Episode 469: Dr. Kenneth Bock on Brain Inflamed & Healing the New Childhood Epidemics
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Katie: Hello, and welcome to "The Wellness Mama Podcast." I'm Katie from wellnessmama.com and wellnesse.com, and this episode goes deep on brain inflamed and healing these new childhood epidemics that we're seeing. I'm here with Dr. Kenneth Bock who is a leader in integrative medicine, who has accumulated over 35 years of direct experience in a lot of these areas. He founded Bock Integrative Medicine in response to an increasing need for board-certified medical providers who take a whole-body approach. And he's now well respected for his work with autism, with PANS, PANDAS, tick-borne illnesses, and adult conditions like chronic fatigue as well as a lot more. And we go into some of the roots of all of these as well as a whole lot more, all centering on the idea of inflammation. Super, super informative, very practical episode I know you'll enjoy, so let's jump in. Dr. Bock, welcome. And thanks for being here.

Dr. Bock: It's my pleasure to be with you, Katie.
Katie: I think, well, you have so much wisdom in so many different areas. And I think this is gonna be such an important episode for a lot of the moms listening because, unfortunately, it's no secret that a lot of chronic conditions are on the rise. And the really sad part is, especially in children, which is a semi-new thing, to see this drastic of a rise in chronic conditions and acute conditions in such a young population. And I know there's a lot of things going on that can contribute to this, but I know this is also an area of both clinical practice and research for you. So, to start broad, can you kind of walk us through, A, why we're seeing a rise in some of these things and then maybe that gut-brain connection that we've probably potentially heard about, but maybe don't fully understand?

Dr. Bock: Well, I think, firstly, that we're seeing the rise... I just wanna say what it's not. It's not genetics because you just don't see a rise in incidence like we've been seeing based on genetics. I really think it's the environment. And, you know, it's environmental triggers coupled with genetic predispositions. So, that's the first thing. And I think if we look at our kids... And I think you're right. I think there's a rise in chronic illnesses in children, teens, and adolescence. But if I say children, I'm kind of generalizing is more striking than even the rise in, like, neurodegenerative disease like Parkinson's and Alzheimer's, which is also a huge problem. But when it hits our kids, I think it hits us that much harder and is harder to explain or at least maybe grapple with, you know, on a visceral level.

So, yeah, I do think it's our environment. I think when we talk about the gut-brain-immune connection, I think that's a fundamental area that those of us like myself in integrative medicine always consider. You can't really look at chronic illness without at least paying attention to the gut and the microbiome. And I think in my field, we've been interested in this for so long. Basically, I've been... This is my 38th year of practice. So, I've been into this for a long time. But I am happy to say that what we're seeing is this huge burgeoning interest in the microbiome in conventional medicine with more and more research and more and more relatedness to many chronic conditions, including neurologics, which is really...it's great because I think it offers the possibility to really make progress in healing some of these chronic difficult disorders.

So, let's maybe start with that. So, when I talk about the microbiome, for the moms who are listening, we're talking about the microbial flora in the gut. These are in trillions of bacteria. And there are other types of organisms a little bit. There may be a little yeast and various things, but in a healthy balance, not when you have an overwhelming yeast infection, so to speak, or an overgrowth, but there's tons of bacteria. And the important thing is there's more bacteria than cells in the body. So, in a lot of ways the influence of the microbiome. And the interesting thing is the microbiome is really the genetic material of the microflora, but we refer to all those microbes in the gut as the microbiota, but a lot of times we interchange the microbiota and the microbiome. So, I might use the microbiome and not strictly be talking about the genetics and the DNA as much as the microbes.

One of the key facets of a healthy microbiome is diversity. We know that, that a diverse microflora is very, very helpful. And we're learning more and more about how to nourish the microflora. One of the ways we don't nourish it is eating lots of sugar and sweets. That is one way that we don't nourish it and that we actually
promote the growth of more dysbiotic or, you know, organisms that cause imbalance and problems whether they be pathogenic or just an imbalance.

So, we pay a lot of attention to that. And part of that is because the microbiome also influences the permeability of the gut. One must understand when we look at the gut, think of what the typical American, we call it the standard American diet, which, unfortunately, has the initial SAD, what they shovel into their mouth on a daily basis. And your gut has to deal with this. And if you could try to think of this, it's got all these... These are antigens. These are things that it's getting exposed to. And 70-75% of your immune system is located just under that one cell layer lining of the gut. And you might say, "Why? Is this a coincidence?" No, it's not coincidence. It's because you are confronted on a daily basis with all of these foreign substances coming in from the mouth down the esophagus, stomach, etc., into the intestines and your immune system has to make these instantaneous decisions as they sample things. And this is...

I actually talk a lot about this in the book "Brain Inflamed" in terms of the immune system and the microbiome, how the immune system actually kind of samples this and has to make these decisions. "Is this friend? Is this foe? Do we have to react to this? Can we just ignore it?" And so it's a very, very important process. And the important underlying thing is immune tolerance, that we learn to tolerate that which is not harmful to us like a food, for instance, and not tolerate or respond appropriately to something that is a problem like a harmful microbe, for instance. And the immune system has to make that differentiation. And that's why so much of it is concentrated there. It also maintains the integrity of the gut lining, which is another barrier. It's a physical barrier to having certain things enter that shouldn't that could cause inflammation. And a lot of what we're talking about these days, not only inflammation in adults in terms of some of those neurodegenerative disorders and heart disease, but in the kids now, there is so much inflammation including what I talked about in terms of brain inflammation.

And a dysbiotic or an altered intestinal microbial flora will allow that lining of the gut to get more permeable and allow larger molecules in that shouldn't get it that the immune system then sees as foreign and reacts. And it gets into the circulation, it causes inflammation, maybe even in the gut, but also even it can get in the circulation, get up to the blood-brain barrier, which is this cellular dynamic sitting there interface between the body and the brain to keep these toxins and foreign substances and inflammatory mediators out of the brain, very, very similar to the lining of the gut. Now, one is an epithelium. The other is an endothelial cell in the blood vessels, the very tiniest blood vessels in the brain, but they really act together. They have tight junctions that really kind of seal it up and only allow these small kind of nourishing nutrients and molecules to pass through.

Well, if that also gets all these inflammatory mediators pass through the gut, get to that blood-brain barrier, they open that up and allow these inflammatory mediators to get in the brain, and then we get brain inflammation. So, there is this direct gut-immune brain connection. It's really essential and it's something that one must always understand. And hopefully, I tried to simplify it. But I did spend a lot of time talking about that in the book because it is so, so important. And it's sometimes hard for people. They say, "How could my gut affect my brain?" We all know how the brain can affect the gut because we know when you're really
stressed and you have, like, an irritable bowel, you can get diarrhea. You can get that rumbling in the stomach because of the vagal nerve. There's a direct connection between the brain and the gut. But it goes both ways. So, the key to understand these connections that I just spoke about, it's almost like you have a triangle, the gut-immune brain triangle with bi-directional arrows, arrows going in both ways because each one affects the other. And in the middle of this pyramid or triangle is the microbiome with effects on each leg of the triangle. Is that helpful?

Katie: Absolutely. And based on what you said, I would guess we're seeing kind of overall a decline in gut diversity. I know I've read a little bit about this that due to things like we’re not eating as varied of a diet as we used to, we're not interacting with bacteria in the natural world the way we used to, even sleep, sunlight, all these things can affect gut diversity. So, I would guess maybe that is maybe a factor here as well. And I would also love a little more detail on, it makes complete sense we've got inflammation in the gut. It's causing inflammation in the brain. There's that two-way street happening. What are some of the ways you’re seeing this exhibit especially in children, but I guess in adults as well? I know there's a tie here with certain mood disorders, for instance, but what are some of the ways that you'll see this exhibit?

Dr. Bock: Well, I mean, some of the more obvious... Well, maybe it's not so obvious, I shouldn't say that. It's not obvious, but it exists, is in kids' mood disorders. We're seeing more and more mood disorders and anxiety. Basically, a third of adolescents experience anxiety, and that anxiety can be generalized anxiety, social anxiety, separation anxiety, panic, you know, subset panic disorders, etc. So, approximately 50% of children by the time they reach 18 will meet the diagnostic criteria for at least one mental health disorder. So, that is profound. And we're finding out in this last decade more and more that a lot of these mood disorders, anxiety, depression, etc., are related to brain inflammation, which then, of course, you can circle back to inflammation in the immune system and ultimately kill the gut. So, that's how it manifests.

But it also manifests in, you know, more maybe episodes of, you know, arthritis, that these are the more frank episodes of inflammation, arthritis. And in terms of the psych, it gets more hidden. It's harder to see that the inflammation-causing psych problems when that's all you see. And I think it goes across the generations. It's kids, it's teens in adolescence, it's young adults, and then it's into adulthood. And it's not just... Because when you have inflammation causing these things, especially mood disorders, the one thing you wanna do you, and that's part of why I do a lot of this writing and teaching, is you want people to get it as soon as they can because the longer you let inflammation sit, the more of a chance you have to have it move into neurodegeneration, which means that it's harder to reverse. It's easier to fight inflammation, but once it really sets in, there are times after, you know, 20, 30, 40 years, you don't know what you can reverse or not. It's harder. So, I really think it's very important to diagnose these kids earlier because that's when we can really, you know, kind of turn it around and get them walking on the path to more normality.

Katie: That makes sense. And can you also explain in a little more detail the PANS and PANDAS? I'm hearing from a lot more parents who seem to be working with a child who has some of the symptoms of that. So, can you explain what this is and what that connection is?
Dr. Bock: Certainly. So, that is one aspect of brain inflammation that can be the most striking. And what I mean by the most striking is you can have a child, and I have many examples in my practice and I've written about some of them, who is, let's say, a 10-year-old, who is a great athlete, you know, soccer, what have you, a great student, has a lot of friends, very popular, a great kid in the family with sisters, brothers, and the parents, the whole works, and then one day wakes up like an alien. Like, I mean, anxious to the point where they have separation anxiety. They won't leave a mother. They won't go to school. They've developed maybe a tick, you know, a blinking tick or a head moving tick or what have you. And they may lose their ability to write or draw, which can be pretty profound. They have cognitive dysfunction where they may lose their ability to do math. They have OCD. They may be doing rituals, handwashing. They can have panic attacks and mood dysregulation where they can get, like, intense episodes of screaming and hitting and aggression, sometimes self-injurious, sometimes harming others. It can be so frightening.

And what that's coming from is that they had a proceeding infection. PANDAS refers to a proceeding strep infection. PANS or what I like to refer to as ITABI, infection-triggered autoimmune brain inflammation, which is really what it is, that the organism that causes the infection when the immune system goes to fight that infection, there's a tiny piece of that organism, let's say it's the bacteria, you call it an epitope. It's a tiny, tiny piece that is exactly similar to a piece of the brain, especially in the basal ganglia, which controls emotions and movements and can be responsible for these ticks in OCD. So, when the immune system goes to fight the bacteria and they circle up in the brain, they see this piece of the brain that looks just like the bacteria. And they attack it and they cause inflammation and ultimately autoimmunity. And so that's infection triggering brain inflammation and autoimmunity. That is the essence. It's a misdirected immune response to an infectious agent. And it's not just PANDAS. That was very limiting. It can be Lyme. It can be tick-borne disorders, Lyme, Bartonella. It can be mycoplasma. It can be a herpes virus. It can be various things. A sinus infection can sometimes do it. So, the key is to recognize it and do the medical detective work to find out what it is that's triggering it so that we can then remediate it.

Katie: Yeah. So, it sounds like with anything, this is a complex topic. It's not a single cause, single effect by any means, and probably not a simple single diagnosis criteria either. So, you've mentioned tick-borne disorders, which I'm hearing from a lot of people also very much seem to be on the rise. I'm hearing from a lot of chronic Lyme patients. Even you mentioned herpes strep. I would guess, also, Epstein-Barr gets lumped into this. I'm curious. When people come in to see you, how do you start unpacking that? How do you start getting to those roots? Because this seems like a relatively complex topic.

Dr. Bock: It's very complex. It seems like my practice has migrated. I mean, I've always been interested in difficult problems. It's just the nature of my brain, I guess. I really enjoy it kind of. And you used a great word. I've never used that word. I like it, unpacking it. Sometimes we use the word unraveling it, but it is. It's like peeling an onion. It's like unpacking it. I think the key is a number of things.
First is to be aware that it exists because awareness is the beginning to solving things. And you'll be amazed at how many people either are not aware of it or I actually hate to say even deny its existence, which is really unfortunate because it prevents people from getting the diagnosis and the treatment. And for me, I wrote this in my first book in 1997 called "The Road to Immunity." If you don't look, you won't see. And if you don't hear...if you don't listen, you won't hear. And so I think the key, to me, is to look and listen.

This is, you know, something that I would share in terms of my medical upbringing, so to speak, not when I was a kid, but in medical school, I had a mentor by the name of George Engel who actually was the father of, basically, biomedical psychosocial medicine. And he really started with us from day one, had a very, really, big influence on me. And he taught us the open-ended interview, which was not the kind of interview that happens, unfortunately, in the 10-minute visit with the doctor. It's that you don't fire questions to get these very short answers so you could come to a quick diagnosis and give them medicine. You actually let the person speak. And the truth is if you let a patient speak to you, 90% of figuring out is the history. The physical exam is obviously important, but obviously, if there's psoriasis or something, it's extremely important. I mean, in terms of a lot of these complex things, the history is so, so essential. And I listen. I mean, I spend an hour and a half, sometimes up to two hours with a new patient because they're so complicated, so I hear it from them, I listen, and look through all the records that they bring.

It's like sometimes you get a hernia from picking up those records. And sometimes I have to actually, unfortunately, even do it after hours because it's so much, but I do want to see it. But that is the key. The key is to be able to look at it all, recognizing what may contribute. And there are a lot of clues. There are a lot, a lot of clues. And that is one of the things that I think I tried to make really, really as clear as I could in "Brain Inflamed" at the end of each chapter talking about various entities that can contribute to brain inflammation and mood disorders in the kids is that there are clues that can... In terms of Lyme, you know, do you live in an endemic area where there's a lot of deers and ticks and Lyme? I am in Dutchess County, New York, or Ulster County, New York, the Hamptons, the Berkshires of Massachusetts, the Northeast, Connecticut. And it's all over the country. So, if somebody tells you they live in a state and they don't have Lyme, it's just not true.

Have you had a tick bite? Have you had the bull's eye rash? Do you do things like play sports, like, is your kid a soccer player? Do they go into the woods to get their ball? Do they like to play in parks, go for walks, and hikes? These are all things. Does your family go camping? And then there's things that lead you to the tick-borne whether they have recurrent strep as a child where that can lead the way to this kind of thing and other things in terms of thyroid, their symptoms. Are they constipated? Are they tired? Are they overweight? Do they have trouble losing weight? Do they have dry skin? All these kinds of things. And there's many more. But these are clues that can direct me because it's not one-size-fits-all. I don't have a protocol. It's almost like individualized medicine or now it's being called personalized medicine where you deal with each patient as an individual. I use the knowledge base I have as a foundation, but I try to listen to them without prejudicing it by that, but actually, you know, obviously having the knowledge to try to put it together and let the patient or the parent, in this case, of course, speak and tell their story. That's the basic way.
Katie: And that alone should not be so groundbreaking and incredible, but, unfortunately, in today's world, it seems like it often is because I had that experience with doctors who I felt like weren't listening at all and just kind of minimized my symptoms and gave me five minutes and wanted me out the door. And I hear from so many listeners who have had that experience where they feel like doctors aren't listening to them at all or that they're trying to communicate those things. And I think that alone is a tremendous thing when a patient can find a practitioner who becomes a partner with them and is willing to actually spend the time and start. And on a practical level, I know from hearing from parents, like, these, especially when a child is going through something like this, it feels so overwhelming and oftentimes a little bit hopeless. And it seems like the conventional answer often points to just pharmaceutical intervention, which, unfortunately, these conditions from what you've just described are not happening because of a deficiency of a pharmaceutical. So, I'm curious from the practical side, like, what are some of those first steps that you take someone through when you've identified one of these inflammatory conditions? And, on average, how soon do they start to see a change when they start implementing these things?

Dr. Bock: Well, firstly, it takes a while. I mean, sometimes you get lucky and the change is fairly quick. But I think, you know, we have a certain, you know, preceptor principle in the medicine that I do where if something has been going on for years, you can't... It doesn't mean it's gonna take years to get it better, but you cannot expect it to get better in a couple of days. And if anybody tells you then it's really being unrealistic. So, we like to make sure we give it enough time. First, you gotta figure it out. And it's like you said, unpacking or peeling the onion. So, time is really it, especially if it's a chronic infection like tick-borne, which, you know, unfortunately, in a lot of these entities, there's what I say maybe polarizing approaches, which is unfortunate. In Lyme and in tick-borne diseases, it's clear to me that people can have chronic cases. Yet, there are, unfortunately, some doctors, and I'm not saying they're bad doctors in any way, they probably mean good, they believe this, that you give two to four weeks of an antibiotic and Lyme is done, and everything after that is post-treatment Lyme syndrome. And it's just not the way.

There's a lot of evidence and publications that support that Lyme and other tick-borne disorders can be more chronic and less. So, the point is if that's the case, you have to recognize that you may have to treat longer. And unfortunately, with all these treatments like even, you know, we were talking about PANDAS, PANS, or ITABI as I say, if it's strep, you just can't treat for 10 days. If the immune system has been dysregulated, you need to treat for at least a month with an antibiotic. And just like in rheumatic fever where kids get penicillin for up to age 18 or 21 sometimes, you may need to treat for much longer, months, or even longer. And the key is to be open to what's necessary and not limited just because that's what you're supposed to do. I think what you're supposed to do is treat the patient always being aware that there are potential side effects with antibiotics.

So, when I treat tick-borne and strep-related or any of these things with antibiotics, I always protect the gut with co-biotics, which would be probiotics, Saccharomyces Boulardii, some prebiotics, and recognizing that you have to monitor the safety labs. So, we check liver, kidney, blood counts every month to make sure that they're okay. It's not enough to just throw somebody on an antibiotic. I mean, if it's helping them, it's great. But you always have to be cognizant of potential side effects. And I think that is one of the things that I teach doctors a lot and I think is very important and why it's really helped me, you know, be able to do this. And
listen, when I started, Katie, in medicine 38 years ago, a lot of what I was doing, the kids I was taking care of had recurrent ear infections. So, I was dealing with food allergies and yeast problems and trying to get them off antibiotics, right? And now to find myself using antibiotics in a more prolonged fashion for tick-borne disorders and for these, you know, PANS/PANDAS kinds of patients, it's not what I would have preferred to do. But yet, you know, we do use, you know, herbal and nutraceutical antimicrobials and all that as well. Don't get me wrong, but you must do what works to help these kids. And hopefully, thankfully, after thousands of kids, I've come up with, you know, ways that do work for them.

But it always interests me how somehow if you listen and you look and you let the patient really tell their story and you really figure it out and you treat them as they need to not with preconceived notions that you can really arrive at it. You really can. And that's what's so gratifying for me. It's very complex. It's very hard work. But, I mean, when you treat these kids who have been sick for so long, you're not only helping the kids, you're helping the families. You're helping these kids that have mood dysregulation with aggression and don't go to school for three years. I have kids that have been out of school for three years. You help the families. You help the siblings, the parents, the grandparents. So, for me, it's very gratifying when you can really change that trajectory, so to speak.

Katie: And I think that's an important point as well to realize. I think a lot of the people listening tend to the more natural side of wanting to use natural alternatives whenever possible. And certainly, I myself am kind of in that camp as well, but realizing there is also very much a time and a place for things like antibiotics when they're needed. And I think that's an important point that maybe isn't talked about enough when it comes to some of these conditions. And you're right. There's almost these polarizing camps, and I've wondered if that actually gets in the way of patient outcomes at times because, like you said, at the end of the day, it needs to come down to the individual person and what's best for their specific case.

But I feel like often it gets kind of turned into a protocol or people will get, like, kind of a pet protocol that they prefer to use and default to. And at the end of the day, it truly should be about patient outcomes and what's gonna help these kids get better. But I definitely have seen that resistance to using antibiotics even in pretty severe cases like this. But it makes sense what you're saying is, look at the patient individually, use them when they're necessary, realizing that they have side effects as well so that you're working to kind of actively mitigate that at the same time. Are there any commonalities that often exist across the board? I'm guessing with an inflammatory connection, you're gonna wanna remove inflammatory foods or at least certain ones for a while removing inflammatory lifestyle factors. What are some of those starting points that you work on with families?

Dr. Bock: So, I'm gonna get to that in one second. I do wanna emphasize to you that people should understand the whole antibiotic thing, that it's always... You're using it. You're trying to use it when needed, have additional herbal and nutraceutical antimicrobials and anti-natural anti-inflammatories. And we're gonna get to the diet and other things right now. So, it's not that you just jump to antibiotics and that's your only modality. That would not be good. And that would... I would say in my treatment programs is always gonna be dietary modifications, nutritional supplementation, detoxification, protection, etc. But the people that are
adamantly opposed to that sometimes won't get better because they really do need it. So, I think you made a very good point and I wanna have people understand. I mean, I think there's a balance that you have to come to, and I would say it's a grounded balance. And I think sometimes I'm looked at as somebody that hopefully has that, that is not a cowboy or a cowgirl out there just, you know, but that does what's necessary. And, of course, I use lots of nutrients.

So, we get to this other question, is, you do have to mitigate inflammatory triggering things like diet and supplements. So, let's say the diet. So, what's inflammatory? Well, sugar is definitely inflammatory and sugar feeds, you know, Lyme and other dysbiotic bacteria. So, the first things we do always dietary is cut out sugar, you know, or at least for some of the teens. It's not easy when you work with teens. I mean, this is something that I really honed over years in, you know, hundreds or thousands of kids. You have to communicate with them. You try to really have them know that you're on their side because they're sitting on my couch with earbuds in and basically looking down and, you know, maybe barking at their parents because you know what's going on in the adolescent teen. So, you try to help them understand. And if they're in enough pain, not always physical pain, psychological pain, if you can help them, that maybe they'll get to do that.

Gluten and dairy are two generally foods. Gluten and casein, but certainly gluten and dairy foods can be inflammatory, not in everybody, but generally, it can be in a lot of people with inflammation. So, we do frequently advise and try or at least to have a gluten-free and dairy-free diet. There are things I can do to look at and see if there are allergies or gluten sensitivity. But most of the people don't have celiac. It's a very small amount. And a lot more people have gluten and dairy sensitivities. And getting them off of sometimes soy. And we look at specific foods because if there are certain specific foods, it could even be eggs, which is a healthy food in my mind, but, you know, if you're allergic or sensitive, it can cause inflammation. Grains, certainly.

So, a lot of times the treatment that we certainly may start on if they can move to this. This is the thing about how to implement it is a modified ketogenic diet, which is kind of like a paleo-type diet, which is, you know, protein, good fats, you know, avocado, olive oil, even coconut oil. Veggies, veggies, veggies, veggies, is really a key. And you avoid the grains. You avoid gluten. You avoid dairy. And in some of the diets, we don't even want a lot of sugar. So fruits, you may limit it, maybe more berries and stuff that is lower in sugar. You want the lower glycemic ones because, you know, even fruits, if you eat a lot of high glycemic fruits, it's like eating sugar. And certainly, no fruit juices, which we grew up with thinking, "Wow. I'm not drinking soda. At least I'm drinking fruit juice." But drinking apple juice and orange juice, unfortunately, is like drinking a lot of sugar.

Katie: Yeah, it's interesting, definitely. I used to have Hashimoto's and I went through a lot of the same things trying to figure out my own inflammatory response. And I agree with you. Eggs are, I would consider mostly a healthy food and I definitely reacted to eggs for quite a while until I was able to calm down that inflammatory response. And then for a while, I was good with duck eggs and now I can handle all eggs pretty well. But I think that's a good point as well is there's foods that are kind of easy to put in that inflammatory category. And I agree with you, like, especially when we've got any kind of inflammatory response like refined sugar, any processed food, vegetable oils, those things we can lump into a big group and get rid of those entirely. But
then there's also that personalized component, like you said. And unpacking is something that could still otherwise be good causing an inflammatory response. You also mentioned before, like, when the vagal nerve connection, even just stress, it's, like, what we perceive as stress can cause an actual physical change and physical reaction. So, do you work with patients on strategies to reduce their stress or perceived stress?

Dr. Bock: Totally, because... It's good you said that because stress creates systemic inflammation. And there are studies to support this. So, clearly, if you have a lot of stress, that's gonna promote inflammation. And it's very interesting, Katie, that, you know, I talk about this immune kettle, this kettle that different layers, it starts with genetic predispositions and then you layer it up with nutritional deficiencies, insufficiencies, and environmental exposures, toxicants, and infections, and hormonal imbalances and allergies and sensitivities. And when you get to the top frequently, the thing that might throw you over the top into symptoms is a large amount of stress. And people will generally view that as only stress. You can't forget all the other layers in the kettle that you have to address to get somebody as far down in the kettle that they can be as healthy as possible. But stress is a very important component. And it must be addressed for sure because it clearly contributes to systemic inflammation.

Katie: That makes sense. And that would line up with... It seems like we often see... If those underlying other factors are there, someone may not be perceiving them because their bodies are resilient. And so, like you said, you may have all these factors, but then some stressful event like a loss of some type or even I've seen pregnancy seem to be a catapult for a lot of women into actually starting to see symptoms, which even though pregnancy is a wonderful thing, it is a stressor on the body.

Dr. Bock: It's a stressor on the body. It has immune system ramifications, which may be the reason and also hormonal changes. So, there are additional things in addition to the actual stress in the body in terms of the immune system and the endocrine system. Yes, definitely.

Katie: That makes sense. Okay. So, I think another kind of jumping-in point that'll be really interesting here is we talked about this a little bit off air. I love to ask the question of a few things that people don't know or understand about your area of expertise. But I think some lines got crossed when my team sent it to you and you didn't get the part about your area of expertise. And if you're willing to be vulnerable, I would love to hear that because I have a feeling there's a crossover into application here.

Dr. Bock: Yeah. That's great. Well, thank you. I know. Listen, I actually love questions like that. Some of the best interviews and podcasts I've done have been people that we just jumped off various things. So, what some people probably don't know about me, I'm sure most people don't know about me, is I have old close friends from kindergarten, public school, junior high school. Actually, I saw two of them last night. One is single, the other one is married, so their wives were with us. But it was great because one of them just came up from Florida. So, I really value close, long-term friendships. I think I've hopefully talked about that to my kids. And, unfortunately, many people don't have that in their lives. And for me, they make up what I would
call chosen family because we all get family... You had that sort of smile. We all get family and, you know, listen, it doesn't always work. It's a real opportunity to have real closeness with your family, but sometimes siblings, unfortunately, with all the issues, etc., etc. It doesn't work. So, we will have Thanksgiving and, you know, various of our holidays with chosen family and extremely close and they're really like family. And there's, you know, a guy from kindergarten, a guy that I know from kindergarten I play golf with every Friday. We meet halfway between where both live. And so these things are very important to me. So, I would share that as something that really is I think some of the people don't know.

The other thing is, you know, when you get to family, I have two kids who are adopted from Colombia, which has been, you know, a real joy and it's just been amazing for me and my wife. And they're 26 and 31. Actually, 32, sorry. He just turned 32. And one of them just got reunited with the birth family in Colombia and we all went to Colombia to meet them. And it was amazing. They have become part of our extended family. And a birth brother came here a few weeks ago, got vaccinated, stayed with us. And it's just unbelievable. So, it's just... Again, it's that whole thing about family. And this is a family in Colombia that's never had as much opportunity. That's why they had to give one child up, unfortunately, because they are poor. And it's been so great to share with them and the love and everything. So, that is something I think, yeah, it's beautiful. It's an unbelievable story.

Yeah. So, those are a couple of the things. And I guess the last thing when I thought about, "Okay. What do people not know about you," I do integrative medicine, but interestingly it dates back to my college days where, you know, I became a vegetarian. I'm not a vegetarian anymore because I felt like I needed more protein myself, but for 26 years I was. And I was into nutrition. And I actually majored in American Studies and I was gonna study ethnobotany, Native Americans, because that was my interest right before I went to medical school. So, it's very interesting that in my medical career I incorporate nutrition, nutrients, and herbs. So, it's kind of a full-circle thing and I feel like... The nice thing is I feel like where I'm supposed to be and my staff sometimes worries about me retiring, and I say, "Why would I retire? I love what I do and I get the opportunity to heal many people with chronic complex problems that may not have gotten that healing." So, I'm gonna be around for a little bit.

Katie: That's good to hear. And I'll make sure I put links in the show notes at wellnessmama.fm for you guys so that you can find Dr. Bock's practice, especially if you are anywhere close, although you work virtually as well. Is that right?

Dr. Bock: Yes. And nowadays, of course, we're allowed to work virtually even more. So, people used to have to... But we have to see people from all over the world and we used to have to fly in at least for the first time, but now because of COVID they've relaxed that and I think they're gonna keep that going. I think it's working. So, I can see people virtually. We do it just like this on a video. And I can get the labs and I can actually treat, not just with nutrients before, but I can actually... if I need to use medicines and things like that. So, yeah. So, basically, they shouldn't feel constrained. And I have a wonderful nurse practitioner with me. She's been with me since last October, I think. And she is phenomenal. And her name is Jennifer. And so, you know, people can
always get into see her and she presents each case to me. We talk it over so people, you know, can get in easier and she's... I think people love her. So, she's great.

Katie: That's a silver lining. I guess over the past couple of years of craziness, I feel like it has been helpful in helping doctors and practitioners connect more directly with patients. I'm glad to hear that's likely gonna stay.

Dr. Bock: I think it might. I don't know. And I certainly hope it does because I think it's allowed certain populations, especially rural populations, but, I mean, it allows people to get care from someone further away that may have expertise that maybe is not in the local community. So, I do think there's a value to it.

Katie: Do you have any advice for parents on how to find a good practitioner or doctor, even if it's in a different area of expertise? But are there good questions that they should ask to kind of see if the doctor is gonna be a good partner in working with them on their health or their child's health?

Dr. Bock: Well, I think you have to try to just not be scared to ask. And if a doctor intimidates you and doesn't let you ask that, it may not be the right one. You may be labeled as a, you know, "Oh, my God. This patient is gonna be a pain or too much," you know. But you may present that. "Hey, I'm looking for somebody who can be a partner in my health. I recognize you have a lot of expertise. I may have questions. I'm intelligent. I like to research. I'd like to be able to talk to you about things. I'd like to make decisions." So, I think the key is communication. If you don't communicate, you know, you may not be able to. You may try, but that may be the clue. The other thing is, if there are things going on, you want to make sure they listen. And it may sometimes behoove a patient to say, "Listen, I need more time." And I know not everybody can afford it, "But I'm willing to pay a little more to have more time for you not to run out of the room. I want you to be able to hear my story." And so that's another thing to make sure they get enough time.

And also one thing in the book "Brain Inflamed" at the end of every chapter, there are clues and questions that you can bring that you can ask yourselves, but that the book is not meant for you to diagnose yourself. You can bring them to the doctor and almost answer and say, "Hey, this is what's going on with my kid. Is there a chance you can check for thyroid problems like low thyroid, or you can check for adrenal issues, or you can check for tick-borne?" And so I think the key is for a parent to be able to recognize that they have the right to ask these questions if they're put down. Maybe it's not right. You know what I mean? And you want the time, but you also have to recognize that in the constraints of insurance medicine, if your insurance is gonna cover a small amount for a quick visit, it's difficult for the doctors. It's unfortunate. So, you may have to take that next step and say, "Listen, I understand I need more time. I'm happy to pay for that extra time, but I would like to get the care that I need." That's a suggestion.

Katie: That's great advice. And I know you've written about this. I'll make sure your books are linked as well. But like we kind of talked about in the beginning and like you talked about with your immune kettle is that we
have so many more negative inputs going into our bodies and our lifestyles right now. It's no secret. Like, we've talked about all the reasons inflammation is on the rise. Even for people who are listening who hopefully don't have themselves or their child going through a really acute condition, do you have any good general guidelines for keeping inflammation lower since this seems to be a pretty much population-wide problem at this point?

Dr. Bock: Yeah. So, I would... I mean, it's not always easy to implement, but as best as you possible, you know, you deal with stress. You try to... You try to be a little more, live in the moment. Don't let the... It's almost like don't let the little things bother you. There's books written about that known as "Don't Sweat the Small Stuff." When you would ask me about one of the favorite books, I was gonna say one of the ones was "Zen Mind, Beginner's Mind," which I read years ago and I used to actually meditate with a friend and we used to read a few pages or every time after we meditated. And it basically tried to get you in a space of not being as distracted, being in the moment, but also having a kind of fresh, open perspective, almost like a child, to each thing so we don't have all these preconceived judgments that keep us from really experiencing the world. So, it's a way of living life. You eat a healthier diet. I mean, like we talked, it doesn't have to be extreme. You try to moderate it so that you can do it, but certainly, you decrease the sugars and the sweets. You increase whole foods. Try to eat organic as much as possible because, you know, it is... I know it's, like, more expensive, but if you can, it really does make a difference in terms of even, you know, chickens. You don't wanna eat chickens that, you know, may be artificially raised in some way with a lot more pesticides. You wanna try to use natural cleaning products, avoid pesticides. And you want to eat veggies, veggies, veggies, veggies I would say.

And then I would say, there are nutrients that can... You wanna keep your microbiome in a good place so you can take probiotics, prebiotics. I take a lot of these things on a daily basis, for sure. And I would just say and nutrients. There are various anti-inflammatory-type nutrients. There are fish oils. There's Vitamin D. So, you should get your Vitamin D level checked and take a dose of Vitamin D that's appropriate, and then get a recheck to make sure you don't overshoot and that you're getting there. There are some herbal nutraceuticals like curcumin, which is an excellent anti-inflammatory, and other things like green tea. So, there are resveratrol. There are nutrients that can actually help tighten up that blood-brain barrier, restore the integrity. Resveratrol is another one of these nutraceuticals, polyphenols. So, those are just... And there are many more, but those are a few I think for people who are really experiencing inflammation. I use a lot of CBD, you know, pharmaceutical-grade CBD. It doesn't have any THC, especially the ones for kids have no THC. You're allowed to have up to 0.3% THC without any problem, but we like to use ones without any THC for the kids. And it can be very helpful as long as you get up to the right doses.

And so that's the thing I would let people know is another principle is right nutrients, right doses. A lot of the nutrients out there maybe put in these multiples combinations and they have very, very tiny doses, but they make... Hey, mind you, this has got everything in it, but you look at Coenzyme Q10 and it should be 100 milligrams, and maybe it says, you know, 100 micrograms or 1,000 micrograms, which is just really 1 milligram because the microbiome is 1,000 centi-milligram, but it looks like, "Wow, this is loaded." So, you have to be aware of that. And in my practice you may use pharmaceutical-grade nutrients that are, you want high quality, especially for probiotics, very, very important. A lot of the higher dose probiotics we use are actually individually wrapped and they're nitrogen-packed. So you don't have to refrigerate them because they
maintain their potency because the key is not what you put in them. It's what is in them when you take them. And also fish oils. Fish oil is very important to get really high quality, no Mercury, no toxicants. And that's very, very important. So, out of everything, Vitamin D is generally Vitamin D, etc., etc. So, I think between diet modifications, and, of course, gluten and dairy, it depends, you can look at how that affects you. But you wanna do it in the context of a healthy diet.

Sometimes people go gluten-free and they come back to me and they say, "Yeah, I'm gluten-free." And I look what they're eating. They're eating tons of gluten-free chocolate chip cookies. Well, that's not the gluten-free diet that we're talking about. And I'm sure you understand that. And then, you know, there's certain things we do for detoxification. We actually check people's MTHFR status. So, if they have a problem with methylation, we wanna support that with methyl B12 and methyl folate. So, there are a lot of things to be aware of in the context of the more toxicans that we experienced in the world, for sure. And we can do it.

So, in "Brain Inflamed" although I talk about a lot of stories and some of them are dramatic, some of them less so, there are also interspersed places of how you can be more preventive with your kids, like some of the things I'm saying now. I mean, I take... If I showed you the packet of nutrients I take every day because I know what they do for me and I take them. But if you're gonna try to give some very basic nutrients to kids, you might think of...and you talk about inflammation, probiotics are anti-inflammatory, Vitamin D and fish oil. So, let's say you're talking about... And if you give fish oils I like to give a little Vitamin E to prevent it from oxidation. So, if you're talking about... You know, I call that the Holy Trinity. There was a friend and patient of mine, Chris Carr, actually, came up with that with me, the Holy Trinity. Fish oils, Vitamin D, and probiotics, I think those are three things that I think can be considered for most people in terms of promoting kind of anti-inflammation, so to speak.

Katie: So many great tips in there. I was taking notes.

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This episode is brought to you by Olipop.... A new kind of soda that has become a fast favorite at my house. The idea of soda is usually associated with drinks that are full of sugar, corn syrup, and artificial ingredients like aspartame. But Olipop is so different! They use functional ingredients that combine the benefits of prebiotics, plant fiber and botanicals to support your microbiome and benefit digestive health, plus you get all
the taste without the sugar or nasty added ingredients. Their Orange Squeeze has 5g of sugar compared to Orange Fanta which has 44g of sugar. 90% of Americans consume more than the USDA’s daily recommended added sugar intake (30g). Sweetened beverages (like soda) are the leading source of added sugars in the American diet. All of their products are Non-GMO, Vegan, Paleo and Keto-friendly with less than 8g net carbs per can. We’ve worked out a special deal for Wellness Mama listeners. Receive 15% off your purchase. I recommend trying their variety pack. This is a great way to try all of their delicious flavors. Go to drinkolipop.com/wellnessmama or use code WELLNESSMAMA at checkout to claim this deal. OLIPOP can also be found in over 5,000 stores across the country, including Kroger, Whole Foods, Sprouts, and Wegmans.

And you mentioned you take a lot of supplements daily. I do too. I rotate a lot of things. But what would you consider your personal, like, 80/20 of the things you do, the 20% of things you do as part of your regular routine that have the biggest benefit?

Dr. Bock: These are just a few. I already did my morning ones, but these are just... So, when you say my 80/20, do you mean...

Katie: So, like, the idea that pareto principle that like 20% of inputs usually drive 80% of output. So, what are the most impactful things you do? For instance, meditation is one of mine, things that provides the most result for time input.

Dr. Bock: Well, I think meditation is a great one. And although I used to meditate every day, I still meditate, but it's not, unfortunately, every day like it used to be. But it should be. I think exercise. Exercise is a key. We didn't talk about exercise, but exercise... Regular and moderate exercise for the long-term is definitely anti-inflammatory. Severe exercise actually is inflammatory. So, you have to be aware of that. And that's why sometimes you've heard stories of people who, you know, the weekend warriors that go out and have a real problem because they go crazy one day a week. It's just too much. So, the regular exercise actually increases your antioxidant capacity and is very helpful.

And for me, you know, in answer to one of the other questions that you asked to consider when you think of maybe one of the most important things I would like people to know, I would say that love and laughter are two ingredients that are essential to life and the health of the immune system. So, I was on one podcast where I said that and I said... I was playing a game. "Okay. What do you think are the two most healthy things for the immune system?" And everybody always says, "Vitamin D and Vitamin C and probiotics." I said, "No, no, no." And then, obviously, everyone... I say, "No, love and laughter." And the person just freaked in a good way. It's like, I really believe that. So, I love to surround myself with family and close friends, I guess the chosen family, and also laugh. I'm a guy that might kid's kid me about laughing in a movie theater. If you can hear me, and I laugh a lot. You know why? Because I think, first of all, I just, thankfully, enjoy life, but I love to laugh.
And I think laughter is so important. Not having to do stand-up comedy, but, you know, joking or a little fun teasing, not putting people down, but just sharing laughs is so, so important and for your immune system. I mean, there are studies to show that. And love as well in a home. You know what I mean? I may sound corny now, but you’re asking me for very... Quote little things that can have great benefits. Well, a hug. What was one of the most difficult things during COVID? For me, it was you couldn't hug your friends. You couldn't hug. I mean, you could hug your pod, but you couldn't hug the people that you do. And I found that very difficult. I think a lot of people I know also found that difficult because hugs are really important. I mean, that's really... Those are the small-time commitments, but big payoffs.

Katie: Yeah. I'm glad we brought it back to that community aspect because, I mean, we can say that's a small thing, but also I really firmly believe that's actually a big factor in Blue Zones is the very strong relationships and community that they have. And we know from the data that having those solid relationships and regular in-person time with people that you have strong relationships with, it's actually statistically as or more important than exercise, than quitting, smoking than your diet. As social human creatures, we absolutely need that for health. So, I'm so glad we got back to that as a wrapping-up point. You already answered the question about a book that had had a profound impact on your life. Are there any others that come to mind that you'd want to share as well?

Dr. Bock: That was the main one. I mean, there's... That was the main one. Over the course of years, there have been others. But when I was thinking of it, that's the one that jumped out at me because that was the one... It was many years ago and it was actually meditating with somebody who was an old friend. Actually, it's somebody in Peabody. He's a basketball coach, Phil Jackson. We used to meditate every morning. He'd come to my house at 6:30 in the morning. This was before he coached the Chicago Bulls and he lived in Woodstock. And we'd meditate and then go off for breakfast afterwards. And it was just a very wonderful thing. And we'd read a piece of "Zen Mind, Beginner's Mind." So, that just jumps out much more than any other book.

Katie: What a cool story and a perfect place to wrap up. I love that we get to delve into the science, but also that so much of the advice came back to the quality of your relationships, your meditation, your friendships, and the daily choices that you make for your own health versus sometimes the more extreme measures that are also very much necessary. And I will make sure, like I mentioned, that your books are linked in the show notes for you guys listening, wellnessmama.fm. All of his books will be linked there, also your practice. Are you taking new patients for anyone who wants to work virtually?

Dr. Bock: Totally. Totally. And also, they can go to the website braininflamed.com because there's a place that they can actually download... I made some templates and one is a blank template. So, if your kid's having issues, you can look at some of the mood disorders. You can look at some of the symptoms and kind of make your own graph, compare it to some of the templates. Obviously, they're not exactly good templates for some of the other things that I talked about. And then you can maybe map it, you know, monthly or so, and watch the progress. Hopefully, some of the peaks go down. And so that's something they can get on braininflamed.com.
Katie: Perfect. I will make sure that is linked as well. I know how busy you are, so thank you for your time today. This was so informative, and I'm so grateful.

Dr. Bock: No, it was my pleasure. You were great and it was really fun.

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

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