



Episode 412: Getting the Benefits of Ozone Therapy With Biocharged Scientist Ian Mitchell

Child: Welcome to my Mommy's podcast.

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Katie: Welcome to "The Wellness Mama Podcast." I'm Katie from [wellnessmama.com](https://wellnessmama.com) and [wellnesse.com](https://wellnesse.com). That's wellness with an E on the end. This episode goes deep on a fascinating topic I've been doing a lot of research on legally, which is ozone. But there's a lot to understand about this and a lot that is important to know before you just jump in and try it. I'm here with Dr. Ian Mitchell, who is an expert in the field of ozone and many other topics. I'm definitely going to have him on again. But in this episode, we dive deep on some of the misconceptions related to ozone. What is the best way to get and make use of this? What are some of the common use cases, and what are the cautions and things that you need to avoid if you're going to use ozone? And we talk especially about a really cutting edge product called Biocharged that allows you to ingest ozone orally and get a lot of the same benefits that you would get from using ozone in the blood. We'll go deep on what that means and how it benefits you in this episode. But if you wanna just check out the product, you can check it out at [biocharged.co/wellnessmama](https://biocharged.co/wellnessmama). So that's [biocharged.co/wellnessmama](https://biocharged.co/wellnessmama). You can check it all out there but really excited to share this and future episodes with Ian Mitchell with you. Ian, welcome. Thanks for being here.

Ian: I'm happy to be here.

Katie: I'm really excited to chat with you. You're a new friend. We got to meet yesterday, and already have multiple podcasts planned because we already have so many topics to chat about. But the one to talk about today that I'm really excited personally to learn more about is the idea of ozone. So something I've experimented with a little bit myself, but I don't have a whole lot of understanding beyond just my own experimentation. So, to start, can you take us broad first and explain what ozone is?

Ian: Sure. So, ozone is O<sub>3</sub>. So it's three oxygen atoms grouped together in a molecule, and it's super highly reactive. That's what most people think of it, kind of in a negative context of things like ozone action days and that sort of stuff. And that's because effectively it's nature's disinfectant. And it is very reactive. And it'll knock out, you know, fungal things and bacterial things very, very effectively, more so than almost anything else. And in terms of reactivity, it's about the third most reactive molecular species, so you'll have about 100 million interactions in a second. And in the context of how it applies to physiology, there's a tremendous body of work and thousands of articles that are all peer-reviewed, both nationally and internationally, just very demonstrably showing the effects of using rectal ozone, when you do rectal insufflation, ozone autohemotherapy. There's actually bubbling ozone through water. There's a whole lot of methodologies to actually use it. The one that I've been the most focused on is using it with oils. And so, you take a little bit of liquid or, you know, a triglyceral fatty acid, and you bubble it through. So, in the case of what we were working with, we've worked with olive oil and sunflower oil. And a lot of people... What we ended up using was sunflower oil because you can utilize more ozonides, which is what you end up with, which is not something that's detrimental to your body, but it's beneficial because in the form of the capsules that we made it biocharged, you don't actually have any ozone remaining in the capsules. So, you start with something that's very reactive, then you react it through another medium, in this case, an oil. And then at the end of that, it's done a triple pass redox reaction, which is just a reduction-oxidation reaction. And you're left with something that is a signaling molecule. So, the ozonides when you take them into your bodies, they work effectively as signaling molecules.

So it sets up a cascade for a hormetic response. And just the idea being that you use something that creates a pro-oxidative insult in your body and your body responds and says, "Oh, my gosh, we're under attack, stop this." And so, it mobilizes and it up-regulates its mitochondrial function, and then produces things like superoxide, dismutase, and glutathione, to mobilize the innate immune system to deal with any insult that's been created. So, kind of broad-spectrum. What we've been doing is taking something that's very ubiquitous, and people have used for a long time, but reimaged it in a way that we can elicit the same response that people do with autohemotherapy, which is where you pull your blood and then you mix it with ozone gas, the ozone reacts in your blood, and then you push it back in, and you use the ozonides in your blood. But it's kind of a cumbersome process, and it's more expensive, and it's not something you'd wanna do every day. So, what I was tasked with was, is it possible to do autohemotherapy in a pill? And initially, I thought, that's really kind of a difficult thing but I like crazy puzzles. So, I signed up and said, "Yeah, I'll try and figure it out. If it's possible, I'll figure it out." And so, that kind of started this big process where I went back and researched ozone and then researched ozonated oils to see what sort of bridge we could come up with to get from the standpoint of just having an ozonated oil and using it to replace autohemotherapy if possible. And that brings us to where we are now.

Katie: So fascinating and so many different angles, we can go from there. So people can understand if they're not familiar with ozone at all, what would be some of the reasons someone might use autohemotherapy or ozone and other ways of rectal insufflation, for instance? What would they use that for?

Ian: Well, the biggies are if you have any sort of infection, like parasitic infections, viral infections, it's incredibly effective against Giardia, parasites which are truly very difficult to get rid of. The medications are not terribly easy to take. My mom actually had an infection about a year ago and the Giardia was very difficult and unfortunately, it was before I'd worked on this project, otherwise, it would have been a quick three-day fix. But as it stands, she took the regular medication that was prescribed and it was just kind of a difficult and longer process. And you'd use it if you have Candida or something like that. In fact, that's, one of the things that the oils, we found has been most beneficial for working on is people with Candida infections whose intestinal flora is a little off-kilter. The biggest effect, personally that I've seen is it knocks out sugar cravings. And my 14-year-old when I started working on this, and after I had really pegged in, he was 14, and he was taking it. And he's 15 now, but we were working on this thing for quite a while, and he stopped having sugar cravings. And he was gleeful actually because he's at the age where hormones kicked in and he was trying to get fit, and to do all of the things that a young social creature does. And it was really good for him, I think. I think it actually worked very well for him. And I had the same experience that I just didn't really want it. And I think that's primarily because when it goes into your GI tract, it rebalances your intestinal flora, and your... That's a bit of a misnomer to say that it does... What it actually does is, again, it provides a signal, and then your body actually does the work.

The trick is to provide enough of a signal. And in the old school methods of actually using ozone and putting it in a bag and then, you know, doing it rectally, or you know, taking it literally, there are quite a few ways you can do it. You can do it transvaginally, rectally. Actually, some people use it in their ears, other people will bubble it through water and drink the water. Some people bubble it through oil, and then inhale it, which is, in my opinion, that's probably the most dicey of the whole bunch because it doesn't really do well with mucous membranes. So, taking it in some capacity, it's gonna get in your lungs. It's not good, which is hence, you know, why people have ozone action days. You really do not wanna be breathing ozone. It's a great therapeutic tool if used properly. And that's why we kind of targeted in on how do we do this for people in a beneficial way and, you know, take out infections or rebalance gut flora and up-regulate mitochondrial function? Because one of the things that people notice after you've taken this is you get almost kind of a niacin flush as if you've, you know, taken a big shot of niacin and because your mitochondria up-regulate. And so, you start pumping out ATP, and you feel it, it's kind of a thermal heat shift.

Katie: Okay. I'm really glad you brought up, like, if you inhale it, because I think in some ways, I've seen sources where ozone has gotten a bad rap. And it's because of that. So can you explain a little bit in more detail of why it's not necessarily beneficial and can be harmful if inhaled, but it can be so beneficial if it's taken in other ways?

Ian: Yeah. So, effectively if you burn something, you are oxidizing, right? Burning is like a rapid sort of electric chemical oxidation. And all you're doing is you're stripping electrons off using the oxygen and breaking it down. And if you inhale ozone because it has an unstable configuration, you literally will chemically burn your lungs and your lungs really are a very thin layer. So, you know, you have a one-cell thick layer throughout your lungs. And if you cook that, the repercussions are really harsh. And so, in that sense, ozone is very harmful. But it's kind of, like, there's so many compounds that I can think of that taken in and of themselves in one way they're very detrimental. But if you use them as a tool, they're incredibly beneficial. I mean, you can hit someone with a hammer or you can use it to assemble something very well. And this is the same sort of principle. You're just using something that provides a chemical impetus to elicit a specific response and put something else in a medium that you can actually use for your benefit. So, it really works out so that ozone, you really do kind of want to avoid in the sense of something to breathe. But rectally, it works pretty well. Again, it's a little bit invasive for most people. I think that's never gonna be something that's ubiquitous and, you know, embraced by the masses, because not everybody wants to sit with a bag and, you know, slowly push ozone into themselves. And that's why I think, you know, what we did at Biocharged is really aces because you can literally get the same effects, just with taking one pill. And it's not even something that you really should think about taking permanently. Like, people have been asking me since we put the product out, "Do you take it every day?" Yeah, initially you do. But the first bottle, it's about a two month supply, and it's something that you'll take it as needed. And if you have really bad intestinal flora or horribly bad, you know, parasitic sort of infections, you're gonna wanna go slowly because you don't wanna trigger a Herxheimer reaction where you have a Herxheimer because the die-off is so intense, that that can actually cause problems.

So you wanna kind of taper it off but you will wanna take generally one of the capsules just to stimulate the beneficial effects, but only for a couple of months, and then do it maybe as a maintenance thing, you know, once every couple of days. It's just most of the projects that I work on, I really like solving puzzles that are gonna benefit people biologically but very rarely do you find things that you wanna do permanently. Like, even the things that I'm, you know, very well-versed and have a lot of patents on, like, you know, carbon 60, nanoparticle and things like that, those are phenomenally good, very strong antioxidants. You can extend longevity of lots of things. You know, I told you that, like my lab animals, I'm at a 93% extension in their lifespan, which was incredible and we were all surprised. But even that, it's not something you wanna do every day because your body is so brilliant and so adaptive, that if you do something consistently, very frequently, I see things like that become a detriment because your body adapts to it. If you constantly take a supply of exogenous antioxidants and you're just popping pills all the time, well, your body being efficient goes, "I don't need to produce this much." And then so the moment you stop taking them, your body effectively is going into withdrawal because it stopped producing what it should be producing. So, the projects I like to do are things where I'll solve some sort of puzzle that's been around for a while that benefits people, but it's not something that they have to stay locked into forever. It's something that if you sporadically augment your own physiology, but isn't something that's, you know, necessary to take forever but it's just a personal philosophy thing. But philosophically, I don't think you should really have to take supplements forever.

Katie: I fully agree. In fact, listeners might have heard me say before, there's nothing I take every single day, including food. I go without eating regularly, fasting in different forms, and supplements, I'll rotate them or

even if it's something I'm taking regularly, I won't take it on the weekend for that same reason of just, I don't want my body to ever adapt to having an external source of anything over the long-term.

Ian: Yeah, you know, it's funny because when you put it in terms like that, it makes me think like working out. If you told somebody, "Okay, you're going to do the same exercise every day for the next 20 years," anyone who's ever exercised the leg knows, like, oh, you have to change that because your body adapts so rapidly. I mean, with the things you're doing, like the pole vaulting, right, that are super intense, like, very, very tremendous burst of energy, where you have that huge output, you have to change up your training, you know, because otherwise, your body will adapt. And I mean, aren't you constantly changing your regime every couple of weeks?

Katie: Yeah, and it's been really fascinating. I felt like I had learned a lot from that, you know, that I'm translating to other areas of my life because, like you said, it's extremely explosive, powerful movement. And we change our training every two weeks into a different phase that simulates muscles in a different way. So, at first, it was just purely aerobic, contralateral movements, and then it worked all the way up into now these super heavyweights moving to max or above your max, but doing it very slowly, or only in one direction, or oscillating. And all those things, like, basically every two weeks is a totally different program because the muscles will adapt if you let them.

Ian: Yeah. That kind of an approach always makes sense to me and that's kind of what I have adapted for, you know, developing supplements to help people. I don't want to make them dependent... Like you asked me about the product for hair, like, is it something that people have to take? And that's... You know, I'm sure we'll cover that, you know, at some point in the next one, but no, the idea is not that you keep people hooked on a medication. I am legitimately about cures, not about customers. You know, I mean, the idea is, it's nice that people use the things you've made and want to support you. But the idea is, if it's something where a person has a physiological need, help them fix it and then, you know, go about doing another thing. And there's an infinite amount of things that you can help people with. I don't really like the big pharma approach of, you know, we don't want cures, we want customers. I think that's something that I personally I'm completely diametrically opposed to. That's just, like, antithetical to how I roll.

Katie: I fully agree. And so I know people listening may end up with some questions. You mentioned it's a signaling mechanism in the gut, and that it can address some pretty profound things like Candida and parasites and gut infections. I know people are gonna probably ask, is there a danger of it harming beneficial bacteria? Can it throw Flora out of balance in that way or is there a different pathway with the signaling?

Ian: Well, actually, that's the thing that's neat because if you use ozone directly, yeah, you can throw things out of kilter. And the reason is because you're waiting for things to interact based on their own intrinsic ionic nature. So just whether they're positively or negatively charged. And most bacteria that are harmful or parasites that are harmful, are predominantly oriented one way but not all of them. So, if you just go and smart bomb it with something that has one charge, yeah, you're going to damage good things. So, that's why I prefer not using ozone directly but doing it through an indirect signaling mechanism. Because then you're

giving your body this huge boost so it up-regulates the mitochondrial function and then starts producing things to mount its own immune response. So basically, you've provided energy for the systems that are already intelligently combating and know what to combat, the different things in your GI tract. So no, you don't... If you use something that's a signaling molecule, it sets up a cascade and it will act accordingly based on what your body actually needs to be balanced in lieu of just going in and chemically, or in this case, ionically, wiping out, you know, just with reckless abandon whatever's there, because it's like a carpet-bombing approach. It doesn't really work. I mean, you do actually, again, not to bag on Big Pharma because pharmaceutical approaches, in a lot of ways, there's some great products but it's a little bit obtuse to think that you can go in and just have a one size fits all solution for something like that. Your body is actually incredibly intelligent and it's well-tooled after, you know, so much time to know what it needs and how to function.

I mean, that's why we have food cravings, you know, not in all cases, a lot of times, unfortunately, it's, you know, parasites kind of running the show or bacteria running the show and giving you a signal, like, "More sugar." But generally speaking, your body knows what it needs, you know. And so this just provides it with the tools to act on those things more effectively. In fact, it's a little interesting because normally, if you look at just a standard ozonated oil, they've been around since 1904. And I was telling you that Nikola Tesla was the fella who actually came up with and started selling it. And people have been doing it for the past century but nobody did it the way that Tesla did it because, honestly, I think they just missed it. He had this, you know, elaborate array of magnetic field beds and then he would put all of his oils in the bubble ozone through to create his Tesla's ozonated oil. And what you're doing is you have a polar, which is just a molecule that has a charge. And because of that charge, it'll have an orientation. He would use those magnetic lines of force to orientate so you could get the highest strength in whatever unit volume you have. And literally, everybody for the past 100 years has been, like, "You just bubble ozone through oil, and it's all good," which, you know, completely misses the point. Any time you find somebody who's that brilliant, if they're taking three times as long and potentially three times as much of an expenditure capially to get something made, there's probably a reason. You know, it's not just that they want to lose money and take a lot more time to get something to the people.

So, when I looked at all of the work that have been done in the past 100 years, and then I kind of figured out what I had been doing, I thought, "Oh, my God, this is brilliant. He got a stronger signal." So, at first, I just kind of recreated what he had done, but then I thought, "Well, you know, we've had 100 years of tech and there have been a lot of advancements, what would Tesla do if he had access to all of the equipment, and the tools, and 100 years of new physics knowledge?" So, I completely rejiggered it, so I could give it a stronger signal. So, he used to do this thing, where per unit volume, there were more active oxides. I actually took the molecule and up the volume. So it's kind of this literally as if you have the same song, but you cranked the volume up. So the net effect there is you take a third of a milliliter, you know, a 300-milligram capsule. And it gives you this incredibly pronounced effect because your body thinks that it's had this huge oxidative insult, but it's actually just a very, very little one but it was just quite noisy.

Katie: That's so fascinating. And is that...? So it addresses bacteria and parasites, which you mentioned. I love that you brought that up that those can often be the reason for food cravings. Is that the mechanism by which it's reducing sugar cravings? And I know it's also used for weight loss. Is that what's happening?

Ian: Yeah, exactly. So, when you knock out your cravings, yeah, I mean, really, ultimately, that stuff is going to... The viruses and bacteria and parasites, all those things that cause you to do something and elicit a specific behavior, it's almost always to create an environment that's more conducive for their growth, right?? And so, in the case of, like, Candida where you want more sugar or something like that, you get those cravings because that just creates a better environment for them to grow and thrive. And all this does is squelches that. It knocks that out and that's why the sugar cravings go away and that's why you wanna eat less. Ultimately, it regulates your ghrelin and leptin levels, but it does that by virtue of just taking away the signal to crave those things that some harmful bacteria had been giving you. So yeah, you eliminate the root cause of the problem and then you get all of the benefits of it downstream.

Katie: Which also seems a lot easier than trying to strictly battle sugar cravings, which anybody who's ever done it knows is awful.

Ian: My God, honestly, how can you do that? I mean, we are wired that when you get those signals, right, unless you're affecting your ghrelin and leptin levels, you're going to want to eat and it's, you know, the brownie will be calling. It's just, tries avoiding that, you know.

Katie: Absolutely. That's so interesting. I wonder too is there a crossover effect with this? Obviously, one of the themes in health and wellness the last few years is how much it goes back to gut health. So, do people see crossover effect into things like autoimmunity or eczema? I know there's so many things that often get tied to the gut. And if you address the gut, you see benefit in other places.

Ian: Actually, there are a lot of studies... I don't feel comfortable addressing it specifically with the Biocharged product, just because we haven't had enough time. We've seen things regarding Candida and a bunch of other stuff. But so I'd feel more comfortable looking at a lot of the peer-reviewed studies that have been published over the past couple of decades because they're all over the world. And yeah, there are a lot of crossovers. Actually, the reference that I would look up, or, you know, your gang should look up, is probably there's a doctor named Sylvia Menendez, and she's based in Cuba. She does work all over the world, but she's one of the preeminent people who's all about ozone. And it's because in Cuba, just out of necessity, they developed a lot of products using natural substances that they had access to because they were cut off from a lot of the rest of the world. And so they did a tremendously in-depth study and have, you know, huge reams of data. And also a fellow named Baleo Bocci, who is a doctor in Italy, put together a tremendous body of work on the same and has, you know, a very large tome about ozone and all the effects and it's very well-referenced. And if you go through it, you can find a litany of information there. So, yeah, tons of crossover effects. But for anybody who's looking, just Google it. You know, I mean there's... You can find reams and reams and reams of data on it.

Katie: Okay. Who are you finding are using this the most right now? Because I know, we're also gonna get all the follow-up questions are, you know, can pregnant women use this? Can nursing women use this? What about kids? What age?

Ian: Well, yeah, given the strict requirements of the FDA to not be able to say it does treats, prevents, cures, or does anything, you have to avoid that like the plague. So, I don't know that I can say anything specifically. Actually, matter of fact, we don't recommend it for pregnant, nursing women or kids but that's standard across the board. Now, personally, I might do something different but that's my own educated opinion. Though I can't really recommend it, I would say just literally, for listeners who are curious about that stuff, look up the data. There's huge forums where people are talking about it and you can find, you know, chat groups about it. And so many people are open and willing to share right now to your question. A lot of the people that are doing it are kind of, like, you know, cutting edge biohackers and things like that. You know, people who do the same thing you and I do where we do a lot of self-experimentation. My friend Dave Asprey with Bulletproof, he does it. Todd Shipman, biohacker Todd, Todd takes it. There's a lot of guys, it's actually, all of us, I think had done it before just in its standard form of, like, some type of ozone therapy. But oh my God, this is so much easier. I mean, I'm a big fan of ozone therapies but now, I probably will not go back and do them unless there's some very specific thing I need to do because it's so much easier just to do it, you know, pop a capsule, call it good, roll on. And it's a special type of capsule because initially, when I was doing the testing, I was looking at how everything responded. And when we were talking back and forth with the company about how to get the best delivery, what would actually have the best results, we ended up using a timed release. So it's like a delayed-release capsule. And the reason for that is you don't necessarily want it to crack open in your GI tract because the acids will break it down. You are not so much in your GI tract, and your gut, and your stomach specifically, you want it to really kind of open in your small intestine because that way it's gonna permeate and get into your bloodstream, so that's what you're really shooting for is to get it systemically through your body.

Katie: Got it. Yeah, anybody listening who's asked me questions related to pregnancy or nursing, I have to give the same advice because the rules are so strict. Even if you asked me if you can eat a salad during pregnancy, I have to tell you ask your doctor or your midwife, like, truly there's nothing related to those because there's not studies on pregnant women. So that was a perfect answer. I'm sure a frustrating one.

Ian: Yeah, I hate saying that. But you know, people don't realize, you know, the cost of getting a drug approved is prohibitively expensive. I think most start-up companies find guys like me with a research facility where we do things and we'll develop products, and then they just come in and buy it, and then they push it through as some sort of drug on the other end, knowing fully well that, you know, we will have to release something as a supplement and can't make claims about it for fear of, you know, hardcore retribution of reprisal, you know, from the powers that be. But I actually asked someone earlier today, like, "What do you think the cost of getting a new drug is or getting a new drug to market is?" And they said, "Well, probably about \$10 million?" And I said, "No, it's over a billion dollars." That's the average cost to take a drug for humans to market. You know, for animals, you can do it for about \$50 million. But the cost is over a billion dollars. And so, it's effectively kind of regulatory gatekeeping because I didn't know about you, but I don't have a spare \$1 billion to throw around and getting something pushed through.

Katie: No kidding. Yeah.

Ian: Yeah, it's just the barrier to entry is so high that you have people who are producing really brilliant stuff for people that can be used across the board to treat lots of things. And you will probably never hear a commercial for it just because it's either, A, something that they have a difficult time patenting or B, just because they simply don't have the financial resources to do it.

Katie: Yeah, that's fascinating. Yeah, or I hear people say often, you know, like, there's not a double-blind clinical study on this, therefore, I'm not gonna take it and I think back to the sepsis studies that were done in some of the E.R.'s where doctors found, like, they could take sepsis rates down to...like death rates from sepsis down 40% of what they were, but yet, like, so many hospitals were hesitant to come on board with it because, like, well, there's not clinical research on this. And they said, "Yeah, but in our ER, fewer people are dying, and it's vitamin C. There's also not a lot of financial incentive, because it's vitamin C. "

Ian: And that's actually I think the bigger issue there really is, unfortunately, it's the financial incentive in a lot of cases if you can't patent it. Because I've seen other things like DMSO and things like that, where I think DMSO has one approval for, if memory serves interstitial cystitis. But otherwise, it's not approved, but it has its, you know, old school horseland. It's got a tremendous amount of uses. You know, I keep it at the house because if you work out, if you pull a muscle, like I pulled my hamstrings, open the DMSO, slather the DMSO, instantly tasted garlic, bruising goes away, swelling comes out, you feel good again, and you can move. That's amazing. I mean, it's an amazing compound, but they couldn't patent it and get it pushed through as something that, you know they could get exclusivity so research kind of died on the vine. And also the double-blind clinical studies, because it makes you taste garlic instantly. It's hard to fake that.

Katie: Yeah, that would be an issue. I think the last couple of years, one of the big lessons for me has been, like, we know now more and more health is so personalized and everybody reacts differently to so many different things. But what I've really come to realize is, at the end of the day, and I've said this before, we are each our own primary healthcare provider. I feel like I had tried so many different systems and they never worked exactly the same way for me. And the reason was, I had to figure it out myself. And I think when you make that mental switch into I am the one totally in charge of my health and I can work with practitioners who could help me, but the responsibility lies with me, it lets you step into a place of being mentally willing to try some of these things that, you know, anecdotally have evidence or that other people you know have tried, and that you've seen effects from, and gauged that response in yourself without needing the clinical studies or. ..

Ian: Yeah, but you know, again, there most people I think are geared towards wanting to receive permission to do something in lieu of actually taking the responsibility to go, "Okay..." And I know you've done this, because when we talked, you were incredibly well-versed in so many of these things that you have obviously taken the time to do the research and you really do the deep dive and figure out what's going on. And anytime you're

dealing with your health, I assure you, no doctor, unless they're married to you or your relation, you know, with your parent or something is going to be as concerned with your well being as you are. And you know, it's not so much that I don't believe, you know, the Hippocratic Oath, I get it but I really do think your health is more important to you, but it's a responsibility, right? You've been gifted with this amazing body. And honestly as a researcher, I don't know how anybody who does research on, you know, physiology of any sort of animal can look at it and not be just in awe of this. I mean, it's a huge gift. But you know, with any gift, there comes a responsibility. So yeah, I totally agree with that. You've gotta take the reins, be your own primary care provider. That's such a good way I'm gonna completely rip that off. It's a great way to say that you are your own primary care provider. Yeah. I 1,000% agree with you.

Katie: The funny part is I've started listing myself as that on medical forms, and I now couldn't walk into labs, and they'll let me order my own labs because I'm my own primary healthcare provider. It's funny.

Ian: That's genius.

Katie: Okay. So circling back to ozone, I just started taking this. I'm really excited to gauge the results myself because I have the old school ozone generator that you mentioned. I actually have two. I have this really big one that involves the whole oxygen generator plus the ozone sand then I have a smaller one that we mostly just use to keep our coal punch clean because it just generates it in the water. And those are great, but both of them are so... Like, there's so many moving pieces and getting it all figured out. Plus, like you said, you don't accidentally inhale it, either.

Ian: Yeah, no, you don't. And for anybody, when we were playing with this last year in the lab, and really tinkering with ozone because I played with it at a friend's office before, you know, he is medical guy, and we played with it in his office because he has a couple of systems. And then I got three systems and started working with it. And it's really cool. But yeah, you do not wanna breathe it. One of them was a very large generator, that's a whole house generator. And when you crank it up, if you make the error of walking in front of it, you just about can't stop coughing. Yeah, it's very caustic. And like, I wouldn't recommend that for work on yourself unless you really have a lot of time and you're very committed to doing the research on it. Again, that's kind of why I, you know, did all the autohemotherapy and the pills is because the idea is you can provide something in a way that you don't have to do much heavy lifting anymore. You just, you know, take that and move on. There are better things that people can spend their time on. I mean, unless you really have a thing for, you know, insufflation, how about it? Again, not my bag.

Katie: Another way I do still use it as a mom and I'm curious your take on this, they make ozonated oils and they sell them almost as an alternative to like Neosporin. So it's like a topical thing for wounds to keep infection from happening?

Ian: Yeah, it's fantastic for that. That's actually that's one of the newer things that we're about to come out with at Biocharged is atopic because if you... Again, the same thing, yes, just putting ozonated oils on, it's

really great. It doesn't have the same detriments that a lot of other topical agents have. But it needed improvement. There were things you could do to amp up the performance because regenerative medicine and wound healing has been something that I've been very curious and working on. I was, you know, taking pig bladder and breaking it down in the lab. We joke and we call it pixie dust, but it's to make an extracellular matrix. And so you use that as kind of a... When you put it in a wound, you can use it as a cellular scaffolding. And when it's on your tissues and wounds, your body senses it and starts to pump out stem cells and will actually fill in the matrix with your own stem cells. But all of that to say that, yeah, we've been working with that kind of stuff for a while. I personally am a big fan of regenerative medicine. So, when I started working with the ozone products, and we started looking at, you know, like, where can we make a difference here? That was one of the big ones was, well, as a topical agent, we can do some things that are just brilliant that haven't been done before and that will make a big dent. So yeah, huge fan. And very shortly, that's probably gonna be the second thing that actually comes to market is our topical.

Katie: I'm excited for that. It seems like it would be really phenomenal for, like, wound healing and scarring and all of that burns. Yeah.

Ian: There's a whole lot of applications that people are already using it. It's just not what it could be. Yeah, and a lot of times, that's what you find is you find... You know, because that tech has been around for a long time. No one's just taken the time to innovate it a bit and bring it up to date because we really do. We have... You know, Tesla did that stuff in 1904. And aside from the fact that people have missed most of what was really beneficial about it, they've been using the same stuff that he did, just a lesser version of it for over 100 years. And, you know, so, now, luckily, I have the benefit of having the resources, you know, to take things and run them through my lab and then the lab at a university I work with and, you know, do tests on people and we can really see in a very short order of, like, how do you make this stuff really spectacular to do something that people haven't been able to do with it before? Because it just is a bass compound. It's great. It's all-natural. You're using natural oils and a natural process. It's, you know, more reactive for viruses and bacteria than most other things are and it doesn't have the downsides, you know, natural products are aces in that regard. I mean, if you have something that you have to rattle off, you know, 15 chemical names before you in describing that particular molecule, it's generally not as good as if you can say, "You know, like, what are you having for lunch?" Apples? You know.

Katie: Yeah, from the food perspective, I say that a lot, like the fewer the ingredients...or eat food, that is ingredients, not food that has ingredients. Like, that's a commonality amongst all of these different dietary trends. Eat real foods that are whole foods.

Ian: And we all know that, right? It's not like you have to market somebody like... Though now there is a lot of marketing for different types of, you know, foods and things but like a banana. I mean, you don't really have to market it that much other than maybe putting it at the front of the store. It's really kind of people just intrinsically know, "Oh, I need to eat that. That's good." You know, I can't remember the last time I saw a commercial for lemons.

Katie: Right? That's true. They don't need marketing.

Ian: Brought to you by the American Broccoli Council.

Katie: That is interesting. Yeah. So, okay, I would love to talk about dosing. I mentioned I just started taking this. I would love to hear, A, what you did. So what you personally did, because we can always share our own personal experience and as I figure out what I'm personally gonna do.

Ian: Fair amount of mistakes is actually what I made.

Katie: But also, the other thing I was gonna bring up here is that there is a trend, I think I see it more with guys, but that the idea that if some is good, more is better. And this seems like a substance you would not wanna take that approach early on.

Ian: One thousand percent the wrong approach. And I know because I talked to a friend, asking for a friend. Yeah, so, in this case, when I first started playing with everything, once I got the higher strength worked out and figured out how to do the signaling cascades, I took about 900 milligrams of it, which is less than fun. Because it is... You notice it, you can feel it, you get a really intense gastric response and you will be indisposed for a bit. So really, the dosing, all you legitimately need is one capsule. And I recommend that people take it in the morning because it's best, in my experience, if you have kind of that pro-oxidative insult in the morning because then your body mobilizes. So for the rest of the day, you're kind of riding on that wave. And you know, you amped that up, your body responds, it's naturally protected, you have more energy, and you can just use that to kind of cruise through the day. So that's why I just take one capsule in the morning. And in terms of dosing recommendation, that's it, I just do one capsule a day no more. And, you know, some people say, "Oh, I don't feel anything if I just take the one capsule." That's not necessarily a bad thing. You know, if your intestinal Flora is reasonably balanced, you're not going to notice a huge die-off reaction. If you have Candida or something like that, dial it back, take one every other day or every three days. And then, again, you know, I would take it for... I mean, some people, like, if they're kind of borderline and they really don't have their diet in check or they're trying to, you know, elicit a specific response, like they have some goal in mind, don't wait for it, just, you know, jump in but take a few months and do that. And then kind of back off and do it periodically and see. Again, just know your body. I mean, we are, as you said, our own primary care provider, right?

So yeah, just kind of sends it out. But really the recommendation and we arrived at the size of 300 milligrams because after taking 900, that was a mistake. Taking 750 still a very bad mistake. Five hundred not really so bad but if somebody had Candida, difficult. But at 300, you can have it and by the time you noticed that you have the response, you can just simply dial it back a bit, and you'll not have the same, you know, kind of issues that you would have. So 300 is a really good safe number. It's gonna have an effect. It's gonna get a response. But it's not gonna be something where, you know, like, I don't know, like, saying taking a bunch of NAD where

as we... We've both done... We take a little too much, and once the IV is dripping, you go, "Oh, I made a miscalculation." You know, and you get... Yeah.

Katie: Yeah. Okay, that's good to know. And so if someone has... If they know they have an acute issue like Candida or parasites, they could even go slower, like, one every couple of days?

Ian: Yeah, one every couple of days. I mean, the idea is to provide the benefit without having somebody have a hertz reaction or something like that, because having had them before, they're awful. You don't wanna do that, you know. And in this way, again, the reason it styled back to, like, 300mgs because it's a very mild dose, you can take it and it's gonna have an effect. In fact, a lot of the things... It's nice when something actually goes out and the product hits the market and people start taking it because all these people, you know, call in, they write in, they email me, they hit us up on Instagram, and they have all these comments about, "Oh, it did this or it did this and I've had this," which is awesome because you get a sense of what people are actually using it for, which oftentimes is not necessarily like a lot of people, you know, they want to nix sugar cravings for weight loss. That's like a common thing. You know, you see comments about it. For me, it was really just about overall gut health. I wanted something that would, you know, basically replace me having to go to my doctor's office and pull blood and pump it back and do autohemotherapy and that worked like a charm.

Katie: So interesting.

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Katie: Explain what's going on in a hertz reaction for anybody who doesn't understand what's happening physiologically there.

Ian: So, your liver and kidneys generally are the ones that kind of get the biggest insult when you have a herxheimer reaction, so it's a massive die-off. And you cause such a die-off of some sort of harmful bacteria that you literally cannot process all of the cellular debris from those things coming out of your body. And you will get chills and, you know, can vomit and, you know, feel really groggy, almost, like, you know, keto flu kind of thing. You'll have flu-like symptoms for a couple of days. And literally, it's your kidney and liver not being able to process things out rapidly enough to keep up with the level of debris that is trying to be pushed through the system.

Katie: And so, the answer besides going slower and not doing that to yourself, again, I would guess would be things, like make sure you're well-hydrated, make sure you're sleeping well, maybe sweating, things like that.

Ian: Yeah, and binders, binders, binders, binders. You know, take binders that are going to help get those things out of your system without allowing them to hit your system. Personally, I use carbon60 because, you know, it's a nanoscopic binder. And it's really great. Activated charcoal is great. Activated clay is great. There are a couple of companies that make really phenomenal binders. And we can put some stuff in the show notes. And I'd recommend that anybody who thinks that they have some acute condition like that, just take it with binders. It doesn't impact the effectiveness of it at all. You're still going to get all the benefit from it. It just it's kind of a safety net, if there's, you know, something that you sense is really amiss, and just take it with some binders and call it a couple of activated charcoal. And, you know, do that maybe 30 minutes before you take the capsule and pop the capsule.

Katie: Okay. We'll put links to those in the show notes as well. So, you guys listening, I will circle back with you on some of these papers as well. And some of the research I'm always fascinated, too.

Ian: Yeah, we've got a bunch of it on the Biocharged website, that it's [biocharged.co](http://biocharged.co). And just go there and you can like to science and there's a linier of articles and it's all, you know, annotated well and, you know, you can see all the references and a lot of the studies, and there are quite literally thousands of them if you really go digging. And at some point, it's surprising, honestly, when you find something that's this beneficial, that someone hasn't made a play to try and turn into a dragon, capitalize on it. But a molecule like this is as you said difficult to patent so not so much a push for that.

Katie: Well, and as we get close to the end of the time, I wanna do a teaser. We're not gonna be able to go into these, which is perfect because we already know there's gonna be at least two more episodes with you. I

would love to... You've mentioned C60, so we're gonna do a whole episode on that. But I wanted to be able to just touch on it briefly so we can put a link to that in the show notes as well, and so people can start having a passing understanding.

Ian: Yeah, so Carbon 60, it's an allotropic form of carbon, which is the fancy chemistry way of saying it's a form of carbon atoms that are clustered in some different configuration. Anytime you have an atom and it has a different configuration, but it's all just that atom, it's called an allotrope. So, in this case, you've got diamonds, graphite, and fullerenes and amorphous carbon too. But in this case, it's a soccer ball. Literally, it's a truncated icosahedron. So it's 60 carbon atoms clustered together in a soccer ball. And it was discovered in 1985. And all the guys, one of them is a friend and all the guys that discovered it got a Nobel Prize for it because it's really impactful. And a lot of people initially thought it was gonna be something that wouldn't have biological application. But as it turns out, I think the most profound implications of that molecule are actually biological because it's a tremendous detoxification agent, antioxidant. It's a buffer against EMFs. You know, it actually will buffer against doses of radiation better than, you know, iodine would. It's also a chemo protectant. There's a litany of things. And, you know, I have multiple patents in the space, and quite a few more coming up in the near future, because there are a whole host of us that have been doing lots of research on it for, you know, quite a while, in my case about a decade. But it's really got some tremendous potential for people who are living in environments that are less than ideal. And, you know, if you lived in, you know, a perfect environment, say a thousand years ago and you had clean air and clean water, you would not need it. You know, just do your thing. But now, since our environments are already damaged, as soon as we roll into them, it's just a bit of an edge because it's not only a detoxification agent.

The thing that I think is most beneficial is it actually goes into your mitochondria and stays there and it can act as a buffer against reactive oxygen species, which, interestingly enough, a paper from some fellows I know, and another company doing research just came out and they were pointing out kind of a counterpoint to that, you know, some of the research is showing that you don't see those responses all the time. And that's true. You don't see it all the time. But typically, you do see that, and it's something that most people need. I mean, everybody's individually tooled, but I would say 90% of the cases, I've seen having given carbon 60 well over, I don't know, probably 10,000 people at this point, it's phenomenally beneficial. I would recommend it. It's the only supplement even though I don't take it every day, I cycle it so I can keep up with what I was talking to earlier about the hormetic stress response. I cycle it so that my body doesn't downregulate its production of glutathione and SOD2. But it's fantastic. I don't like the way it tastes, which is something I'm rectifying currently, but I've still taken it, you know, with complete regularity for the past nine years, just because it is, biologically speaking, the most beneficial thing I can find. And I mean, seriously at 93% extension of lab animals, that kind of lit my socks up. And I had actually done that because another group in France, a doctor there had done the same sort of study and found a 90% extension of lifespan, and I thought that can't possibly be right. But, you know, what the heck? I'll check it out. And so, after doing the test, sure enough, a 93% extension and I think a 3% variation, and stuff like that is enough that anybody should look at it. And when it's something like carbon, I mean, we're carbon-based organisms, it's not detrimental in any way, shape, or form.

And you can't really say that it's a nerve because it has all these interesting properties that it conveys, you know, because it buffers oxidative stress at the mitochondrial level, which has the net effect of making more energy production. So, you're not actually making more energy, but you're not losing as much while your

body's trying to produce it. So, the net effect is, you get a big bump. And I think in the lab, we found an 18 at the low-end percent increase and a 58.3 at the high-end increase. And that's a lot of energy. You know, if you can get 153% of your normal energy for the day, you can do a lot more and your recovery time is better. And just in terms of strength, you know, and this is I think, one area where a lot of people will probably find interest in it is your strength will go up just by virtue of muscle recruitment, you know, and skeletal muscle activation, without any change in diet or anything else, just by modulation of, you know, losing energy at a cellular level.

Katie: This is an experiment I'm just about to jump into. I'm very excited. So I have to do it an episode after I have a little bit of experience. I wish I had it now because I just did a incredibly tough workout today and so I'm already sore same day, so it's gonna be a fun recovery.

Ian: And surprisingly, when you're doing real hardcore workouts, you will notice the effects because a lot of people worry that they won't get a hypertrophic effect where you're able to build muscle. You are able to build muscle. You just don't have the same degree of soreness because it nixes a lot of the lactate buildup and things like that. So you're not going to feel the same pains in the second-day soreness that you would in your recovery time because it amps up the cycle inside your cells, your recovery time's better. But we can go into all that, but you're gonna know this firsthand because you're gonna do it and actually get the data for yourself.

Katie: Yeah, and I'm quantifying everything right now. So it'd be fun to watch and fun to circle back and do a whole episode just going deep on that.

Ian: Well, it's interesting because people really do. They think the idea of, like, oh, well, you can take a substance and boost your strength by 10% or 15% with no changes in anything else. And it sounds peculiar, but that's just, you know... When you modulate loss in a system, you know, it's like putting oil on a car, you can run them without it, but they don't run so well or so long without it. You know, when you actually lubricate things properly and keep it from burning up, it functions more effectively.

Katie: So, another area, I'm gonna experiment and I'm hoping you'll be my sherpa in this too is the idea of peptides, and especially some really specific uses people are using them for now. We definitely don't have time to go into a whole lot and there's so many areas to go into on this as well. But can you just kind of give us a teaser of what peptides are and why they're so fascinating?

Ian: So, yeah, amino acid groupings in quantities of 50 or fewer is classes of peptide as opposed to a protein. And so, it's a natural substance like, you know, alanine or something like that.

Katie: Or collagen, I believe is a peptide?

Ian: And collagen is a protein.

Katie: A protein. Okay. I've seen collagen peptides. Okay.

Ian: They are collagen peptides. So, yeah, and it's kind of interesting. There's some things that you can aggregate in larger and smaller clusters. And some people will call something by a couple of different names. But yeah, technically speaking, we've been using them a lot in the laboratory setting because you can use things like one of the common ones people use is BPC 157 body protected compound. And it will cause remyelination of nerves and drop inflammatory responses. A lot of people use it on... Like, I personally use it on my knees to repair a knee where I had damage from playing soccer. And then there are other things like vasointestinal peptides, you know, for your GI tract that will close the xylem junctions so you can fix leaky gut. Then there's, you know, GHK-Cu, which is a copper peptide that is phenomenal for skin because actually, it stimulates collagen and fibronectin repair. And so, you know, firm your skin up and make it really pretty, and supple, and soft and elastic. And anything that helps with you know, elasticity in skin is generally speaking pretty good. And also called Genesis, you know, something that will actually stimulate the production of collagen, because a lot of times, you don't want to hit something head-on, what you're really trying to do is figure out the cofactors that actually trigger your body to stimulate production of your body's own whatever, you know, rather than, you know, inject something. You trigger your body so it produces its own collagen because, you know, that's perfectly matched for your physiology.

Katie: Interesting. So we're gonna have whole episodes on both of those, both C60 and peptides. So you guys stay tuned for those. As we get to the end of our time, another question I love to ask is if there's a book or a number of books that have had a profound impact on your life, and if so, what they are and why?

Ian: Oh, yeah, let's see. "Stalking the Wild Pendulum" is a great one by a fella named Itzhak Bentov. And it's a bit esoteric, but I think it alters your perception about how things may go together and be pieced together. "The Razor's Edge" by W. Somerset Maugham, similarly about a fellow who, you know, kind of tries to put things in perspective in terms of his place in the universe. I think those are great. And then most of the other things that have oddly been impactful for me, are things that a lot of people would almost consider technical sorts of things. But the one that comes to mind is a book called "The Universal One" by a fellow named Walter Russell, who, you know, primarily did his work at the turn of the last century and into the earlier part of the 20th century. But he was truly brilliant. And he wrote a book that has a lot of things that people... Sadly, it was so advanced, people just didn't get it. You know, it was kind of like Tesla's work with magnetic fields, at the time. People saw it, but they just didn't understand what the use was or what the necessity was to have that and how it could elicit a different type of, you know, efficacy in biological systems. Likewise, "The Universal One" is brilliant because it's a big tome on chemistry, and physics, and how things function. And I actually had been able to do a lot of things in a laboratory setting because I'll get stuck based on, you know, using the current methodologies that we have. And so, to try and force myself to think out of the box, I look at other sources of innovation, and oftentimes I find myself coming back to that particular book. Because Walter Russell, if you look at it, he was the president of the American Society of the Arts, and he was the presidential portrait painter. You know, he was the guy who actually did the sketches of the Presidents back in the day.

And he was, you know, friends with all sorts of guys, Tom Watson, who did the IBM, the president of IBM and, you know, let's see, Mark Twain...

You know, all of this contemporaries were people who were really thinking, they were very deep, and they really had an inclination to kind of change the world and do great things and did. And Walter Russell was a polymath. He worked as an architect. He worked as a musician, as a painter, as a sculptor. And he wrote, you know, this huge tome on physics, which, initially people rebuffed and said, "What are you doing? You're an artist, go back into art." And when they did the Manhattan Project, they actually found all of the isotopic configurations exactly as he said and exactly where he said. And yeah, suddenly, a lot of people thought, "Oh, will you look at that," you know, and realized that there might be something to it. And when I saw his periodic table of the elements, it was the first I'd actually seen one, as opposed to the standard one that everybody looks at, which is the middle of the periodic table, which is what is always taught. And I think it's because people don't even begin to conceptually understand what Russell put together. I looked at it and intuitively could feel that it was right. And it's all about resonance, and harmonics, and balance, and dynamic interchange of forces. And it's elegant. In a word, it's elegant, which is kind of one of the things I always strive for is, someone comes to you with a problem, what you can generally hack through a solution but what you really want is the elegant solution. You know, in the case of some of the projects I've worked on, like cancer therapeutics, I worked on a thing called an anti-angiogenic therapy, you know, over a decade ago. And the entire time I was working on it, I thought, this is the wrong approach. I can just intuitively feel it, but I didn't know what was wrong. I just knew that something was. And, you know, ultimately, the project never really did much.

And then a decade later, I've worked on another project on oncology, and we came up with something that was really monumental. And it was because I was looking at things as what can I do here that's elegant? And so, in the end, it was a three compound macromolecule configuration. And it was very simple. But nature is very elegant. It's very simple. You know, it's had a lot of time to work out the kinks and smooth out the edges. So, yeah, those three books, I think they're all a little different and kind off the beaten path. Of them, if anybody, were just going to look preferentially at one, I'd say, look at the Universal One and look up, Walter Russell's art and his sculpture. His sculpture is amazing. And if you ever get the chance, look it up online and look up his sculpture of Thomas Edison. They were friends. And he did that sculpture in one shot. And it was the first sculpture he ever did. He had never done sculpting prior to, which seems a little peculiar. But when you look at the sculpture, if you look at it from the frame of reference of this man had never done sculpting, he was an artist, but he had never done sculpting, it will kind of put into very clear stark contrast, how absolutely tapped in the guy was because you don't produce things at that level of expertise without it being very dialed in.

Katie: Those are all the recommendations. I love. There'll be in the show notes as well. I've been fascinated with the brains of polymaths for at least a decade now. And I love this new recommendation. I can't wait to read it. Even just reading... I love Richard Feynman's work or reading Da Vinci's original works, learning I feel like how to think because they give you a whole different perspective. And like you said, it translates into other areas of your life, even if you're not doing that same thing. And also I know you have a 15-year-old as well. I'm a big fan of giving kids things like that to read if they're willing because I feel like they also already still

have some of that innate creativity and questioning, and when you let them kind of open that whole world at that age, it's fascinating.

Ian: You're homeschooling your kids, so that in a lot of ways, I think is really great because it allows people to find their own passion and delve into what the... I mean, yeah, I know you have a program for them that they follow but also, you know, they're allowed to be creative, as opposed to, you know, having their creativity squelched. Have you ever seen Sir Ken Robinson's lecture on how schools kill creativity?

Katie: Yes.

Ian: Yeah. Absolutely slays me. It's amazing but it's a brilliant lecture and it's very much to the point. Schools, in their typical fashion, are not designed to allow kids to express their creativity in the ways that they naturally would, or should, or could. And, yeah, I'm very much all about giving kids the same sort of thing so that they can keep doing what they do. My 15-year-old right now, he's been playing with a 3D printer. And, you know, I'm sure there are a lot of really, you know, technical things he could be doing but right now, he's been making a Spider-Man mask with active eyes that open and close. And I'm all for that because I think it's fantastic that he's actually excited about something enough to show up at my lab and play with it, and keep coming back, and all the things that he's learning through kind of the iterative process of trying to figure out how to make this thing that he has in his mind's eye. He's just trying desperately to manifest, that actually looks pretty fantastic, at this point, but he's learning all these skills, but he doesn't realize that it's this great skill acquisition process...

Katie: He's playing

Ian: ...that he wants the Spider-Man mask.

Katie: Yeah, I think right now ours are a Stormtrooper mask and chess pieces are what are being printed.

Ian: Yeah, I'll share this too. It's very cool.

Katie: That's awesome. Okay. I think we just added a fourth podcast on how to properly support the brains of our growing children in a way that helps them to keep maintain that creativity.

Ian: I'm so down for that. Yeah.

Katie: Awesome. Well, I know that we could easily talk all night and probably we will but just not on the record. But for this episode, thank you so much for your time and for sharing.

Ian: My pleasure. It was great.

Katie: This was so much fun and I'm so glad that we're now acquainted and we will have many more follow-up conversation soon.

Ian: Excellent. Happy to be here, and I'm very much looking forward to coming back.

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

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