

Dr. Mercola: Hi, this is Dr. Mercola, helping you take control of your health, and you are in for a real treat today. This is not our typical interview setting. I happen to be being filmed for a documentary, and the documentary is done by ... our guest for today is Naomi Whittel, who we may not have heard of before. But she has an unbelievable pedigree with respect to what she's done. Her grandfather introduced biodynamic farming into the United States, so that's incredible. She's lived a healthy life, and has really been in the space of supplements company for a while, and was a former CEO for Twinlabs.

What we're going to talk about today is her passion for health and how she's compiled much of that information in her recent book, which is called Glow 15. I read the book. I think I first heard of her on Dave Asprey's Bulletproof podcast, and I said, "Wow, this is intriguing." So I got the book, read it, and I was so impressed because I've never encountered an individual before who independently evaluated the evidence and came to the same conclusions I did about how to optimize diet. And talked about really interesting things like autophagy. She is a living testimony to how this process works. I had the opportunity to meet her about two weeks ago, in person. She came out and saw me speak at Paleo f(x) in Austin, Texas. We had communicated by email, and I thought she was going to come. But I didn't hear from her, so I didn't know if she was going to be there.

I saw this woman in the audience. It was real hard because it was bright lights, but I saw someone in the audience that looked like her. But I never met her before. But I said, "It can't be her because she looks like she's 20 years old." 20 years old. When you see her, and I'm not sure how this is going to be formatted this, but you're going to ... Amazing, unbelievable. So her process works incredibly well, and she's a living testimony for her book, Glow 15. So welcome, and thank you for joining us.

Naomi Whittel: Thank you, Dr. Mercola. It's an incredible honor to be sitting across from you. Your guidance, your insight, everything that you bring to the table is what I've followed for the past 20 years, so this is an incredible privilege.

Dr. Mercola: Well, we're just delighted to have you, or the opportunity to connect, because you have, as I mentioned, independently compiled this information for different sources than I have, and reached almost identical conclusions. So it's really fascinating. But before we go into the details in the book, well, let's get a little more history. I'll let you tell it from your perspective, because you didn't do this by choice. Even though you had relatively and still do have relatively healthy parents, you had some other motivation because you had an illness that really required you to be hyper-diligent or vigilant about your health. So why don't you discuss that journey that you were on.

Naomi Whittel: I was born with eczema. I was born with deficient autoimmune health, and in part it was because I had a complete blood transfusion when I was born. I was born by c-section, and the inflammatory process that was in my body just ... it

ravaged my body, right? So my skin would bleed, it would pus. My parents were so conscious, they would even be aware of the kinds of material I would wear, because our skin needs to breathe. It's our largest organ. The foods that I ate. I was born on a biodynamic farm, and yet this autoimmune disorder and so many more that I've developed over time was really what controlled my life. So I have always been trained to eat specific foods, drink certain types of water. We were talking about fluoride earlier. My parents never let me have that fluoride. I was never vaccinated. I mean, there was just so much thought that went into what it was that I was putting on my body or in my body, and yet I couldn't ever sort of squelch the amount of inflammation that I've experienced. So I've gone through so many different iterations.

When I was in my mid-teens, I would constantly cover myself with long sleeves, kind of like what I'm doing today. But it wasn't for the same reasons. I would cover myself because I was so ashamed of what I really looked like. It was the spring dance, and there was a boy that I really wanted to go to the spring dance with. My mother had said to me at that time, "You know, you shouldn't always cover yourself. You have a lot of friends. You can have some more self-confidence." So I listened to her, and I wore short sleeves and shorts. My skin was exposed, and he got a glimpse of me, and he didn't invite me. That was a really defining moment, because I had been so rejected by the way that I looked.

I had always used natural and homeopathic remedies for my body, and so in that moment I said, "You know what? I'm going to go for the first time to a conventional doctor. I'm going to use steroids. I'm going to just try to suppress this eczema." I did that for a short period of time, but the side effects were so great that of course I went back to my roots. I was able to get rid of about 95% of the eczema when I was in my early 20s by using these Chinese herbs along with acupuncture where we really worked to sort of peel back the onion. It took about a year and a half. Ultimately, it was remarkable, and I was using fasting. I was fasting for different periods of time, juice fasting, all types of different ways to detox my body. Ultimately, when I was in my later 20s and I was getting ready to have my first child, my integrative medical doctor, Dr. Erickson, did a whole variety of different blood work and urine testing and everything to just sort of see where my health was.

Ultimately, he concluded that I had heavy metal toxicity, and he attributed it to those Chinese herbs that I had taken, because of the soil that they were grown and the way that they were processed. I had poisoned my own body through these herbs that had been so therapeutic. So that really was that other defining moment for me, personally, where I decided I needed to know, from that moment forward, exactly where things came from. I have some obsessive-compulsiveness to me, and it certainly runs in my family. So I started the process of always going to the source, where things come from, and going from there. So, personally, I've just had this amazing opportunity, throughout my life, and I put it into my career, of sourcing things that I share with my family.

Then ultimately, I built a company called Reserveage, where we look back and we find where things come from. I started with the polyphenols that come from the red wine grape, the antioxidants, and I searched all over the world for the grapes that really had the highest levels of these different polyphenols, including resveratrol. So I went to the Finger Lakes. I ultimately landed in Bordeaux, where the organic and biodynamic vineyards are so rich in the powerful nutrients. I was in Calabria, Italy when I first started to really learn about the citrus bergamot fruit. The researchers over there were teaching me about drinking whole citrus bergamot. The lead researcher, Dr. Janda, Elizabeth Janda, was drinking like four or five cups of this every day, and while I was there, I was doing that with her.

I asked her, "Why?" I love it. It's filled with flavonols, and I like citrus bergamot because of what it does to the cholesterol profiles. You were talking about raising the HDL cholesterol, and citrus bergamot does that amazingly, and is something for people who are on statins. They can use it in conjunction. Or people who don't want to take statins, which so many people don't, they can use it as an alternative. She was drinking all this citrus bergamot tea, and she said to me, "I use it to activate my autophagy." That was the first time I had heard the word.

Dr. Mercola: How many years ago was that?

Naomi Whittel: That was about four years ago, and I heard this word. I'm like, "What does it mean?" She said, "Auto in Greek means self, and phagy means to eat, so this is self-eating process." I started to google it, and of course I came across your articles that you had brought out. You were the only one out there speaking about it, and that really started my journey for the Glow 15 book.

Dr. Mercola: Wow. It's a magnificent book. Just to expand a bit on your obsession with the raw materials, which is not just an obsession but it's actually your passion.

Naomi Whittel: Correct.

Dr. Mercola: It's an unusual passion because most supplement companies, and I should mention here that your, the company you mentioned, Resvare?

Naomi Whittel: Reserveage, yes.

Dr. Mercola: Reserveage, you sold to Twinlabs.

Naomi Whittel: Yes.

Dr. Mercola: And you were the CEO of Twinlabs, and now you're off in a different direction, which is great, which an extension of your book, Glow 15.

Naomi Whittel: Exactly.

Dr. Mercola: But I'd like to get your perspective, because as a CEO ... I mean, I have a company, too, but I'm not the CEO. But you were running the show, and you still working at that high executive level. What has been your experience in the industry of companies that do the due diligence and actually go and source the raw materials? Because it would seem to me ... Obviously another variable that contributed to that was your adverse reactions to these contaminated beneficial products that caused you heavy metal toxicity, so there's this dual process. I think that, from my experiences, which are not as extensive as yours, that there's a fair amount of companies that don't do this due diligence. I'm wondering if you can comment on your experience.

Naomi Whittel: Sure. It did. It came from just that feeling of needing to know what I was putting in my own body, and just as an individual, feeling really like I had been ... I just had been duped, or that I didn't have the wherewithal to understand what I was putting into my body. So I felt like it was a personal need to understand where things came from for myself, for my family, for my friends. But then when I built Reserveage, it was with that same sort of fundamental mindset. Because when you are a CEO, when you're a leader of ... You are leading so many millions of people. You have such a responsibility, right? Because we're essentially saying, "Take this nutritional supplement, take this food, whatever it might be, and it will help to support your health and your wellbeing." But unless we know each of the steps that get it into our consumer's hand, we're not really doing what we're here to do. So, for me, it's a responsibility, and also I just love the process.

I love going and testing the soil. I love working with the farmers. I love going to the extraction facilities and understanding what's used to extract the ingredients. So it is, it's a passion, and I get to make it my work. So it's just a true privilege. But what I found in this process, over the years, is not very many people do it. Not very many companies do it, and it surprises me because it's a disconnect, right? Ultimately, there's so many things that can go wrong along the way, even in the way ... You know, I'm studying right now coconut and coconut oils and how MCT oils, the medium-chain triglycerides, are actually extracted. It's pretty frightening to see how that works, but it's because of the disconnect within the supply chain.

So if we can just connect those pieces with transparency, and show that. I mean, video. We're here shooting video. It's not hard to do. If you can just connect the dots with video, then you can really share something that's meaningful. There are a couple of companies that are doing that, or that are being transparent, but we still have a long ways to go.

Dr. Mercola: Okay. I'd like you to expand on your recent experience, I think, working with Dr. Jeff Bland on a trip to Alaska.

Naomi Whittel: Yes.

Dr. Mercola: Where a massive source of supplementation is omega-3 fats, and most of those are being done by fish oils. So you went to Alaska to find the dirty secrets of fish oil, and I'm wondering if you would be willing to share those secrets, now.

Naomi Whittel: Of course. Of course. For me personally, fish oil is an important part of my health, right? Because of my autoimmune disorders. I grew up drinking a little shot every morning of cod liver oil. That's what we did at our house, and I actually like the taste. This was before I knew about krill and I knew about the other valuable omega-3s. So I grew up with it, loved it. Strange, I know it's a little strange. But when I built my company, Reserveage, I never could find a source ... I do feel passionately about krill. It's so powerful. I couldn't find a source, other than krill, that I was comfortable bringing out into the market. The reason was, and this is the dirty secret, is that when most fish oil is processed, what happens is the fish are caught in these large nets. Even if you think that the fish oil is coming from Norway or Europe, it's caught in Central and South America in these large nets. The fish are then brought onto the boat, and they're thrown to the bottom of the boat.

The guts, which is really where we get the fish oils, they're thrown to the bottom of the boat, and they go rancid. They go completely rancid, and they're just left there. By the time they get to Europe, they are so rancid, it's so disgusting, that in order to get the omega-3s out they have to go through such a process of extracting these poisons and this rancidity that you're left with something that has none of the cofactors. It's been so heavily contaminated to clean out the rancidity that if you want to get any of the benefits of the vitamin A or vitamin D, they have to be added back. There's such a huge disconnect. It's the same thing that we were talking about a little bit earlier with yogurt, right? We know about the beneficial effects of the fermentation process, and so many yogurts that are out there, the majority of them, are sort of riding that wave. But they're really just not good for us, like 90, 95% of it. So I think the same thing goes with fish oil.

When I learned about this, which I've known about for many years, it just ruined my relationship to fish oils, so many of them. So when Jeff Bland came to me and said he actually has partnered with a fisherman who has six large boats in Alaska, so the pristine waters of the Bering Sea. This fisherman is not a typical fisherman. His name is David Little, and he's actually an engineer. When he got into fishing, he put together, on his boats, what's considered this flash frozen process. What they do is they line catch these cod fish, and then they flash freeze the fish, all parts of the fish. The reason they do that is because they sell the actual fish to the Japanese, and the Japanese spend three to four times the amount on the actual fish. But they weren't doing anything with the livers and the guts.

So when David Little and Jeffrey Bland met one another, Dr. Bland said, "Oh my goodness, you have to use these parts of the fish." So they partnered, they built an extraction facility right in Dutch Harbor, which of course I went to and

processed the fish myself. You cannot believe how pure and how fresh and how potent this omega-3 oil is, because it also has the SPMs in it. So what makes this fish oil so incredibly powerful is it's literally flash frozen right there on the boat, and then these large frozen portions of the fish are processed in Dutch Harbor. So you're preserving the SPMs. You're preserving all the vitamin A and the vitamin D. So as I processed it myself, I was able to literally take the oil right out of the processing equipment and drink it, right there in the factory. It smells fresh, and it's good. That's why I, for the first time in my entire career, felt confident enough to bring a cod liver oil into the market.

Dr. Mercola: That's a fascinating story about these cod liver oils.

Naomi Whittel: Right.

Dr. Mercola: And you actually put that together for Twinlabs when you were with them, and it's a product that they sell. So this is one of the rare ... Because would you say that over 95% of the existing fish oils don't fit these criterias? By fish oils I mean including and incorporating cod liver oil into that, because it's a subset of fish oil.

Naomi Whittel: Yes, absolutely, if not more. It could be probably 98%.

Dr. Mercola: Okay.

Naomi Whittel: While we were in Dutch Harbor, it was so fascinating to be able to trace every single step of the process, from the fact that the fish were line caught. And look, it was for another reason, because of the Japanese wanting to buy this high quality fish. But ultimately when we processed the cod livers, as they were coming out, it was really fun because I was holding it in my hands. I have video, and I can show you the video. It was so soft. It was so incredible that the first thought was like, "Oh my gosh. I want this as skin care." You're not having to add back any of the vitamin A or the D, and you've got so much strength in the quality of this ingredient. I was extraordinarily excited to bring it into the market. But there's nothing else from a cod liver perspective, or, like you said, the subset of the omega-3s, that's out there.

Dr. Mercola: You'd mentioned earlier that it was high in SPMs.

Naomi Whittel: Yes

Dr. Mercola: For those who happen to not know what that is, that's specific pro-resolving mediators. That would consist of things like resolvents and protectants, which are really useful for anti-inflammatory components, which is an issue that you have with eczema.

Naomi Whittel: Right.

Dr. Mercola: So that would certainly provide benefit. But you and I both are in strong agreement of having whole foods, less processed, and this is an example. This processing, this having to do this molecular distillation, remove all these damaged components, removes the SPMs from almost all the omega-3s. So if you get the whole food, that's the best way to go. It's great to know that it exists, but it's a major caution for anyone who's viewing this who is currently taking a fish oil. You please do your due diligence, because in all likelihood ... or cod liver oil ... that you're ... As Naomi said, probably 98% of them out there are not what you think you're getting. So the other alternative though, and one you were seriously considering investigating but didn't because of the public perception of sustainability, is krill oil. It's the one that we really focus on. It's a phospholipid, so it's a lot of good benefits, and sustainability, which is an issue with cod.

Naomi Whittel: Right.

Dr. Mercola: They're taking these cods and they're selling them to the Japanese, but still, cod is not sustainable. I don't know the projections to when cod won't be around, but it's not going to be around probably many of our lifetimes. I mean, it's on an extinction rate, but krill is not. Krill is a very small creature like a crustacean, like a very tiny shrimp. It's high in these omega-3s, but the omega-3 is unlike fish, which is attached to a triglyceride attached to a phosphate. So it makes it really absorbable, literally twice as absorbable as fish oil, and because of that you don't get the belching. But it's sustainable. There's this organization called MSC, Marine Stewardship Council, that verifies and confirms that, and limits the companies, which is really only down to one primary company now, maybe some Russians that are taking it out. There is concern because it is food for whales, and the last thing we want to do is hurt whales, but it's only harvested at a level that's going to be completely sustainable.

Just like the process you described, it's harvested on the ship. It's extracted on the ship. I believe it's extracted on the ship, or at least processed in a way that's preserves its absolute integrity. So you don't get any of the degradation products. So it's another option. Those are the two. This purified process you described in Alaska, probably a few others, but it's a handful, and then krill. Those are your two options if you want omega-3. You just got to have omega-3, a source of it. You know, you can eat the whole fish. Sardines, really small fish, those will work, too. You don't have to buy krill oil. You don't have to buy fish oil. You can eat fish, but you just have to be really careful it's tiny because the oceans ... This is the 21st century. Oceans are contaminated with all the industrial toxins. Mercury, PCBs, dioxins, PBDEs, flame retardants. It's all in there, the bigger the fish.

Naomi Whittel: Yeah. You were talking about the krill oil and incorporating it with different coconut oil and things like that. It's pretty interesting.

Dr. Mercola: Well, yeah, we're in the process of developing a commercial product, have been for actually three or four years, which is krill phospholipids. Because the phospholipids are very similar to lecithin, which is a really important substrate of cell membranes in your brain. But most of the lecithin is from soy, and even if it isn't, it's from sunflower, and it's organic. It still has omega-6 is the fats that are in there. Whereas the krill phospholipids, instead of having omega-6 it's got EPA and DHA, exactly what you need.

Naomi Whittel: Amazing.

Dr. Mercola: Yeah, so it's a pretty good product, and we're excited to release that at some point, hopefully in the next year or so. But I want to continue with your journey because, as I said earlier, I'm so impressed with your book, that you reached ... Because to read someone ... Because I read a lot. I read 150 books a year.

Naomi Whittel: Wow.

Dr. Mercola: Not as many as Ben Greenfield, but he reads a book a day. I don't know how he does it. I still don't get it. But I read about 150, which is still good enough.

Naomi Whittel: Big deal.

Dr. Mercola: A lot of health books, and virtually ... I don't think I've read one book, really ... maybe hints in Dave Asprey's book. But not the way you put it, the way you codified it, and really understanding the cyclical component. I want you to share that, to have your perspective, who reached this conclusion independently. Yes, you've been looking at my stuff for a while.

Naomi Whittel: Yes.

Dr. Mercola: But you came to this conclusion yourself. You went out and evaluated investigators. You're not someone who's going to take some information and just say it without independently validating it, which is what I love about your work. What I'm not sharing here is what we're not going to talk about in this video, is that you're also passionate about my new obsession on steroids, which is NAD. You've been obsessed about it, too.

Naomi Whittel: Yes.

Dr. Mercola: You know some of the, if not the leading researchers in the world, and I'm just so excited for that connection, which is ... You don't know how excited I am about it. It's just-

Naomi Whittel: Ah, I cannot wait.



Dr. Mercola: Yeah, so we're going to change the world with this, because NAD ... We're not going to delve into NAD because that's literally a justifiable one to two hour discussion.

Naomi Whittel: Right.

Dr. Mercola: We don't have time for it now. But I want you to share your journey and really expand on how you got to that and what is your practical implementation of this process. Because a lot of people resonate with your communication, rather than mine, because you're coming from a different angle.

Naomi Whittel: Thank you so much. It really just, for me, always understanding, almost intuitively, that my cells would either be building or detoxing, right? With any sort of inflammation that I experience, I knew that there were things that were either really challenging me or things that would help me, and that was usually the lack of eating. So that's why I got so excited about fasting about 25 years ago.

Dr. Mercola: I don't know anyone who's been fasting for 25 years, personally. That is amazing.

Naomi Whittel: But it would help me so much, so it was just this natural, innate activity that I would do over time. I definitely struggled with it because doing a juice fast is so different than doing a water fast, and you talk about the different detox pathways and how important it is to incorporate that. I couldn't agree with you more. Chris Shade is a very good friend of mine, and the work that ... Watching the two of you spend time together at Paleo f(x) was just thrilling for me, and I can't wait to see what really comes through all of your connections there. But ultimately, while I was in Calabria, Italy, learning about, first hearing about there was an actual term for what I had been trying to do in my body for all these years, and that was autophagy.

For someone like me, it's just this understanding of, wow, we have a mechanism that's in all of our bodies, and all we have to do is activate it. But it can't be activated all the time. But when we do activate it, it literally cleanses and detoxifies the parts of the cell, recycles the parts of the organelles that are no longer needed, so that our cells can behave like they did when they were younger. So that process, once I learned that there was a term for it ... I came back to the U.S. I started to look for all of the researchers around the globe, and this was in 2014, that could teach me about how it activates through different mechanisms in the body.

I found Richard Wang, who is a dermatologist and also an autophagy expert, so I could learn about the skin. Then Beth Levine, who really focuses on exercise and has done some incredible research. So I started to meet with these researchers ... Dr. William Dunn at the University of Florida. He's been researching autophagy for 30 years ... and began to put together a protocol that I could use

for my own life. We talked about sleep, how important restorative sleep is, and getting the circadian rhythms to really work with our own bodies. It's simple to sort of adjust to those circadian rhythms. When we travel so much, we can get off balance. Every single cell in our body has its own clock, and so how do we really activate autophagy at night, which is when we get the most of it? How do we do it through exercise? How do we do it through our skin? How do we do it through nutrition? How do we do it through supplementation? So I had the privilege of putting together this protocol for myself, and then utilizing it.

I travel way too much. I was actually at the airport a couple of years ago, and someone from American Airlines came up to me and said, "We'd like to drive you to your next destination." Because I was doing a stopover, and they had a little sign with my name. I said, "Well, why are you doing that?" "Well, because you're a concierge key." I'm like, "Well, what does that mean?" "Well, it means that you're in the top 1% of our flyers. How much do you fly?" I said, "I have no idea." I'm on a plane way too much. I figured it out. The reason I got this crazy standard with American Airlines is because I had flown around the world eight times that year. This is not a good thing.

Dr. Mercola: That is way too much.

Naomi Whittel: Way too much. Way too much radiation. Way too much impact. It was affecting me, and it was accelerating my aging.

Dr. Mercola: Absolutely.

Naomi Whittel: You know? So that's when I really wanted to apply the principles of activating autophagy, the youth inside my cell, inside my 37 trillion cells, to help reduce the impact of accelerated aging. So these researchers brought this together, and what I discovered ... I was with, actually, Dr. David Sinclair at Harvard. We were talking about the work that he's done on NAD, and he was sharing with me a lot of the insights around how we could sort of reduce the impact of these accelerated agers. When you look at all the ways that we age, and the effects of the DNA impact, the inflammation, the telomeres shortening, all of these things ... autophagy and the way that autophagy slows down as we age or due to these accelerated agers is sort of at the fundamental foundation of the way we age. So being able to look at it and activate it, and then also deactivate it, is something that is fundamental to the aging process. So Glow 15 is really that protocol and that program.

What was so fascinating when I first did it on myself was my energy skyrocketed. I reduced my lean muscle mass by ... increased my lean muscle mass and reduced my BMI by about 6%, so I went from 24 to 18.

Dr. Mercola: That's extraordinary.

Naomi Whittel: I wasn't doing something other than activating my autophagy. My energy, my mental focus, my sleep improved, and I just felt so much better. And I looked younger, for sure, so everyone in my world said, "Hey, what are you doing?" Then I started to try it on my friends and family. Then some of my friends at Jacksonville University, some of the researchers there, said, "Why don't we create a lifestyle study?" So we took a group of 35 participants, and we put them through this lifestyle. Every single participant achieved results. The researchers called me after 15 days and said, "My goodness. People have lost weight. They have ..." Everyone had achieved it in 15 days, and that's how the book got the name Glow 15. But they had reduced their fine lines and wrinkles. I mean, it was like both on the outside as well as the inside. Gotten off of medications. I mean, it was truly remarkable, the benefits. So that's how the protocol was developed.

Dr. Mercola: Cool. Great. Thank you for the backstory of that.

Naomi Whittel: Yes.

Dr. Mercola: I wondered if you could just summarize some of the specific strategies. I mean, there's a lot of the ... like citrus bergamot is in there, and other things. But I think that the eating plans, and how you reached those conclusions, and ... Well, you already related some of the experiences you noticed, which is pretty dramatic.

Naomi Whittel: Yeah, they were ... It is dramatic. It's sort of a way to outsmart some of the pollutants and environmental fights that we're dealing with every single day. I mean, in my opinion, it's a battle that we're having to fight in order to protect our health by just activating autophagy through some principles ... I have 11 of them in my book ... is actually quite easy. It's not about depriving ourselves.

The first one I have is called intermittent fasting, and I couple it with protein cycling. So I name it IFPC, that's the acronym. Intermittent fasting every other day, so we have high days and low days. Just like the ocean sort of comes in and out, I look at cycling as a big part of our health, that process. So intermittent fasting every other day, so 16 hours of not eating and eight hours of scheduled eating. Then protein cycling. So on a high day you would eat the regular amount of protein that you would normally consume, and on a low day you're going to bring it to about 5% of your calories. We have formulas of how you do that, but it's basically just 5% of your calories. So for somebody like me who would normally eat about 45 to 50 grams of protein, so 0.8% times my kilos, that's about 45 to 50 grams. Then I'll take about 5% of my overall caloric intake, which is about 25 grams of protein, on a low day.

Dr. Mercola: On a low day.

Naomi Whittel: So intermittent fasting, protein cycling. The next one, which I love, is all about timing. Like what you do, and when you do it is so important.

Dr. Mercola: But before you go into the next one, I want to stop you there, because you had mentioned 16 hours.

Naomi Whittel: Right.

Dr. Mercola: I think in your book you say that going beyond 16 hour is unnecessary, to 20 hours or so. Because some people do 20. Even 22 hours is what Dr. Gundry does.

Naomi Whittel: Sure.

Dr. Mercola: So I'm wondering how you came to that conclusion and how you validated that recommendation.

Naomi Whittel: That's a really good question. The way that we came to the conclusion of 16 hours is the literature around fasting is growing, and it's been growing for the past five years, pretty quickly. So when we were at Paleo f(x), I was in the middle of ... I was starting a five day water fast, and I do them now on a monthly basis. I'm excited to incorporate so many of your insights and research into what I'm doing over the next months, and for sure I will. I do it for my autoimmune health, but the 16 hours is what is needed to activate the beginning of autophagy, right? So you can get that kind of activation in 16 hours. 20 hours doesn't make a big change, 24 hours doesn't make a big change, for autophagy.

Dr. Mercola: Okay.

Naomi Whittel: Right? There's science that points to after three days of fasting, you go to a deeper level of activating autophagy, and a lot of the researchers like Valter Longo are really focusing on that. But you can activate it within 16 hours, and so that's the focus.

Dr. Mercola: When does it start? You sort of reach the maximal asymptotic point of the curve at 16, unless you go to multiple day fast.

Naomi Whittel: Right.

Dr. Mercola: But does it start at 12, 13, 14?

Naomi Whittel: Yes. It starts about 12, and then you get that real benefit at about 16.

Dr. Mercola: Okay, 16. So you do that every other day?

Naomi Whittel: Every other day.

Dr. Mercola: Okay, which is-

Naomi Whittel: So you get that cyclical effect.

Dr. Mercola: Which is pretty easy to do. I mean, I happen to do it most days, but I'm reconsidering that strategy based on your evaluation. Well, what has been your experience? I'm still staying on point one. If you do it every day, is that counterproductive?

Naomi Whittel: It's not that it's counterproductive, but for so many people-

Dr. Mercola: It's impractical.

Naomi Whittel: It's a practical thing, and it's also great to get into this experience of rhythm and cycling. So that's why I recommend it that way. The other part ... We spoke about your book and the importance of satiating, right? Where we never feel that we're being deprived. So getting into fasting and intermittent fasting every other day, where your body actually starts to crave it because you know you're getting so much energy from it. It's just a very healthy way to go about starting the process. Then from there, you can take it in whatever direction you want.

Dr. Mercola: Okay, well thanks. Thanks for the clarification.

Naomi Whittel: Yes.

Dr. Mercola: Why don't you go to the next step, number two.

Naomi Whittel: Number two is about timing, so timing matters. What and when are both very important. So this second one is fat first and carbohydrates last. On both days, you'll do this. So on a low day, when you've done an intermittent fast, you'll break your fast, your first meal will be about fat and fat first. Then at the end of the day, you'll have carbohydrates, and we talk about the great quality carbohydrates that we need for our health. Also, when you're eating carbs later on in the day, in the evening time, as your last meal, you're getting all of the benefits, from recovery to helping you relax and get ready to go to sleep. So fat first and carbs last is my second principle.

Dr. Mercola: Interesting, so most of the carbs at the end of the day.

Naomi Whittel: Yes.

Dr. Mercola: What specific observation or studies show that improves sleep?

Naomi Whittel: I can share the studies with you. we have a couple of studies that specifically speak to the quality of the carbs and making sure that you're incorporating those. I want to pull the studies, but what they do to raise the serotonin levels, as well as just helping your body recover, your muscles recover before you go to sleep.

Dr. Mercola: Excellent, yeah, because tryptophan is the precursor for serotonin, and actually converts bits of NAD too, although not very well.

Naomi Whittel: Oh, really?

Dr. Mercola: Yeah, about 1% of the tryptophan is converted to NAD.

Naomi Whittel: Interesting.

Dr. Mercola: It's a salvage pathway. But it's so crucial for sleep, and so many of us are deficient. It's probably the hardest amino acid to get, tryptophan. But anyway, good.

Naomi Whittel: Very, very interesting.

Dr. Mercola: Yeah. It's an interesting strategy to optimize it that I really haven't studied, but I'll be looking forward to digging deep into that one. So what's number three?

Naomi Whittel: Excellent. Number three, we like to focus on exercise, right? So every other day, 30 minutes of either interval training or resistance training. Dr. Beth Levine has done the majority of the research there. You can go up to 80 minutes, but really you hit that sweet spot after 30 minutes, and so less is more. So when you're putting that acute stress on your body, and it could be as simple ... It just depends on where people are in their own fitness level. But it could be as simple as walking faster for a minute and then slowing down, and doing that back and forth for 30 minutes. Resistance training could even be doing yoga. I mean, there is a huge variety of different ways that we can exercise. But it's that acute stress, that good stress, that has that kind of impact on the autophagy. So that's our third principle.

Dr. Mercola: Yeah. Every other day is pretty much a no-brainer that you probably won't overexercise.

Naomi Whittel: Right.

Dr. Mercola: But for those people who exercise every day, you have to be particularly sensitive to your recovery rate and measure certain biometrics to make sure that it's okay to exercise. Because if you're not recovered, you won't get the benefits of exercise.

Naomi Whittel: Right.

Dr. Mercola: But your program kind of does that automatically because it's restricting it.

Naomi Whittel: Right, and that's a great part of why we do it. You were even saying to me earlier today about the benefits of exercise come during-

Dr. Mercola: The recovery.

Naomi Whittel: ... the time that we're recovering.

Dr. Mercola: Right. Yeah. It's a stress. It's a negative stress. You create free radicals, which are beneficial free radicals, but if you don't have that recovery, you'll just dig yourself into a deep hole and you'll actually get worse. It will make you worse.

Naomi Whittel: Yeah.

Dr. Mercola: [inaudible 00:41:29]. So, the next step.

Naomi Whittel: The next step is about different types of foods, right? So making sure that we have 140 different types of food. Again, it's not about depriving yourself in any way, shape, or form. It's really about just allowing your body to benefit from the autophagy activating foods. So we've got the sphingolipids. We have all sorts of incredible vegetables. Omega-3s. We talk about ceramides that come from a variety of different foods. There's such a variety.

I got, I don't know, probably 50 or 60 different recipes in the book that I just love. We have these recipes called Avogluws. 25 of these different types of avocado recipes that are so delicious. Then we also do a lot of recipes ... They're called Egg 15s. So on high days and low days, you'll eat different foods. So if an egg recipe on a high day will have the egg white and the yolk, on a low day when you're limiting your protein, you'll really just make your egg recipes with the yolk and you'll leave out the protein, the white part of the egg. So a whole bunch of different recipes there, and that's my favorite part of the whole book. Lots of chocolate, polyphenols.

Dr. Mercola: Polyphenols.

Naomi Whittel: Yeah, a lot of different polyphenols are really important.

Dr. Mercola: Yeah, you've really done your homework with those and put together some pretty interesting combinations, there.

Naomi Whittel: I think, on the nutritional side, where I got really excited is I've been working with polyphenols for about a decade, now, and started that work with the researchers at the University of Bordeaux. So when I first started to learn about the benefits of them, and what I-

Dr. Mercola: This was like in the early 2000s when ... I forget the researcher, but they came out that resveratrol was this incredible nutrient or resource to help improve longevity.

Naomi Whittel: Exactly.

Dr. Mercola: But it's much more complex than initially thought.

Naomi Whittel: So much more complex, and that's where Dr. David Sinclair's research came out in I think it was 2009. 60 Minutes did a really big piece and said, "Wow, this

molecule activates sirtuin 1. It has all of these benefits like caloric restriction," and so forth. So it became a superstar, and the research just continued to build. But what I like so much about resveratrol, the citrus bergamot, turmeric ... You have turmeric growing-

Dr. Mercola: In the front yard, yes.

Naomi Whittel: ... outside, here, which I can't wait to go get my hands on ... and EGCGs that come from green tea, is they're not just powerful polyphenols and flavonols, but they're also autophagy activators. So I coined these superstars as power phenols. So you're getting the protective benefits, but you're also getting the repairing benefits. I think in 2016 when the Nobel Prize in medicine was given to the Japanese biologist Yoshinori Ohsumi for his research around autophagy, it really pulls together these concepts. It's going to be such a big part of our health and well-being over the next decade, and now the research is really starting to come together.