Welcome to the Cutting Edge Health Podcast with Jane Rogers, where we discuss science to help prevent cognitive decline.

[00:00:00] Jane Rogers: Welcome to the *Cutting Edge Health: Preventing Cognitive Decline* podcast. I'm Jane Rogers. Welcome back. Dr. Yoshi Rahm is our guest today. We're taking a deep dive into the use of extracorporeal blood oxygenation and ozonation, better known as EBOO, for boosting your immune system. We also get into the use of methylene blue to help some of the underlying issues that can lead to cognitive decline.

Briefly, Dr. Rahm founded Oasis Family Medicine in Glendale, California, which is a suburb of Los Angeles. He's a board-certified osteopathic family physician. Yoshi, I'm very glad to have you on the podcast. Thank you.

[00:00:39] Dr. Yoshi Rahm: Happy to be here. Thank you.

[00:00:41] Jane: We're going to unpack two things to start with that I think are very exciting for this community trying to prevent cognitive decline. The first one has to do with a special ozone treatment called EBOO, which I'm a big fan of. The second one has to do with methylene blue, which I also can really see the efficacy in. Tell us, first of all, how you got into this. I want to hear your story.

[00:01:06] Dr. Rahm: Yes.

[00:01:07] Jane: Why are you focusing on helping people with Lyme and the practice that you have established?

[00:01:13] Dr. Rahm: It's really through my family. I grew up in Northern California, and my mom was probably one of the earlier people that we recognized or that was recognized to have had Lyme. She's had it for 40 years, maybe even a little longer than 40 years. I grew up with her health concern, and then my brother had meningitis, and after that had epilepsy growing up. I was always a little bit more exposed to ideas of healthy, and being in Northern California, my parents were hippies, so I had that more natural healing tendency around me.

I think mostly because of my brother I wanted to go to medical school and through residency. In residency, I was definitely like, "Okay, there's a lot to this Western medicine, absolutely has its place." I could see what it did in the emergency room, surgeries, when necessary, absolutely beautiful things. It became so clear to me that from a chronic disease management standpoint, it just was not the best option out there. It was very much, "Okay, what can I add into my toolbox here?"

I started my practice right away. Within a year, my dad got diagnosed with ALS. While I was already on my path toward getting more holistic education again to add to my toolbox, ALS being "irreversible", at least at the time, I just went down the rabbit hole.

At that point, it was just everything I came in contact with, how can I learn more about this? Is this appropriate for my practice, the way I want to practice medicine? Do I learn about it to be able to refer people, patients, to that, to a person who's an expert in that particular area of healing? Yes, I'm a physician, I'm a doctor, but really I want to think of myself as a healer. When someone comes in front of me, it's, “How can I teach that person to heal themselves?”

That's my framework. That's how I came into where I'm at today and being that healer at whatever level I am at. Always trying to get better. There's so much to learn. I just have an undying passion for learning more and more. I wish I could know it all, but I know I never will. The more I learn, the more I know I don't know. [laughs]

[00:03:36] Jane: I wish we could clone you. We need many more practitioners who are as passionate as you are, Yoshi. Let's dive into this. You are doing something with ozone in your practice that not every practice does. Tell me about it. Tell me, first of all, what's the efficacy of ozone? Why should someone even want to consider that if they want to make sure that they stay cognitively healthy as they age?

[00:03:59] Dr. Rahm: Yes. You mentioned EBOO earlier on. Extracorporeal blood oxygenation and ozonation is what EBOO stands for. First, I just want to set the premise that there are a lot of different types of ozone therapy, and it goes from being very non-invasive. People can do home rectal ozone or vaginal ozone. Then you can get into more of a medical office and do some major autohemotherapy where they take out a little bit of your blood, put it in a bag, and then inject some ozone into that blood, and it becomes ozonated, and then it just gets dripped back into a person like a normal IV almost.

There are a couple of other modalities out there, but the biggest step up is this EBOO therapy. It's a little bit more invasive because it's usually two arms, so a vein coming out and the blood goes through this machine where it gets ozonated and oxygenated, and then it comes around and comes back into typically the other arm. The beauty of this EBOO machine is that there's a filter.

There's this huge surface area where ozone and oxygen can come in contact with lots of blood on a continuous basis. We can do it at very gentle concentrations of ozone so that the body really handles a massive amount of ozone but handles it very well so that very few people actually get a Herxheimer's or a detoxification type of reaction, which is usually a signal that you're on the right path, but probably doing too much of it. Too much of anything is not a good thing.

[00:05:43] Jane: You're killing something too quickly and it can't get out of your body is a Herxheimer reaction, for those who haven't heard of it.

[00:05:50] Dr. Rahm: Exactly. Just to back up a little bit, I dove right into EBOO, but ozone, what does ozone do? Why is it good for people? I think of it as three main pillars, what it does. It lowers unwanted inflammation in the body. Inflammation is not always a bad thing. When we get an acute infection, we actually want a little inflammatory burst to kill it off. If we get a little cut, we want a little local inflammation to make sure we don't get an infection.

Inflammation is not always bad, but chronic unwanted inflammation is very bad and contributes to a lot of chronic disease states. It lowers unwanted inflammation and then it also balances out the immune system. If your immune system is not working well enough, it can really rev it up. If it's overactive, if you're using the right dosages of ozone, it can actually slow it down.

I think of it as *Star Wars,* balancing the force, really, is what it does, from both an inflammation standpoint and an immune system standpoint. I think of a third pillar of what ozone does, increasing energy in the body at the cellular level. Most of the energy in the body is really the final product. The currency of energy in the body is ATP, and it's produced by the mitochondria, which are in many cells in the body.

When our body has enough energy, when it has enough ATP, it can heal itself so much better. Unfortunately, we live in a toxic world, and there are so many toxins that really tamp down our ability to create energy at the mitochondrial level. Very few people are actually making energy optimally. If we can get more energy production, again, like I already said, it leads to a more optimal healing prognosis.

[00:07:58] Jane: When you're talking about cognitive decline, you've got to have that energy. You need to have the mitochondria really humming. Otherwise, they're finding in post-mortem autopsies that there's really a mitochondrial insufficiency going on. That's one of the drivers for a lot of cognitive decline, the Alzheimer's, and the bodily inflammation. You don't want bodily inflammation if you are going to age well and keep your ability to remember things.

[00:08:24] Dr. Rahm: Yes. On the brain, cognitive decline, mitochondria, different tissues in the body have different amounts of mitochondria. Some people might hear the mitochondria is like the engine of the cell. I think of it more like a furnace that's producing energy. Certain tissues, again, have more mitochondria and the brain is where the most mitochondria are.

There are some other areas, ovaries are very rich in mitochondria, heart is very rich in mitochondria, but brain, it's where most of our energy production is actually occurring at

the mitochondrial levels because our brain needs it. Without our brain-- we can even have mechanical hearts nowadays, we can do lung transplants, we can do liver transplants, we can switch out a lot of our organs--but the brain is…obviously we're not close to that yet. [chuckles] Probably never will be.

[00:09:20] Jane: Probably not. Tell me about the research that's been done. Has there been any real good research done in ozone? For the skeptics out there saying, "Do I really want to do this? Is it really going to help my brain?"

[00:09:32] Dr. Rahm: Yes, good question. It's been used from a therapeutic standpoint for a century, a full-on century. Now, it didn't probably gain a lot of traction until the 1950s, probably more like 1960s, more in Europe, especially Germany, but it's been used a lot since the 1960s, 1970s. We're talking 50 years, millions of therapies over this period of time. Such a low-risk profile, just from an anecdotal standpoint.

When something stands the test of time, there's probably something to it. Now, there's definitely been a decent amount of research on various ozone therapies. In my office, in the past 12 months, we actually completed two rounds of EBOO studies. This second round that we just did over this past summer of 2023, we had 20 patients, did three sessions, three EBOO sessions each, and then we pulled them in a week later, and we were doing bloodwork along the way, and having them fill out some subjective feedback as well.

Going into it, I thought that we would have good results or "good results", but you never really know. There's definitely a certain amount of blinding in this study, and we sent off to someone else to run the statistics. It was really interesting because we ran a before and after cytokine panel. There are a lot of cytokines, but some of the more well-known ones have a lot to do with immune system and inflammation.

Over the past…since 2020, we've had the cytokine storm. That's not a desirable thing. We don't want a cytokine storm. We looked at this cytokine panel, 18 different cytokines, some inflammatory, some anti-inflammatory ones. Overall, cytokines are like a bowl of spaghetti. They're very mixed, and it's hard to know exactly what's doing what. Overall, the trend was definitely in a good direction. Three EBOO sessions, one week apart, and then even one week later, cytokines improved. Now, there are a few other things I can share with you.

[00:11:48] Jane: I would like that, please.

[00:11:50] Dr. Rahm: Okay, all right. CRP, hs-CRP, that's a general inflammation marker, that was shown to decrease, not just from right before the session, each session to right after the session, but truly one week after even that third session, shown to decrease, I

believe that was 14% on average. Then there was fibrinogen, which is, it's an inflammation marker, but a little bit to do with blood stickiness as well.

Most people's blood is a little too sticky. We want to generally bring it down because very infrequently we see somebody's who is too low. Most people's are too high. It's too sticky of blood. What we saw was a definite decrease by--that one was about 24% or 25%, I believe. Very significant numbers in everybody.

[00:12:44] Jane: Did you do lipid panels?

[00:12:45] Dr. Rahm: No lipid panels on this one.

[00:12:47] Jane: Next time.

[00:12:48] Dr. Rahm: Yes, anecdotally, I can say that it lowers total cholesterol, not that that's the end goal really, you want to improve the quality of the cholesterol. I can say anecdotally that it improves, but I don't have any official research to prove that, or at least on these studies. Then there was another one, sed rate or ESR. That's a huge blood stickiness marker. That actually decreased over 120%.

[00:13:17] Jane: Oh, my. That's just three sessions.

[00:13:19] Dr. Rahm: Really phenomenal. It would happen even just with one session. It was twofold. These changes improved over even just one session. Then it was interesting because we wanted to see does it last. In this study, we only carried it out one week. That's all we can say we know. It truly lasted, the effects lasted. For the sed rate, it was almost just as much. It was 135% just from before to right after one session or each session. Then even one week later, it was 124%. Almost just as much.

That was a big one to find and really interesting. Then I can say anecdotally that probably one EBOO session, the effects last, I suspect, somewhere in the three- to six-week range. Again, that's more anecdotally. That was really neat to do that study. SOT Med funded part of it, and they have an EBOO machine. That was really great of them to see because it's like we think we know what we know, but we don't until we do.

[00:14:31] Jane: That's really impressive for a relatively small practice like that, to start into that kind of research. That's cool.

[00:14:38] Dr. Rahm: Yes, honestly, it was the first time we've ever done any research, and took a little work up front, but I have a really awesome team. We were able to do it and thankful to have done it.

[00:14:48] Jane: I bet. Tell me about what you add to the EBOO treatments. That's where I've seen you as being especially innovative, and people come to you from all over the

country, all over the world because you really know what you're doing. You don't just do the ozone, the EBOO treatment. You add things in.

[00:15:04] Dr. Rahm: Yes. Something also that we found from that study was there are some other minor electrolyte shifts. EBOO, when you're giving a huge dose of ozone because ozone speeds up metabolism, you can get a potentially-- if you're not metabolically flexible, you can get a huge blood sugar drop. We can easily mitigate that just by having people eat a well-rounded meal before doing this session, blood pressure, just be well hydrated. There are a few things that we've been working through.

We first did this…I built my own EBOO machine and we started doing this three years ago, October of 2020. Since then, we've done 1,500 of these sessions. It's a lot of sessions, and it's been a learning process, and I've always tried to be upfront, talking to patients about potential pros, potential cons, and being totally honest, like, "This is what we know and this is what we don't know," but we've gone through this. I also realized there's a lot of people who have this other category of vasovagal response that people can get when they do an EBOO session, which is typically minor, but it doesn't seem minor to the patient in the moment.

I realized this happens more with what I call brittle autonomics. That really comes down to anybody who has any amount of anxiety, whether it's robust, obvious anxiety, or even if people sometimes try to play it cool and walk in, but there's really this underlying level of nervousness, whether it's about the session or just in life in general, those are the individuals who seem to have vasovagal type of symptoms.

We give them pre-EBOO nutrient IV, and it's got different ratios of different electrolytes and vitamins, basically to help calm that person out and just really bring them into a state of equilibrium. That's something that really came out of all those experiences, individual experiences, but then also the study. It was neat to do that. We also add in…I add in a lot of fulvic acids too because those can really stimulate phase one and phase two detox symptoms.

Again, at the beginning, we talked about how too much of a good thing can create a detox reaction or a Herxheimer's reaction. I want to neutralize as many of those toxins that get mobilized during a process, like an EBOO session, or that might be mobilized. How do we bind those really well and effectively so that they don't experience some unwanted fatigue, for example, later that day or maybe the day after?

[00:17:47] Jane: Or get reabsorbed back into the body, which you don't want.

[00:17:50] Dr. Rahm: Exactly. If we're going to mobilize it, yes, we might as well take it out. Fulvic acids, if you're taking a good quality fulvic acid, it can actually go into the gut, but then it can actually go outside of the gut and into all the tissues, including the brain,

which that's the big one. It can grab those toxins, whether you're talking about heavy metals like lead, mercury, pesticides, herbicides, mold leftovers, mold biotoxins, parasite exoskeletons. It has the ability to bind a lot of different toxins.

If we do a good amount of that, we can also, again, work in tandem with huge amounts of ozone and oxygen. Occasionally, we'll throw in some methylene blue as well. That's not a standard thing that we do with everybody. I'm a huge fan of just trying something and seeing how it goes, and then we can course adjust. Getting on the ship to go from California to Japan, I just want to continue to course adjust so that we don't end up somewhere totally-- Alaska or Australia. Methylene blue is one of those things that oftentimes, a second or third session, we might try it and see how a person responds to it too.

[00:19:09] Jane: We'll talk more in a minute about the benefits, the many benefits of methylene blue. In the ideal world, if you think that the effects of an EBOO session lasts for three to six weeks, how often are you personally getting an EBOO session? Do you get one every month? Are you like the cobbler's kid? You don't get it very often.

[00:19:27] Dr. Rahm: The cobbler's kid. [laughs] Yes, what an embarrassing question to be asked.

[00:19:33] Jane: I'm sorry.

[00:19:33] Dr. Rahm: No, it's totally cool. I'm a pretty healthy person. I'm fortunate enough, I don't have any chronic situations going on. In an ideal world, I would probably do it once a quarter. Someone who's biohacking, pretty darn healthy, eating well, exercising well, doing the lifestyle stuff pretty well, nobody's perfect on that, but just pretty well, I would go once a quarter. It's more and more frequent the more sick someone is, or the more in need somebody is of a healing process to occur. If someone's in the throes of a Lyme flare-up or mold, then it could be once a week for two or three weeks. Then I like to pretty quickly start spreading that out, every two weeks and then every three weeks. I tend to find people generally don't need to be doing it every week or every two weeks for that long, which is nice.

[00:20:33] Jane: Good. How can someone go about finding a good EBOO practitioner? Because I've seen in different offices a lot of variations in machines. Some of the machines look a little bit old, and some of them you think, "Okay, this one's state-of-the-art, this is new." Is that something that should concern me, and how do you find a good practitioner for it?

[00:20:51] Dr. Rahm: I actually don't have a great answer to how to find a good practitioner. There are different types of machines out there. I think it's not so much just about a machine, it's about how a practitioner uses the machine because I can have a

hammer, we can all have the same hammer, but if we're hammering the same force on everything, it might work for some people, but it's not going to work for everything.

All I can talk about is my experience, so this is not going to be to knock on anybody else's machines out there. I can say that a practitioner who has the SOT Med machine because they do the training, what I can say about SOT Med is they are very interested in continually improving their machine. I know for a fact that they're very active on that. They didn't just create a machine and leave it, like they're going to be good for the next 10 years. They are in the process of actively improving it.

I'm totally not knocking anybody else's machine out there. Again, I can just speak that I know that a practitioner who has a SOT Med machine is probably a safe bet. At this point, I actually built my EBOO machine without even knowing EBOO was a thing. It just was one of those things that made sense to me. When I first started doing it, there definitely were probably only three or four, maybe five people, in the US doing it. Fortunately, it's becoming more and more common, which is great because there are so many people out there who need, who would benefit from EBOO.

It's on the rise very rapidly. That's what I can say. If someone Googles it and then calls them up, “Do you use the SOT Med machine?” They're probably a good option is my guess. Also, caveat that with, there are a lot of other wonderful EBOO practitioners out there who are using other machines as well.

[00:22:43] Jane: One last question about EBOO, and then we'll wrap that up and move on to methylene blue. How much is this going to set a person back to do a session or maybe a group of three sessions?

[00:22:53] Dr. Rahm: In my office, it's right around $1,000.

[00:22:57] Jane: Per session?

[00:22:58] Dr. Rahm: Per session. Yes. There are definitely offices out there that are charging like $3,500, $5,000 for one session. I would say your average is probably closer to $1,500 to $2,000 a session. It's definitely not an inexpensive therapy. What I can say is this is a process where you have to have one nurse for one patient there the whole time you're getting the blood. It's almost like a dialysis session, in a way, because the blood is going out, it's going through a machine, coming back into you. It's really important to have eyes on that one person for the whole session.

It's a lot of human power involved. You can't reuse the whole filter on a second patient. It's one filter, one tubing filter set per patient. There's a lot of cost to it. Having said that, though, in the last three years, I've definitely seen the overall cost from other offices come down and down, which is a natural thing that happens over time anytime there's a newer

technology. It starts out a little bit more expensive and then hopefully comes down over time. It definitely can set people back.

What I'll also say on that front is we've had people who repeatedly come from other states for these sessions because it has really moved the needle for them. EBOO is never my first line. Just because we do EBOO in our office, it's not like everybody who walks in the door should get an EBOO session. It's really important to be doing the basic lifestyle modifications, giving a decent grade on each of those first. Then where are we deficient on something? Where are we toxic on something? Be working on those.

Maybe perhaps try some of the other simpler IV therapies, like even just the major autohemotherapy version of ozone, potentially, See how somebody responds to that. If they respond really great to that, maybe they never even need to go to EBOO. Yet, having said all of that, sometimes people still want the needle to be moved more. That's where it's like, "Okay, let's try an EBOO session and see how you respond. Then we just see if it's worth it to you." Not just from a financial standpoint, but worth your time, money, effort, all of it.

[00:25:14] Jane: Good. Anything else before we move on?

[00:25:18] Dr. Rahm: There's so much we could, but no, I think we did a pretty good job of hitting the highlights there.

[00:25:23] Jane: Okay. You mentioned at one point that you sometimes put methylene blue into that line when you're doing EBOO. Methylene blue. Tell us about it. What is it?

[00:25:31] Dr. Rahm: Methylene blue, it's actually a dye. It is a synthetic medication, although it's over the counter. Most people think of it more like a supplement, but actually, it was the first drug on patent back in the 1880s. Initially, it was used to treat malaria, which is a parasite. It was forgotten for a number of decades. It's been interesting, myself included, when I started my practice in 2011, I'd only heard about methylene blue being used in the emergency room for carbon monoxide poisoning or cyanide poisoning.

I had no idea that it had so many other potentially useful benefits. Now, what I'll say is people hear, "Oh, it's a dye. It's a synthetic dye. Do I really want to be taking it?" While I would say our body definitely does not have a deficiency of methylene blue, I like to highlight that because I'm always trying to focus on how do we bring down toxins and how do we fix or help deficiencies. It's the first things that we're doing. Then it's like, "Okay, what else can we use that might be beneficial?"

Methylene blue is on that same line of thought. What else can we use that doesn't have a very high side effect risk? That's another huge piece of it. If we can try something and there's almost no downside to using it, hey, why don't we try it? Especially if it's very

affordable. Methylene blue is very affordable, especially by EBOO standards. Why is it so useful though?

Let me continue about the side effects. The side effects, potentially harmful if you're using it in very high doses. Now, we're talking over maybe 500 milligrams. Now, how much do we use in our practice? I'm usually recommending one milligram a day, maybe up to as high as 70 milligrams in a day, depending on the person's situation. The dangerous realm is more 500 milligrams and probably honestly more like over 1,000, even 4,000 milligrams. You use anything too much, it's going to be a bad thing, of course. I wouldn't use it in mega high doses, at least all the time. I wouldn't use it if you're pregnant. Other than that, it's pretty darn safe, especially when you're using it in low doses.

[00:27:55] Jane: How about with antidepressants?

[00:27:56] Dr. Rahm: Yes. Anybody who Googles it will be warned not to use it with antidepressants. Again, in the case studies where that was noted to be a dangerous combination, that was in people who, again, were getting those mega doses. Open surgeries on the parathyroid…during surgery were having methylene blue being poured on them because it's a very good stain because it gets concentrated in the mitochondria, which is a good thing and why it's used. Then that person, those people, were also noted to be on antidepressants.

Again, we're talking in mega doses. If someone's using 70 milligrams or less, I don't believe that there's a single report out there. I could be wrong and I'm happy to be corrected on this, but I don't believe there's a single report out there of methylene blue, again, like a 70 milligram or less dosage, interacting negatively with antidepressants.

[00:28:54] Jane: You're talking per day, 70 milligrams per day because it stays in your body, some people longer than others. Do you wait until your pee returns to the normal yellow color, it's not blue anymore or green, before you take it?

[00:29:08] Dr. Rahm: Yes, great questions. The half-life of methylene blue is approximately 12 hours. Again, it depends on the person's health status, frankly. I actually don't recommend people take it every day. My personal stance is less is more, typically, or I would say rather lowest effective dose. That's more accurate of a statement. Where is that dose that is effective?

Because the moment we get over a certain dose where we're not really getting any extra benefit, it's probably a sign that we don't really need that. It probably is too much. It's still this synthetic thing. I'm backing up. The beautiful thing about methylene blue is it goes right to the mitochondria. Again, very few people out there have perfectly functioning mitochondria. The healthiest of the healthiest probably don't need to be taking methylene

blue. For the rest of individuals, anybody who could use a little bit better mitochondrial energy production, methylene blue might be a good idea to start at least trying,

Myself, I actually only use methylene blue if I'm wanting a cognitive enhancement temporarily. If I'm going to be taking a test, I'll use methylene blue for myself or my patients. If they feel like they're coming down with something, like a virus or a bacterial infection, that's a really great time to get methylene blue on board. If someone wants to use it as a nootropic, so to help, again, cognitive enhancement for whatever reason, I would potentially use it.

Say you have a student in college going to classes five days a week. It could be like, use it five days a week. I would always take a couple of days off, but again, I would be suggesting that dosage to be somewhere around maybe 4 to 30 milligrams. Not even a 70-milligram dosage. The higher the dosage goes, the more of an anti-infective it is. It works so well on UTIs or chronic UTIs. We'll give them up to 30 milligrams intravenously, and then that methylene blue concentrates in the bladder, and it can act as an oxidant, basically a pro-oxidant in the bladder as it concentrates there, and basically kill off an acute UTI infection.

A lot of people also have chronic UTIs. So many people are given round after round of antibiotics needlessly when they could just be taking methylene blue, which actually is helping their cognition, helping anywhere there's a mitochondria, if there's inflammation anywhere in the body, it's helping all of that, and then a side tangent, we also like to put red and infrared light over the bladder area during those IV sessions. That can be hugely beneficial. I don't think I'm wrong on this, but I think every person that has come in with a chronic UTI who has tried that, it's just been completely neutralized, and long-term neutralized.

[00:32:15] Jane: I find it interesting that you say don't take it every day because if the mitochondria needs support, you would think you take that, not a lot of it, but you take it every day. You're saying, no, just take it periodically when your day needs it.

[00:32:29] Dr. Rahm: I think so. I'll also add to that, if I get a really bad night's sleep, again, I'm pretty healthy, but if I get a bad night's sleep, I have three little kids and a practice to run, so if I get a bad night's sleep sometimes, that would be a great time to use methylene blue.

Also, dosage matters. If someone's taken four milligrams of methylene blue, for instance, probably could take it every day without any issue. I think it also might be possible to take 100 milligrams of methylene blue every day and for it not to be a problem. I don't think that research has really been well-delineated yet. Because it's a synthetic thing that our body does not naturally produce, I tend to want to reach toward other sources, other healthy sources, to also enhance the mitochondria.

How many people are able to do a little bit of intermittent fasting? Because that helps improve mitochondrial function. How many people are doing their cardiovascular exercise, which is more just slow, continuous exercise? How many people are doing those quick bursts of exercise, hard bursts of exercise? Those are really the best ways. Then eating a clean diet that's toxin-free, or as toxin-free as we can, because those are the real ways to enhance the mitochondria.

Getting amazing sleep, keeping well hydrated, preferably with structured water or mineralized water, keeping our minerals up. Almost everybody is mineral deficient to some level. If we're doing all of those other things, we're not going to need to take this synthetic methylene blue.

[00:34:07] Jane: Excellent.

[00:34:07] Dr. Rahm: However, there is also absolutely-- like I just said, I get a poor night's sleep sometime, I go through time periods where I'm not exercising well or enough. We live in this world, this busy world, so there's absolutely this huge opportunity to use methylene blue for a lot of good for a person.

There's a lot to tear apart there or to pull apart there, so I really just think it matters who the person is and what their situation is, and what they're hoping to get out of it. Then starting on a low dose and tapering up, taking note of what they notice because if you're noticing an improvement in cognition, it's probably a sign that methylene blue is a really good thing. If there comes a certain dosage where you're like, "I'm not really noticing something," I'm just saying potentially, maybe that's the max dose that you need.

[00:35:02] Jane: That makes sense.

[00:35:03] Dr. Rahm: Methylene blue goes to where the body needs it most. Wherever there's an energy deficiency, that's where methylene blue goes, and that's one of the powers, the beautiful things about it.

[00:35:14] Jane: We probably should add, if someone's getting into this, they need USP grade. Super important.

[00:35:19] Dr. Rahm: Yes. I'm glad you mentioned that. Yes. There's a lot of methylene blue on the market. It got a negative connotation during the earlier pandemic when people were trying to use it but using a fish tank grade. It is used as a fish tank cleaner, but it's not really a fish tank cleaner. It's actually for the fish themselves to decrease infections in the fish. The same reason we give it to the fish, we can take it, but there's a lot of adulterated methylene blue out there. It's really important to get a high-quality source that is just completely free of toxins. Thank you for bringing that up.

[00:35:58] Jane: You're welcome. One other question that I have, I have mutations within the methylation pathway. I have something in the COMT plus area that makes it hard for my body to take in more methyls. Here I am thinking, okay, I'll take methylene blue, but what I found is it drives my homocysteine really low, 5.3, which is really too low. Is this an indication this is not the right thing for me, even though it does help me cognitively a lot, in your opinion?

[00:36:32] Dr. Rahm: That's really fascinating. I would go a lot more off of symptoms than a laboratory test because the objective data is really awesome. If you're noticing an enhancement—

[00:36:45] Jane: I am.

[00:36:46] Dr. Rahm: —a cognitive enhancement, then to me, that's a really good thing. This is also another case to demonstrate, make sure you're on the lowest effective dose. I don't know if you know off the top of your head how much your dosing is.

[00:37:03] Jane: Right now, I had been taking five milligrams, but I was taking it every day. Then my practitioner just bumped me up to 24 milligrams.

[00:37:12] Dr. Rahm: Yes. Test it out. Does 24 milligrams help more than five milligrams or more than 10 milligrams?

[00:37:22] Jane: Five milligrams did it.

[00:37:23] Dr. Rahm: Yes. It'll be really interesting. Have you tried the 24 milligrams yet?

[00:37:27] Jane: I have.

[00:37:28] Dr. Rahm: That also helps, I would assume, from a cognitive—

[00:37:31] Jane: It helps too. It's easier to take. This one happens to be in capsule form instead of taking the drops. The drops are so messy. They get all over. They get on the counter. They stain the counter if you don't put Dawn on it to clean it up.

[00:37:41] Dr. Rahm: Yes. My take is lowest effective dose because you also want to pay attention to the objective markers as well. You don't know until you test and until you subjectively test as well, that being on 24 milligrams, is that blood marker going to go even lower? The homocysteine.

[00:38:04] Jane: Exactly. That's what I'm worried about.

[00:38:07] Dr. Rahm: That's where I would just test it and take note because if it stays the same, okay, maybe 24 milligrams is a great dose for you. Have you tried Troscriptions, the little troche, by any chance?

[00:38:23] Jane: No, I haven't.

[00:38:24] Dr. Rahm: No affiliation with them. Troscriptions.com, like troche plus prescription, Troscription, I don't know if it's with an S or not, but .com. They have a few little products, one pure methylene blue, good quality for sure. It comes in, I think the troche is 16 milligrams, but it can pretty easily be cut into quarters. You can do four milligrams at a time. That could be another option to try.

They also have a really cool one, I think it's called Blue Cannatine. That's actually what I used before my board exam questions because it has methylene blue plus one or two milligrams of nicotine and then a super low dose of caffeine and then a super low dose of CBD. That's a really amazing combo, all in really low dosages. It's this really calm energy, calm energy, calm focus.

[00:39:21] Jane: What was that called again, Yoshi?

[00:39:23] Dr. Rahm: I think it's Blue Cannatine from Troscriptions, Troscriptions.com.

[00:39:28] Jane: Anything else on methylene blue before we wrap this up and talk about structured water just briefly? Because you mentioned it.

[00:39:34] Dr. Rahm: No, again, it's one of those things where I could talk another hour easily on methylene blue, but I think we got the highlights again.

[00:39:41] Jane: Excellent. Now, talk about structured water. I've heard you say that there's an easy, inexpensive way to make structured water. You don't have to get those special things to go under the sink.

[00:39:52] Dr. Rahm: Yes. It's interesting. Just real quickly, mitochondria, mentioned those are the main furnaces, energy producers in our body. Yet anybody can delve into the science. What's really fascinating is the numbers that we have that are how much ATP the mitochondria make does not add up to being enough energy for our body to actually do anything other than be a blob all day long. There's something lacking in the science. There's something major lacking from standard medical scientific understanding of where we're really getting all of the energy from that our bodies actually use every day, like every second.

There are some suggestions out there and it makes sense to me logically because we're humans and we developed under the sun and with fresh air and minerals and fresh

streams. I believe that where we get most of our energy from is sunlight and clean water and minerals and then add some fats in there and proteins in there as well, of course. People can look into Gerald Pollack and there are other researchers, scientists, and doctors now that are looking into structured water more.

Structured water is water that's not just randomness. When we drink unfiltered water, regular tap water, it's generally been stripped of so much of the nutrients and then fluoride is usually added in, plus other chemicals to clean it. It's dead water, which basically just means that the H2Os are in very random sequences all balled together. When we add minerals, the whole plethora of minerals, 70 plus minerals into water and then add light like sunlight, it becomes structured, have a little shaking in there and it becomes structured.

Adding just a pinch of relatively toxin-free Himalayan salt or a good quality Celtic sea salt because those have 70 plus minerals, it's not just sodium and chloride. It's got all the minerals. You add that, just a dash, we'll be very official about this, a dash of salt, of quality salt into filtered water, very filtered water, even distilled water. This is one of those instances where I'm a huge fan of actually distilled water, but then add in the salt and then put it in a glass jar in the sunlight, even just for a couple of minutes, much less 20 minutes, half an hour, it's just going to get chock full of photons are just going to go to work on the minerals and the H2O, the water.

Then it's going to become structured. All of a sudden, those H2Os are stacked in a nice sequence. It's way more hydrating when we take it, when we consume it, it's way more hydrating. You can actually get truly hydrated because if you're drinking a liter of your normal tap water every day, most people are not going to be well hydrated with that. You'll be peeing it out for sure, but that doesn't mean you're really well-hydrated. It doesn't mean that H2O is actually going into the intestines, getting absorbed and going inside the cells, and hydrating the cells.

When that structured water enters the cells combined with other proteins, amino acids, and fats, we get this gelatinous type of structured water/gel. When the light, the sunlight, humans are supposed to be outside, not inside getting fake light where we're only getting a couple of frequencies, but the sunlight has this full spectrum of light, visible light, and invisible light. All of these frequencies hit us, hit our skin, go into the cells, hit that structured water, and create energy. That is probably where we get the majority of our energy, not just from ATP that mitochondria are making. Did that make sense?

[00:43:47] Jane: Yes, it makes sense. You probably have big glass tea containers. That's the biggest thing I can think of. You could put this water in and put your little bit of salt in there, set it out in the sun for 20 minutes.

[00:43:57] Dr. Rahm: Exactly. Yes.

[00:43:59] Jane: Is that how you do it at your house?

[00:44:00] Dr. Rahm: Yes. I use other structuring water devices as well. I just get it from many different directions for sure.

[00:44:09] Jane: Yoshi, we're about out of time. I know you've got a patient at the top of the hour. You were so kind to give us this block of your time. Thank you. Is there anything else you would like to add when you're thinking about cognitive health and how to stay sharp?

[00:44:21] Dr. Rahm: I mentioned it a couple of times. It's going back to the basics, the lifestyle modifications. It's not that everybody has to get an A-plus in every category of exercise and diet, but we need to be getting a decent grade, a B-plus, an A-minus. Maybe some categories are you are getting an A-plus, and some categories it's only a B-plus, but we really want to be as close to a 4.0 student in those areas because there's a lot of other things that we can do.

Ozone, methylene blue, the world is full of different companies coming up with things that can help our cognition, which is beautiful. I've tried many of them and I love a lot of them. At the end of the day, if we're trying to just put those on without taking care of business, it just doesn't make sense. We're going to be spending effort where it shouldn't be guided. Getting good sleep. Focus on that. That's probably the number one thing I would-- It's hard to put number ones. I have a lot of number one things, [chuckles] but get good sleep, number one.

Got to go be eating well, number one. Got to go be exercising. It's all the different types of exercise. It's not just exercise. A stroll around the block is not nearly enough. We need to be working hard, even if it's just for a short time period. Then a sense of purpose too. That's so important. The sense of community. We are social beings. What I've noticed from patients, and I can just think to myself, it's so important to have that sense of community because otherwise, life is just not as sharp, and our cognition is not going to be as sharp.

[00:46:09] Jane: I agree.

[00:46:09] Dr. Rahm: Versus if we have a community who we care for, who we know they care for us, you look at the blue zones, The people who live the longest. It seems to actually come down much more to do with their community than any other factor for all of the blue zones. It's really that community.

I'll just end on, there are the smokers. There was a study—I cannot cite it, I wish I could—but the people who smoke solo, those are who get disease from smoking cigarettes

versus the people who smoke in community with friends, laughing, having fun, there's actually almost no deleterious effect from the cigarette smoking.

[00:46:53] Jane: Really?

[00:46:55] Dr. Rahm: That's just mind-blowing. You could be eating a really organic, whatever it is, pick your diet, paleo, whatever it is, this really healthy food. If you're thinking negative thoughts, that food is going to go in, you're going to have more dysbiosis. You're going to have a leaky gut versus you could be eating a—I'm not going to say a French fry, that's really horrible—but you could be eating non-organic salad. If you're doing it in community and loving on each other and laughing and you're eating it, your gut is going to be so happy and healthy and the neurotransmitters that your gut is making, and it's going to tighten up so you don't have leaky gut. That food is going to do a better job than eating healthy food.

It really goes back to community, love, and purpose. Those are my number ones. Those are my four number ones.

[00:47:54] Jane: Such a great message. Dr. Yoshi Rahm, I appreciate your time today. Thank you so much.

[00:48:01] Dr. Rahm: Yes. Thank you for doing what you're doing, spreading the word, and helping people and educating people because we all need it.

[00:48:08] Jane: It's a sense of purpose. I'm loving it. Just loving it. You have a great day.

[00:48:13] Dr. Rahm: Likewise. Thank you.

[music]

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