



## Episode 575: Shawn Wells on Supplements for Women + Easy Ways to Improve Health

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Katie: Hello, and welcome to the "Wellness Mama Podcast." I'm Katie from [wellnessmama.com](https://wellnessmama.com) and [wellnesse.com](https://wellnesse.com), that's wellnesse with an "e" on the end. And I'm here today with return guest, Shawn Wells, who is a friend, and he's also an expert in a lot of different things. He's known as the world's leading nutritional biochemist and an expert on many areas of health optimization. He has formulated over 700 supplements, foods, beverages, and cosmeceuticals and patented over 20 ingredients. And he's worked with many companies, done a lot of research in the fields of anti-aging and mitochondrial health. And in this episode, we go deep on supplements for women and some easy and inexpensive ways to improve your health.

We start with talking about the experience that drastically shifted his own life and helped him find self-love. We talk about important caveats for women when it comes to supplementation, why most research on supplements is done on young males and what to understand if you aren't in this group, the things women have a greater need for and can benefit from supplementing. We'll talk about protein requirements for women, what it means for protein to be thermogenic, why women need to gain more muscle and why this won't make us bulky, what leucine is, and why it's important. We talk about caveats of creatine for women and how it can be used to slow aging, the surprising benefits of a substance you probably have in your kitchen

right now that's almost free that enhances performance and may reduce disease risk, why 75% of the population is deficient in magnesium, his take on hormone health supplements. We talk about some more caveated ones like spermidine and niacin, NAD, NMN, Visentin, CoQ10, PQQ, and ergothioneine.

So, lots and lots of information in this episode. I know that you will learn a lot. So, let's join Shawn. Shawn, welcome back.

Shawn: Hey, thanks for having me, Katie.

Katie: It's always so fun to talk to you, and I always learned so much. And we're gonna go in a lot of directions related to supplements for women, because I get asked often what I take and why. And I think there's so much caveat and personalization that's important to understand before you just start taking things. But before we jump into that, I have a note from you that you've done more than 50 plant medicine journeys. And I've started opening up a little bit about my experience with that and trauma recovery. But I would just love to hear, of your experience, which one was kind of the most profound for you, or were there any that stood out?

Shawn: Wow. They each have their own nuance and experience and effects. I'm actually talking about this quite a bit in a number of presentations, coming up on a number of conferences. I have a whole "Psychedelic Science and the Supplements that Support Them" talk that I've been doing. But the first one is the most profound, and I think this is the case for most people, that my first journey was a psilocybin journey. And everything shifted for me. And I think that that first time that you're cracked open is just so profound. And I would imagine that's the case for most people. But for me, I had lacked self-love. Like, pretty, I was pretty harsh on myself, and I think a lot of people are really harsh on themselves.

And the inner critic was fierce with me. And, you know, I grew up in a way that was quite difficult along those lines. And I think back and, you know, as an entrepreneur, you know, you're driven, your imposter syndrome, insecurity, fears. And, for me, self-love was never in the equation. And therefore, I never really had actual love with another partner, either. I've been married a long time. And she's an amazing person. But for me, because self-love wasn't there, I don't think I ever had a true love with another partner. And so, being in that space, and feeling cracked open like that, I felt like love was possible for myself, for another. That was profound for me.

And I think I spent a lot of my life up until that point in the grind, the hustle and the grind. And I was always heads-down, trying to get to the next spot, trying to get to the next finish line. But it was never good enough, and it was never a point of celebration. And in that space, I realized that I could be happy, I could just do the things that I wanna do, the things that light me up, instead of just racing for this finish line to prove myself. So, I think there was just a lot of release, of proving myself, of not thinking I was good enough. There was a shift towards love, and in wanting love in my life. So, that was really profound for me.

Katie: So well said. And I think you're right. I think there are a lot of ways to hopefully get to that point of self-love. But it is so important for all of us. And I think these substances can kind of make that process faster, or, you know, less linear. It can kind of be a jump. Whereas, I think, you know, people who aren't open to that, there are other ways, of course, to get there. But I'm glad it's being talked about, and people are understanding the importance of that, because you can't give what you don't have, including Love. And that's a beautiful way that you said it.

You are also an expert in many, many things. And among them, you're known as the world's best formulator. And we've talked a little bit in past episodes about some very specific things within that category. But I was at an event, and I got to hear you speak specific to supplements for women. And I knew I wanted to have you on

and kind of deep dive into that for the audience, because I think there's some important caveats and things to understand. And, of course, so much marketing in the supplement industry, that makes you think you need to take everything out there all the time. And I also know, for instance, that women weren't even included in a lot of medical research until the '90s, and so there is less data when it comes to supplements for women. And I know you've done extensive research on this.

And so, at that event, you kind of went through a list of what you would consider top supplements that are generally good for women. And, of course, there will be caveats within those categories. But to just start really broad, maybe walk us through if there's any differences we need to be aware of, even when considering supplementation. And then maybe take us through the first few of those that you kind of widely recommend.

Shawn: Yeah, that's a great question, and one I get quite a bit. And to your point about women not being in studies, that is, there's a massive disparity there. And I think, you know, the general consensus is, well, women are more complicated, so let's not introduce that X factor of the menstrual cycle of, you know, some of those kinds of things. I would also say, and it sounds vastly unfair, but to take that even another step further, even people our age really aren't represented. So, it's mostly college-age males, like, 18 to 24 years old, that are in these studies.

So you do have to take that into account. When we're talking about research, we're talking about very healthy, young, fit males. And we're not talking about people that are in their 30s, their 40s, their 50s, people with disease processes, people potentially of different ethnicities, and certainly of different genders. So, there is a disparity of research there, and a lot of it has to do with just availability.

But going into what supplements I would speak broadly to, I think, you know, women, you can talk about certainly supporting, you know, a greater need for bone mineral density, a greater need for getting enough protein in, both muscle protein and the rest of the full-body protein. So I'm talking about things like collagen, which is about a third of the protein in your body. And then the other two-thirds would be the muscle that supports it. So, getting, like, a high-leucine protein. We can get into the specifics, but, you know, and then, looking at things like certainly related to blood, and support around that, would be iron, B12, folate, some of these things that, so we can avoid anemia, which is a situation that many women that are in, that don't realize that they're in, that they're anemic, that they're tired, and they're fatigued, because they don't have, you know, proper support there. So, those are some things. And then, you know, I can get into, I think women shy away from ingredients like creatine, which not only can support muscle mass, but can support bone mass, brain health, reproductive health. It's really one of the most profound ingredients on the market. But we can delve into each of those.

Katie: Awesome. So, let's start with protein, because I think this is a really important topic, especially for women, because it seems like in a lot of the mainstream information, at least in the past, maybe guys got the message about protein being more important. And women, still, there tends to be kind of a shying away from eating too much, or eating too much protein. And diet culture has kind of conditioned a lot of women to kind of have that deprivation mindset and be afraid of food, afraid of calories, afraid of eating too much. And of course, that myth that women are gonna somehow get bulky if they eat protein and touch weights one time.

And I know this was a big pivotal thing for me, actually, in my own weight loss. I realized I was chronically undereating, and I had damaged my metabolism by undereating for so long. And I actually, both through working through trauma, similar to your experience, and then increasing, but changing the macros and the micronutrients of the calories I was eating, lost weight by, over time, eating more. But I think there's still some

misinformation when it comes to protein need, and specifically for women. So let's talk about maybe some general guidelines of how much protein, what kind, timing, any other caveats that come into play there.

Shawn: Yeah, there's recommendations of one gram per kilogram. But I like really even going towards, like, one gram per pound. It can be as much as that. So, leaning heavily on protein, it's really the most effective macronutrient. When you're looking at carbs, protein, fat, it's the most satiating nutrient, it's the most important nutrient in terms of it being thermogenic, and also, it's going to support that muscle mass that's so critical. When we look at mortality, and aging, healthy aging, muscle mass and strength are the two most important determinants. We look at grip strength is probably the most important determinant of how we're aging. So, certainly, and there's an interplay between bone mass and muscle mass. The more muscle mass you have, the more bone mineral density you have, and you can support that muscle, but there's an interplay back and forth.

So, having the muscle, being active with the muscle, it's critical. And certainly, getting your protein in is going to be critical as well. But again, there's different proteins that we wanna look at. So, if we're looking at muscle, we're looking at things like whey protein. And if you're vegan, you know, there's other options as well. We can look at pumpkin seed protein, we can look at rice protein, etc. Whey protein is very popular, because it's high in BCAAs and in particular, leucine. Leucine is an amino acid that drives muscle protein synthesis. And this is the anabolism, or the growth or maintenance of muscle. And so, if people are not eating enough protein, or they're not getting enough leucine in that protein, they're not going to optimize muscle protein synthesis, and that means they won't be able to maintain lean body mass.

So this is why it's important to not just get enough protein, but to get what's called boluses of protein, meaning larger amounts of protein, pulsed throughout the day. So, we wouldn't just wanna get, said differently, we wouldn't just wanna get 5 to 10 grams of protein, you know, 10 times a day. What we want is 25 to 50 grams of protein in spikes throughout the day, so we're optimizing muscle protein synthesis, we're getting enough leucine to turn that on, and support that muscle. And then with that, I also believe getting around 20 grams of collagen, maybe twice a day, is ideal as well. Because then you're supporting all the other protein. You're supporting ligaments, tendons, hair, skin, gut, nails, bone, all of this other protein that's important, that supports that muscle and the rest of your body. So that would be the ideal blend is to be getting, you know, something like 25 grams of whey protein, and 20 grams of collagen in a day.

Katie: I love that you brought up grip strength as well, because this is a thing that I feel like is not well-known, but it's actually a really fascinating, like you said, predictor of longevity, and tells you a lot about what's going on with your muscles and your nervous system. And I have an inexpensive grip strength tester that I ordered on Amazon, and it's been really fun to see, as I have gotten stronger, and as I've purposely made sure my nervous system was kind of in a good place, how my grip strength has gone up from, like, 80 to now 140. And that's a really cool thing we can measure at home that actually has a pretty profound window of potential longevity factors.

Shawn: Oh, it's amazing. And you're absolutely right. It has everything to do with your nervous system, and what's called, you know, the neuromuscular connection there. So, you know, people talk about mind-muscle connection when you're in the gym, and your nervous system is going to recruit muscle fibers. So, strength isn't always indicative of how much muscle you have. It's how you can recruit the muscle you have. So, that's a really important factor, is your nervous system, as it's connected to your brain, as it's connected to your muscle, and how well can you recruit that muscle.

And that's where we learn how to use these muscles. And like, for example, maybe when you first started going to the gym, you know, you couldn't flex every bit of your muscle the right way. You couldn't activate that muscle the right way. For example, like, right now, I could, you know, make my pecs, you know, jump like that, you know, sometimes you see on TV and it's funny. But that's through the use of my pectoral muscles, the chest muscles, through push-ups, through bench press, through some of these different exercises, I gained the ability to recruit that muscle and activate it through my neurological system.

And so that's where a lot of strength comes from, is not the amount of, like, the full muscle mass. Like, you see all these bodybuilders. They may have three times the amount of muscle mass I have, but they have one and a half times the strength. And it's because it's not all just the amount of muscle mass. It's really how you recruit it.

Katie: Which I think is helpful for women to understand too, because that does not mean you're gonna get bulky, to your point, by getting stronger. In fact, a lot of women find they get smaller and leaner when they use those muscles more effectively. And you also mentioned creatine, which is I think a thing that is obviously very well-researched, and I think a lot of women are still kind of, they shy away from, because maybe they heard that you might gain a couple pounds of water weight when you first start taking creatine. Or it's kind of thought of as more a guy supplement, or, like, a gym bro type thing. But the data seems very, very strong to me on this. So, can you kind of give us a primer on creatine? Are there any risks? How much should women take? Any other caveats there?

Shawn: Yeah, so, creatine is a combination of amino acids. And it helps create phosphocreatine in the body, which is an energetic compound. And so, that's going to create high energy phosphates, which helps with the generation of power and strength. But from there, this is also super important as a buffer in a number of systems in the body. And so that we find that it's helping with not just, we thought muscle, and protecting muscle, and improving strength and power, but also, it's helping with bone health, and reproductive health, and eye health. And it's quite a fascinating compound. And I believe it will be one of these tentpoles on how we age, is taking creatine, and certainly protecting against sarcopenia, which is the loss of muscle mass as we age.

But again, just so important in a number of systems. And we're seeing this, like, bicarbonate is, you know, which is baking soda, this is another ingredient, as a buffer that we see protecting systems in the body against disease and over-acidity. So it's really interesting what we're seeing right now with creatine. We're over 500 studies in. It's definitely anti-aging. Again, protecting muscle mass and protecting these other systems. And as far as water weight gained, I know that is a concern. You can just take a smaller amount spread out. So, let's say you could take a gram, maybe twice a day, instead of taking, like, the 5 to 20 grams that most of these things recommend. It'll take a little bit longer to reach the saturation point of creatine in the muscle, but that's okay. Like, instead of it taking a week, it may take 30 days to hit kind of max saturation. But that's fine. If you feel you're sensitive to this water weight gain, then I would just take smaller doses, spread out, and you'll get there eventually. Kind of, max effect, like, over 30 days.

Katie: And you mentioned baking soda as well. This is definitely not one that I hear talked about a lot, and it's fascinating. Can you explain what you mean by that a little bit more?

Shawn: I mean, the most potent ergogenic, which means energy-enhancing, or athletic performance-enhancing, but even anti-disease compound I have ever seen in research is bicarbonate. Bicarbonate is a buffer in your blood, to protect you from over-acidity. And it is a fascinating compound, because this is a

cheap compound. Sodium bicarbonate is baking soda, and it's in your refrigerator or, you know, things like that.

The problem is, it's been used a lot in athletic endeavors, but it causes GI distress at higher amounts. So it's been, you know, looked at certain ways of kind of taking it with maybe some carbohydrate, if you're a marathon runner, and spreading it out. And it's just not an easy compound to figure out in terms of tolerance, gastrointestinally. But in terms of what it does, I have never seen any other compound come close. Like, literally, performance, in some studies, is, you know, increased by 20%. Like, endurance and, you know, things like this. Like, these are staggering numbers, that, you know, even to an athlete, like 1%, 2% is a big deal. Like, some of these numbers are incredible.

And the same we're now seeing with disease, that it's really protective against the disease process. So, there's a lot more research that needs to be done, but the numbers in every study I've seen, in every way that you could use it, are pretty staggering. So there's something to this acidity and buffering capacity, kind of, bolstering that could happen in the body.

Katie: And if someone wants to experiment, is it literally as simple as just adding a teeny bit of baking soda to water and drinking it?

Shawn: A hundred percent. That's it.

Katie: That's fascinating, easy, and you're right. It doesn't get much less expensive than baking soda, so, seems like it'd be worth trying. It's what I have on my list, actually, to try. You mentioned a couple other supplements for women, specifically. I don't know if you mentioned it yet, but I would love to touch on magnesium and what your thoughts are on magnesium.

Shawn: Seventy-five percent of the population is deficient in magnesium. That's a staggering number. Three quarters of us are deficient. And when we talk about magnesium, it's critical to bone mineral density, bone health, bone strength. It's also critical to muscle mass contraction, as we were just talking about. It's critical to gastrointestinal health and your bowel movements. I mean, there's so many places, magnesium for brain health, and brain function, for neurological function. Like, magnesium is just critical across the board. And this is why, you know, pretty much D3 and magnesium are the things that you're always hearing about when it comes to just a massive impact on us, and that we're mostly deficient in it.

So, these are definitely two nutrients that I would look for, I would supplement with. I can almost tell you, across the board, you should be taking it. Whereas other nutrients, it's kind of hit or miss. But absolutely, magnesium is a massive one. You wanna look at taking certain salts that are more bioavailable. So, what this means is avoiding some of the inorganic salts, that are things like magnesium oxide, magnesium carbonate. These are very poorly absorbed, so, and tend to be the cheaper ones. What I would look for is things like magnesium citrate, which is, citric acid is one of the components of the citric acid cycle, also known as the Krebs cycle. Same with malate. So, magnesium malate could be good.

But my favorite ones are the amino acid chelates. So, this would be, like, magnesium glycinate, or, you know, has an amino acid attached. And these ones, magnesium threonate is another example. That's the threonine amino acid. These are going to be the most bioavailable, and also have benefit with the amino acid that's attached.

Katie: Are there any other supplements that are specific to either hormone health for women, or that can be helpful for anti-aging? Because I know those are two big topics for my listeners.

Shawn: Hormone health. That's an interesting one. So, when it comes to, especially when you're talking about, like, perimenopausal kind of stuff, you can look at, there's a few herbs that are really helpful, if that's what you're referring to, but I'll dive into that one first. That would be like dong quai, and another one is chasteberry. And those help with perimenopausal symptoms, and those have been studied quite extensively.

Also, another one to look at is GLA, gamma-linoleic acid. It comes from evening primrose or borage oil. Both of those oils have GLA, and can help with menopausal symptoms. So, you know, the hot flashes, and disrupted sleep, and irritability and some of these things have all been studied with GLA, dong quai, and chasteberry, which is also called Vitex. So, those can be helpful in those scenarios.

As far as, you know, hormonal health, it's also worth looking at DIM and I3C. Diindolylmethane. And I3C, which is indole-3-carbinol. These both come from cruciferous vegetables, things like broccoli and cauliflower. Those are going to help with estrogen metabolism, and specifically can be protective against cancer.

Katie: And in your talk at the event where I heard you speak recently, you also mentioned something called spermidine, which I don't think I've talked about much on this podcast. Can you explain what that is and what it does?

Shawn: Yes. It's an amazing compound that really, it literally is contained in sperm, hence its odd name, and I know it sounds not pleasing for that reason, but that's where it was discovered. But this amino acid, at trace, trace level, we're finding that, you know, just one milligram, two milligrams, so we're talking about very, very low levels, can have a potent effect on anti-aging. When we look at people that are 90 years old, they have levels the same as people that are 50 years old that are healthy. So what this means is people that making it to much later in life, there's a strong correlation there into having this spermidine level that's the same as people that are younger. And we're thinking that it actually protects cellular fitness.

So, this biological clock, and your resilience in your body, is correlated to spermidine. We don't know all the mechanisms of action yet, but it's, there's a strong correlation, and it's being studied. We don't really have even dosing information yet. But what we see is, like, and this is across the board, in animals and humans, the higher the level of spermidine, the longer that they're living. And so, how that works, and whether it's, you know, causal or correlative, we're not sure. But at this point, there doesn't seem to be a downside to supplementing to spermidine, and certainly a high potential upside. So it's one that needs a lot more research, but a powerful ingredient that I've been supplementing with for sure, and I'm taking about two milligrams a day.

Katie: Awesome. That's one I have not tried yet, but it's on my list as well. I know you are also well-known for your work in energy and mitochondria. And I've said many times on here, moms are the busiest people on the planet. And certainly, like, can run into some of that fatigue or low energy, just from the sheer amount of stuff that we have to do. So, maybe give us some of your favorite supplements for energy, and which I think always, of course, goes back to mitochondrial health as well.

Shawn: Yeah, so, a lot of us are in states known as insufficient cellular energy, this is an acronym known as ICE, where we're not making enough energy for our body, which means we don't feel energy as a whole. So, when you're not making enough ATP from your mitochondria, you do run into situations where you're just tired. And then if you're pushing your body when it's tired, that's when you run into fibromyalgia, and chronic fatigue syndrome, and hypertonic muscles, which means, like, you know, your muscles, like, feel hard all the time when someone goes to massage you, or, you know, you're feeling exhausted all the time because of chronic fatigue syndrome, and you're feeling this inflammation throughout your body and nervous system pain, like

fibromyalgia, because the body is trying to push and make it through, without making enough energy. And over time, that debt does accrue.

So you definitely want to be cognizant of how you're taking care of your mitochondria, because that has everything to do with your vitality and energy for life. We see that mortality is directly tied to mitochondrial health. We see that biological versus chronological aging is tied to mitochondrial health. So, said differently, your age chronologically...let's say you're 45, you know, could be biologically 35, or it could be biologically 55. And this is directly correlative to your mitochondrial health. And not only how well those mitochondria are functioning, but how many there are. And so, the more healthy you are, the more proper they function, and the more you have of them, which is called mitochondrial biogenesis, when we create more mitochondria.

So, doing things like, one, healthy behaviors, like getting more sleep, not drinking as much alcohol, hydrating well, reducing stress, but also things that are positive stressors, known as hormesis. So, things like keto, intermittent fasting, being exposed to hot and cold temperatures, like a cold plunge, or a sauna. You know, these things are going to improve mitochondrial biogenesis. Doing a workout, especially like high-intensity interval training. Things that are forcing adaptation, things that are increasing our resilience, that are causing us to be anti-fragile, if you will, that's going to impact how well the mitochondria function, and increasing the number of mitochondria. So, some of those behaviors are going to be really important.

And as far as supplements, that's going to be a number of them that I'm a big fan of. One fascinating one that I would love to throw out, if your listeners can handle this. This is niacin, the full flush niacin. I take 500 milligrams twice a day. This causes something called paresthesia, where you feel like a tingle, a burn. You actually look like you may have a sunburn on your chest or your face for a little bit, for maybe 45 minutes. It sounds like something you don't want, and they do make a no-flush niacin, like niacinamide, or inositol hexanicotinate. But what I will say is that this full-flush niacin, the nicotinic acid, is powerful at protecting nervous system, increasing superficial blood flow, like, especially through the capillaries. So this would be really powerful to take right before you get into a sauna, especially using infrared light.

But also, increasing NAD levels about eight times. This is dramatic. So, niacin is actually a component of NAD. NAD is probably this, you know, you've probably heard of it, the anti-aging molecule, some people get IVs of, that actually fuels the mitochondria, protects DNA, to help with resilience, to help with cellular energy, and therefore vitality overall. So, NAD is, like, one of the big focuses in anti-aging, and niacin may be one of the most powerful agents that we could take orally, it's super cheap, to enhance our cellular fitness, and how well we age. So, that's a fascinating one if you can deal with the side effects. If not, there are ways that you can take supplements that can enhance NAD, that would not have the same side effects.

So, things like NR, which is niagen, Tru Niagen, nicotinamide riboside. One of the other ones is NMN, nicotinamide mononucleotide. I prefer the NMN, just based on some research. It's kind of up in the air right now. There's people in different camps. But I prefer, along with Peter Attia and Dr. Rhonda Patrick, they like NMN. That's the one that I prefer. So, take anywhere from 250 milligrams to up to two grams a day. There's variable research. Some of this is extrapolated from animal models, but that is potent at increasing NAD as well. Far more expensive, but does not have the side effects. But I would also say probably doesn't have as dramatic an impact on NAD. Certainly helps, but the niacin could be the most effective and the cheapest, but certainly the most side effects.

The other thing that I will say is that increasing NAD is one part of the equation, but reducing something called NADase, the enzyme that breaks it down, it's also called CD38, is potent as well, because you're increasing the amount of NAD circulating. And as we age, it's a double whammy, where we make less NAD, and we break it

down faster. So, we wanna impact both sides of this equation. So where we're taking niacin, NMN, NR, something like that, and you're having polyphenols, such as quercetin, fisetin, apigenin. These are probably the most potent ones that I've studied. And these are going to inhibit the breakdown of NAD. So this would be a really potent combination, is taking something like NMN and fisetin. Fisetin could be the most potent of all of them. So that's a combination that I really like for anti-aging.

On top of that, I would also look at, there's some things that help with these energetics, the electron transport chain, in particular, in the mitochondria. You've probably heard CoQ10. And also another ingredient that's a sister molecule, called PQQ. So, those would be some things to support mitochondrial health that I would take as well. So, probably my stack of no tingle or burn, if you wanted to go that direction, the simplest stack, would be NMN, fisetin or apigenin, and then CoQ10 and PQQ. That would be a really amazing mitochondrial stack.

And then lastly, to go back to spermidine, which I believe protects the mitochondria in a number of ways. And then there's one more ingredient, another trace amino acid, that's found in organ meats and mushrooms, that could be the next vitamin, which is a really big deal. In the last 50 years, there's been no new vitamins, and this ingredient is called ergothioneine. And ergothioneine isn't just an antioxidant that protects the cell, but it's a mitochondrial antioxidant. And what's really unique about it is you have a unique transporter system and storage system for it in your body. There's only one other nutrient I know that your body puts that much focus around biologically, and that's iron. And iron is obviously critical to life, and delivering oxygen, and nourishing us on a fundamental level.

So, for us to have these systems in place around ergothioneine, it's pretty compelling. And that one is really low dose, too. So, we're talking about, you know, 5 to 10 milligrams a day. So, spermidine, ergothioneine, NMN or niacin, CoQ10, PQQ, and then fisetin, apigenin, that would be kind of, like, my ultimate mitochondrial stack. But what you should see from that is anti-aging, on an energetic level, anti-aging on a telomere and DNA level, and just more energy overall, and vitality overall. And then, reduction of disease, really. Like, almost all disease is correlated to mitochondrial dysfunction, which is metabolic dysfunction. So that ends up tying into insulin resistance, and a number of factors that you could talk about, like hypertension. Basically, the syndrome X cluster that comes with, like, obesity and insulin resistance, etc. So, hopefully, that's helpful.

Katie: Yeah, I feel like ergothioneine is a less-known one, and it's one I learned about from you. And this comes from mushrooms, correct?

Shawn: Mm-hmm. Correct.

Katie: Okay. And that one is available in supplemental form, or is it better to try to get from a food source?

Shawn: It is available in supplemental form. It's hard to find in a food source at a decent enough level. But if you're eating plenty of organ meats, and a high amount of mushrooms, you might be getting enough.

Katie: Gotcha. Okay. That's fascinating.

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Are there any supplements that women should, kind of, as a blanket rule, avoid, or that have been, you know, kind of marketed that are not helpful, or directly probably harmful?

Shawn: You know, I think the ones that are potentially the most complex when it comes to a woman would be phytoestrogens. Things like hops, which is, by the way, high in beer, which, you know, can have some complexity, depending on how much beer you're drinking, and what I'll get to in a second is kind of where you're at on the menstrual cycle. But also things like soy, especially the isoflavone soy protein, these are potent phytoestrogens. And they have very conflicting results in studies. So, what can happen is these phytoestrogens are weak estrogens, and they're competing at the estrogen receptor. And if you're someone that is postmenopausal, this can end up being protective, because you're at least getting a weak estrogen, and you have much lower estrogen levels that are circulating. So it can be protective to bone, it can be protective against cancer.

The problem is having a high amount of these phytoestrogens early on, especially in development, when we're talking about our children, when we're talking about going through puberty, when we're talking about fertility, you know, through that period, some of these phytoestrogens, especially in concentrated amounts, can end up being problematic, and may cause endocrine disruption. And this is the same for young boys as well. You know, it can have an impact on muscle mass, and secondary sexual characteristics as well. So, it's something to be aware of. They often get promoted for health, and anti-cancer, and protecting bone. And while some of that data is true, I would be very careful in, like, how you proceed in that. I think they get over-recommended, and they can end up being problematic.

Katie: Good to know. And I'd also love to just touch on sunlight, because you mentioned vitamin D. And I think, at least in my opinion, sunlight has kind of been unfairly demonized, over the last several decades especially. And, of course, we know that your body gets vitamin D from sunlight exposure, and of course, that there can be risk there as well. I know I have some gene mutations that make it hard for me to get vitamin D

levels up from supplements, but I do it really well from sunshine. And just purely anecdotally, I know I feel incredibly great when I get a lot of sun exposure, and I don't feel as great when I'm not getting sun exposure. But I'm curious your take on the sun exposure thing, because I think a lot of women avoid sun exposure almost entirely, wear sunscreen all the time. So, what's your take on that from an aging perspective, from a mitochondrial health perspective? Anything else we need to know?

Shawn: Yeah, that's twofold. I think you bring up a good point about, obviously, conversion of vitamin D3 through the skin, so that you get active levels of vitamin D in your body. The best source is going to be sunshine. So, absolutely. And we know vitamin D3 isn't...we used to think it was just for bone, right? I think back in the '70s and '80s, it was promoted as this vitamin that prevents rickets, and helps with bone health, and it does. But it is a hormone, and it's a unique vitamin for that reason. It's not just a vitamin, a coenzyme like most of the other vitamins. It is a hormone that's involved in this endocrine cascade that I was just talking about, where all hormones affect other hormones.

And so it affects your immune health, it affects your mood and depression, it affects your fat metabolism, and, you know, therefore your body weight, and it affects, like, your muscle mass, and certainly your bone mass, and it affects gut health and your microbiome. Like, there's so much going on with vitamin D, it's so profound and fundamental, almost like I was talking about iron for life. Like, D3 is, like, core for how you're proceeding as a human being, and the health that you have.

So, this is where... And what's especially troubling is that, as you're talking about, most people are now not getting enough sunshine, and they are wearing, you know, a lot of clothing layers. And they're, you know, living in more northern areas, and they're, you know, not exposing themselves to sun, and they're wearing, as you said, sunblock. So, or even just makeup, and all those things, like, those things are reducing your exposure to sunlight, and therefore reducing the amount of vitamin D that you're getting.

And, if you're a darker color person, you're, like, especially like African Americans, they're 17 times more likely to be deficient than White people. Because, you know, they're just not getting enough sunshine, and their skin has the melanin that's kind of more protective or resistant against the amount of sun exposure. So it's almost like they're wearing sunblock, to have a darker skin, because of the melanin pigmentation, so they need to get more sunshine, or take more vitamin D3 as a supplement.

So I would recommend that pretty much everyone listening, take anywhere from 5,000 to 10,000 IUs a day of vitamin D3. Because it is so profound to our health, and most people are not getting enough. It's similar numbers to magnesium, where about 75% to 80% of us are deficient. And some of us greatly so. I think it's about 25% of the population are kind of in an almost like a disease category type state with vitamin D3. So, definitely important.

But going beyond that, the sunshine that we get, also, there is different spectra of light, and going into infrared, in particular, that red light we know now. There's so many spectrum of light that we do not understand how it impacts our health, but it's a whole new area of study. I believe that, you know, you'll hear about, you know, obviously, blue light can turn on our circadian rhythm in the morning light. So, blue light exposure is good. Blue light exposure in the evening is counterproductive, and can be counterproductive to our sleep. And certainly melatonin release.

But we're seeing that red light, especially infrared light, that you may get early evening and early morning, with a sunrise and the sunset, that actually increases mitochondrial function. So, and that's, like, the whole idea with, like, these Joovv lights and these different lights that you're seeing on the market. These infrared

lights, they're actually revving up the mitochondria. So, this is a powerful anti-aging tool. It's also improving circulation, reducing inflammation, improving reproductive health, like, we're seeing...improving collagen synthesis. So there's a number of ways that red light can be potentially helpful. And again, blue light, turning on our circadian rhythm.

So, this is what's happening when we're isolated, when we're under fluorescent lights, when we're not getting out and getting sunshine, we're not getting enough D3, we're not revving up our mitochondria, you know, we're not getting enough collagen synthesis. There's a lot that's happening because we're not getting exposed to the light that we should.

Katie: Yeah, that was such a good overview. And I know, looking at the data, I've, even though I typically, my background is kind of Irish, Scottish, so I have typically fairer skin. Although I've noticed a profound difference in my skin tone when I switch my diet and I eat kind of a very low inflammatory diet, I don't sunburn now. But I, looking at the data, realized that while there might, and I would say it's arguable, be a slight increase in risk of skin cancer from certain types of sun exposure, that same sun exposure correlates, or seems to, with reduced rates of other types of cancer, and with mitochondrial health and everything else.

So for me personally, this is not medical advice, but I prioritize early morning sunlight, in the morning, to start that circadian clock. And then at least a little bit of midday sun, never to the point of burning, but enough to stimulate that vitamin D. And that bright light also seems really helpful for sleep, at least for me.

Shawn: A hundred percent. Totally agree with that. Especially, yeah, agreed with, you know, getting out there, getting your red light, starting your day, getting the fresh air. Also, like, if you can ground, taking your shoes off, having your feet touch the earth, you can get those positive ions going through your body, that are helping you improve your health. And then, certainly getting, you know, fresh air, moving your body, especially if you can do, like, some, you know, primal, ancestral kind of movement, crawling around, rolling around.

Like, there's also the soil microbiome that you're getting exposed to, if you're out in the dirt, out in the grass, out in the lake. You know, whatever it is, like, you know, get outside, and expose yourself to the outside where we're meant to be. We're not meant to be in our little boxes, with our shoes on, with our artificial light and artificial air, and, you know, isolating ourselves from other people, from animals, from interaction. We're meant to be exchanging microbiomes with the earth, with people, with pets. This is how we're supposed to be resilient. And we're becoming very fragile as a result of not getting exposed to that.

Katie: Such a good way to put it. And I love that, like, to recap some of the points from this episode. Certainly, there are supplements we can take that can be targeted and specific and helpful. But a lot of your advice is also lifestyle change that we can make, that's inexpensive or free. And so, things like optimizing your light. Things like getting out in the dirt. I'm a big fan of...that's actually one of my top pieces of health advice. Go outside at midday, if you can, and garden for 10 minutes, in the dirt, crawl around, pull weeds. You're getting sunlight, air, soil, all of that.

Also, the baking soda tip was awesome, because that's almost free, and then optimizing protein, to circle all the way back to the beginning. And then, of course, the more specific, nuanced recommendations. I took so many notes, the show notes at [wellnessmama.fm](http://wellnessmama.fm), for you guys listening. And as always with you, conversations just fly by, so we'll have to do more rounds in the future. But a few last wrap-up questions, the first being any book, a book or books that have profoundly impacted your life, or recent reads that you found fascinating, and if so, what they are and why?

Shawn: The number one book that has impacted my life, without a doubt, is "The Four Agreements." That shifted everything for me, and in particular, the agreement of "Don't take anything personal." I am a very empathic person, like, someone who perceives energy very deeply, and cares about how I'm perceived and what's going on in your head. And that's just where I'm at emotionally. And therefore, I care deeply about, you know, what's being said about me, what's being thought about me. And I think I took that too personally, most of my life. And reading that book really shifted, that almost everyone's kind of in their own stuff, you know, so don't get too caught up in that. Don't take anything personal. You know, people are just projecting out.

But what I wanna do is be projecting out all the positive things that are going on inside of me. And, you know, when I've worked with certain therapists or mentors, they've told me that, you know, the compliments that you're giving people are actually compliments to yourself, when you think about it on a deeper level. They're the things that you see in other people. So check out your language when you're thinking about people, when you're talking about people. When you're saying all these negative things all the time, there's stuff going on in you. And I've been in journeys, and I've been irritated or triggered by something going on in a journey, a group journey, and this is a psychedelic experience that's facilitated.

And the facilitator would come over and say, "Hmm, tell me about that." And we'd dig in for a minute. And then I'd realize, "Oh. This is me. This has everything to do with me. I am being triggered, because it's my own stuff. It's not this person." And there's a fascinating exploration that can happen there. But stage one is realizing that most people don't really care about you. On an extended level, these people that are just running around out in the world don't care about what you're doing, how you look, all that stuff. We spend way too much time and energy thinking about that.

And focusing on what makes me happy and what lights me up is a way better place to be. And if you think about the people that you love out there, it's that they're so bold and courageous to do that. And so, I would encourage people listening to definitely just do them, to live their light, you know, their energy, and just chase what their passions are, and don't worry what other people are thinking.

Katie: I love that. I love that we started kind of deep with self-love, and that we're getting to put a pin in it with another profound thought. And I know that I've talked to you before on this podcast, I'll link to your past episodes, but about your book, which I highly recommend, because you go deeper on a lot of these topics. But just briefly, where can people find your book, and where can people find you online, to keep learning from you?

Shawn: Thank you. So, "Energy Formula" at [energyformula.com](http://energyformula.com). The book is there in all the forms. I have a hardcover, softcover, ebook, Audible that I read. And if you go to [energyformula.com](http://energyformula.com), there is a lot of bonuses there, like recipe guides. And there's a hidden chapter on natural movement. I have all the stacks in here, all the supplements that you need to take, how to buy a good supplement. Tons of, you know, graphs and pictures, and really cool stuff that breaks everything down. I have summaries at the end of each chapter, if you're not someone that wants to read this much. So, everything's in there that you could possibly need.

And then you can find me at Shawn Wells, S-H-A-W-N W-E-L-L-S, @Shawnwells on Instagram. Lots of great content there. You know, really cool graphics, that just break everything down. You know, my top 10 supplements you need to be taking, my top 10 antidepressant supplements, anti-aging supplements, what have you. A lot of videos that break things down. So, yeah, that would be amazing. And then I have a free newsletter that goes out every week, breaking down studies and the latest information, that's completely free, on [shawnwells.com](http://shawnwells.com), S-H-A-W-N.

Katie: Awesome. And all those will be linked in the show notes as well. If you guys are listening while you're on the go, that's [wellnessmama.fm](https://wellnessmama.fm). Shawn, as always, it's been such a pleasure. I always learn so much from you, and I know just how busy you are, so thank you so much for your time today.

Shawn: Thank you, Katie.

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

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