



**Episode 343: How to Balance Neurotransmitters  
Naturally With Dr. Ann-Marie Barter**

Child: Welcome to my Mommy's podcast.

This episode is sponsored by Everlywell, at-home lab tests that you can get without a doctor order! I've used many of their tests and can recommend a couple that have been especially helpful. They have an at-home allergy test for 40 of the most common allergens using the same CLIA-certified labs used by Allergists/Doctors. The labs are reviewed by an independent physician and this test measures IgE levels of common allergens including pet dander, mold, trees, grasses, and more. But you can do it from your own home with a finger stick. I also really like their food sensitivity tests that test for IgG reactions. This was a big key for me in my health recovery, as there were foods that didn't show up as an allergy that were causing inflammation for me. I used an elimination diet, but this food sensitivity test also filled in the missing piece of the puzzle for me. Through healing my gut, I've been able to remove all sensitivities except for eggs. Finding out I was highly sensitive to eggs made a huge difference for me, as I ate them often as an inexpensive protein source. I feel so much better now that I don't eat eggs and I would never have known that without this test! I also use their at-home Vitamin D test to keep an eye on those levels and see if I need to supplement. Check out all of their tests at [wellnessmama.com/go/everlywell](https://wellnessmama.com/go/everlywell). Use code MAMA10 for 10% off orders.

This podcast is sponsored by BLUblox. That's B-L-U-B-L-O-X, which is an advanced light-filtering eyewear company. You've probably seen pictures of me on social media wearing orange glasses of various types at night. And here's why. In nature, we aren't exposed to certain types of light after dark, specifically, blue light, because that type of light signals the body that it's daytime. That in turn suppresses melatonin and can interfere with sleep. This is the reason that a really dramatic study found that camping for seven days straight with no artificial light at all could actually completely reset and heal circadian rhythm and help a lot of light-related problems, like seasonal affective disorder. This is also the reason that I wear orange glasses after dark to block these types of light and protect my sleep, which I am adamant about protecting. I also wear certain types of yellow glasses and anti-fatigue glasses during the day if I want a computer to reduce eye fatigue. BLUblox has orange glasses and yellow glasses. Their orange glasses for nighttime wear are designed to block 100% of the wavelengths between 400 nanometers and 550 nanometers, which are the ones that are studied to interfere with sleep and melatonin production, and circadian rhythm. My kids also wear these kinds of glasses at night. And I noticed a difference in their sleep as well, which is a huge win for a mom. This is especially important when we're watching a family movie at night or looking at any kind of screen as the artificial light, there is a source of blue light and can interfere with sleep. You can learn more, they have a ton of educational content and check out all of their innovative protective glasses by going to [blublox.com/wellnessmama](https://blublox.com/wellnessmama) and using the code `wellnessmama` to save 15%.

Katie: Hello and welcome to the "Wellness Mama" podcast. I'm Katie from [wellnessmama.com](https://wellnessmama.com) and [wellnesse.com](https://wellnesse.com). That's Wellnesse with a "e" on the end, which is our new line of personal care products. And this episode is all about neurotransmitters, especially what you need to know about dopamine and serotonin and how to optimize them naturally and from the inside out. I'm here with Dr. Ann-Marie Barter who has always had a mind for high-level problem solving. And she now uses functional blood chemistry analysis, nutrition, applied kinesiology, and other natural remedies in a functional medicine approach to help people with thyroid issues, blood sugar issues, gut health, hormone dysfunction and issues that stem from

neurotransmitter imbalance. And so, in this episode, we go deep on a couple of those topics and some practical ways that you can start at home to optimize your neurotransmitter levels, to reduce stress, and to feel better in all aspects of life. So, without further ado, let's join Dr. Barter. Dr. Barter, welcome. Thank you for being here.

Dr. Barter: Thank you so much for having me, I'm so excited to be here today.

Katie: I'm so excited to chat with you, and we get to talk about something that I am fascinated by but definitely don't have a ton of knowledge about, or, at least, in depth knowledge, which is neurotransmitters. And I think, this is actually a really pertinent conversation right now, just with so much of what's going on in the world, and, of course, neurotransmitters are always very important. But I think that we could have some special conversations around them right now. But to start broad and then, kind of, narrow down from there, first of all, kind of, define what neurotransmitters are and why we should care about them.

Dr. Barter: Well, so neurotransmitters are chemical messengers in our brain, and so they help us with mood, they help us with muscles and communication in our overall system, they even help us with our gut, and they also help us with sleep and memory. So they're really important, and they're really broad, and they affect the whole entire system. But the two that I think are most pertinent that I really want to talk about today are going to be the two that are called serotonin and dopamine, and those two are so pertinent in our overall mood, and our happiness, and how we see life. So that's really where I want to go today, if that's all right with you.

Katie: Yeah, absolutely. Does one lead into the other?

Dr. Barter: No, let's start with dopamine, if that's all right with you.

Katie: Let's go for it. So what is dopamine?

Dr. Barter: So dopamine is our pleasure-seeking hedonistic neurotransmitter. It's why we do things that, maybe, aren't good. For starters, just as a really broad one, it's why people do drugs, honestly, because you get a huge dopamine dump, but it's also why we feel motivated, it's why people use sugar, and so, this is our reward pathway. So, for example, you know, you're feeling low one day or you feel worthless, and you're like, "You know what, I just don't feel good about myself. I am going to go into the cabinet and get some sugar," and then suddenly you feel better. And so, you actually have a huge dopamine dump that pumps during that time period, and then, about two hours later, you feel worse than you did before you actually had the dopamine. So, ultimately, when the sugar is in your system, the dopamine can rise, you know, 150% above normal levels. And so, some things that we see, let me just read a few of the symptoms that we'll see with lower dopamine, and you don't have to have all of these but you can have some of these. Well, let me just tell you a few of these so that some people can potentially relate. You have feelings of hopelessness, you have

self-destructive thoughts, you have an inability to handle stress, which may be really relevant right now, anger and aggression while under stress, you don't feel rested even after long hours of sleep, you prefer to isolate yourself from others, you have unexplained lack of concern for family and friends, you're easily distracted from your tasks, you have an inability to finish tasks, you need to consume caffeine to stay alert, you feel like your libido has decreased, you lose your temper for minor reasons, and you have feelings of worthlessness. And so, all of those are related to dopamine dysfunction.

And, what was really interesting was, I got into this in practice because patients would come in and they would say, you know, we would go over the diet that we needed to do, I do a 30-day elimination diet in practice and they're all on board, and then, what would happen would be, they would come back in and they would be sheepish, and they'd say, "I really want to do it but I can't." And I would ask, "Is this a willpower issue?" And they were like, "I just can't stay away from sugar or these carbohydrates." And, really drilling down into that, they were trying to help themselves by eating the sugar and carbohydrates to boost it up. And so, that's what we are seeing, was the dopamine would boost up for a little while and then it would go lower than it was before baseline. And so, you know, you end up in this vicious cycle trying to help yourself. So that made me start to really investigate how we could increase dopamine and what we could do. So that's, kind of, the overview on, maybe, why dopamine is a little important.

Katie: Yeah, that definitely sounds like something you'd want to correct if those symptoms were ringing true with anybody listening. Obviously, sugar is not the way to correct it other than a temporary feel-better fix. So from a whole-body perspective, what are some of the ways that we can support the body's natural dopamine response correctly?

Dr. Barter: Yeah, that's a great, great question, and there's not a simple answer to that so I'm just going to go ahead and run through all those. Number one, a lot of dopamine is made in the gut which seems counterintuitive because it is a brain chemical. So really looking at what's going on in your gut, do you have any sort of infection, do you have a viral infection, do you have a parasitic infection? Do you have SIBO, do you have a yeast overgrowth, do you have leaky gut? Do you have dysbiosis of the gut or improper gut flora? You know, all of those things are really important to correct because, you know, a lot of dopamine is made in the gut. Second thing that is highly critical, and I'll just tell you, most people do have gut issues. A lot of people don't come through clean on the testing, I'm always surprised if that happens, but most people really do have gut issues even if they're not showing gut signs and symptoms, like bloating, or changes in stool, or whatever it would be. It can be like ataxia. A lot of people will have more brain-type symptoms with gut issues, so it can go across the board. It's really variable.

The second thing that I will see is, blood sugar dysregulation is huge. I see this in probably 90% of folks, and a lot of folks say, "Hey, you know, I don't have diabetes so I don't have blood sugar dysregulation." And that's not true, most people are hypoglycemic, hyperglycemic, a mix between hyper and hypoglycemic, so low and high blood sugar. And all of those things, ultimately, can deplete your neurotransmitters, especially dopamine. And so, that's important because when we eat glucose, you know, the dopamine is going to rise and then it falls. So there was an interesting study that was done where they were injecting people with glucose, and they saw a dramatic rise on dopamine. So they know that that is correlated and that when the glucose is in your

system, you have higher than normal levels of dopamine. But what we've also found, and why this can cause blood sugar dysregulation or also, and I'll get to why this can cause, also, obesity is, they did a study. There was an experimental group, these poor rats, they were put on a food deprivation diet for 12 hours, so, no food. And then, at the end of that 12 hours, they were given another 12 hours, 10% access to a sugar solution or a sucrose solution, and then, also, rat chow for 21 days, okay? The rats increase their intake of the sugar solution consistently across the board, and then, they ate most of the sugar solution in the first hour they were given that. And then, when they looked at these rats' dopamine levels, they were increased over 130%, and the control group, it was just given the rat chow, whatever that is, did not see a spike on dopamine on the same days. What they measured was, "Hey, do these rats also feel satisfied after they've gotten the sugar solution?" And the ultimate answer was, no, they did not feel satisfied, and so, they had what we call a delayed ACh response which makes us feel satisfied or acetylcholine.

And so, this drives us to, number one, binge eat, and number two, eat more sugar. And so, what we see is, you know, there's an old Guns and Roses song that is actually about addiction and says, "I used to do a little, a little wouldn't do, as the little got more and more." And that's actually what we saw with the rats, it started off with just a little bit and then they increased daily on how much they were eating. And so, if you're eating more and more sugar to meet those needs, we're also seeing a change in your blood sugar as well, and so, ultimately, we're in a vicious cycle like, "Okay, well, we're raising it and then we're lowering it even more."

And, what they have also found was, there was another study that looked at two controls in a population to figure out, maybe, why we have such an obesity epidemic. You know, I think they believe about 30% of the population is obese at this point, which is a tragedy. And so, they looked at, "Okay, is this about how much people are moving or is this about how much processed sugar is potentially in the foods that we're eating?" And Nestlé did a study in 1998 to see how many new processed foods were hitting the shelves in the grocery store, and they saw 11,000 processed foods hitting the shelf every single year up until 1998, which means that probably now, it's substantially more, and so, they're finding that they're using more processed sugar. And so, these are not just baked goods, I want to be clear about that. My patients say, "Did you know that salad dressing has sugar in it? Did you know that ketchup has sugar in it?" "Yes, I did. Canned foods can have sugar in it." Anything processed can have sugar in it. And so, looking at these things, this definitely is causing a huge dysregulation in our dopamine systems. So really cooking at home because also, you know, restaurants are adding sugar, it makes that food more addictive. You want more, you had a pleasurable feeling when you ate that food, and you're like, "Wow, I like that restaurant. Wow, I like that brand of X, Y, and Z." And the manufacturers know, or the restaurants know you're going to buy more, you're going to eat more, because sugar is so highly addictive and there's even been some chatter that it's more addictive than drugs. People that have stopped drugs that use sugar now, they say it's harder to get off of than the hardcore drugs that they were doing. So really looking at stabilizing those blood sugar levels is incredibly critical.

The next thing that we see with neurotransmitters is, you have to have the right nutrients in your system to make dopamine, okay? So people always ask me, "Okay, well, what can I take to get more dopamine in my system?" And it's really not that simple because you can make yourself sicker by using some of these things. You can increase brain inflammation that will ultimately create something that we call quinolinic acid in the system, right? And, that can lead to scary, scary conditions like brain degeneration, dementia, ALS, you know, things that you just do not want to bridge the...things that you just, absolutely, do not want. So, I'm not going

to give recommendations on how to increase dopamine, but I will say that simple things contribute to the making of dopamine, certain B-vitamins. Our methylation pathway is really important, believe it or not, vitamin C and copper are used in the making of dopamine as well, and also tyrosine. Looking at all these things, you have to make sure they're in the correct balance. And we run a test called an organic acids test or you can also run a nutrition test just to see where these levels are. And, as a general rule, most people are very, very low in vitamin C. In fact, some of the experts have said that we're going to see a recurrence of scurvy, ultimately, here pretty soon. And with, you know, the epidemic that's going on here, you know, vitamin C in a lot of the studies of other countries protect people, especially liposomal or intravenous, you know, doing it with an IV. So, we are incredibly, incredibly low in vitamin C, you know, and in looking at those levels, also B-6 is incredibly low in a huge amount of the population. So, you know, running that testing to figure out where the nutrient imbalances are, and what can be pushed to actually make dopamine?

Another thing that they have shown is trauma is actually linked to having lower than normal dopamine. Again, also, limiting your processed foods, eating organic, eating clean foods, you know, because we know that chemicals and environmental exposure will also deplete these neurotransmitters, any sort of inflammation will also deplete these neurotransmitters, anything systemically that you have going on that could be, you know, creating a stress on your system. So that's a lot of things, so it's about fixing the body first, and then all these other things will fall into place.

Katie: That makes sense. And to go a little deeper and tease apart a couple of the things that you said. So I love that you brought up blood sugar, and hypoglycemia, or hyperglycemia, and I'd love to go into a little bit more detail on this and about testing. I think this is something I definitely had when I was younger, especially, as a teenager, and something I don't have now. Even when I do long fasts, like, my blood sugar is extremely stable. And I'm curious, what approach you take to managing this with your patients. Just, like, myself, for my own data, I often will test my fasting blood glucose with just an at-home glucose meter a few times a month just because I feel like that's a pretty good baseline and something I want to keep an eye on. And, mine's usually about like 87 which is the range, kind of, where I want it. And I also test the HbA1c or the hemoglobin A1c every few months just to have that marker as well. But I'm curious, for people at home listening, how can they know if they might be hypoglycemic or hyperglycemic, and how can they pay attention to their blood sugar?

Dr. Barter: First off, those are super great comments. I do what you do. I send people home with a glucometer and I have them check at fasting, and then, I also have them check it about an hour and a half to two hours after they've eaten. So, first thing, fasting. I like to see fasting blood glucose around 83 to 87. So that's when you first wake up in the morning, that is not having coffee, and just seeing where that number is. I will generally run an overview blood test just to get an idea. And on the overview blood test, you know, you're going to check things like just regular glucose which is a snapshot in time of where your glucose is, and hemoglobin A1c which shows us a measure of, really, where you've been for the last three months. So it gives us a little bit longer-term data on where your blood sugar has been. And I have people check it, and then, I, ultimately, will do strategies to potentially lower, elevate, or stabilize that.

For some people, they really need to eat more frequently, for some people, we actually need more time in between the meals, and they just need to do three stable meals per day. Everybody is a little bit different, it depends on what we're dealing with. So a lot of folks that come into my office actually have more eating disorders. So they don't eat enough as a general rule, you know, they're eating, probably, around 1000 calories a day, and so, I need to increase how much they're eating. But I have them check their glucose and their glucometer multiple times a day, and as we start to do the interventions, you know, stabilizing the blood sugar, we see that level out. But, yes, I completely agree with the glucometer, you know, intervention. And, most people have glucose problems across the board even though they tell me that they don't, even though they tell me they're low, but you'll see people get shaky if they haven't eaten, hangry if they haven't eaten, they feel like they need sugar after a meal to feel like they're made whole or because they're still continuing to crave foods, they don't feel satisfied after a meal. You know, all of those things are actually contributed to having hyper, or hypoglycemia, or a mix of both.

So when somebody eats, we really want to see that glucose rise no more than 30 points above baseline. So let's say, you know, your fasting glucose is 87, you eat breakfast and your glucose is, you know, 200, that's too much of a spike. You either ate too many carbohydrates at that meal, you ate too much food, so depending on what's going on, you might need a little more fat to stabilize that. So an example I like to give is, I went out one night, and I like to check my glucose as well. And that night I had protein and vegetables for dinner and ate out, and I don't generally do that, and I had a glass and a half of alcohol. I had wine, red wine, Malbec, I think. I woke up the next day, checked my blood sugar 12 hours later. My blood sugar, I run at 85, was 198. A hundred and ninety-eight after the alcohol and the food that I ate, again, which was protein and vegetables. That was terrifying. That was about the last time I had alcohol because it was such an extreme spike, and guess what, that's going to cause a lot of inflammation, aches, and pains, it's also going to deplete your neurotransmitters. So really looking at the things that you're doing that you think might be benign, same thing, you know, like with eating cookies, or, you know... I didn't have any signs and symptoms the next day, I didn't have a headache, I was getting ready to go for a run, nothing. So absolutely no symptoms of my blood sugar being up, you know, that much higher than its normal baseline which is quite scary, to be honest.

Katie: Yeah, no kidding, that is extremely drastic. And I like that you also mentioned with sugar, just how addictive it can be because I think we don't call this out enough, and, especially, when we give kids so much sugar without even really thinking about the potentially addictive nature of sugar. I mean, we're talking about in adults, like, what the cycle looks like and seeing these problems and then having to undo them. But obviously, with kids, we want to, hopefully, avoid the problem to begin with. And I've had multiple guests on this podcast that have said the same thing and including someone who actually had addictions to multiple drugs and said that breaking sugar was absolutely harder than heroin or cocaine. So that's, like, really a staggering thing to think about, and this is a drug that we're all...or not all of us, most of us, consuming very regularly. Do you have any tips for breaking that sugar addiction? Because I also think it's really important to speak to, like you talked about at the beginning, this is not just a willpower issue. Like, if you have low dopamine and you have some of these symptoms going on, it's not just that you don't have enough willpower, you actually have something physiologically going on that needs to be addressed. So when someone is in that cycle, any tips for starting the process of breaking that?

Dr. Barter: Yeah, that's a great question. First thing I'd like to say is that, I fell into this and I teach people about, you know, breaking this all the time, and I take people through this diet. But, my hours started increasing at work and I was a little more stressed out, and I found myself stopping at Whole Foods and picking up a cookie, and I felt guilty, and ashamed, and embarrassed about the whole thing, and hoped nobody I knew saw me because, you know, I felt like I was a complete hypocrite. And I just felt way more fatigued and exhausted. And come to find out, I had moved into a house at the time that had high levels of mold, environmental mold, which also depletes dopamine. And so, what I assumed was, "Hey, like, I am just way more stressed out, my hours have increased, you know, I'm working harder." And I had all these reasons on why this had happened, but I was, actually, heavily being exposed to an environmental chemical that...we know that black mold depletes dopamine in a huge way. So the first tip I'd like to say in breaking that addiction is making sure you're not being exposed on a daily basis in your home. There is a test that you can do, it's called RealTime Lab test. You can get it yourself, it's a dust test. It checks your home levels for mold. Is there going to be mold? You know, we want to make sure that the mold inside the house is not greater than the mold outside. Obviously, we're exposed to just, you know, mold in our environment, but we just don't want there to be black mold growing that is creating all kinds of problems.

I think the second thing to get started with is making sure to go on a, I think, an elimination diet, is really helpful in most people breaking the addiction. You know, really limiting processed foods, actually, limiting processed foods altogether for 30 days, and really working on seeing how you do with that. Some people have also said that light therapy increases your neurotransmitters, so using a lightbox in the morning can be very, very helpful at you just feeling good. I'll never forget, I was actually with a friend one day and she said, "I've got to be honest with you, I thought that, you know, you always being in a good mood, and energized, and all that, like, I thought that you were faking that." And I was like, "Oh, really?" And she goes, "I didn't realize you really felt like that." And I was like, "Oh, really? What changed your mind?" And she said, "I actually got a lightbox and I think that I feel like you, I have all this energy." So, I mean, looking at that. And then, also, I think, in breaking the addiction, it's really, really important to run the testing and figure out, "Okay, what's low? How can you optimize your system to help yourself, to figure out, "Hey, do I have a gut infection, what else could be going on here?" And, I think one of the most important things to do, overall, is become an advocate for your health, you have to read labels. You know, food manufacturers are tricky and they're not going to call out and say, you know, all the time, they're going to get really creative names like "rice syrup," or they're going to say things like "sucrose." Like, what is sucrose, you know? Ultimately, you know, all of these things, high fructose corn syrup, I think most people are pretty well educated that that's sugar. But they're going to be really creative on what they're calling sugar. So I think, you know, limiting your exposure to all of these things is a really important start to breaking the addiction. You know, in, again, looking at some of these diet fads, you know, keto, paleo, I personally do a mix between the two of those. I've been a paleo advocate for a long time with, you know, a little bit of keto in there, as well. And so, I think, you know, some of these things, cooking at home, watching out how much you go to restaurants, all of those things are really important to kicking this addiction.

Katie: Yeah, I think those are all such great tips, and I'll make sure we link. I know you have some resources about this, and I do as well, on some of these topics. I'll make sure all of those are linked at [wellnessmama.fm](http://wellnessmama.fm) for any of you guys listening. And I know the other neurotransmitter you mentioned at the beginning that comes into play here is serotonin. And so, I'd love to understand, like, how did the two of those play together or separately, and then, what kind of approach do we need to address serotonin as well?

Dr. Barter: Yeah, great question. Serotonin is powerful. A lot of people have heard more about serotonin because, you know, if somebody feels, you know, serotonin plays like the traditional depression. Like, "Wow, I can't get out of bed." That looks a whole lot more like a serotonin. A lot of people have heard of SSRIs, selective serotonin reuptake inhibitors, right? You know, that they'll go to their doctor and get these "antidepressants." And so, you know, there has been a higher understanding of serotonin, let me just run through a few of the symptoms. I will tell you on running testing, I have only ever seen one person that actually had full neurotransmitter function on both serotonin and dopamine, but they had severe brain inflammation that made them feel like they didn't have it, so almost every person I've seen has low neurotransmitter function across the board. But here are some of the signs and symptoms, losing pleasure in hobbies and interests, overwhelmed with ideas to manage, feelings of inner rage or anger, feelings of paranoia, feeling sad or down for no reason, you feel like you're not enjoying life, you feel like you lack artistic expression, you feel depressed in overcast weather, you're losing your enthusiasm for your favorite activities, you're losing your enjoyment for your favorite foods, you're losing enjoyment for friendships and relationships, you have difficulty falling into a deep restful sleep, you have feelings of dependency on others, you feel more susceptible to pain, feelings of unprovoked anger and losing interest in life. And, all of these symptoms were developed, actually, by Datis Kharrazian, and so, I want to make sure I give him credit where credit is due, he did a great job developing these.

So serotonin is really important for us to feel happy, and a lot of times what will happen is people come in and they'll say, "I have no reason to feel sad but I just do not like my life. I've got everything but I'm like 'Meh,' when it comes to everything, 'I just don't care, I don't want to do this.' And I don't have a reason for feeling this way. And I feel guilty that I feel like this." That is serotonin deficiency. And serotonin is much more deficient in women than it is in men, especially with our Western diet, that we're looking at really high fat, high sugar, you know, processed carbohydrates, it affects women so much more than it affects men. Also, the lowering of serotonin is much more affected in the winter months and in dark periods of time. And so, what you see people try to do is, again, sugar plays but also binge eating plays a lot more in serotonin as well as with dopamine. So you'll see people will, kind of, eat mindlessly to increase it, and as we get into full-blown eating disorders, what we see is, most people don't feel normal unless they are eating excessive amounts of food. That's the only time these people with eating disorders or binge eating disorders actually feel normal, is when they're consuming food. And right after that, it drops off lower than it does on baseline for everybody else. So it's like you're feeding, feeding, feeding, you never feel satisfied, and then it drops off much lower. And the only time you can feel normal again is when you're consuming food. So this creates a culture of, number one, binge eating, excessive eating, and you don't have that, again, feeling of satisfaction. And both serotonin and dopamine play in, not only sugar consumption, but also binge eating as well or eating, or over-consuming, or eating mindlessly, both of these things are high when you're eating, and then they drop down so much lower when you're not eating.

Katie: Gotcha. Okay, that makes sense. And I know a lot of people with neurotransmitter issues, especially when that leads into things like depression, often turn to medication. And you've mentioned medication a couple of times, you've also talked about a lot of strategies for boosting it naturally. Do you think there is a time and a place for medication or, like, over time, can we support the body and remove that need?

Dr. Barter: Yeah, so, gosh, that is such a good question too. Yes, there have been cases where people are very suicidal, they're on the edge, and it takes some time to boost some of these things back up. So if you're on the edge or you're feeling suicidal, I mean, certainly, there are a time and a place to really... You know, if you're a danger to yourself, absolutely, get on medication for a short period of time, that's what it's there for, that's what it was developed for. I'm personally not a fan of long-term antidepressant strategies. I think that you should be able to make these neurotransmitters yourself and help yourself instead of being on a medication, because, ultimately, with a medication, these are not boosting your serotonin levels. You know, they're keeping the serotonin circulating in your brain but you're not elevating it, that's why when you come off of these medications, you feel like you're getting brain zapped, you feel much more depressed than you were before you were actually on the medication, and you drop down. So I think it's dropped down to a lower than normal levels of serotonin. So it's important to build the serotonin back up and figure out why it's low. Like, what were you exposed to, what happened, was this a trauma situation that happened? Why this was low? Were you going through something at the time, do you have a gut infection? And whatever it is, the things are the same, the things that depleted are the same as dopamine. But address those things because that's going to be a really important long-term strategy to get this boosted back up. And so, yes, absolutely, short term, I can certainly see the use, but what I see when patients come in after being on an SSRI or, you know, antidepressant is, they're like, "You know, I don't feel any lows but I don't feel any highs either, I'm just, kind of, flat. And, oh, by the way, I'm gaining weight and I don't understand why." And so, a lot of people come to me and they say, you know, "How do I not feel bad coming off of this thing, how can I come off of this because I don't believe it's serving me anymore. And, yes, I felt great benefit for the first couple of months but after that, I felt like it went flat." Or they have to increase their dosage, and then, they just don't feel any better and gaining weight. So, yes, I believe, short term, if you're a danger to yourself, that's absolutely where the medication came into play, but, ultimately, I see people really, really thrive after coming off antidepressants and really boosting their own neurotransmitter levels up, you know, in doing those strategies.

I just feel like when it comes to our lifestyle, there are really no shortcuts. You can do a medication, short term, but, ultimately, you, kind of, you just feel, kind of, flat after a while. So there's really no shortcuts to health, you have to do the work. You have to go through and be, like, "Is it a gut infection, am I being environmentally exposed, what does my blood sugar look like, what does my diet look like? I need to read labels to see what I'm eating, I need to be outside, I need to have great relationships, I need to figure out what's causing this stress, or where are my nutrient imbalances?" And all of these things create stress on the overall system. When we think of stress, we think of, "Oh, wow, you know, my marriage isn't going so well," or "I got in a fight with this person." We really have to look at, "Okay, what is causing overall stress in our system? And nutrient imbalances can absolutely cause overall stress in our system, so can, you know, environmental toxins and so can gut issues. So really looking at this with a fine-tooth comb, and running the testing, and try not to do this yourself. People come in, they'll say, "Oh, well, you know, I found some St. John's wort for my serotonin levels being low." Okay. Well, I mean, that's great, and St. John's wort can be helpful, but you're really only looking at a small piece. Like, "Why isn't your serotonin functioning, is it because you don't have enough St. John's wort, is it because some of your B vitamins are lacking? Like, where is there a break in the pathway, is it because you're exposed to heavy metals?" That causes all kinds of breaks in our pathways that we're not able to create the things that we actually need to create with neurotransmitters. You know, do you have dysbiosis? So just look at the entire picture to figure out how to boost it up.

Katie: Yeah, makes total sense. And I love that you mentioned, also, light and dealing with trauma because those were actually big keys for me personally. A habit that I started years ago with the advice of my doctor was, just going outside in the morning as soon as possible after waking up and just spending time outside even if it's not sunny, it doesn't have to be in the sun but just being in natural light very soon after waking up. And that helped so much my sleep, and my mood, and is now, like, a regular part of my life because of that. And I think a lot of people discount things like just how much light affects us and how much gut healing was a huge thing for me. And then, for me, personally, the last two years were, kind of, a journey of dealing with trauma because I used to have this idea that, like, I was doing all the physical stuff right, and I could just power through. And it wasn't until I addressed all of that, the mental and emotional side as well, that all of those pieces eventually fully fell into place. And so, I think you're right, I think this is a very holistic broad approach that's different for every single person, and I totally understand why it's tempting to want to just be able to find that single solution in a pill or in, you know, some kind of medication.

But if I've learned anything in these last 13 years, it's just how personalized and individualized each of us is. And it seems like at the end of the day, finding our own answers requires that, working with someone who knows what they're doing, and getting specific testing, and then, also implementing and trying because each of our own answers is going to be, potentially, very different. I'm sure you probably see that as well in your practice.

Dr. Barter: Yes. And, you know, I think a lot of people will come in, you know, with tons of supplements, and I think why I really warn against this is because they tend to be really sick. They're like, "I went to the vitamin store and I'm taking this, for this, and this, for this, and that, for this over here. And it's unwinding that, that it becomes so challenging because, you know, supplements can be very powerful, they're very powerful medicine, and have to be used in the correct way. And so, some of the sickest patients I've seen are actually doing this, for this, and that, for that, with no end in sight. And, what I think is really important to note about supplements or doing these things, these nutraceuticals is, for most people, there should be a beginning and an end with them, right? So let's say we're boosting up neurotransmitter levels, okay? So in certain cases, I'll start with certain nutraceuticals to boost these things up, but if they have a rampant gut infection, I'll avoid certain things with doing dopamine because it can create such a severe toxic byproduct, and that creates a danger-situation for your brain. So, yes, I very much believe that there should be a beginning and an end you should have. "Okay, we looked at your testing and we see this going on in your gut, let's address the gut, and then, we're going to move on to something else because your gut should be healed up, you know, after we do these things, these X, Y, Z things, we can recheck to make sure that's the case. And then, we move into these other things, Okay, wow, you know, this B-Vitamin is off and, you know, this antioxidant is off. Okay, what else could..." you know? So we have to figure out why boost these up, and then, ultimately, people just start to build and they just feel so much better.

But when we're looking at trauma, I think that was really an important point that you brought up. When we're looking at trauma, when you're really stressed out, you know, not only the foods that you eat blow your blood sugar, but, ultimately, what's going on in your life blows your blood sugar. If you're constantly upset, you know, in a trauma-based situation, you're never going to get someone's blood sugar stable. If they hate their job and hate everything about their life, you know, ultimately, you have to look at that piece because stress really does blow the blood sugar as well. I've had people eat a perfect diet, do all of these things right, but

until they heal the trauma, until they are healing what's going on in their life, their blood sugar isn't going to be stable. And so, that's going to create such an inflammatory response in their overall body. These things are just all so critical to address, and I think, looking at these things, there's just no shortcuts, and I just think it's so important to heal the body. And I laugh. You know, people are like, "Yeah, I've tried to do this myself but I just couldn't get all the way through it." And they're like, you know, "What do you think of that?" And unless you can read and interpret the testing, he who has himself for a doctor has a fool for a doctor, because you see what you want to see instead of being objective to the situation, and then, when the work becomes hard, a lot of people don't want to go down that path, so we avoid. You know, you said, "Okay, I can do all the health stuff, I can take all the supplements," but the part that's hardest for us is probably the part that we need to address the most like the trauma piece, when you spoke about that. That's a piece that's particularly really important if you're avoiding that. Or if that's not the easiest piece for you to address, and where we have a blind eye is the most important piece.

Katie: Yeah. I think that's such a great point. And this has been such a great primer into the world of neurotransmitters, and I hope that it's also given people hope. That this is something that, while it may take time, and, like, any true healing in the body, I think, does take time, I feel like the body does want to move back into a state of health and of balance. And so, it's finding the ways to support each of our own bodies in doing that.

This episode is sponsored by Everlywell, at-home lab tests that you can get without a doctor order! I've used many of their tests and can recommend a couple that have been especially helpful. They have an at-home allergy test for 40 of the most common allergens using the same CLIA-certified labs used by Allergists/Doctors. The labs are reviewed by an independent physician and this test measures IgE levels of common allergens including pet dander, mold, trees, grasses, and more. But you can do it from your own home with a finger stick. I also really like their food sensitivity tests that test for IgG reactions. This was a big key for me in my health recovery, as there were foods that didn't show up as an allergy that were causing inflammation for me. I used an elimination diet, but this food sensitivity test also filled in the missing piece of the puzzle for me. Through healing my gut, I've been able to remove all sensitivities except for eggs. Finding out I was highly sensitive to eggs made a huge difference for me, as I ate them often as an inexpensive protein source. I feel so much better now that I don't eat eggs and I would never have known that without this test! I also use their at-home Vitamin D test to keep an eye on those levels and see if I need to supplement. Check out all of their tests at [wellnessmama.com/go/everlywell](https://wellnessmama.com/go/everlywell). Use code MAMA10 for 10% off orders.

This podcast is sponsored by BLUblox. That's B-L-U-B-L-O-X, which is an advanced light-filtering eyewear company. You've probably seen pictures of me on social media wearing orange glasses of various types at night. And here's why. In nature, we aren't exposed to certain types of light after dark, specifically, blue light, because that type of light signals the body that it's daytime. That in turn suppresses melatonin and can interfere with sleep. This is the reason that a really dramatic study found that camping for seven days straight with no artificial light at all could actually completely reset and heal circadian rhythm and help a lot of light-related problems, like seasonal affective disorder. This is also the reason that I wear orange glasses after dark to block these types of light and protect my sleep, which I am adamant about protecting. I also wear certain types of yellow glasses and anti-fatigue glasses during the day if I want a computer to reduce eye fatigue. BLUblox has orange glasses and yellow glasses. Their orange glasses for nighttime wear are designed to block

100% of the wavelengths between 400 nanometers and 550 nanometers, which are the ones that are studied to interfere with sleep and melatonin production, and circadian rhythm. My kids also wear these kinds of glasses at night. And I noticed a difference in their sleep as well, which is a huge win for a mom. This is especially important when we're watching a family movie at night or looking at any kind of screen as the artificial light, there is a source of blue light and can interfere with sleep. You can learn more, they have a ton of educational content and check out all of their innovative protective glasses by going to [blublox.com/wellnessmama](https://blublox.com/wellnessmama) and using the code `wellnessmama` to save 15%.

As we get close to the end of our interview, are there any resources, and I can make sure they're linked in the show notes, for people who feel like they've heard things that are matching up with their symptoms or that are really resonating so they can keep learning or find out more?

Dr. Barter: On neurotransmitters, specifically, is that what you're asking?

Katie: Yeah. Or even the blood sugar stuff. Just, kind of, starting points of all of this.

Dr. Barter: We have tons of resources on our website with all of that, it's on [altfammed.com](https://altfammed.com). We have tons of links and resources with that as well as the neurotransmitters, and we also cover a lot of these on our podcast, which is [fearlesshealthpodcast.com](https://fearlesshealthpodcast.com), just really going through all of the blood sugar and the neurotransmitter stuff. Somebody that has a great book, I think, that really nailed neurotransmitters, I think one of my favorite books in primer of that was Datis Kharrazian, "Why My Brain Isn't Working." He did a great overview of a lot of the neurotransmitters as well.

Katie: Awesome. I will make sure those are linked in the show notes so people can find them and keep learning. Another question I love to ask at the end of interviews is, if there's a book or a number of books that have really dramatically impacted your life, and, if so, what they are and why?

Dr. Barter: Okay. So that's a great question. One of my favorite books that completely affected my life, you know, as we talk about the trauma piece. I lost my mother to ovarian cancer, and she was on hormone replacement therapy. This was before I got into this. And, you know, I think that that was a big driver for her ovarian cancer. Her hormone levels on the patch hadn't been rechecked in, I think, 12 years and she continued to use the patch. So she died of ovarian cancer, stage 4 was when it was actually finally caught. And I read the book "Dying to Be Me." And, that was a very, very powerful book about being who we are and this woman that recovered from stage 4 cancer on her deathbed. And, boy, that book was incredibly powerful and changed my life. You know, it had me sobbing on my floor and just gave me great peace after reading that. So if somebody has lost somebody, that was a very, very special book. Another one that I really loved, a book that changed my life quite a bit was... Oh, I do not deal with Lyme quite a bit. I don't deal with Lyme in my practice, it's not really my bag. But Neil Nathan's book, "Toxic," taking you through all of the cofactors of Lyme. I thought that that was a book that really opened my eyes and changed my opinion of Lyme, and all its cofactors, and the testing that's generally done on that. So that was huge, and the book I'm reading now that I

also think is very helpful is, "Breaking the Habit of Being Yourself." And, you know, these books, you know, I've really been working into meditation and I've started getting really great at meditation and utilizing that, and I think that that has been a powerful, power, power powerful modality in helping treat, you know, anxiety, and overall health, and just becoming recentered. So, that's been something I've been working on in my own life, having that as a daily everyday practice, and I've just thought that that has been so powerful.

Katie: I love it. I've been taking notes. I'll put all of those in the show notes as well at [wellnessmama.fm](http://wellnessmama.fm). I know many of you listen while exercising or while driving. So if you are doing that, just check out the show notes to find links to everything we've talked about. Dr. Barter, I'm so grateful that you were here and shared all this today. I think this is a big topic, especially right now with so much stress going on in the world. And you've given so many helpful resources and practical tips today, and I'm just really grateful for you.

Dr. Barter: Thank you so much for doing this and getting your message out. I mean, you're such a powerful source with all this, and so, thank you for just speaking the truth and continuing to do this. Very, very grateful there's people like you doing this.

Katie: Aw, thank you. And thanks, as always, to all of you for joining us today, for sharing one of your most valuable resources, your time. We're both so grateful that you did and that you joined us, 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.