



Episode 404: Understanding Mast Cell Activation and Histamine Intolerance With Dr. Beth O'Hara

Child: Welcome to my Mommy's podcast.

This episode is brought to you by Four Sigmatic. You've probably heard me talk about them before. I love this company that is known for its delicious superfood, mushroom elixirs, and especially mushroom coffees. I have been starting my day with their ground mushroom coffee with Lion's Mane for a long time. And I love how much it helps me focus and stay creative and productive the whole day. Mushroom coffee is more than just regular coffee. The addition of this incredible mushroom, Lion's Mane, supports productivity and creativity in a really unique way. This coffee also includes Chaga, which I've talked about on this podcast before. It's known as the king of mushrooms. And I love it as a functional mushroom because it supports whole-body health and its antioxidant properties give it a special ability to help support regular immune system function. One question I get a lot when it comes to this is, does this coffee taste like mushrooms? And I can guarantee and want to make sure I explain, it tastes just like regular coffee, not at all like mushrooms. But you get the benefits of these incredible mushrooms that, like I said, they improve my whole day. Mushroom coffee is also gentle and easy on the gut. So I find I'm much less jittery than when I drink other types of coffee and there's no crash at the end. The reason I love Four Sigmatic so much, all of their products are organic, vegan, and gluten-free, and they test every single batch in a third-party lab to make sure it doesn't have any heavy metals or allergens, bad bacteria, yeast, mold, mycotoxins, pesticides, etc. So, you are getting not just really high-quality coffee but also that extra boost from these highly beneficial mushrooms. And I personally know the founder of Four Sigmatic and the standards that go into these products. They stand behind everything with 100% money-back guarantee. I worked out an exclusive offer just for podcast listeners to receive a 10% discount on any Four Sigmatic order. It's a perfect time to try all of their best-selling blends. Like I said, I love their mushroom coffee with Lion's Mane, also a really big fan of their Reishi Elixir and Reishi Cacao for at night to help me drift into really deep restful sleep. And they have other single and blended mushroom elixirs that I often incorporate during the day because they don't have caffeine but do give a boost of antioxidants and other beneficial compounds. To check all of it out, go to foursigmatic.com/wellnessmama and use the code Wellnessmama at checkout to save 10%.

This episode is brought to you by Joovv Red Light Therapy that I have talked about for a really long time, and that is a regular part of my daily routine. I wanted to make sure to talk a little bit more about them today. You've heard me talk about red light therapy before because it is part of my daily routine. I feel like this is an extremely effective health modality. And it's something that I make a priority all of the time. It's been wonderful for my skin and my thyroid, also my energy levels. And I've written on my blog quite a bit about the many health benefits of red light therapy. I found more and more in the research that light is such an essential part of health. We think about nutrition and sleep, and a lot of the other aspects of health, but we often forget just how drastically important light is to our health. And red light therapy is one of the important types of light that we often don't get enough of. Many of us are exposed to all kinds of artificial blue lights in our homes, but we don't get enough of spectrums like red light and like all of the spectrums that come from the sun every day. And the way that I remedy this is totally inexpensive way of spending time outside every morning in the natural sunlight, and also using red light therapy daily. Anyone who's dabbled in red light therapy has probably heard of Joovv because they are the leading brand. They have pioneered this technology, and it's the light that I've had in my home for many years. Joovv is just now launching their next generation of devices and they made upgrades to what was already incredible red light therapy systems. Their new devices are sleeker, up to

25% lighter, and with all the same power and intensity that we've come to expect from them. But with their new intensified version, you can stand as much as three times further away and still get the recommended dose. They've also upgraded the setup so it's very quick and easy to mount, and set up, and can fit in just about any space depending on what size you need. And they have a cool new feature like recovery plus mode, which uses pulsing technology to give yourself an extra boost to recover from a tough workout or a tough day with the family. Also, as a busy mom, I need all the sleep I can get. And I find that using a red light device at night helps to wind me down from the day. But now they have something called Ambient Mode for calming lower intensity light at night, which I mentioned avoiding blue light at night to help your body and your natural circadian rhythms. And adding in soothing spectrums of red light can also be really, really helpful. So, definitely check it out. Exciting news, for a limited time, Joovv is going to hook you up with an exclusive discount on your first order, and you can find out all the details by going to joovv.com/wellnessmama and using my code Wellnessmama on your qualifying order.

Katie: Hello and welcome to "The Wellness Mama Podcast." I'm Katie from wellnessmama.com and wellnesse.com. That's wellnesse with an E on the end, my new line of personal care products including good for your hair and scalp hair food that nourish your hair from the outside in to make it thicker and stronger over time and our mineralizing toothpaste. You can check all of that out at wellnesse.com.

This episode goes deep on understanding Mast Cell Activation and Histamine Intolerance, which I have gotten an increasing number of questions about. And today's guest explains why there's probably more and more people who are dealing with these conditions and what to do about them. I'm here with Dr. Beth O'Hara, who's a Functional Naturopath who specializes in complex chronic immune conditions related to Mast Cell Activation Syndrome and Histamine Intolerance. She is the founder and owner of Mast Cell 360 which I will link to in the show notes. And she does...her subspecialties are mold toxicity and genetic analysis especially related to Histamine Intolerance and Mast Cell Activation. And we go deep on both of these topics today and also how they relate to things like autoimmunity and a lot more. So really fascinating deep dive. Even if you think you don't have these conditions it's still an interesting listen because of crossover with autoimmunity and because many people actually do have variations of these conditions and don't know it. Very fascinating episode. Let's jump in. Dr. O'Hara, welcome, and thanks for being here.

Dr. O'Hara: Oh, thank you so much. I'm really excited to talk about this. It's usually a game-changer for people.

Katie: I am like really excited to go deep on this topic. I've gotten an increasing number of questions about this, which makes me think that these things are on the rise. And I know we're gonna go deep on that today, but to start off, I always love to learn a little bit about my guest. And I know from researching you that you've had a pretty significant health journey yourself, which is kind of how you got involved in this work, to begin with. So let's start by learning about you and how you got into this world.

Dr. O'Hara: Sure. Well, I decided as a very young child that I was gonna be a doctor and I wanted to go to medical school, but we moved out to the country to this farmhouse. And I didn't know, none of us knew that there was mold in the home and my health just started spiraling down at a young age. I ended up with what

we now know as mold toxicity. I had Lyme, but all we knew at that time was just, I had these weird symptoms. I'd get itching after I ate. I had digestive issues. I'd have diarrhea a lot. I would sometimes break out in hives. So out in the country, one of my jobs was to feed the chickens. And when I'd feed them corn, I'd have hives all down my arms and, you know, went to allergists and I was on all these allergy medications.

But by the time I got to college, my health just kept going downhill. And I had a full scholarship to medical school that I had to turn down, which was just devastating. And instead of going to be the...I wanted to be a neurologist. Instead of going down that road, I had to become a chronically ill patient and find my way through. I exhausted everything that traditional medicine had to offer. At one point...well, by the time I was 28, I was on a cane. I could barely walk. I was bedridden. I was so, so sick. And I had a lot of people, a lot of practitioners tell me that it was in my head because my blood tests looked normal and they couldn't find anything wrong, but I knew something was wrong. And I had seen over 50 practitioners and spent, I stopped counting it, over \$150,000 trying to figure this out. I exhausted functional medicine and integrative medicine. I even tried things like homeopathy and I did all of this emotional healing just in case it was in my head. And finally realized that nobody was gonna figure it out, that I was gonna have to figure it out.

And I landed on mast cell activation syndrome after...So I figured I had histamine intolerance then I figured I had mast cell activation syndrome. Everything clicked and came together. So I dug into everything I could learn, what I was learning, started recovering my health, and I started getting my life back. I got off the cane, I got to where my energy was back and I could actually function and work, and then got back to where I could go back to school, but in a different road. So I got my master's in psychology and a doctorate in naturopathy and specializing in this now because so many people have the same story. They're going person to person, they're falling through the cracks. They can't figure out what the heck is going on.

And here's the thing is that mast cell activation syndrome is affecting...the studies are showing it's between 9% and 17% of the general population, which is huge. And then with the chronically ill population, it's affecting way more than that. So people without immunity, people that have any kind of chronic fatigue problems often can be linked back to this. So we're talking about in the general population, that's at least 1 in 10 people, if not more like 1 in 8 or 1 in 7. That's a lot of people.

Katie: Wow. That's a lot higher than I would have expected. And you mentioned that for you mold was a trigger and that also you had Lyme disease. And it seems like a lot of times those are things I hear from people who have multiple conditions like that. Is that common that when someone has some of these, like there'll be like, kind of, overlapping conditions or co-conditions that are going on at the same time?

Dr. O'Hara: It is common. And I think if we, kind of, zoom out and think about what the mast cells are and what they do. Our mast cells are the...I think of them like the frontline defenders in our immune systems, some of the most important cells that do that. I like the metaphor of, they're kind of like the guards at our castle gate and it's their job to sense if something coming in is good and I should let it pass, like it's a nutrient or it's good clean air or good, clean water, or is this something that we should launch an attack against like a mold spore or a bacteria that shouldn't be there or different kinds of toxins? So our mast cells are in all of the

tissues in our body that meet the outside world. So we think about the skin around the eyes, the sinuses, the whole GI tract from our mouth all the way down. And they're in places like the bladder, but they're also in other places in our body, most places in our body, our brain has a huge amount of mast cells. Thyroid has a huge amount of mast cells, the lungs.

And so if they're there sensing what's supposed to come in and what's not supposed to come in, and then they're getting a constant onslaught because we live in a toxic world, you know, we go outside, there's air pollution. We're surrounded by electromagnetic fields now with all our WiFi devices, and then we've got more stress than we've ever had if we think about evolutionarily, and we've got a lot more mold exposure than we had. And I can talk about that in a minute. So our mast cells are getting this constant onslaught and it's their job to communicate with other parts of the immune system, and they're, kind of, the first responders basically.

But if they're constantly being attacked by toxins, and pathogens, and mold, and EMFs, and all these things, then they end up getting dysregulated. It's kind of like if you have a guard at the castle gate that never got to take a break, never got to go sleep, then, you know, if you've ever been sleep-deprived, you get a little wonky, same thing happens with our mast cells. And so the signaling gets off, they start over-responding. And they have over 1,000 mediators inside of them. They're really fascinating cells. So they've got over 1,000 mediators. They have hundreds of receptors on the outside that can respond to what's going on. And most people have heard of histamines, that's one of the most well-known mediators, and then there's a whole class of mediators that we're talking about a lot these days called cytokines, and mast cells are one of the primary cells to make those as well.

And so this is how mast cell activation and mast cell dysregulation can connect with all of these other conditions because the mast cells are gonna signal to the other immune cells. We can get auto-immunity, it's linked with almost every form of auto-immunity, but they're in our connective tissue. It's been connected with hypermobility. It's been connected with so many different things.

Katie: That's so interesting. And you mentioned that we're seeing a lot more mold right now. Why do you think we're seeing so much more of that in today's world?

Dr. O'Hara: That's a great question. And I've talked with a number of the top environmental mold specialists in the country and the consensus has been that it's a combination of three things. One is that we started building buildings tighter around the 1970s. And so when you wrap buildings tighter, whether we're talking about homes, or schools, or industrial buildings, office buildings, then it holds the moisture in, like it traps the humidity. So we have higher humidity levels in our homes than we've had before. Anytime you have humidity above 50%, you're gonna get mold growth. And that happened in the home that we just bought. We were looking for over six months. Every house I walked into, I could smell mold because I'm super-sensitive now. And finally found this one, there was no mold, but then spring came, we had a lot of rain. We just couldn't keep that humidity below 50% and we ended up with mold here in our house that we had to remediate. So that's one.

The other is that we use fungicidal paints now that kill off the weaker growing molds, but they don't kill the more toxic molds. So those more toxic molds now don't have any competition and they can grow faster. And then the other big, big piece that I think it's underestimated is that molds also sense something wrong in their environment. And when they do, they launch an attack. So if you spray mold to try to kill it, it's gonna start putting out spores and putting out mold toxins, mycotoxins. Well, molds don't recognize what EMFs are, coming off of our WiFi router and coming off of our, you know, laptops and all these smart devices we have and WiFi cameras and so on, security cameras.

So studies are showing that the mold is growing hundreds of times faster. Some studies have shown 600 times faster. Mold is growing in the presence of WiFi. So that's tremendous. We don't have any studies on how that's affecting mold in the body if it colonizes in the body, but highly, highly likely that it's also increasing that growth. And the last 20 years since WiFi devices have become much more common in our homes and our workplaces, mold toxicity has just gone off the charts. It's become a major issue. It's the number one root cause I see in my practice. Not everybody has it, but a huge amount of people do.

Katie: Wow. Yeah. I feel like that's not talked about nearly enough, but it definitely seems like we're seeing a rise in that. And certainly, I know many people who got into the health world, to begin with, because of mold exposure being the trigger that led to a lot of other things as well. So, okay. Let's talk a little bit more about the connection to histamine intolerance and what's going on there because you mentioned these mediators like histamine and cytokines, are there other ones as well, and what's happening with the histamine intolerance part of that equation?

Dr. O'Hara: Yeah. That's a good question. And so it can be tricky initially to sort out if somebody just has histamine intolerance or that they have mast cell activation syndrome. So with histamine intolerance, the only issue is with histamine, and mast cells can produce histamine. There are a few other immune cells like basophils that can produce histamine. And then we have different enzymes in our bodies and different pathways like diamine oxidase, DAO, and HNMT, and there are some other ones that also break down histamine. So we can either have too much histamine being made or we can be eating too many high histamine foods. So these can be things like strawberries, and spinach, pineapple things like bone broth even. A lot of things we think of is very healthy, for somebody who has too much histamine in their body or can't break it down, it can be problematic. Even things like wine or beer, these high histamine foods. And then if we've got too much histamine, we can't break it down fast enough, that's histamine intolerance. So that can show up in things like flushing after eating, it can show up with itching, acid reflux, diarrhea. Sometimes it'll show up as things like nausea or bloating. Those are some of the more common things that show up with histamine intolerance. Might get a runny nose or stuffy nose, eyes might get itchy watery.

And a lot of people actually have both histamine intolerance and mast cell activation. So mast cell activation is where it's much more complex, it's this whole mast cell issue. And the mast cells, we talked about the histamine, we talked about the cytokines. They also make things like prostaglandins and there's this whole category of things. They can even excrete small amounts of serotonin, lots and lots of things. They produce

neurotransmitters at a level in the brain, even. So they've been linked with depression, anxiety. We get more complex presentations when somebody has mast cell activation syndrome. They tend to be sensitive to things. They might be sensitive to smells like perfume, or paint drying, or gasoline fumes. They might be sensitive to more types of foods. They might be sensitive to supplements, have trouble taking supplements, or react to supplements, have reactions to medications. So this is one of the things that we see with mast cell activation.

There's an overlap with a symptom. So if somebody can have all the symptoms we just talked about with histamine intolerance, so they might just have a few of those, but we tend to see more symptoms and they have to be in two or more systems. So somebody might have the classic flushing, itching, rashes, and then they might have a like stuffy nose, post-nasal drip, people tend to clear their throat a lot, that kind of clearing, because of the post-nasal drip from the sinuses. But a lot of people, and this is where this gets confusing when people are talking to their allergists are immunologists because they were taught in medical school that mast cell issues always showed up with that flushing, that itching, and if you don't have those, you can't have mast cell activation syndrome. But we now know that that's not true, but a lot of this is newer information, so people who went to medical school...well, even still are not teaching this yet in medical school, so they may not be aware of this information.

But I have people who have...they show up more with, like, brain fog. They show up with headaches or migraines, they have anxiety, and then they might have issues like they have muscle and bone pain, or they even have reproductive issues like endometriosis or painful periods. They can have issues with lungs like asthma, or wheezing, or coughing. And you can get heart symptoms, so heart palpitations or low blood pressure, although some people, high blood pressure. So you can see why this can get kind of confusing because nobody, almost no one has all of those symptoms. And I do have a symptom survey people can look at on our website if they're wondering, "Hmm. I wonder if this is what I'm dealing with." Then they can take a look at it. Because we're looking, again, are you having issues in two or more areas of your body that can't be explained by something else?

Katie: Got you. So in general, this is something that is diagnosed based on symptoms. Like, that's how a person would know if they have these conditions?

Dr. O'Hara: Well, we have what's the official diagnostic criteria, which has some problems, and the official diagnostic criteria was only released in 2016. So it's still considered to be pretty new. And in that official diagnostic criteria, somebody has to have the symptoms in two or more systems, and then they have to respond to a mast cell medication or an anti-histamine. Problem is a lot of those medications have fillers and preservatives in them that make people worse, that trigger mast cell activation. So somebody may not be responding because they're reacting to the titanium dioxide or the dyes or something like that. And then the third part of the criteria is that they have to have an increase in a blood or urine marker for one of the mast cell mediators. So it could be tryptase, although that's very rare, but a lot of allergists and immunologists, that's all their testing.

It's very rare for that to be elevated in mast cell activation syndrome, that'll be elevated in a rare, rare condition called mastocytosis. But it could be tryptase, could be histamine, could be prostaglandins, it could be one of the cytokines. Problem with that part is that those mediators are usually up and down in our blood or in our urine in a very short amount of time. And as I'm talking with my colleagues about this, we're finding that the blood testing or urine testing is only catching about 10% of cases, so that means it's missing 90% of people who are dealing with mast cell activation syndrome. So it's still tricky if somebody's got to get a diagnostic code for insurance coverage. Those of us that are working outside of the insurance area, which I don't work with insurance at all, I'm looking more at what's triggering this? What's keeping this person reactive? What do we do to settle those mast cells down? And then how do we deal with those root triggers? So if that makes sense, that I think our diagnostic criteria needs a lot more work still.

Katie: That does make sense. And I know it seems like a lot of people like you, like specialized practitioners that are really delving deep on these conditions run into that frustration with the current diagnostic models. But it's great that we have people like you and tools like this available now to be able to start to diagnose and to get more comprehensive. And as you're mentioning all of these things that can be connected to histamine intolerance and to mast cell issues, it makes me wonder if there's an overlap and a connection with other autoimmune conditions, specifically, or is that just something that those often run together or is there an actual direct correlation there?

Dr. O'Hara: No. You're spot on here. So we have...and I'm trying to keep this kind of high level. We have these branches of our immune system. So there's a branch called the TH1 system and that kills pathogens. So that's there to kill bacteria. It kills viruses. Then you have this TH2 system, and that's part of the...the mast cells are a big part of that TH2 system. And that's part of a chronic inflammation response. When we have underlying toxins or pathogens, long-term, what happens, especially mold or any kind of long-term toxins, then the TH2 side goes up and it works like a seesaw. So TH2 goes up, TH1 comes down. So we can't kill pathogens, we have this chronic inflammation. Then when we have that pattern, that TH2 increased response triggers what's called TH17, and that's the autoimmune response.

And so if people have the right background...not everybody with mast cell activation has autoimmunity, but it's highly, highly common. And then once mast activation starts, if we don't get a control over it, then we can start bleeding into the autoimmunity and triggering autoimmunity. And again, that's because these mast cells are there. I think of them like one of the major conductors of the immune system. So they're up there leading and sending signals and then receiving signals back and orchestrating this response. And then once they're dysregulated, they can orchestrate this autoimmune response. So it's highly linked with thyroid autoimmunity like Hashimoto's, with the irritable bowel disorders like Crohn's and ulcerative colitis. Most autoimmunity, rheumatoid arthritis, most things you can think of have been linked in the research to mast cell activation, even certain cancers. If the mast activation goes long enough and the person has the right genetic background, mast cell activation, when it's really out of control, is linked to certain cancers. And that's why I think it's just so critical because of how common this has become that we've got to dial this down. We've gotta be thinking about it and thinking about, especially for people who are dealing with chronic health issues.

Katie: That makes sense. And yeah, especially with the chronic inflammation connection. Okay. So that makes me wanna jump into how can people get better? Because you've explained how this is probably much more widespread than people realize. And many people listening may even be really resonating with some of the things that you've talked about and wondering if it's something they have. How do you begin that process when someone comes to you or is presenting with these conditions?

Dr. O'Hara: Yeah, the first thing I do is a root-cause analysis. So I do a really thorough intake, drives some people crazy, but by the time they find me, they've already tried a lot of things, they've seen a lot of people. So I do this very thorough intake and then I organize, what are these root pieces? What are these root factors that somebody is dealing with? And most of the time, about 95% of the time, we follow up and look at mold because it's so common. So we look for mold toxins, we'll do some testing there. And then I ask people to do a low histamine, low lectin diet for six weeks to see if that starts to improve anything and...you can hear...So I have mast activation. You can hear me getting a little froggy in my throat. That's the throat-clearing I was talking about.

So we do this low histamine, low lectin diet for six weeks to eight weeks, see if it makes a difference. And I ask people to follow the list that I have on my website because there's a lot of misinformation about histamine. So we get a really clear list of foods that have been tested and work off of that. And then as some of the tests are coming back, like whole mold toxins, then we'll start looking at, okay, where do we go with this? Do we need to address mold toxins? Or maybe it's not an issue. And then we look for our next thing. Is there a chronic underlying Lyme disease? And then I would refer them to a specialist for that. Or is there something major going on with the gut? So the big areas that I'm looking at are the food triggers, the infections, and toxins. I look at genetic factors. So I get a number of people who have a lot of genetic variants on the mast cell-related and histamine-related genes, so they may need some support there. We look at their nutrients and we look at their hormones.

One of the things that I'm really emphasizing for people is we also look at stress because the mast cells are highly, highly dialed in with the nervous system. And the nervous system is communicating to the mast cells. Mast cells are releasing mediators to the nervous system. So we can just have stressful thoughts or start to spiral on something and our mast cells will start to respond with inflammation. And this is huge, huge, huge. So I have everybody start with calming their nervous system and calming this mast cell nervous system connection while we're working on the other pieces. That's huge for people with sensitivities. And I've worked a lot to try to get that through to people because it's easy to think, "Oh, I'm not stressed." Or, "Oh, it can't be that big of a deal. It should just be the right supplements." But anyone with mast cell activation has a dysregulated nervous system response because of how it's woven in. So I know that's a lot of pieces. If I really boil it down to just the first action steps, it's work on the nervous system calming, bring in some very gentle mast cell supporting supplements, and then we'll start to work on what those root causes are.

Katie: That's really interesting. And I wanna hone in on something that you just mentioned because you said that like those stressful thoughts can actually create a physical expression in the body. And this is something I've seen very much firsthand in my own life. I don't think I have mast cell issues, but I've seen very much that mental and emotional connection and how that physically manifests in the body. And that was actually the

biggest remaining key for me in my own health journey was addressing those factors that I ignored for so long. And I've read books like "The Body Keeps the Score" and more recently, even like "The Holographic Universe" that really go into the dramatic way that, like, our mental state in our mind has a very much dramatic physical expression in our body. And I think people often discount just how important that factor is. I love that you brought that up and explained, kind of, some of that science of what we think, and how we think, and our perception really does affect our body.

Dr. O'Hara: It's really huge. And I was somebody who didn't take it seriously enough at one point in my life. And then I took it very seriously and was practicing a couple hours a day, doing different yoga practices and meditations, but they weren't the right practices to really calm the nervous system in a way that you need to with these kinds of conditions. So I teach my clients that there are three parts of the nervous system we have to work on. There's what's called the parasympathetic, and that's our rest and heal response. It's the opposite of the fight or flight. So we wanna get out of fight or flight into that rest heal. It's kind of that feeling when...well, it is that feeling when you go to your favorite place in nature, like my favorite place is the beach and I love it when I've been looking forward to getting out there for so long and I get my shoes off, I walk out in the sand and the water starts to lap my feet, and everything just drops away.

So a lot of people can relate to that, whether it's the beach, or the forest, or the mountains, that's a shifting in a parasympathetic state. We have to be able to shift there on a daily basis. And most of us aren't able to do that without a lot of help. So we have that parasympathetic. We have the limbic system, and that's the fear and emotion part of the nervous system. It's a area in the brain called the amygdala and this limbic system was developed to respond to threats in the environment. So you might smell, you know, smoke, or you might smell a wild animal. And it happens really below our consciousness awareness, but many of us have had this triggered from things like either childhood traumas, or childhood major stressful events, or I see a lot of people with medical trauma where they've gone to practitioners and they told them to do things and it made them horribly sick.

I had that experience with people just right out telling me, "I don't believe you. I don't believe you're sick. I don't believe that you could really be that ill, and I think you're faking this." And that feels very traumatic to hear that when you're working so hard. So a lot of people have those experiences. And then so many people had their limbic system triggered by being on the West Coast with all the fires or people I've seen in Australia where they had all of the fires and were just smelling that smoke all the time. So that's the limbic system. And then we have the vagal nerve, which is a huge part of the healing response too, and this is such an interesting nerve because it connects the brain with the heart and the gut. So it connects over three areas of intelligence, if we think of that, and people say, "Well, what do you feel in your gut?" Or, "What's your heart telling you?"

And that vagal nerve comes out between the base of the skull and the first vertebrae. It controls things like our digestion. It's involved in sleep. It's very, very involved in sensitivities. So that has to be going correctly as well. And that's where I really have got a huge difference for myself and have seen major differences with my clients because if we're addressing those three, we're addressing those angles, then people's sensitivities start to calm down, sometimes in just six weeks. If it's really, really bad, people might need a few months. I get a lot

of people who are very sensitive who can't take any supplements, or very few, and they're just struggling to get the things on board that they need to heal.

As we calm that nervous system down, nervous system is telling the mast cells, "Hey, it's okay. You can calm down. It's all right. We're not in danger. We're not under threat." And so we think about this like, you know, in my thoughts, in my mind, "I don't feel like I'm under threat every day," but it's more about what we feel in our body. So it's very underneath the conscious thoughts, more subconscious, and not something we can really access to well with our thoughts. So sometimes we have to do things that are different than affirmations to calm all that down.

Katie: Got it. That makes sense. Okay. And I love that you brought up vagal nerve stimulation. Are there ways, specific ways to support that or practical tips you give for people for helping the vagus nerve?

Dr. O'Hara: Yeah. There are great ways. There are some particular pressure points on the face that we can use to calm the vagal nerve and there are some great really gentle exercises we can do to release the muscles around that. And it's hard to explain on audio, but I'm gonna do a class here soon where...well, I have a class where we're going into all of that. One of the things that people can really take away is if you've had a head injury, or if you've been in a car accident, you've had whiplash, and you have any kind of limitations in your range of motion in your neck, so you can't turn it all the way left and right, or it gets tight and sore, or doing ear to shoulder if you get stuck. So if you're, you know, younger than 50, your ears should come closer to your shoulder.

And a lot of people can only go a few inches. So that's a good time to make sure you get checked out by an upper cervical chiropractic specialist, not a regular chiropractor, but somebody who only deals with the upper neck and somebody who's very gentle in doing that because when we've had those things like a whiplash, or a car accident, a head injury, those vertebrae in the neck can get out of alignment and put pressure on the vagal nerve and the other nerves that come out there that are part of the healing response. So a lot of people start to have motility issues with their gut and either they're too fast and they're going to the bathroom too often, they're having diarrhea, or it's too slow and they're having constipation after you have that kind of injury. So that's something for people to think about if they've experienced that, make sure they get that checked out. Cranial-sacral is really, really good as well if you can find a good practitioner.

Katie: Such great tips, that's so important. Thank you for bringing those up. Are there other factors like genetics that can make someone more susceptible or they will need to be more aware of the potential of these issues?

Dr. O'Hara: Yes, for sure. And some of these aren't ones that are talked about very much. This is one of my subspecialties is genetic analysis. And one of the things that I look at quite a lot are the types of cytokines called interleukins. And we have genes for those. So they're abbreviated IL. And IL6 is one. We can definitely look at the genetics on IL4 and IL13. So these can trigger increases in mast cell activation that can be

significant for people, but we can calm them down. Another big one is SIRT2, so S-I-R-T 2, SIRT2. It's called a sirtuin. It's a major signaling molecule for inflammation. And that one can be supported with resveratrol, which is very cool, if people tolerate it.

Then we've got the histamine-related genes too, so I look at the DAO gene for diamine oxidase to clear histamine in the gut, look at HNMT that clears histamine more systemically in the body, and that's dependent on the methylation process that's gotten more attention lately. But the key here is that a lot of people can't handle methylation supports like methylfolate or methyl B12 early on, and high levels of those can trigger mast cell activation. So this is where, when people are dealing with mast cell activation, we have to come from a different angle than what we're used to doing. The high methylfolate and high methyl B12 trigger another pathway that'll increase that mast cell inflammation. So we've got to bring these things in at the right time. The timing's very, very important in the order that we do things in.

Katie: Got it.

This episode is brought to you by Four Sigmatic. You've probably heard me talk about them before. I love this company that is known for its delicious superfood, mushroom elixirs, and especially mushroom coffees. I have been starting my day with their ground mushroom coffee with Lion's Mane for a long time. And I love how much it helps me focus and stay creative and productive the whole day. Mushroom coffee is more than just regular coffee. The addition of this incredible mushroom, Lion's Mane, supports productivity and creativity in a really unique way. This coffee also includes Chaga, which I've talked about on this podcast before. It's known as the king of mushrooms. And I love it as a functional mushroom because it supports whole-body health and its antioxidant properties give it a special ability to help support regular immune system function. One question I get a lot when it comes to this is, does this coffee taste like mushrooms? And I can guarantee and want to make sure I explain, it tastes just like regular coffee, not at all like mushrooms. But you get the benefits of these incredible mushrooms that, like I said, they improve my whole day. Mushroom coffee is also gentle and easy on the gut. So I find I'm much less jittery than when I drink other types of coffee and there's no crash at the end. The reason I love Four Sigmatic so much, all of their products are organic, vegan, and gluten-free, and they test every single batch in a third-party lab to make sure it doesn't have any heavy metals or allergens, bad bacteria, yeast, mold, mycotoxins, pesticides, etc. So, you are getting not just really high-quality coffee but also that extra boost from these highly beneficial mushrooms. And I personally know the founder of Four Sigmatic and the standards that go into these products. They stand behind everything with 100% money-back guarantee. I worked out an exclusive offer just for podcast listeners to receive a 10% discount on any Four Sigmatic order. It's a perfect time to try all of their best-selling blends. Like I said, I love their mushroom coffee with Lion's Mane, also a really big fan of their Reishi Elixir and Reishi Cacao for at night to help me drift into really deep restful sleep. And they have other single and blended mushroom elixirs that I often incorporate during the day because they don't have caffeine but do give a boost of antioxidants and other beneficial compounds. To check all of it out, go to foursigmatic.com/wellnessmama and use the code Wellnessmama at checkout to save 10%.

This episode is brought to you by Joovv Red Light Therapy that I have talked about for a really long time, and that is a regular part of my daily routine. I wanted to make sure to talk a little bit more about them today.

You've heard me talk about red light therapy before because it is part of my daily routine. I feel like this is an extremely effective health modality. And it's something that I make a priority all of the time. It's been wonderful for my skin and my thyroid, also my energy levels. And I've written on my blog quite a bit about the many health benefits of red light therapy. I found more and more in the research that light is such an essential part of health. We think about nutrition and sleep, and a lot of the other aspects of health, but we often forget just how drastically important light is to our health. And red light therapy is one of the important types of light that we often don't get enough of. Many of us are exposed to all kinds of artificial blue lights in our homes, but we don't get enough of spectrums like red light and like all of the spectrums that come from the sun every day. And the way that I remedy this is totally inexpensive way of spending time outside every morning in the natural sunlight, and also using red light therapy daily. Anyone who's dabbled in red light therapy has probably heard of Joovv because they are the leading brand. They have pioneered this technology, and it's the light that I've had in my home for many years. Joovv is just now launching their next generation of devices and they made upgrades to what was already incredible red light therapy systems. Their new devices are sleeker, up to 25% lighter, and with all the same power and intensity that we've come to expect from them. But with their new intensified version, you can stand as much as three times further away and still get the recommended dose. They've also upgraded the setup so it's very quick and easy to mount, and set up, and can fit in just about any space depending on what size you need. And they have a cool new feature like recovery plus mode, which uses pulsing technology to give yourself an extra boost to recover from a tough workout or a tough day with the family. Also, as a busy mom, I need all the sleep I can get. And I find that using a red light device at night helps to wind me down from the day. But now they have something called Ambient Mode for calming lower intensity light at night, which I mentioned avoiding blue light at night to help your body and your natural circadian rhythms. And adding in soothing spectrums of red light can also be really, really helpful. So, definitely check it out. Exciting news, for a limited time, Joovv is going to hook you up with an exclusive discount on your first order, and you can find out all the details by going to joovv.com/wellnessmama and using my code Wellnessmama on your qualifying order.

So you mentioned a low-histamine diet and that there can be some confusion or misinformation about this. Give us kind of the general of what a low-histamine diet looks like and maybe some of the common pitfalls that people can fall into when they're trying to make that jump.

Dr. O'Hara: Sure. So the one is avoiding some of the big high histamine foods that people don't think about. And, again, there's a lot of lists online, but make sure you're using one that's really validated and based in research. So it looks like eating things like freshly cooked meat, and I'll talk about the pitfalls there with that in a moment, freshly cooked vegetables, not doing a lot of packaged or canned foods. Frozen vegetables are usually fine, but canned vegetables can be sitting in the can for six months to a year. So anytime something's sitting for a long time, then you naturally have some bacteria in there that's very, very rare unless it's vacuum-packed extremely well, very rare for something to not have some levels of bacteria, it's just more slow in its growth, but those bacteria in the food start to build and then those bacteria releasing histamine.

So that's what you can have...thinking of a food that we eat a lot canned, let's just take carrots. You could get canned carrots. So if you have fresh carrots with the tops on, that's the freshest you can get at the grocery.

The carrots sitting in the bags that don't have the tops, those can be four to six months old. So sometimes people actually itch when they eat those if they're more sensitive. And then canned carrots might've sat in a can for like a year or a year-and-a-half so those are even higher histamine. So if we think about really getting the freshest options, freezing our leftovers. So if leftovers sit in the fridge for more than 24 hours, then bacteria is gonna start to grow. If it's sat in the fridge for more than 48 hours, mold is also gonna start to grow at some level on that food. So if somebody is very, very sensitive to molds, that can catch up with them too. So we wanna just freeze our leftovers, which once you get the hang of it, honestly, isn't that bad. And then you just thaw it out when you're ready to eat.

Some of the other pitfalls are the meats. So a lot of lists out there will say that, you know, just get fresh meat or fresh fish, but fish is one of the highest histamine things if it stayed fresh because when it's fresh sitting at the fish counter, they haven't gutted it and so the bacteria's still sitting in the fish in the intestines and building and then that can build in the fish. So if people want to eat fish, lowest histamine is gonna be to get wild-caught salmon that was frozen and then buy it frozen at the store and flash thaw it under hot running water, cook it right away, stick your leftovers in the freezer before you sit down and eat, and then eat your salmon. Salmon, because it's...salmon has to be frozen on the boat, and so that's often a more safe choice for people who are histamine-sensitive or have mast cell activation.

And then with meat, I know that your listeners know very well that grass-fed meat is gonna be much better than conventional meat. And if we can get it from like a farmer's market where it's frozen after slaughter, and then it stays frozen until you're ready to thaw it and cook it, that makes a huge difference for people, and especially, big difference over buying it at the grocery. When you buy it at the grocery, if it's sitting at the meat counter or in the meat section and it's never been frozen, it can be sitting there for a week, sometimes up to a week-and-a-half after it got there, and then it might've been trucked to someplace for a week. So you're talking two weeks, two-and-a-half weeks. Beef's the other big pitfall for people. Beef is generally aged 14 to 21 days. So the aging process is the bacteria are tenderizing the meat by breaking some of it down, but they're producing histamine as they do that. If somebody can find un-aged beef...it can be a little tricky to find, but if they can find un-aged beef in their area, that's a good way to go for beef, otherwise, we can do things like pork, we can do chicken, we can do turkey. We can do duck, lots of options there.

Katie: That was super-comprehensive. Thank you. And I know it won't apply to a lot of people listening, but just out of curiosity, I had a friend a long time ago who had mastocytosis. And you mentioned that briefly in passing as kind of an extreme version, but can you explain what that is and what's on at that point?

Dr. O'Hara: Sure. So this is quite rare, you know, maybe 1 in 100,000 people or fewer, so very, very different than the mast cell activation syndrome that's so common. So mast cell activation syndrome being where the mast cells are over-producing, these mediators or over-responsive, mastocytosis is a genetic condition where somebody has too many mast cells and there's just too many, and there could be in certain tissues or all the tissues. So it could be too many in the gut, too many in the skin, or it could be too many everywhere. And so if you have too many, even if they're not over-responsive, they'll be...you know, think about if you've got a choir of 10 people singing very loudly, that might be a mast activation syndrome versus you have a choir of 100 people singing at a normal volume, it's still gonna be much more impactful. And then somebody could have

mastocytosis and mast cell activation syndrome and then that would be the most intense where they've got too many mast cells and they're way over-responsive.

Katie: Got you. Okay. So that's definitely not gonna be the common one people have, but it makes sense. There's a genetic component there. So for someone who is having these symptoms and trying to figure out how to get them under control, what is a typical, like, response? Like, once they start making these dietary changes and addressing some of these root causes, are they able to find some version of recovery eventually?

Dr. O'Hara: Yes. I see huge differences. So I like to talk in examples because I think it helps make it really concrete and talk about a young girl that I had. And I'm gonna change her name. I'll call her Michelle. And this young girl was about 12 when I started seeing her. She was having throat closing, trouble breathing, itching, couldn't sleep very well, it would take her an hour to get to sleep. And the throat closing was happening after she would eat. And she was eating lower histamine. They hadn't gotten all the pitfalls worked out, but sometimes her throat would close up when she was eating carrots, and freshly cooked carrots. She couldn't eat out at all, so her parents could not go out to eat with her. She was afraid to go out with her friends because she didn't know when her throat would close up. She had an EpiPen. And we just started very slowly working on these pieces. So we cleaned up her diet a little bit more, got the rest of the triggers out, while still keeping it very broad nutritionally because I don't want people...too many people lower their foods way too restrictively. So you've got to keep it broad and lots of nutrients in.

And then we worked on her nervous system, some of the things that we've talked about, some very specific breathing things for her to do. Gently brought on some supplements for her to help calm things down more. And then she did have mold exposure, so then we started working on that detox. And I was so excited because her mother emailed me just a couple of weeks ago. And she had gone on a trip with her friends and they had eaten out on the way. And then she had to choose what she ate carefully, but she got to go out to eat with her friends and she got to be a normal kid, which was huge for her. And she hasn't had the throat closing in a year. So it's been pretty significant change. She's sleeping really well.

And then I also see a lot of adults, and there's a woman that I'm thinking of and I'll call her Jane. And so when I first met Jane, she could not leave her house. She couldn't drive. She felt too brain fogged. Now, these are two pretty intense cases. So I wanted to show how people who are really sick can get better and then people who are just moderately having trouble can definitely get a lot better. But Jane couldn't leave her house because she didn't feel safe to drive because of her brain fog, and she'd get kind of disoriented, but she also couldn't take an Uber because they always have that fragrance hanging from the rearview mirror, you know, so they have those car air fresheners, and that would set her off and she would feel like she was gonna pass out.

She'd get really flushed. And then she'd feel super brain fogged for a couple of days. So she was basically housebound. She had extremely high anxiety. She was having a lot of digestive issues. And we worked, again, very slowly calming that nervous system down, bringing the right supplements in for her in the right order. And then we worked on these root causes for her and she emailed me, I think it was about six or eight months into what we were working on. And she had traveled with her daughter and they had eaten out and she used

to be very fatigued. She'd done all this walking and she got to really enjoy that. Now, I don't see people getting to where they can eat, you know, fast food pizza or they can eat at fast food joints like McDonald's or Hardee's. I don't see that happening, but I do see people getting to where they can eat out. I can do that. I used to be down to 10 foods if we don't count herbs and seasonings and now I do fine when I eat out, I just choose the healthiest option for me and I travel and I haven't been on a cane in over 10 years. So very, very different life than what it was before.

Katie: That's amazing. And also I wanna briefly just touch on, you mentioned cytokines being some of the mediators early on. And I know that that's been a buzzword this year with the potential connection with any kind of illness, but potentially also with COVID. So I'd love to hear your perspective on that and if people with things like mast cell activation are at an increased risk because of that.

Dr. O'Hara: There are bits of papers coming out that there's a major mast cell connection with COVID-19. And it's part of how COVID-19 is triggering this ACE2 pathway. And then what happens when that's triggered is it produces another molecule that then triggers mast cell activation. So that's part of this cytokine storm and because our mast cells are major producers of cytokines, then they're definitely part of the cytokine storm. Some of the mechanism's still being worked out. Some of our top mast cell researchers, so Dr. Hugh Heridis, Dr. Afrin, have been reporting on this and the connections with COVID. What I've been noticing in my own practice is that people who had supports in place, vitamin Ds are really good support for mast cells. And there's some others that people probably never heard of like Perilla seed extract can be a great support for mast cells, and the people that had those on board and we're working on this mast cell calming had so much better outcomes.

I've had just one person so far that had a really poor outcome and she had been hospitalized and had a very, very rough recovery, but she wasn't very far along. This happened before I saw her and she was struggling to figure out how to get those mast cells under control. Knew there was some involvement there. She had some pretty significant mold toxicity that hadn't been addressed as well. So I think those were some factors for her. I'm sure there were some other factors as well that we're not clear on right now.

I had COVID myself, fairly confident it was COVID. It was in January. I had a positive antibody test and it was kind of rough and I had a little trouble breathing for a while. My chest was just very, very tight. So I nebulized saline at night and that helped me quite a bit. And then I bumped the things I knew that would calm my mast cells. I didn't know it was COVID because we weren't talking about it back then, but I had just flown back from Las Vegas and there were a lot of people that were sick at that time on the plane and just in the city in general. And so those things that calm the mast cells, I even took some anti-histamine medications and I think that helped me get through it.

Katie: Great to know. Awesome. Well, as we get close to the end of our time, another question I'd love to ask is if there is a book or a number of books that have had a dramatic impact on your life and if so, what they are and why.

Dr. O'Hara: So hard to narrow that down. But, you know, the first one that pops in my mind, Katie, is "The Power of Now" by Eckhart Tolle, which has been out for a long time, but it changed my thinking about that I'm not just someone who has to go along with and be a victim of life. That if I can bring myself to being present right now, then I have the power to shift my thoughts, I have the power to shift my feelings in some ways. And that got me on the road of looking at these nervous system connections with the mast cells. So that was a big one.

Another one that was just really instrumental in how I approach health and how I work in my practice was the book "Toxic" by Neil Nathan. And he looks at these underlying triggers and how do we work with mold toxicity in a way that is very gentle for people because there's a lot of push to just go through when people are feeling worse, taking supplements, or if they're getting flu-ish or brain fog to just keep going if they're detoxing, but that's really a toxic state for people and we don't want to push through because then we're going to trigger more mast cell activation. And just some of his work in there was revolutionary.

Katie: Awesome. I will add those to the show notes, wellnessmama.fm, so people can find those. And lastly, if anybody is recognizing some of their own symptoms on things we've talked about today, where can they find you and keep learning more?

Dr. O'Hara: Yeah. So we've got a ton of free resources on our website, mastcell360.com. People can find the foods list there, the symptom survey, if they wanna work through the supplements or the nervous system classes, those are up and available for people. And then we have tons of recipes. I'm kind of a foodie and I love to cook and I like variety, So I put lots of fun recipes together for people. And we have a great community on Facebook too and people can find us there at Mast Cell 360. I do free Facebook Lives every Monday.

Katie: Awesome. And all of those links will be in the show notes as well for all of you guys listening while you are exercising or driving, you can find all those links at wellnessmama.fm. But Dr. O'Hara, thank you so much for all the work that you do in this and for being here and sharing today.

Dr. O'Hara: Thank you, Katie. I love that we can come together and help people in this way and let them get their lives back faster than it took me and probably took you too.

Katie: Awesome. And thank you guys as always for listening, for sharing your most valuable resource, your time, with both of us today. We're so grateful that you did, and I hope that you will join me again on the next episode of the "Wellness Mama Podcast."

If you're enjoying these interviews, would you please take two minutes to leave a rating or review on iTunes for me? Doing this helps more people to find the podcast, which means even more moms and families could benefit from the information. I really appreciate your time, and thanks as always for listening.