



Episode 307: Anti Aging Skin Science From the
Inside out With Dr. Emilia Javorsky

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Katie: Hello and welcome to the "Wellness Mama" podcast. I'm Katie from wellnessmama.com. And this episode is all about skin health from the inside out, both about anti-aging and specific skin problems and how we can support our skin. Because I am here with Dr. Emilia Javorsky who is a physician-scientist focused on developing new tools to improve health and wellbeing, specializing in dermatology and skin health. Currently, she's also involved in early-stage life sciences ventures and she leads an artificial intelligence and medicine initiative with the Future Society. She's a TEDx speaker, was part of "Forbes" 30 under 30 Class of 2017 in Healthcare and is a member of the World Economic Forum's Global Shaper Community. She is super intelligent, super, super sweet and she's here today to share her wisdom when it comes to skin health and preventing aging. So listen in. Here we go. Dr. Javorsky, welcome, thanks for being on the podcast.

Dr. Javorsky: Thank you so much for having me back.

Katie: I am so excited to chat with you again. And for any of you guys listening that didn't hear, Dr. Javorsky has been on the podcast before and we went really deep on skin health and sun exposure and vitamin D and how to make sure all of that happens safely, including how to make sure our ocean and reefs are safe when you're using sunscreen. Fascinating episode and I'll make sure that's linked in the show notes at

wellnessmama.fm. But I knew I wanted to have Dr. Javorsky back on to talk more about skin health because there's certainly much, much more to it than just safe sun exposure. And I think today's gonna be a really fun episode to go deep on a few more of those things. And I'm biased, but my background being in nutrition, I would love if we could start with food because I do think diet is a huge part of all aspects of health. And I know that you have talked about this as well in the past and I would love if we could start broad and then we'll kind of narrow it down from there on what are some of the ways that food and our diet really impacts our skin health, both directly and indirectly, and how can we support our skin from the inside out?

Dr. Javorsky: Yeah, absolutely. Thank you so much. So I'm really excited that we're gonna talk about skin aging today cause that's a topic I'm quite passionate about. Not just from thinking through it from like a cosmetic angle, but also thinking through it from a skin health angle because exactly as you kind of alluded to, aging is really the product of how our skin is doing. So what we think of a lot of the visible signs of aging, whether those be things like wrinkles or age spots or our skin sort of drying out over time is really a sign that our skin isn't doing sort of as good of a job as it used to at its functions. And that's really closely linked with skin health. And as you opened with, skin health is really a holistic approach. So our skin is basically the product of everything we put in our bodies, that we put on our bodies, and our lifestyles.

And to start with thinking about what kinds of foods are, you know, helpful or harmful to our skin health or to skin aging over time, there's been a lot of work done on that. And this is an area where we're really starting to tease apart how lifestyle actually affects skin and how our diets affect our skin. One area that there's been a really emerging consensus around is this idea of a high sugar diet being detrimental to our skin. So the term that's out there and floating around for this now is the sugar sag. And it's basically really delved into the fact that high sugar diets over time damage our skin's collagen. And our collagen is most sensitive because it's a big molecule that stays around in our bodies for a really long period of time relative to other components in the skin. That's why it's sort of the most sensitive and that there's pretty good data that sugar plays a key role in that degradation over time.

Katie: That makes sense. So let's talk about that a little bit more because I definitely am not a fan of sugar and I'd come out pretty strongly against sugar, even for kids. Just realizing, especially when we're talking about refined sugar, there's really no dietary need for that that we can't meet from a much healthier alternative. And so I know even, but in recent years, like things like the keto diet had become really popular, which is not just no sugar but, you know, extremely no carbs. And I'm curious, that cuts out a lot of even fruits and vegetables at times. I just am curious if you have a take on that and if do we need the natural forms of sugar in fruits and vegetables? Do those have a place? Obviously refined sugar, I would agree with you 100% it doesn't, but what about fruits and vegetables?

Dr. Javorsky: Yeah. And so the data that is here, again, very early on, but this is really starting to look at exactly the refined sugars. So looking at what we think of is kind of what I would call sort of the commercially available diet. And so that's talking a lot about added sugars as opposed to kind of the natural sugars that exist in things like fruits and vegetables and the carbohydrates also that eventually become sugars in our bodies that are in a lot of those natural sources. It's very similar and, you know, something that also is an emerging area is thinking about how actually what we put in our gut, not just what gets absorbed into our body but

affects our own microbiome. So affects the microbes in our gut and how does that relate to our overall health and wellbeing and our skin? And there's pretty good data there too that, you know, excess sugar is probably not a great thing for a healthy gut either.

Katie: That makes sense. Yeah. I'm 100% with you in that one of the many, many reasons we can all, you know, avoid refined sugar or at least reduce it. Are there any other foods that stick out as particularly problematic for skin? I know that often in this world we hear about dairy being problematic for some people. Or, you know, anything that has refined ingredients of any kind, whether it be refined flour or I personally avoid refined vegetable oils, really high Omega six oils just because my skin doesn't seem to do well with those. But are there other foods that kind of in general are not great for the skin when we consume them?

Dr. Javorsky: Yeah, so the sugar area is the one that I think there's the greatest area of consensus around. But then there are certainly, sort of at the individual level, people have very differing sensitivities towards different foods. So some people are highly sensitive, dairy is one that you mentioned in particular. We see a lot now learning more and more about what gluten and right in celiac disease, but also a whole spectrum of people that may have gluten intolerance. So they may not have full-fledged celiac, but they may be specifically sensitive to that particular gluten as an antigen. So there's definitely a spectrum of sort of individual sensitivities. Those we don't understand as well on sort of a population level, but on sort of an individual, a food sensitivity level, we do know that food sensitivities can manifest into sort of skin symptoms.

Katie: Yeah, I've definitely seen that. Actually, I know I do better without gluten as well, but my dad doesn't have celiac disease, we don't think, but he definitely has like a very severe skin reaction when he eats gluten and his skin gets like red and inflamed and he gets almost like cystic type acne. And so that's something that's in my family and something I've really paid attention to. Is there like maybe like an independent allergy, a reaction that can vary by people? So like certain foods may be universally okay, but some people might have a reaction, like one of my daughters for a long time didn't do well with eggs and if she ate eggs, her skin would get itchy. Is that a thing that can happen based on food as well?

Dr. Javorsky: Absolutely. Absolutely. So when you think of it, I think of our skin in a way as kind of like the ultimate wearable is how I think of it sometimes. Like it's a really great barometer of what's going on inside of our bodies, and especially when it comes to basically the whole spectrum of symptoms around inflammation. Right. So that's why so many, whether they be food allergies or other types of allergies manifest as skin symptoms, right? And that you can get red, you can get itchy. This is, you know, very much what we talk about when we think of it's sort of the atopic triad or this idea of things like eczema and allergies and asthma being really closely linked is the skin is really a good barometer of what's happening inside of the body and especially so when we think about things that are related to the immune system and inflammation like allergies.

Katie: Got it. Okay. So I'd love to go now really deep on the positive things because I also have noticed just anecdotally myself that when I eat a really clean diet and make sure I'm getting a lot of micronutrients from a lot of wide variety of sources, my skin is so much better. And so I'm curious, what are some of the ways that we can really support our skin from the inside out?

Dr. Javorsky: So first, the first and foremost way is making sure that you have on board basically everything that you need from a micronutrient and vitamin perspective and that you're getting that from a well-balanced diet. So a lot of skin symptoms that we can think of that are out there can be closely linked with basically not getting enough of a particular vitamin or a vitamin deficiency. One area we see a lot when people come that it's a very common cause of things like thinning hair or pale skin is iron deficiency. That's one that's really common. And so making sure you have enough iron. B12 deficiency is another one that can manifest with lots of sort of skin symptoms associated with it. So the first and foremost aspect of taking care of your skin is making sure that you're getting all of the nutrients on board that you need from a vitamins perspective and micronutrient perspective.

The second area is thinking about foods that are really rich in basically compounds that have been shown to be helpful for skin. So we know that like antioxidants as a general category is something that's helpful for skin. But within that there's really some granularity around, well, which antioxidants? Because antioxidants are not always all created equal. And there are many that are totally ubiquitous and common and in high concentrations in a lot of the foods available to us. So we think of things like vitamin C and vitamin E. Those have been studied really well to have actual skin benefit. And that ingesting vitamin C and E, you know, helps to both move the needle on sort of overall skin health but also from an anti-aging perspective. Now, those are things you could take it as a supplement, but they're also really widely available from naturally available food sources, right? We think about citrus being the most common one. So that's the kind of data where you say there's great data here for sort of anti-aging and skin health and it's readily available from natural food sources.

The other one that's really having a moment right now and I'm seeing everywhere is this idea of like ingestible retinol, right? And when you really boil that down, that's essentially vitamin A at the end of the day, which again, really like readily available from a lot of foods out there. My cofounder always jokes when I kind of explained this to him that like we should just tell everybody, just eat a sweet potato. You don't need ingestible retinol products. You just can go eat a sweet potato and get that same benefit.

Katie: Well, and that's a good point too because vitamin a is one of the fat-soluble vitamins, A, D, and K. And so unlike some other ones, it's one you can actually get too much of, isn't that right? And it can become harmful if you have too much.

Dr. Javorsky: Absolutely. So being fat-soluble, it builds up in your body over time, right? And so that's the kind of a vitamin that you don't really want to get in excess amounts from a supplement. And that's where, you know, you have to think about where are the lines in terms of supplementation and dose, right. Because you'll see in a lot of these supplements that sometimes there are hundreds, thousands of percent higher than our actual recommended daily intake. And so that's something that's really important to be aware of. I see it a lot with biotin as a product. So biotin is basically a B vitamin that if you have a deficiency in it can cause a lot of hair, skin, and nail like symptoms. But there's really no evidence to show that the supplements in people who aren't biotin deficient taking 1,000%, your daily dose of biotin is going to be helpful and it could, in fact, also

be harmful. So that's really why I think that in any of these areas where there's data around vitamins for skin benefit that are also readily available in food, it's always best to start with sort of the natural dietary sources of those ingredients.

Katie: Got it. That makes sense. And another one that's obviously having its huge time in the sun right now is collagen. And I have consumed collagen for pretty much my whole adult life, but mostly I would make homemade bone broths and stocks and use them in soups and things like that. And now, of course, there's collagen products available in all different forms, but then I also see people putting collagen on their skin. I'm curious what your take is. I know like from what I've read, collagen includes things like proline and glycine, which do seem to be good for the skin, but I'm curious what your take is on it and the best way to get that as well.

Dr. Javorsky: Yeah, so absolutely keep rocking it with the bone broths. That's great. Because there is really great data out there that shows that taking collagen basically orally helps to give our body the building blocks that it needs to make new collagen. So exactly as you say, all of those sort of amino acids and peptides that then come together to make...our body uses them to sort of put them together to make the big collagen molecules in our bodies, it's something that's very beneficial to get from an oral source, bone broth being a great one of those. When it comes to putting collagen on your skin, there's no data whatsoever to show that that has any kind of benefit. And it makes sense because these are really big, what we would call, macromolecules that just don't get into the skin, right? And so, you know, it's really important when thinking through the collagen craze that yes, it's a great thing to incorporate into your diet to help make sure you're getting all of the amino acids and building blocks that you need. In terms of the creams and topical products you may see out there, it's really sort of not worth your money because they aren't going to move the needle on any kind of benefit.

Katie: Interesting. What about, on that note, there's all these products that contain vitamin C in various forms. And I know just from the nutrition side, vitamin C can like break down and oxidize pretty quickly. Like it becomes unstable pretty quickly. Is that something that is effective in skin products and if so, what should we be looking for to make sure it's a good form?

Dr. Javorsky: Yeah. So when looking at vitamin C products...this is a great point, right? Just because an ingredient is listed on a label doesn't mean that it's contained in a form that's still active, right? Like a lot of these antioxidants can actually oxidize and break down over time and no longer be effective in products. So when looking for vitamin C products, I just recommend people look for ones that also contain folic acid. So I think that is the additive that's been shown to best help in stabilizing topical vitamin C and making sure it remains effective. So that's a helpful heuristic for me, but it's a great sort of a topic that you flag is that, it's also important to see that these products basically over the course of their shelf life maintain stability and still work in the way that they're intended to work when they're initially formulated. And that's common with actually a lot of antioxidant ingredients.

Katie: That brings up another thing that I think we really plan to talk through, which is the idea that a lot of what we put on our skin is absorbed into our body. And it's a reason that a lot of people listening to this podcast choose natural products and try to not put things that could be harmful on their skin, which I'm very much that way as well and I've made a lot of my own products for years. I'm curious what your take is on that, like how much of what we put on our skin actually can get absorbed and knowing that, are there good guidelines for choosing things that are not going to be harmful and that will be beneficial? And actually like how can we decipher the things that are gonna help our skin when we use them topically?

Dr. Javorsky: Yeah, absolutely. So I think it really...so how things get absorbed into our skin really depends on what those sort of molecules are, right? And this is an area we're really just beginning to dive into properly, which is really a shame because there are so many products that we've been using on our skin and ingredients we've been using on our skin for years that are kind of grandfathered into products. But we never really went through and said, well, let's take a really close look at this, and the doses that we're using in these products, how much of that's actually getting into our skin? And this is something that you may have seen recently with a lot of the controversy that came out of the FDA study on chemical sunscreens.

So a few months ago this study came out where they basically looked at...asked the question, let's take a look at if you use sunscreen properly, how much of those chemical, sort of, agents are actually getting into the skin, right? And so what they basically did was apply some chemical sunscreens onto people's skins as you're supposed to apply sunscreen and did blood tests to say like how much is actually getting into our system...into our circulation. And what they found was that the answer was actually a lot more than we originally thought in that study. And so that was something that was pretty alarming to me and to a lot of others in that there was something that we've recommended people use for such a long time and be readily available in products and we didn't even really have a good understanding of how much of that was getting into the skin, right?

So from that perspective, I always kind of tend to err on the side of caution and I definitely recommend using products. And this is why I think A, starting with ingredients that have been tested and clinically validated. So people have done studies on sort of the safety and efficacy of these products in humans. Because if something isn't shown to be effective for the benefit you would like to get, well then no level of risk is really acceptable because then you're just taking some kind of risk on and there's really no data that you're gonna get any kind of benefit. So making sure that products are effective and then the other side of that is making sure that products are safe.

I like EWG. Their database is, I think, a great starting resource for people to look up both ingredients and products and see what's contained in them. They're actually one of our sort of nonprofit partners. I think that they're a great consumer education tool for people to look up like, "Hey, what is this ingredient that I see on the bottle and is this something that has been well studied? And if so, what does that safety profile look like? Is it something that's safe for me to put on my skin?"

Katie: I'm a big fan of EWG as well and yeah, their Skin Deep Database, I'll make sure it's linked in the show notes. It's a great resource for just kind of vetting any product that you use. And I know that our whole first

podcast was entirely about this, so I don't wanna go too deep on it, but I would love to just do a quick recap on sunscreens because I know this has been really well-talked about in the media recently and people are starting to become really aware of this. But for anyone who's not familiar yet, kinda just walk us through briefly why you might wanna exercise caution with chemical sunscreens both for ourselves and for the environment.

Dr. Javorsky: Yeah, absolutely. So chemical sunscreens, as I just talked a little bit about with this previous study, we found out that they get into our skin a lot more than we thought. And like why you said concerning is because a lot of these ingredients, when you look at them based on studies that are done in a Petri dish or in animals, they've been shown to have basically detrimental effects. And that's also played out in sort of the broader category of what are their effects on marine life? So there's been a lot of data that showed that basically when we put chemical sunscreens on our body and we go into the ocean, they leech out, right? It rubs off, it washes off. And this has been associated with basically the bleaching of coral reefs. This was a key...and other, sort of, effects on marine life. This was a key reason that Hawaii, as a state, said, "We're not gonna have any...we're gonna actually prohibit the use of these chemical sunscreens from an environmental standpoint."

So the idea that chemical sunscreens get into our body more than we thought they did, there's more and more data showing that these can be harmful to cells and we know that there is just a really bad environmental impact of these products. And sort of the fourth side of that is that there are alternatives, right? So we don't see these same effects both from an absorption into our body's perspective, from a safety perspective, and from an environmental perspective when we think about physical sunscreen. So those are sunscreens containing key ingredients like zinc oxide and titanium dioxide. That's really what to look for on the label. And so because there's a great alternative that lacks all of the, sort of, safety environmental concerns that the chemical sunscreens have, that's why I personally am very pro using the physical sunscreens as opposed to the chemical ones.

Katie: Absolutely. Yeah, me too. And in our family, we're big fans of also just using rash guards and hats and covering up, which is another great way to just physically protecting from the sun, which is essentially what physical sunscreens do as well. Essentially, like you're just putting up a physical barrier in a form of sunscreen versus clothing. But yeah, I think that's a good rule of thumb. Another thing I've seen floating around, so there's these pictures on Instagram and Pinterest of people who do like a hydration challenge and they like take a picture of their skin one day and then like a few days later after making sure they drink enough water for a few days and they look so much younger and like there's a noticeable difference in their skin, which I'm sure there's a little bit of hype there for social media, but it made me really think, how much of does hydration come into play for skin health and is that just on the short term? Like within like three days your skin looks more perky or actually over the long term, does that help prevent aging and help keep your skin healthy?

Dr. Javorsky: Yeah. So when your skin is hydrated, it's easier for your skin cells to do their jobs is the way that I think about it. So hydration is a really, really important part of overall skin health and making sure that we're adequately hydrated. Now, what we consider adequate hydration is usually drinking a lot more water than we typically do on a regular day. So that's partially why the hydration challenge, you may kind of see those effects

is if you go from a state of where you're relatively dehydrated and not drinking enough water to drinking adequate amounts of water, you see a real improvement in your skin. There's not a lot of great data that over-hydrating and really overdoing it on the water intake helps out your skin in any way. It's making sure that you get, sort of, adequate water intake. But again, what we can, what is adequate water intake is, tends to be a lot higher than what we tend to drink on an everyday basis.

And so the answer is actually yes. So having adequately hydrated skin is something that's really important for overall skin health and both the short and the long term. But in order to get those longterm benefits is also a long-term commitment to making sure that you're getting sort of your adequate water intake each day. So that's something that I think is a great lifestyle, sort of, additive and commitment to make not just from a skin health perspective but from an overall health perspective as well. There's great data across the board that staying adequately hydrated is really good for our health.

Katie: For sure. And it's another one of those that just like a healthy diet rich in antioxidants and micronutrients is across the board beneficial for you and not just for your skin but for so many aspects of health.

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Katie: Another thing that also comes into play there is sleep. And I know from the research I've done, sleep is one of the most important things we can do for our health, both for blood sugar levels...like I know people

who don't get enough sleep have worse blood sugar levels. It increases your stress hormones if you don't get enough sleep. I would guess all of those things impact the skin as well. But are there specific ways that sleep or lack of sleep impact our skin?

Dr. Javorsky: Yeah. So when you think about lack of sleep and skin, it comes back to what we were speaking about earlier where skin is a pretty good wearable, so to speak, or barometer of the amount of stress levels that are sort of happening within our body. So, you know, the less you sleep, the more stress you put on your body, the more sort of you tend towards having changes in your immune system that it can't function in sort of the healthy and proper ways that usually does. And so that can basically lead to impairments in skin, right? And we all know this, I think this is the one that people probably get the most easily convinced on when you talk about lifestyle factors and skin in saying that sleep is important to it because we've all had nights where we don't sleep or periods of high stress that we haven't slept for, you know, sometimes multiple days on end. And it's just very visual and seeing the toll that it takes on your skin.

Again, this is like a short-term, long-term type of thing that, you know, again, over time that's why again, investing in healthy sleep behaviors is just so important and cannot be stressed enough. Again, it helps with all areas of health, but in thinking about skin aging over the long term, maintaining a healthy sleep cycle is really important for that and basically decreasing the amount of stress that your skin sees. And when we talk about, you know, lack of hydration or lack of sleep, it all boils down also to like the level of oxidative stress in skin. So this is thinking about the amount of basically free radicals that are floating around and damaging components of our skin. So sun is also related to that, regular sort of stress as we think of it, right, just being like emotionally stressed out. There's emerging data that blue light can contribute to that, pollution. So all of these factors that are part of our lifestyle basically increase the burden on our skin or what we think of as cellular stress or free radicals that takes its toll over time and results in those signs of what we think of as skin aging.

Katie: That makes sense. Okay. So what about the microbiome? Because I have seen many sources that say that health starts in the gut or there's a very strong gut component. And I've definitely seen that, like I mentioned, in my daughter with the allergy connection and when you improve gut health and get past that, then the skin health improves. I know that I've seen that in myself as well or like my dad getting rid of gluten, which is, you know, hitting the gut and improved his skin. Are there other factors from gut health that transfer into the skin or can like certain skin problems indicate problems in the gut and how do we address those?

Dr. Javorsky: Yes. So there is both an interesting linkage now in people thinking about how do changes in the gut result in certain inflammatory skin conditions, whether you think about psoriasis, eczema, you alluded to also acne being part of that sort of area of research as well. I think another aspect of this that people get really excited about the gut microbiome, but we also have a microbiome on our skin. And when you think about it, the skin and the gut aren't all so different. They're just two different ways of how our body interfaces with the world, right? So one is on the outside and is how we sort of interface with the world in that way. But our whole gut is also a way that we interface with the outside world and its own compartment is sort of the foods that we put in it.

So I think that the gut microbiome is definitely an area that we're starting to really understand how it affects skin mainly through the brain access. So there's this gut-brain skin access that is well-characterized, and also through our immune system. So those are the way that our gut connects to what we see on our skin. But there's also what we do to our skin biome, and the bacteria that exist on the surface of our skin, and the role that having a healthy skin microbiome plays in basically protecting our overall skin. So those same sort of conditions that we mentioned before, like acne and eczema, also have very close ties to what's happening with the microbes that are on the surface of our skin, one being the acne bacteria and why in some people it causes acne versus others. In eczema, there's really interesting data showing it's linked to a type of bacteria on our skin called staph.

So what we have in sort of our microbiome on the inside and the outside are both really important for skin health. And I think that we're just beginning to really understand the role that the different microbes on our skin play in different outputs, whether those be diseases or whether that be thinking about skin aging. But something that we do know is that it's really important not to physically be too harsh on our skin microbiome. So that's why it's also kind of recommended to steer clear of any products that are really gonna kind of over-cleanse your skin or take a toll on its microbiome. So certainly nothing that's sort of antibacterial in nature. But also, what we see a lot in terms of these like 20-step cleansing routines, right, those things can be quite harsh on the skin microbiome in ways that we may or may not anticipate, so. I would say our inside microbiome and our outside microbiome, all those bacteria are contributing to our skin and in different ways.

Katie: Got it. That makes sense. Yeah. I'm excited to see more research on the skin microbiome. I think we're gonna see a lot more about that in the next few years, and it's exciting to keep learning. Another big trend right now that I'm seeing in skin health is all of these different types of light therapy and I've used red light therapy and certain wavelengths for a long time. And I've seen some evidence that that can help support the skin. There's now like blue light that I see at spas and, you know, at dermatologists. Can you explain like what these different lights are supposed to do for the skin and do they actually work?

Dr. Javorsky: Yeah. So there's actually really pretty cool data behind both red and blue light. The exact mechanism of how they work is not precisely known on the red light side. The fancy term for it is photobiomodulation is the fancy medical term that they came up with. But it basically helps your body do better. So we don't know if that's through in the warmth of the red light increasing circulation in the area, the specific wavelength of the red light stimulating specific parts of our cells, like our mitochondria is one hypothesis, the sort of energy source of our cells. But we do know in these clinical studies of red light that it does deliver a benefit. So we've seen a lot of this in sort of the skin side of it is one, the hair growth side of it is another that people have looked at, people looked at wound healing.

So there is data out there that shows that these wavelengths of red light tend to help skin. Again, it's something most of those studies have shown that that's an intermittent kind of use thing. So they mainly look at it three times a week, I think is the most common. So it's not kind of an everyday thing. So there's something about that every so often delivering the red light that can be really helpful for skin health and anti-aging, for hair growth, and also for wound healing are the area's best-studied for red light.

When it comes to blue light, that also has good data behind it. And a lot of the thinking there is actually on targeting basically kinds of bad bacteria is one way to talk about it. So these wave lights, these high energy kind of blue lights are something that do have inherent antibacterial-like properties. So that's why we see them actually a lot marketed for acne. There is some data to show that blue light alone is helpful. But actually, the area that a lot of this has been studied the best in for when we think towards things like acne is in the context of also combining that with a topical product in something called photodynamic therapy. And so that's something that really only can get in the context of, you know, you're a dermatologist and having someone supervise that. But in terms of the at-home devices, there is good data behind a lot of the red light ones.

Katie: I'm also always really curious to know, since you're such an expert in this and you see all the research, what actually translates into your day-to-day life if you don't mind sharing? What is your personal, you know, dietary philosophy and your skincare routine and which things do you see enough evidence for that they're part of your routine?

Dr. Javorsky: Yeah, so I'm actually surprisingly minimalist, I would say, for someone that's in the skincare world. But I do think it's because of so much of what the data is strongest for are those lifestyle factors. So for me, it's really about drinking enough water. Sun protection is huge, and approaching that from a holistic angle, so sunscreen being part of it, but also the things you alluded to is sort of also what we put in our bodies that can help protect us against the sun. But also hats and seeking shade when you can and keeping an umbrella around being it's the height of the summer. So a lot of those lifestyle factors around sun protection are important to me. Eating a balanced diet is key and trying to get as much, sort of, micronutrients as I can. Staying low on sugar when I can. And then in terms of like my actual like skin care regimen, really the only thing I use is a retinol. So I use a sort of a daily moisturizer plus a retinol and that's really it. And I cleaned my skin with a gentle cleanser. So I'm pretty minimalist when it comes to skincare products. I don't have some sort of like 20-step routine to give you. It's kind of a very eat-your-vegetables approach to skincare.

Katie: That's a great balanced perspective. I think that's really helpful to know. I always love hearing how the experts actually integrate things. So that's really fascinating and I'll make sure that we include links in the show notes. And I also wanna just, before we end the podcast, touch on one other thing, which is, I know we talked about it a lot in our first episode, but a specific antioxidant called, if I'm gonna say it right, Polypodium leucotomos, I think, is that right? Is it a supplement that you helped formulate? So can you just speak specifically to why that one is so beneficial and how that integrates?

Dr. Javorsky: Yeah, so, you know, when we talk about antioxidants, we really care about where's the data? So on, on our side, Polypodium leucotomos is one of them. The other one that we work with now is Astaxanthin from an anti-aging perspective and really looking at taking out antioxidants and saying, okay, well, what have these been tested for? And so looking at where the data is in the literature is really what guides us both, you know, from my speaking as someone who's leading a company, but also for me personally in what we choose to use and put in our bodies. So the two there, Polypodium leucotomos being a fern extract, so it's a fern that's endemic to a Central and South America, and this has been best studied in the literature consistently

over sort of the past 30 years for its anti...it's really rich combination of polyphenols that are in this...or antioxidant compounds that are in this fern extract and their ability to help protect the skin against the oxidative damage that's caused by UV light. And so that's something that's been sort of consistently studied.

And then the other one that we're playing with now is Astaxanthin, which is a carotenoid, so also from the antioxidant family and that has been best studied for anti-aging benefit and reducing the visible signs of aging. So for us, it's in sorting through this whole realm of like, there's so many antioxidants out there, like what do I select to put in both my body but also to put in products that I create is really, where's the data? Because we know that all antioxidants are not created equal for different types of benefits. So seeing where those benefits are and where have they been shown and using that as sort of the guiding light of both my personal choices and also the choices that I make for what kind of products we want to create as a company.

Katie: I love that and I'll make sure that all the ones you mentioned are linked in the show notes as well as I know you guys have information on some of the stuff we've talked about. I'll make sure all of those are at wellnessmama.fm. for any of you guys who are listening. But Dr. Javorsky, thanks for coming back and for sharing even more wisdom is time and especially for sharing your own personal take on skin health. That was really fascinating to hear.

Dr. Javorsky: Thank you so much for having me. I'm really honored to be back and I love talking about all these things. I'm pretty much a skin nerd, so this has been great. I really enjoyed it.

Katie: I love it, and thanks to all of you for listening and sharing one of your most valuable assets, your time, with both of us. We're so grateful that you did, and I hope that you will join me again on the next episode of the "Wellness Mama" podcast.

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