that just your bones and your muscles are not developing, it's a failure to thrive because your thyroid doesn't develop properly for your age, your adrenals don't develop properly for your age, your kidneys, your nerves don't develop properly for your age. And this boy his bone growth said that he actually had developed... He was two and a half years behind his biological age. He was 16, but he was 13 and a half in terms of how much his bones had grown.

And by extension for that we know that means all the other organs. It's a failure to thrive. The parents had taken him to his pediatrician to an internist, to a pediatric endocrinologist, to a pediatric gastroenterologist who then sent him to the University of Maryland Celiac Research Center. And they didn't help and so the parents took him to the University of Chicago, Celiac Research Center. So, two of the top institutions in the world with the top of the line researchers looking at Celiac disease. And everyone said, well, you must be getting gluten. And his mother was adamant that they were meticulous, they bought new pots and pans, and all new silverware after the diagnosis. And when they travel, they brought their silverware and their pots and pans with them. If they do an Airbnb or something, they didn't use any of the equipment, they brought their own toaster. They were very, very conscious. One of the markers for Celiac disease is an enzyme called transglutaminase.

And if that enzyme gets elevated, it's a pretty good indicator you've probably got Celiac. But for those people that don't respond to a wheat free diet, a gluten free diet, their transglutaminase is high, they are danger. Because the environment in the gut, if you have elevated transglutaminase it creates a very inviting environment to develop lymphoma. And it's a nasty lymphoma. If you're elevated at all. Well, this boy wasn't double outside the range. He wasn't triple outside the range. He wasn't five times outside the range. He was 15 times outside the range. It's supposed to be less than three, he was somewhere over 150. The lab didn't measure any higher than 150. And all they could say was greater than 150. So, 150 is 15 times above the limit.

So, he had sky high tissue transglutaminase, the enzyme that's usually suggestive of Celiac disease, but they were completely gluten free. And he had bad fatigue with this. He worked really hard and he did okay in school, but he wanted to be a wrestler and all of that. And we just published the study. I had two journals turn me down because the article is 55 pages long. And medical journals don't publish 55 page articles. That's the whole journal, right? And they said, a great article, please reduce the word count. So I sent the message to both of the editors and said, "What words would you have me take out?" I was like taking a play off of Amadeus. If you've not seen the movie Amadeus, it's about Mozart's life. And it's really a great movie. And he wrote this piece for an emperor or someone.

And the Emperor listened to it and said, and some of his support people, the emperor didn't like Mozart. The Emperor said, "Oh, it's wonderful but what do you think, court master?" And the guy said, "Sire, too many notes?" "Yes, just too many notes." And the Mozart said, "What notes would you have me take out, Sire?" And there was just silence in the room. This article was two years in the making, and there was no extra language in there. And I refused to eliminate some of the very important concepts. I submitted to the International Journal of Celiac research, and they said, "Oh, absolutely. This is incredible." It was published today. It's available online. It's no charge. It'll be a little geeky, but you might want to read it, to understand that when people think they know what the trigger is, because it's obvious, and your protocols don't work, you're missing something. And so for everyone in who's working hard on being healthy, we're missing something.

And you're probably better than you were when you started. But you're asking, what's the question here? What am I missing? So I'm just going to go through some basic things tonight about fatigue, and what we might be missing. So one of the things that... We have a program called Inner Circle, and those people have some serious health concern, and they know they're missing something, and they've gone through a lot of protocols. And so they're ready to do a deep dive with us. And so they do some tests. There's some introductory test, we have them do, they have a session or two with Michelle Ross, our Director of Clinical Services, and then they have a session with me. And the idea is to put them on the right track of where you need to go. Because these people have been to five doctors already. And it's, "Okay, great. You qualified, come on in." Let's do a Sherlock Holmes here see if we can help.

And I had a consult with a person on what's today? Today's Wednesday was it Monday? I think it was Monday, just this last Monday. And yeah, it was Monday. And within, five to seven minutes, it was obvious where a door that hadn't been really opened, needed to be opened. And she really wants to be healthy. She really does. And she declares that, "I know, I've got to peel away the layers of the onion." And I know there's something and I pointed out that it looks like this is an emotional or a spiritual energy that's blocking. You've heard me talk about emergency brakes. And you're backing out of the driveway and say what's wrong with this car, it's not moving the way that it should, oh, the emergency brake. And you let the emergency break down And then you back out great, right?

What are the emergency breaks in someone's life, that's not allowing them to get the results they're looking for with all the good effort they're putting out. So for this person, I made a reference within five to 10 minutes, something like that. And she just started crying. Tears in her eyes right away. And she said, "I know, I know. I've been seeing a therapist for 17 years, and I've come so far. I know I've come so far." And she had. She really had a better understanding of what they had ascertained where the issues that had come up earlier in life. And she's made a lot of headway. But a little something, a little something. I said, "I'm going to go out on a limb here, and I'm going to sound a little weird." But we know that the microbiome holds a lot of the hormones and the chemicals that produce when you have stressful events in your life.

And if you can't really metabolize that stressful event, let's say you're eight years old, and someone scares the heck out of you. You can't deal with that, and there's a panic, and the stress hormones that are produced. The more stress hormones that are produced, the more pathogenic bacteria are fed in your gut. And so you develop more bacteria that thrive on stress hormones. And every time something comes up that may be similar in any way at all, to what you experienced as an eight year old, even remotely similar, those stress hormones get produced right away, right. And mothers pass the microbiome on to the children, that we know the baby in utero is already developing their own microbiome, and that's coming directly from mom and mom's history. There is no other influence in terms of the microbiome. I suspect there's an energy that comes from father, little signal to this.

Children born of celiac mothers weigh 222 grams less than the national average, that's substantial. Children born of celiac father's not mothers, but celiac father's weigh 266 grams, less than the national average. So father's history coming through the sperm has an impact on baby's development. So my suspicion was this person was carrying some old energy that had come through the microbiome. She probably inherited some of this stress, and these bacteria that feed on stress. And so the recommendation was, well, there were a number of recommendations but the big one was to see a hypnotherapist, someone who can take you outside of your head, where you feel safe and relaxed. And it just felt so grateful because it just make sense. And this is the person that Marzi used. And now she's a personal friend of ours. And she's in Ireland.

She's out in the country in Ireland, I call her a white witch. That she is about doing good in the world, but you don't mess with these witches, you just don't. So my recommendation, the primary recommendation was to continue dealing with the food sensitivities and the chemical toxicities that we identified in the testing, but also put a lot of attention into, have a session with Martina Finnerty. Have a session with her. And just see, see if it feels right to you. And I'm pretty sure it will because I think this person is carrying an ancestral baggage. And we all carry ancestral baggage. I told her my story. My family came from Ireland in 1757. And they settled in Maryland. They fought in the American Revolution. As a reward for fighting in the American Revolution, they were given land in the wilderness, which was Kentucky.

And so they had two [inaudible 00:13:45], the wagon, horse-pulled wagons with the whites tarps and all that. And it took them over two years to get from Maryland to Kentucky, because there's no roads, there are no roads. And how do you go over the mountains? How do you cross the rivers? How do you get through the trees, there's no roads. So took them over two years. And so somewhere around the late 1700s, early 1800s, and I've got that data somewhere. My family settled in Kentucky. So we have a hillbilly heritage in our family. And I think some of those people were not so nice. And I've done a lot of work and uncovered some of what I think I call it the shadow, that ancestral baggage that you might carry. Really startled me some of the things that when I'm in a relaxed state that just came out, and I'm just, what? And okay, well bless it and send it on its way.

I'm bringing this up because if you've read my book, *You Can Fix Your Brain*. If you haven't, I recommend you do. But I talk about the pyramid. And that there are four sides to a pyramid, people think there are three sides to a pyramid. No, there's four. If you look at a pyramid, there's three sides to it, yes, but there's also a base. And the base is the structure. And that's the home of chiropractic and massage and orthotics in your shoes and the pillows you sleep on it, where's your car seat. If your car seat's leaning way back, and you drive like this, I'm exaggerating, but you develop a posture like this. And you get all kinds of neck problems. This is where the nerves come out to the thyroid and to your heart, you can have arrhythmias that are just a mechanical problem. And I've fixed many of those over the years, that were mechanical problems for heart arrhythmias, as an example.

So that's the base. And then of the three sides. One side is the biochemistry. One side is the emotional or spiritual and one side is electromagnetic. And you have to look at all four sides of the pyramid of health when you're dealing with a health issue that has not responded to the protocols, you think we're going to work. Critically important concept, all four sides. And so, for this woman, I believe that we're going to see a catapulting of her sense of well-being in the next six months. And I said, I look forward to talking to you in six months, or hearing from my team that works with you on all the day to day of the nutrition and the diet and all that. I look forward to hearing how it's going for you. Because I'll be very surprised if you don't make catapulting leaps in terms of your sense of well-being. And she got it and it just made sense.

I'm sharing that with you because... and I'm sharing with you the article that was just published today, because everyone missed for this 16-year-old boy, what the problem was. Yes, he was a Celiac, but he was squeaky clean, gluten-free. And it was like for polysaccharides that had accumulated in his body over a number of years. And we'll talk more about, well, polysaccharides in one of the future base hits. I'm not sure which one it's in, but we'll talk about it there, LPS. So it's not the stress, but how your body reacts and responds to the stress. There's a difference between reacting and responding. And it's a big difference. A reaction is a knee jerk response, a knee jerk, you react right away, you react. And I'm exaggerating for visual understanding.

Whereas a response is a conscious choice of how to interact with the stress that comes in. Do you react to stress? Or do you respond to stress? That's a really important question when you're thinking about fatigue, because something has drained your batteries. And we have to find out where is the drain on your batteries? And for so many people that have fatigue, whether it's chronic fatigue, or whether it's categorized as chronic fatigue, or fibromyalgia, for so many people. There are the day to day events of life. And if you honestly for yourself, you don't have to tell anybody, but in the majority of the time, do you react? Or do you respond.

And if you react, if that's the majority of the time, really important that you recognize that and that you begin a protocol to calm down your mind? Well, I'm calm, I'm calm. But when he says that to me, blah, blah, blah, yadda, yadda, yadda, yadda. That if you're reacting to a stress, that activates your stress response, fight, flight or fright, it's an automatic thing. And all of the trickle down that occurs from that we've already talked about the autonomic nervous system and about parasympathetic dominance and sympathetic depletion. If you react more often than you respond, then it's critically important that you allocate this much time on a long term basis, to learning how to calm down your inner self so that when a stress comes at you, you can look at that stress a little more clearly and not react and you can respond.

Whether it's your 13 year old daughter, your jerk of a spouse, somebody at work, somebody cuts you off in traffic, whatever it is. And how do you develop the skill set to respond instead of react? There are many, many things that work. But the more conscious you are of the moment you are in, what does he mean by that? Meaning when you're talking to somebody, are you really with them talking to them? Are you thinking about dinner? Or are you thinking about, well, I don't really believe what he's saying, yadda, yadda, yadda. Where are you present in the moment to interact with that person? Or to interact with driving? Are you present in the moment of driving in rush hour traffic? Do you have nice Mozart in the background or whatever you like that just keeps you calm? You know all right it's going to take me a little longer tonight, it's rush hour. So I'm just going to relax here and focus on my breathing or whatever, your technique is.

What prayer does this, meditation does this, mindful walking does this. There are many, many ways to come to presence, to come to another term might be authenticity in the moment that you're in. This is a critically important concept that only you can answer for yourself. Do I react? Or do I respond to stress? And then notice when it, well, I respond. And everybody wants to say they respond? Really? Yeah, I

respond. So when your teenage son does this, you respond, yeah, I respond. Check your pulse. Has your pulse gone up? Boom, boom, boom, boom, boom. That's a reaction response. That that's a fight or flight response.

A little introspection, when we're done with this tonight, over the next couple days for you, and just observe, when a stressful thing happens, do you react or you do you respond, and it's not black and white, sometimes you respond, but then something will catch you and you'll react. That developing the skill set to be more present in your moments, whatever they are, will reduce the amount of stress hormones that are produced, that reduces the amount of feeding of the bacteria that generates more anxiety, more stress, and just depletes you, just wears you out. Let's just keep that one in mind. Okay. It's not the stress, it's how you respond to the stress that makes the difference, right? I love this picture, the cat just tails up kind of prancing over. And that's a response to stress, hoping that the trainer who's keeping all those dogs in check are keeping them in check.

Now, I have to remind you, because it's so easy to forget that we have to understand how and why we've gotten to where we are if we want to arrest and reverse dis ease, so disease. And you may not be diagnosed with a disease right now. But do you have dis ease? Are you not easing along, just flowing along? And we talked about Professor Fasano and all of his credentials, and this paper he wrote last year, all disease begins in the leaky gut. When people ask me, how do you treat fatigue? Or how do you treat hypothyroid, or autoimmune thyroid? How do you treat rheumatoid? The first thing we all should say to ourselves, as we're exploring what avenues of action we're going to take, the first thing is all disease begins in the leaky gut.

Well, fatigue isn't a disease. Yes, it is. It's a dis ease. All dis ease begins in the leaky gut. And so you have to keep in mind this concept and put this much attention, perhaps maybe more to explore the current balance or imbalance in your gut, and what are you going to do about it? So Professor Fasano talked about the perfect storm. That there are five factors or five pillars in the development of the perfect storm that sets us up for fatigue. Fatigue doesn't happen overnight. It's a constant draining that occurs. And those five factors first is genetics and you've heard me say you can't do anything about that, it's a deck of cards you were dealt, that's okay, no problem.

Next are the environmental triggers. Now remember, your genes don't turn on and off. Your genes operate on dimmer switches. And the goal is to turn up the genes of anti-inflammation, growing, rebuilding healthier younger cells than what you currently have. So ramping up those genes and dimming down the genes of inflammation. Inflammation is not bad for you, excessive inflammation is bad for you. And it's the environmental triggers that has their hands on the dimmer switches. How your genes express themselves is determined by the environmental triggers around you. And I don't mean just today, I mean, what's accumulated in your body over generations. Why is it that post-menopausal women get osteoporosis so easily? Why? Well, it's because they're not making estrogen anymore, and most of them are fatigued, so their adrenals are not taking over for the ovaries making 1/10th the estrogen they're supposed to. So they have an estrogen insufficiency. And when you have an estrogen insufficiency, you don't make new bone very well. And so you lose bone, bone breaks down.

And most people have accumulated lead in their bodies over 40, 50, 60 years, just minor amounts, you never know. But it accumulates for so many people who can't detox and get it out. And where does it accumulate? In your bones. So postmenopausal women, many of them are estrogen deficient, because the adrenals didn't kick in the way they're supposed to and they're losing bone, losing bone, and their bones got lead and so their blood lead levels are going up, and they're getting osteoporosis from it. And the blood lead levels get into the brain and accelerate the loss of cognitive thinking and accelerate dementia. If you look at the numbers of what percentage of women in their mid 40s get dementia, what about the late 40s? What about the early 50s? What about the mid 50s?

What about the late 50s? You see from the 30s to the mid 30s, late 30s, 40s, early 40s, mid 40s, late 40s. You see it's going along, yeah, a few more, a few more, a few more then right around the perimenopausal years, it goes like this. Why? Because lead's coming out of the bones for so many women. So, environmental triggers. The lead in the bloodstream is an environmental trigger. It's not just what's outside of you, it's also what's inside of you. Stress hormones are environmental triggers, that I talked about earlier with the microbiome. They're environmental triggers. Environmental triggers, ramp up your genes, or calm down your genes. It just depends on which environmental triggers you're being exposed to, and which genes you're talking about. That's why the science says over 70% of the diseases we get are because of your environmental triggers, not the genes. There are a few diseases you got the gene, well, it's a big problem, and you're likely going to have that disease.

But that's not true for Alzheimer's, the APOE4 gene, because not everybody with APOE4 gets it, gets Alzheimer's. That's not true for breast cancer with the BRCA1 gene because not everyone with BRCA1 gene gets it many do. But it's because of the environmental triggers ramping those genes up. So, five pillars I'm talking about with Fasano. We always want to remember this with any health discussion we're having. So the environmental triggers alter the microbiome. And as you know, the microbiome has its hands on the steering wheel of how your body runs. For every one message from the brain going down telling the gut what to do, there are nine messages in the gut going up telling the brain what to do. The gut has its hands on the steering wheel of how our body is running.

And so when you get an altered microbiome, you've turned your steering wheel five degrees. And if you're on a highway, you turn the steering wheel five degrees 100 yards down... you're off the road. Right? And that's what happened. We're off the road. We're making too many of the wrong nerve hormones called neural transmitters, and yeah, you get depression sometimes, yeah. Or yeah, I get anxiety sometimes because you're off the road. Because depression and anxiety and schizophrenia and bipolar these are responses to the nerve hormones, neurotransmitters that create the environment of how your brain's functioning. Make more of the wrong neurotransmitters, you're off the road now you got depression.

Okay, so that's number three, the altered microbiome. Number four, the altered microbiome creates leaky gut, intestinal permeability. And the leaky gut allows these big molecules to get through into the bloodstream. And then your immune system trying to protect you fights those molecules. And number five is a systemic immune response. And the immune system trying to fight those molecules, creating all this inflammation, if you got the APOE4 gene for Alzheimer's here comes more brain inflammation, and killing off cells, killing off cells, killing off cells over decades. We know Alzheimer's is a decades long disease, decades. It doesn't happen overnight. So there's one concept that becomes the foundational paradigm you look through for all chronic inflammatory diseases. This is it. I always want to remind you of this because in your future, as your son gets diagnosed with something or your spouse gets diagnosed from something you're going to be scared, you say, "Oh, my God, what do I take for that? What do I take for that?" But that's the stress response, that's reacting to the diagnosis.

When you respond to the diagnosis, you will say, "Okay, how do we help relieve the symptoms? And where is this coming from?" And then you go back to the five pillars, and you start looking and exploring that. This is an ongoing educational experience for you. And my books can walk you through so much of this, the auto immune fix, and you can fix your brain. So those five factors. Although there are likely dozens of environmental triggers that contribute to your specific inflammatory state, what's the big Kahunas? Well, Professor Fasano told us the two most powerful triggers creating this intestinal permeability is gluten and LPS. And this occurs in everybody, in all of us. I'm sorry, this slide tells us that everyone has that reaction to wheat, every human... let me backup, every human has that reaction to wheat and it happens in all individuals where it creates leaky gut and inflammation in the gut. Because it activates that century standing guard, we've talked about this before, toll like receptor.

You don't need to remember that. Just that there's a century standing guard in the gut and any gluten that comes out of the stomach into the intestine, then the century gets activated right away, here comes leaky gut, here comes inflammation in the gut. You have to break down any inadvertent exposures to wheat before it gets out of the stomach. That's why we have the E3 Advanced Plus, and Wheat Rescue, and Mary Agnes will put the links in for those for both of them. Now, here's Fasano's paper, gluten is misinterpreted by the zonulin pathway, meaning the leaky gut pathway as a potential harmful component of a bug. And this occurs in everyone. So you can't have any inadvertent exposures to wheat getting out of the stomach because it activates this whole pathway right away, right away. So it makes sense that before you begin spending 1000s of dollars on different lines of exploration to find out and well thought out lines of explanation, or exploration for environmental triggers.

Let's see, is it bacteria? Is it viruses? Is it foods? What food test should I do? They're well thought out questions, it makes sense that the first thing you do is you check for the big kahuna, gluten and LPS. And that is the test called the Wheat Zoomer. Everyone should do the Wheat Zoomer to see. Do I have leaky gut right now? Do I have LPS antibodies in my bloodstream fighting LPS way more than they should be? And is my body fighting gluten? Because they're the big Kahunas? They're the top dogs that cause so many of these problems. There are many others some people corn, some people dairy, many others that can be draining you draining your body's energy. But these are the big kahuna that you start with.

I'm going to do a couple more slides than I'll go to the questions. Let's see, where is it? There we go. I thought that I just throw this one in here for you. Several studies have shown that domestic water supplies can be a source of opportunistic infectious agents, and household plumbing accumulates numerous microorganisms. Look at the title of this paper, molecular analysis of shower curtain biofilms, the bugs, the microbes in the biofilm that's on shower curtains. Not just mold but it certainly including mold that's on shower curtains. Shower curtains are a potential source of opportunistic pathogens associated with biofilm. Now what's biofilm? Biofilm is like a hard plastic that these bugs start producing. They put a little drop, the next bug puts a little drop, next bug quiz a little drop, and you get this film covering the bugs. It acts like a forcefield on Star Trek. That no lasers can get through the forcefield, no antibiotics can get through the biofilm. Because if these bacteria have been producing biofilm for a long time in your body, the antibiotics don't work.

That's one of the big culprits for the antibiotic resistant bacteria is there's biofilm and they built up resistance to most anything you can do. So shower curtains are a common source of opportunistic pathogens, bacteria that will live in the shower curtains, especially these plastic shower curtains. I thought I had another slide there, but it's not there. Let me see if it's going to pop up here. Nope, I guess the other slide's not there. So I'm just going to back up for a moment. I like this one. We have a whole lot of discussion about this one. But I'm going to stay in the shower curtain for a minute because you may have heard me talk before about shower heads. I thought I put the slides in here for shower heads and maybe they'll come up down the road.

We're going to put the link here for the handout or we'll put the document here that you can download Mary Agnes will find it. And how to clean your shower heads. Because it's a big problem that people don't know. So you take a shower, and you turn it off, the water has come up, to the shower head, but now you've turned it off. You know how when you turn the shower on the next day or something, you turn it on hot but the water's cold at first and it takes a few seconds before the hot water comes up is because all the water in the pipe that's been sitting there is the temperature of the pipe now and the environment in the house. Right? Well that water that's sitting there, it comes up and it sits in the shower head and it doesn't drip because the pressure is not that great, but it sits up in there.

And so much of our domestic water supply, city water is loaded with bad bacteria and hormones and lots of other things. You may have heard some of that before. But the bacteria starts producing this little

drops of mucus and it forms this biofilm that protects the bacteria and it just grows in the shower head. Then you get in the shower, you turn on the shower, you get blasted, blasted, with literally millions of opportunistic, pathogenic bacteria that had been developing in the shower head. It's a problem. And I don't know why the slide's not there because the slides talked about that, but it's a huge problem.

So everyone needs to clean their shower heads, especially for those that have ear infections, sinus infections, throat infections, eye vision problems, cognitive decline, brain problems, because you're breathing this stuff that goes right up your nose, the steam and all of it. You may be being exposed to millions of pathogenic bacteria. So just clean your shower heads every six months. Not hard to do. You get some vinegar, it has to be a more powerful vinegar than stuff you buy in the store. That's 6% and that's really weak. But it's cheap, it's inexpensive. The handout will talk about... you can get it on Amazon, it's inexpensive and you just soak your shower head in it overnight. Take the shower head off with a wrench it's really easy to do, put it in a Ziploc bag, pour in the vinegar so that it fills the shower head. Let it sit there overnight in the sink in the Ziploc bag.

And in the morning, you just take it out in the sink, so you just pour the vinegar down the drain, and you rinse it off and then just put it back up with a wrench. It's not hard to do. You're good for six months, you've blown out. Oh, by the way, don't get in the shower when you first turn it on after that because you've destroyed the biofilm, so there's going to be a whole lot of bacteria that's going to come out in that water. So just reach in there and turn on the water and get out of there, so that you don't get wet for about 30 seconds, just run the water, run the shower, and do that every six months or so. It makes quite a difference. I'm going to stop sharing my screen here now and go to some of the questions. So let me scroll up to the top. Okay. Oh, good. I see Mary Agnes put the article in there. Great. Thanks, MA. Connie says I cannot get in with sound.

Connie if you're hearing me... but no, I guess you're not hearing me. Mary Agnes will send you a message to shut down your computer, reboot it and sometimes that's what it takes. Can you type her name here the hypnotherapist? Finnerty. Finnerty. Finnerty, F-I-N-N-E-R-T-Y, Finnerty. Martina Finnerty. And her email is... Well, actually her website is martinafinnerty.com M-A-R-T-I-N-A F-I-N-N-E-R-T-Y, martinafinnerty.com. You'll find her there. And she's quite wonderful. Okay, another question about Martina's name. MA did you get it? We got it. Can you spell the name? Okay, we got that. Hello, in the beginning of the last session I made questions at the Q&A box here and Zoom, but were never seen. I will try again. Even though this last week's theme. Thank you.

I got them in the spreadsheet for you, Dr. Tom. All of these questions are in the spreadsheet.

Dr. Tom O’Bryan:

Okay, I'll go to the spreadsheet. Thank you.

Mary Agnes:

Sure.

Dr. Tom O’Bryan:

I see it. What was the white witch's name? Okay, well, we got that. I think Martina is about to meet a bunch of people, which is great. She's a wonderful person. You'll like her right away. Let's see. Can glycine help to heal leaky gut? Yes. Is there a way to measure our glycine level, perhaps by gut Zoomer? I don't know if that measures glycine. I don't know. Are you just coming in? Give them to me. We have a guest here, a visitor that's coming. Come to me. Look here. Look here. Say hi. Oh, I smell a poopy diaper.

Mary Agnes:

Oh, hello, Gill.

Dr. Tom O'Bryan:

Yeah, I'm in the middle of something right now.

Marzi:

There was thousands of ants in the bedroom. I mean thousands.

Dr. Tom O'Bryan:

Okay.

Marzi:

I don't even know what to do. I can't stay there.

Dr. Tom O'Bryan:

Stay here. Okay. We've been gone for seven days. And Marzi says there's thousands ants in the bedroom. It has to wait till I'm done.

Marzi:

And there no lights in the bedroom.

Dr. Tom O'Bryan:

No light?

Marcy:

No. Do you want to see it?

Dr. Tom O'Bryan:

Okay, it has to wait till I'm done. Okay? Okay. That's a little nerve wracking.

Mary Agnes:

Dr. Tom, the only test that I have found doing a little bit of a search on glycine testing is from LabCorp. It's an amino acid profile Glycine Encephalopathy, Plasma and Cerebrospinal fluid.

Dr. Tom O'Bryan:

Oh, thank you. Thank you for that. You certainly can do urine amino acid tests. Genova has that it might be on our website. I'm not sure if it is, but the lab is Genova. And it's a urine amino acid test. We can certainly measure it that way. But I don't know about it being in the gut. I don't think so. Can we increase our glycine levels by eating lots of collagen like bone broth, collagen powder, L-glutamine powder? They contain glycine. Yep. But be careful in thinking that there's only one... not only, but that one nutrient is going to heal leaky gut. The way you heal a leaky gut permanent... No, actually nothing's permanent because depends on your lifestyle to get it back or not, is by rebuilding your microbiome. You certainly can use the nutrients that support healthy intestinal lining, and we'll turn on the genes to

heal damaged guts glycine will do that. Glutamine is most famous for that. We have a product called GS Support Packs I put together that has 22 different nutrients in it all designed to heal leaky gut.

Don't get caught with just taking one thing and because you read one paper or two papers on it. There are many, many. The most famous thing to help heal leaky gut is glutamine. And I don't know, hundreds of studies on that one. Glycine is of value great value, especially if you have a glycine insufficiency. Would you please address the role of daily fluoride intake and causing chronic fatigue irritable bowel problems, brain fog and thyroid suppression and measures in addition to the obvious need for avoiding from artificially fluoridated tap water and fluoridated dental products that can help the body recover from chronic fluoride toxicity? Okay. Yeah, there's no question fluoride binds on to the receptor sites. There are only two substances that I know of that have receptor sites on every cell of your body.

And that is thyroid hormone, and vitamin D. Because every cell of your body needs thyroid hormone and vitamin D. That's another one of those things you need to test is your vitamin D level. That's a simple pinprick. Mary Agnes, we'll put the link in here for that. Everyone should do a vitamin D test, especially with this virus that we've got now that we're so concerned about. So vitamin D, and thyroid. There are three chemicals that bind on to thyroid receptor sites. So the thyroid hormone can't get into the cell. A receptor site is like a Catcher's Mitts and the pitcher throws the ball to the catcher. And when thyroid hormone goes into a thyroid receptor site, it unlocks the door, it turns the door handle, so thyroid hormone can go inside the cell. But there are three chemicals that inhibit thyroid hormone from getting into the Catcher's Mitts.

So, it can't open the door to the cell. And that is chlorine, fluoride, and bromine. And any exposure to those three substances can have an impact on whether thyroid hormone, you may be making plenty of thyroid hormone, or if you've had a thyroid imbalance, diagnose you're taking thyroid hormone. But it can't get into the cell. So you do a blood test and you've got good levels of hormone in your bloodstream, but you've got the symptoms of a sluggish thyroid, meaning you're fatigued, you're severely fatigued, you got brain fog. It may be because the thyroid hormone can't get into the cell, it's in the bloodstream, your bloodstream is just a highway. And so it's on the highway, great, but it can't get into the shopping center, or it can't get exit the highway to get into the neighborhood. It can't get in the cell because of fluoride, chlorine and bromide.

And the ways that I know to get this stuff out, infrared sauna, and a two to three times a week basis will certainly help, certainly will. Silica, water that's high in silica, silica can pull out fluoride and it also pulls aluminum out of the brain and out of the body. So silica has an affinity for aluminum and fluoride. And so you want water that's high in silica. Most common and popular one is Fiji water. Fiji water is high in silica, which means it's going to pull aluminum out and fluoride. When I'm thinking of trying to detox somebody who's got high levels of fluoride, I'm going for change your drinking water for the next three to six months to high silica water and you can google and find other waters perhaps. And infrared sauna two to three times a week. Start gentle and work it up. We walk people through how to do all that, right? And work it up slowly and aerobic exercise. Meaning wearing a pulse monitor and doing steady exercise.

What kind of exercise? It doesn't matter if you ride a bicycle, if you go for a walk, if you run, if you're on a mini trampoline, it doesn't matter what matters how you do it. Meaning the intensity of it and that's why you wear a pulse monitor. And you want a pulse monitor that has an alarm on it and you send... It's real simple, it's like a watch. And you've seen people wearing straps around their chest, when they're exercising, that's a pulse monitor. And there are others now, Apple watches have it built into the watch I think. I like the older style myself.

But you set the alarm for your aerobic range. And when you turn it on, it'll go beep, beep, beep, "Oh, my pulse is 72 right now, okay," and you start exercising. And let's say your aerobic range is 125 to 135, so you're starting to do your walk or your jog or whatever it is, and all of a sudden, the beep, beep, beep stops. "Oh, good, it's silent. Oh, well, I'm in my pulse range. Good." And now you just exercise in that pulse range. And as you get... If you push a little too hard, so you're beep, beep, beep, beep, oh, wow, my pulse is at 140 I better slow down. Really? I wasn't going that fast. Beep, beep, beep. Okay. Okay. Okay. And you slow down. And as you get tired, with whatever... it could be a mini trampoline are just walking around the block, but as you get tired, your pulse has to work harder to allow you to keep working at that same intensity because your muscles are getting tired.

And as your pulse works harder, it goes up, you'll beep, beep, beep, beep, beep. Oh, it's gone... I better slow down. And you slow down to the intensity that your pulse monitor says is okay. That's how you do aerobic exercise. And the formula to determine what your range should be, is 180 minus your age, plus or minus five. Now, if you've been diagnosed with a degenerative disease, you take five off of the 180. So it's 175 minus 80... or 175 minus your age, plus or minus five. So it's either 180 or if you've got rheumatoid is 175, or MS, 175, or chronic fatigue 175 minus your age plus or minus five. And that's the intensity that you exercise at.

And if you're currently suffering from fatigue, you'll notice that you don't have to do very much to get into your aerobic range. And the key is stay in your aerobic range. And the goal is to get to 30 minutes, five days a week. But you start with five minutes. That's it, or 10 minutes, because at some point, if you're fatigued already, if you're suffering from fatigue, you get into your range, and you're just walking and it's in your aerobic... Oh good, okay, this isn't too hard to do. And all of a sudden, in five minutes, like beep, beep, beep, beep, beep. What? I'm just walking, but your muscles are working hard, and they're being taxed right now slow down. And if it gets too slow, okay, I'm done for today. That's it. It doesn't matter how long it is. But every day you apply this principle, and you'll get stronger and stronger and stronger and stronger.

So aerobic exercise, infrared saunas, making sure your detox pathways are working well. And I'm sorry, that's a whole session on detoxing to talk about but those are the critical things that will help get fluoride out of your body.

Dr. Tom, first of all, it's a pleasure being here learning from you. Thank you. I'm a dietitian from Guatemala. Oh, good. I have patients with brain fog after removing triggers for an elimination diet, they got better but still not perfect. What else can I do without lab tests? Look at the environment they're in. Read about shower curtains read about shower heads. These are inexpensive things that people can do. If they have what you suspect is bacterial infections. If there's a history of bacterial infections, always go to the shower heads, always go to shower curtains, think about mold in the house, anything like that. That may be a culprit. Also, you can look at liver blemishes to tell about detoxing. Do they need help with detoxing? It's not foolproof, but it's a good suggestive indicator.

So, what's a liver blemish? Take off your shirt and have your partner or spouse, or have your partner spouse take off their shirt first so you do it on them. And in between your shoulder blades in the back, you got one shoulder blade, you got another shoulder blade, you got the spine in between. Now there's muscles between the spine and the shoulder blade on both sides. Take your finger, push into the muscle on one side, take your finger away, you see there's the blemish of where your finger... it's like a fingerprint sort of on your skin. And then it comes back to the color of the skin. It's like white for a moment, and then it comes back to the color of the skin.

Push in, take your finger away and count how long it takes to get the color of the skin where the finger push was. So you push in one 1,000, two 1,000. Okay, there it is, it's fine. Good. Other side push in, one 1,000, two 1,000, three 1,000. Okay, that's fine. It's back to the color. But there'll be somebody in your

family. In between the shoulder blades in between the spine and the shoulder blade, you do either the top of the shoulder blade, the middle and the bottom part just to make sure you're in the general area. So there's three on both sides. Push in, one 1,000, two 1,000, three 1,000, four 1,000, five 1,000, six 1,000. Wow, let me do that again.

One 1,000, two 1,000, three 1,000, four 1,000, five 1,000, six 1,000, six second liver blemish, it should be a second, maybe two. If it's more than that... Your liver is an oil filter. It has over 500 functions but a primary function is to filter the blood. Why? You drop an apple on the ground, you pick it up, you wipe it off and you eat it. I'm thinking about my wife and the ants she's in the living room. We'll wait to put G on bed. You drop an apple, you wipe it off, you eat it. If there are some dirt on the apple, and you absorb the dirt into your bloodstream, everything you eat, when it goes from the gut into the bloodstream, there's only one place it can go. It can't go anywhere else it goes to the liver. Why? Because your liver's an oil filter. It's filtering the blood. And it captures anything that shouldn't be there from what you ate and it accumulates it then it sends it down in the bile to the gallbladder that gets thrown out.

There's really bitter bile that your gallbladder produces. That's good. That's normal, that's what's supposed to happen. But when you've got a dirty oil filter, now the blood's flowing in but it's congested in there, it's dirty in there. So the blood coming out, it's going to be a little slow. And the first place it goes when it comes out of the liver is right between your shoulder blades, right by that skin area. So you push in there take one, 1,000, two 1,000 Okay, that's good. One 1,000, two... okay, good. Next person in the family, next child, one 1,000, two 1,000, three 1000, four 1,000. Sometimes you get seven second, eight seconds, those are toxic, toxic livers that really have to focus on detoxing. So if you don't have access to a lot of laboratory testing, you can just check a liver blemish.

It's suggestive. It's not diagnostic, but it's suggestive that you want to do more detoxing. How long will it take after removing a trigger food? How long for what? To feel better? Depends on how comprehensive you are. There's usually more than one trigger food. But usually within a couple three days people start noticing they're feeling better, within a couple of weeks they should be noticeable better if you really nailed it. Dr. Sidney Baker's one of the founders of functional medicine, really great guy. And he has what he calls the Tacks Rule, T-A-C-K-S. The Tacks Rule. Sit down four tacks you jump up really quick. Take two tacks out, sit down two tacks, you jump up really quick. You don't reduce the pain by 50% by taking two tacks out. You got to take all the tacks out. And that's what it's like with food sensitivity. Some are worse than others but if you don't get the results when you've identified a food you're sensitive to, and you're not getting results within a couple of weeks, you're missing something. There's more. There's more than that one food that has to be looked at.

Let's see, water. Can we talk about it? I've heard about common purified water will dehydrate you instead of hydrate you. I don't know. I've not heard that. When you filter water, the most common procedure in the filtering process, there are three or four really good things to do. But the most common one is called reverse osmosis. It's effective. The problem is it not only takes out heavy metals, it takes out minerals, and so that your water will be mineral deficient, not enough calcium not enough magnesium. So unfortunately, with the toxicity of our world today, filtered water is a must. Purified water is a dream of the past, especially if you're living in cities. It's just not possible. And so you have to filter the water which means that you have to supplement with minerals. Very smart to get a water filtration system in your home, very smart but it means that you need to supplement with minerals. Okay.

And what do you think about structured water? Mary Agnes says that our good friend Dr. Christine Schaffner did a Q&A with Gina Bria on that topic about structured water and she's going to put the link

in here for you, so that you can watch that interview. I've not seen it. But if MA says it's worth watching, it's worth watching. Okay, had rheumatoid arthritis and treated for 17 years with MTS Prednisone, Rituxan infusion, went gluten dairy free four years ago and got off of 25 prescription drugs in four months. Congratulations to you. Still struggle with fatigue at times. How long does it take for all those drugs to get out of the system? Not that long. There's residue that can stick around. But it sounds like you've done some... You've certainly worked hard congratulations on all that you've done. But the toxicity of our world today, it's not like it was 10 years ago, it's much worse.

It's not like it was 30 years ago, unbelievably different than 30 years ago. And we don't have the equipment inside our bodies to deal with the amount of toxicity that we're being exposed to, we don't. Our immune system, the armed forces in our body is designed to protect us from bugs, parasites, viruses, mold, fungus and bacteria. That's it. Not red dye number 42 or perchloroethylene, or fluoride, or benzene, or diesel exhaust fumes in the air particulate matter that we're breathing, or the [inaudible 01:03:23], the flame retardant chemicals, or the Scotchgard, stain resistant chemicals. All that stuff that we're exposed to, it's just increasing every year. We have no defenses against it. And for people who have already gone through losing tolerance and develop auto immune diseases, such as this question with rheumatoid, and she's off 25 different medications. Congratulations again, your system is extremely sensitive.

And it's likely to have a more severe reaction to exposures that you get. So if you were my patient, we'd probably do some genetic testing. We don't do genetic testing very often. But I would do genetic testing with you to see what detoxification pathways you have that you were born being vulnerable not to work very well. And then we would do some functional testing to see are those detox pathways working very well. And then we'd address it, right, to help you detox. I talked to you about infrared saunas, Mary Agnes we'll put a link in here for infrared sauna. We found the best sauna. I tried three or four over the years and one we're recommending now is by far the most conscious, very low EMF, no oils that diffuse in the air. It's really a great sauna, MA will put the link in here for you.

But I would be focusing on your detox pathways. Because your body is a canary. And you may have heard of canaries in the coal mine, that miners in the 1800s, took canaries in a birdcage down in the coal mines with them every day. And they listen to the birds saying while they're doing their work, and when they didn't hear the birds sing, someone ran over there to see and if the bird had fallen down it was dead, they blew a whistle, everyone got other immediately because there was a methane leak. And canaries are much more sensitive to that than humans are, so they fall over dead when humans can't smell anything.

Well, your body, if you've had rheumatoid and you were on 25 medications for years, you're a canary in the coal mine. So when you're exposed to diesel exhaust, as an example, is likely to have a more profound effect on you than it would on me, depending on how much I've accumulated and how much my immune system was working to fight it already. But because of your immune system, being beat up for so long, I would want to make sure I would begin by certainly confirming that gluten free is working for you. I would do the Wheat Zoomer for you and make sure you don't have leaky gut right now. And then I'd want to do the genetic detox tests.

Hi, Dr. Tom, I agree Raynaud's Phenomenon. My body core temp always seems low, I get extremely fatigued trying to get warm. I run my hands under hot water. I wear lots of layers even to bed. Any advice on improving my energy levels? I want to feel amazing. Okay, that's great. That's not asking too much. That's really not. It depends on where you are in this health journey. The woman with the question just beforehand diagnosed with rheumatoid arthritis, she went gluten free and dairy free four years ago and phased off of 25 medications. Are you just beginning this process? Or have you already been doing some things along the way? Right? But your question's a good one. You have to remember

the five pillars that Professor Fasano talks about. The environmental triggers, the genetics don't matter you can't do anything about that. But we want to see if we can affect the genes being turned on or off. So the environmental triggers, the microbiome and intestinal permeability. Those are the places you start with Raynaud's phenomenon.

And it just depends on where you are on the spectrum of turning around the lifestyle that eventually created the problem you currently have. You're not born with Raynaud's but you're vulnerable to it perhaps your genetics, but you had to throw the offensive agents in there for a long period of time and then you started getting some symptoms, some symptoms, and then the symptoms got worse. And now eventually you get a diagnosis. But it didn't start when you got the diagnosis, it started years beforehand with lifestyle. So we have to figure out what is it and where are you on the spectrum of investigating this?

Do you have any thoughts on poop transfer to rebuild the gut? I don't know what the technical term for this is. And hope you know what I'm talking about [inaudible 01:08:33]. Yes, of course. It's called fecal transplants. And they've got some other deep terms for it if they don't want to say fecal transplants, but it's fecal transplants. Yeah, there's been a lot of science that's been coming out of this for the last, I think seven or eight years, I think, probably earlier with a few cases but been more known for the last seven, eight years.

If you take some poop from a mouse that is obese, and you give an enema to a normal weight mouse with the poop from the obese mouse, the normal weight mouse gets obese. If you take the poop of a normal weight mouse, and you give it to an obese mouse in an enema, the obese mouse becomes normal weight. Microbiome has its hands on the steering wheel, right. And there have been a lot of studies on doing fecal transplants for people usually with inflammatory bowel diseases like Crohn's and colitis. But in some other situations also, and there are some clinics that specialize in this. I've not dove into it at all. My concern with fecal transplants is what happens 10 years from now. And that's a secondary concern if a person is really sick, and they've tried everything and they've been to the best docs they can find but they're just not getting better. Then a fecal transplant may be at the top of the list of things to consider.

But my concern is my friend, Jeff Bland, in one of the interviews I did with him recently, he said, "If you take a spoonful of poop, there's more bacteria in a spoonful of poop than all the stars in the known universe." I was like, "What?" And Jeff Bland does not exaggerate. From a spoonful. And what I learned not too long ago this year, was that... Well, I knew this beforehand, there's 10 times more cells of bacteria in our body than human cells, 10 times more cells, they outnumber us 10 to one. But what I just learned is that there's 10 times more viruses than bacteria in the human body 10 times, tenfold. More viruses. Viruses are not bad for you. Bad viruses are bad for you. One of the differences between Wheat Rescue and E3 Advanced plus the two enzymes that Mary Agnes will put the link in here for to digest gluten is that E3 Advanced Plus has bacteriophage in it. Bacteriophages are these viruses that go after bad bacteria.

They don't harm the good bacteria in any way, they go after bad bacteria. And they got these bacteriophage from [inaudible 01:11:46]. So really safe, really safe. But that's why E3 Advanced Plus, for people that have gut symptoms, they probably do better with E3 than they would with Wheat Rescue. There's an added benefit. But viruses, we have so many viruses in our body and the science on viruses is so immature. We really don't know that much yet. And there's lots of research right now, and lots of papers coming out on it. But there's so much more we're going to learn... We just learned about the microbiome really in the last 15 to 20 years. We really learned so much in this last 20 years that 20 years ago would have been blasphemy to say some of the things that every practitioner knows today. But it's

because we have better technology, better equipment, and we can identify more with it. Same is going to be true with viruses, what we're learning now is going to be more therapeutic in the future.

Dr. Tom O'Bryan:Now, why am I telling you all this? Because fecal transplants are going to contain a lot of viruses. And we just don't know what the impact factor is on that? We don't know. But one would assume the transplant is coming from healthy individuals and there are many studies on the benefits of fecal transplant but me personally, it would say second tier, maybe even a third tier protocol to consider. First tier is being an investigator and find out what's affecting the dimmer switches, turning your genes on and turning your genes off, all of this that we're talking about. And maybe second tier would be considering fecal transplant.

Oh, let's see. Do you have any... I found research that has showed people with Celiac were far more likely to develop serious fluorosis of the teeth and skeleton. Yeah, I would understand that, and I think I've seen some of that research myself. And now if you think... Okay, it's a Celiac and they're gluten free, you think that that would reduce the risk? No, because most people don't know how to do gluten free correctly. And the gluten free foods, it's all crap. You just wouldn't know how to do it correctly. It's really important that people learn how to do it correctly. And we'll have a session on that, I think. But yeah, yes, Celiacs are more vulnerable to that.

If fluoride toxicity is a thing, not if it is. You want to read some of the articles that have been accumulated on this? Go to Joe Mercola site, mercola.com and just type in fluoride in fluorosis and read the articles. He did a nice history of when this was first decided to be used in humans and why and many of the side effects of it.

Why many doctors and dentists still recommend it as basic for teeth health. That's really a good question. When you read some of these studies, or Mercola's summary of the studies, you'll go ask your dentist, "Hey, are you familiar with this study?" And they'll say, "No." Or this one? And you can bring in three or four studies and shown them. And they're from places like Harvard and King's College in London and Karolinska, in Sweden, really good research centers that talk about the dangers of this.

And you say, "Well, how come my doctor talks about..." Well, he hasn't read the science. You can lead a horse to water... And the average, we do the slides they're here somewhere. The average is 17 years from when translational research, which means research, it changes the way you think, from translational research first gets published before doctors down the street are using it, 17 years. No exaggeration, and that's the average. That's not the exception. It's really frustrating for general public to hear some of what we're talking about and say, here's a study on this, here's a study on this here. Here's where you get this science and get this one. You say, well, wait a minute, How come my doctor didn't tell me about this? Well, that's a question you have to ask them. "How come you haven't kept up on this, doc? You're dentist, how come you're recommending fluoride when there's all this controversy about?" "Well, there's no evidence it's a problem." "Oh, really? But what about this study?

That showed the dangers and the percentage of people that have problems?" Or this study, or this one. And you just show it to them, and they say well, "Okay, I guess you're not my patient anymore," because so many of them will just walk out of the room. When frustrated patients put them on the spot. They just walk out and they keep doing what they're doing, which is unfortunate. I have patients that are moms and are worried about quitting fluoride in their kids. You have to give them the alternatives, you have to show them why it's a problem and what the alternatives are. Look into Dental Side. Dental Side is great. Mary Agnes will put a link in here for it. Dental Side both the toothpaste which tastes pretty good. There's no problem with the toothpaste, and there's a mouth rinse.

Is it safe to drink Fiji water from plastic bottles? Well that's a really good question. It's never safe to drink out of plastic but it's... every action you take is like a teeter totter. What's the benefits? What's the

potential harmful side effects? Which is more important. And you also can just get silica and it to your filter water in your house. Just go online and type in silica and you'll find a source we don't have a source for it. But it's good question you're asking about, [inaudible 01:18:10] plastic bottles. Yes it is. And now we should avoid plastic bottles when we can, but if you've got fluoride toxicity, you need silica and that certainly would help. And it's really a question about the plastic in plastic bottles, really good question. You want to avoid as many toxins as you can reduce your toxic exposure.

Any recommendation on affordable day to day minerals for adding to the water? Mary Agnes, will put a link in here to a mineral supplement that we recommend to our patients. It's simple and easy. Take one a day for every 50 pounds in weight that you have. Can you talk about fatigue and grief. I want understand why grief makes us tired. I'm trying to do everything right, sleep, very low carbs, no gluten still so tired, it's hard to even lift my arms. A shower today took all my energy.

Thank you for the question. Go to Martina's site. If you have grief, if you are grieving a loss, whatever, a spouse or whatever it is, finding balance in the emotional spiritual side of the pyramid of health is of critical importance. Because you're missing something if you're so tired, a shower takes all your energy, you're missing something, obviously. I always listened to the question. And when you said about grief, then go there first, look to that one first. Finding a counselor to work with or a therapist that can put you in a really safe, deep meditative place where you can deal with the grief can be profound for you. It can be quite profound.

Please talk about your upcoming summit on fatigue and autoimmunity and why are so many symptoms of the two conditions the same? Yeah, sure. Dr. Evan Hirsch and I... I was asked by Mary Agnes actually, would I consider doing a summit with Dr. Evan Hirsch, on fatigue and autoimmunity? Fatigue is his specialty that he's been working with for years because he had severe fatigue and came through it. And of course autoimmunity is mine. As I said, "Yes, of course." So we've interviewed... I asked yesterday, I think it was 46 different experts. I interviewed Jeff Bland and a number of people, a really great, great deep conversations about where fatigue might come from. Mary Agnes will put the link in here for you. And what's really exciting about this, is that not only are we airing the interviews, but every day, Dr. Hirsch and I are going to be... There's a Facebook chat, for those that are part of the event and it's all free.

And we'll be on the Facebook chat every day answering questions. Well, Dr. so and so said this today about silica but I tried silica, and it made my mouth dry. I'm just making up... But we'll answer your questions. So as people are dealing with fatigue, we've gone to every expert we could find on the topic. Me, I chose them from the papers I read the science I read on this. And Dr. Hirsch because he's been involved in the world of fatigue for so long, he chose a number of people to interview it's great, and it's coming up in a couple of weeks, Mary Agnes will put the link in here for you so you can register for it. And then you're welcome to attend the Q and A's which are going to be like this with Dr. Hirsch and I both doing them together on the topic of the day and the interviews of the day.

And that was the last question. What a great one to end with about the fatigue and autoimmunity summit, because you're going to hear from so many experts. If there are three interviews a day or four interviews a day and you only have four hours to listen to them, you'll look at the list and you say, "Oh, that sounds interesting." And I think I'll listened to that one. And if there's just one thing that you pick up, just one thing that really helps you in your current health struggles, then the whole thing was worth it. It was all worth it. So please register for that.