

THE MODEL **HEALTH** **SHOW**

EPISODE 619

The Remarkable Benefits Of Light Therapy & The Truth About Rising Infertility Rates

With Guest Dave Asprey

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SHAWN STEVENSON: Welcome to The Model Health Show. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in to me today. What's controlling which hormones are being produced in our bodies? How much are getting produced, what times they're getting produced? This is all governed by our biological clocks that exist within each and every one of the cells in our bodies. These circadian clocks are linked up with the 24-hour solar day, our bodies are literally synced up with the entire universe. Now, this can sound like a soft science, I know it did for me when I was in my university, but today we know that there is an emerging body of evidence detailing how these biological clocks, which are themselves functional genes and proteins that control the performance of other genes and proteins. So, these biological clocks aren't just these kind of airy fairy ideas, these are real tangible things. In fact, these are genes and proteins.

Now, why does this matter? Well, these biological clocks again are controlling what hormones are getting produced, when they're getting produced, what amounts, what's not happening, other things are getting turned off while other things are getting turned on, all based on what time of day it is. Now, why does all of this matter? Well, when our biological clocks can get disturbed or dysfunctional and not syncing up properly by our inputs from our environment can throw off this synchronizing process, specifically the input and influence of light. Because as we evolved over thousands upon thousands of years, our body clocks were synced up with the natural diurnal and nocturnal patterns of the world around us. Today, we can essentially hide out from what's happening in nature. We can create a 24-hour day if we wanted to, with the inputs of light in our environment, and we can hide out from the natural light from the sun and from the moon, that external light by hiding out indoors.

Now, the Circadian pacemaker itself, what's linking all this stuff up is born out of the suprachiasmatic nucleus or the SCN that's located in our hypothalamus, so located in our brain. It is entrained to the 24-hour solar day, as mentioned, and the most important time synchronizer reaching the suprachiasmatic nucleus is light from our environment. So that light exposure is so profoundly important for the management of every process going on within our bodies, every single aspect of our health is deeply influenced by this synchronizing force and that being light. So today we're going to talk about some of the most profound data coming out about different types of light exposure and how we can proactively expose ourselves, not just to natural lights, but we can utilize some new innovations with light to create some really profound benefits. And we're doing this with somebody who, of any person that I know is the most proactive when it comes to experimentation and when it comes to digging in, being forward thinking in the data, and really putting things to the test.

So really, really excited about this episode. Now, one of the things that our special guest and I really connect on is our passion for regenerative farming practices. Because as you well know, the soil has been degraded so much, specifically here in the United States, it's really become a silent epidemic in looking at what's happening to our soil and getting damaged. Because why does this matter so much? Well, the soil itself has a microbiome, much like our microbiome, and this association is creating more disruption in our own microbial activity because we're lacking this intimate association because of what's been done to our soil. Over farming practices, the use of synthetic fertilizers, the list goes on and on is creating a situation where we have food that is far less nutritious than even just a few decades ago. And so, regenerative farming practices are doing things that can help to heal the soil and regenerate the soil in years versus decades.

And so really excited about this and supporting companies that are utilizing regenerative farming practices. And so, if you have a passion for health and wellness and you want to provide your family with the very best when it comes to farm raised foods, so we're talking about truly grass-fed, grass finished and regenerative farming practices on top of that, really important moniker, especially, again, if you're going to be eating animal products, you want to make sure that you're sourcing it from high quality places. Because one of the conventional practices is the use of antibiotics, as we're going to talk about. And new data has emerged demonstrating how the antibiotics fed to factory farmed animals is one of the primary ways to help them to gain weight faster, right? And so, what are we doing here as a society with this implement and what are we getting in return when we are eating products coming from animals that are severely sick or that are being utilizing very primitive practices to degrade their microbiome and thus making them sickly and also increasing their fat ratio?

What about us and our intake and our exposure to antibiotics in our environment through medicine, of course, the overuse of antibiotics, but also what we're taking in through synthetic fertilizers and chemicals and pesticides. Pesticides, herbicides, rodenticides, genocide, suicide, homicide. Cide means to kill, alright? And these things have been normalized. Specifically, they're detrimental to small organisms, which your microbiome is made of very small organisms. That is the purpose of these things. So of course, it's destroying our inner terrain.

So, this is why again, it's so important for our own health and for the health of our families to support farmers who are doing things the right way. And for me and my friends and family, we're utilizing wild pastures, go to wildpastures.com/model. Right now, you're going to get 20% off of every box for life. They have these wonderful boxes with a variety of different grass-fed meats. And also, in addition to that, you're going to get \$15 off at checkout. Again, go to wildpastures.com/model. Investing in your health, investing in regenerative farming practices. That's W-I-L-D-P-A-S-T-U-R-E-S.com/model. Again, you get 20% off of their incredible boxes for life, and an additional \$15 off applied at checkout. Take advantage of this, it's a limited time.

Head over there, check them out, wildpastures.com/model. Take the guesswork out of where you're sourcing your food, get it from folks who are doing it the right way, wildpastures.com/model. And on that note, let's get to the Apple Podcast review of the week.

ITUNES REVIEW: Another five-star review titled "Fantastic Podcast" by KDubsOO, "I love the relevant stories and health-related topics that broaden my knowledge and perspective in the wellness industry."

SHAWN STEVENSON: Thank you so very much for leaving that review over on Apple Podcast. I truly, truly do appreciate it. And if you had to do so, please pop over to Apple Podcast and leave a review for The Model Health Show. And on that note, let's get to our special guest and topic of the day. Our guest today is the one and only Dave Asprey. He's a four-time New York Times best-selling science author and host of one of the top podcasts in the country, The Human Upgrade and also CEO of Upgrade Labs. Dave has been a pioneering voice in the space of biohacking, and his passion has really developed with his association with world-renowned doctors, researchers, scientists and thought leaders over the last two decades to uncover the latest most innovative methods, techniques and products that truly enhance mental and physical performance.

Dave has been featured in numerous top tier media outlets, including The Today Show, CNN, Wired, Good Morning America, Dr. Oz, and so much more. And he's back again here on The Model Health Show, and I'm grateful to have this conversation with the amazing Dave Asprey. Alright, we've got a legend in the building, Dave Asprey, good to see you again, man.

DAVE ASPREY: Thanks, my friend, I'm really happy to be here. Our second time, right?

SHAWN STEVENSON: Yes, second time around, man. But now you're at the home base, this is our home.

DAVE ASPREY: It's a pretty epic set, I got to say. I'm feeling like my old technology thing up in Canada needs refreshing now.

SHAWN STEVENSON: Oh, the whole... You're even transplanting, which we might get to that in a moment with you, moving from our friend's way up North with all the craziness. But first and foremost, I want to talk to you about red-light therapy.

DAVE ASPREY: Alright.

SHAWN STEVENSON: Number one, what is it? And what are some of the benefits that you're seeing with red light therapy?

DAVE ASPREY: Alright. Red light therapy is one of the many different kinds of light therapy. And people thought this stuff was crazy if you go back about 20 years. No one thought lights did anything except for blue lights for kids who had jaundice. But if you scrap all that and you go back to the 1920s, there was a vibrant practice of light therapy even in major hospitals, and it got erased by Big Pharma. So, what happened is in the late '90s, early 2000s, there was one study showing what infrared light did to mice brains. And an unknown inventor created a little infrared light device that you could put on your brain. And I had one of maybe 200 that were invented. And I used it to fix my brain from toxin-induced brain damage, from TBIs, from just all this mold problems, chronic fatigue, just all sorts of nasty stuff. So, I was having a really hard time paying attention, it made a massive difference for me.

And that inspired me to create my company called TrueLight, that uses four different types of light, but infrared it turns out, has one set of things. You can't see it, so people think, "Oh, it's just red light," but most light therapy devices are red plus infrared. So, what are red light's doing? It's increasing collagen thickness, its speeding wound healing, and it's adding electrons directly to your body, so you get this great anti-inflammatory effect. But layered on top of red, you have infrared, which changes the structure of water so that your cells can work better and more effectively. And what I do with TrueLight is, I actually add a specific wavelength of amber that's shown to help with small blood vessels. So, it turns out, different lights penetrate different depths, and when you treat yourself with this, you see massive improvements in mitochondrial respiration or the way your body makes energy.

SHAWN STEVENSON: I'm so glad to have you here, because I have a friend who just got this really incredible infrared light bed at his... He owns a gym and also, he's doing some accompanying services as well, and he's been using it. He's like... And my wife pointed out like, his body fat has gone down, he's lost a little bit of weight. And he's like, "I'm not doing anything differently, I'm just using this infrared light therapy." So now it's starting to make sense.

DAVE ASPREY: You'll see it. And there are infrared saunas, which now you and I both know about and they're using different frequencies of infrared. It turns out there's near, there's medium and there's far. And some of the really good saunas have a mix of all of those, but now we can have LED lights. So, at my biohacking franchise company called Upgrade Labs, it's created that whole idea of a facility with light therapy and many other biohacks in it. I opened the first one eight years ago, underneath Arnold Schwarzenegger's office down there in Santa Monica. We chatted about it last time. Well, now it's a franchise. You go to ownanupgradelabs.com, and people can open one anywhere, we've got surprisingly, a light bed that's from TrueLight that has amber infrared and two shades of red with specific fluctuations in it. So, it's... You lay on that thing for 20 minutes and you're like, "What just

happened?" Well, what happened is, in your friend's case, when you get that infrared light, your cells have a hard time making extra energy.

And where's the energy come from? Well, you take 30 pounds of air and some amount of either fat, muscle, or something you ate, and you convert that into electricity. It just turns out infrared makes it so the body can do that more easily. And when that happens, well, of course, the body says, "Now I have what it takes to burn this extra fat." And in your friend's case, it might not even have been fat. It might have just been inflammation because when you have inflammation that's extra water in your cells. Well, you change the water and make the cells work better. People feel profoundly better from infrared light.

SHAWN STEVENSON: Wow, this is so powerful. And you're already ahead of the curve as you typically are on a lot of things with light being so therapeutic in so many different ways. One of the things that's really rising to the forefront right now, the gut is having a moment. We just talk with Robynne Chutkan, but light and circadian medicine specifically is having a moment right now and really rising to the forefront. So, I just want to point out, when I used to hear this, I really thought it was a soft sign. So, people would say things like circadian rhythms, right? And so, to understand that these are functional genes and proteins. When we talk about these biological clocks in ourselves that are syncing up with the 24-hour solar day, like it's syncing our bodies up with all of nature. And what's shown in the data, the thing that's connecting or syncing up that system the most is our exposure to different light.

DAVE ASPREY: I'm so happy you said the most in that sense. People have been just saying the craziest stuff because I wear true dark glasses. This is Yes, another one of my companies, and I have no problem talking about the stuff I make. Like, if I believed in it enough to make something I couldn't buy, maybe it's real. I think it is. And if you don't buy the glasses, your loss, not mine. So, here's the thing, there's five things about light that matter. And I ended up writing some of the patents for the glasses even, and here's what matters. There's the color of light, and it turns out there's four colors of light that set your circadian rhythm. It's not just blue. And this is a major thing to understand. So, if you're wearing blue-blocking glasses, you're doing it wrong, and I'm going to tell you why. But after that, there's the angle of the light and there's the intensity of the light.

And you'll see Andrew Huberman who's got tons of great biohacking content. He's talking about how... Well, the color of light doesn't matter. Well, it does, but intensity also matters. So, what the glasses that I wear before I go to sleep do, which is different than these day ones. They block all four colors, and they block light from a certain angle, and they block the intensity of the light, which just knocks you on your butt. And I'm about to release a university-validated paper showing that the true dark glasses induce the same brain state as meditation just by

wearing them. Using EEG, we've done a huge amount of data gathering of brainwaves from 40 Years of Zen, which is my brainwave... Brain training upgrade center in Seattle.

So, I have neuroscientists, I have all these gears, we're going to actually see what light does to brainwaves. And we have got a seminal paper on this. But here's the thing, I wear partial blue blockers during the day when I'm indoors. So, I'm in your studio, you've got some LED lights up here, they're relatively rich in blue. You're smart, 'cause you're wearing a hat, so you got a little bit of shade from those. And what I'm doing is I'm blocking toxic blue, but I'm letting good blue in, like good blue. During the day if you wear blue blockers, you get no blue light, and your body doesn't get a wake-up signal and your metabolism doesn't rev up the way it's supposed to. This is why when you wake up, you go outside without glasses, without contacts, and you get 20 minutes of light.

Now, some people are saying, "Oh, glasses and contacts don't matter." They're missing the fact that UVA and UVB ultraviolet light, we can't see, it does have a specific metabolic effect inside the eye. So, what happens, lights coming into the eye, and you imagine two billion years ago, there's bacteria floating in the ocean, those are your mitochondria. They are now inside our cells, but they're still running that old bacteria operating system. They don't really have clocks in them 'cause they're dumb bacteria, they don't have room for a clock in there. So, what do they do? They go, hmm, I can see the angle, intensity, and color of light, and I can set my clock. Why do they need to set their clock? Because they're not alone, they work with each other. So, they all need to know what time it is, and right now the mitochondria in your liver needs to know the same time of day as the one in your brain, and the central clock that controls those is called the SCN in the eye. And 5% of the cells in your retina, are cells that collect light. But you never get to see that light because it doesn't go in your optic nerve. It goes directly to the SCN, and it tells that part of your brain, "Hey, centralize, tell everyone this is what time of day it is." So that's kind of cool, but that's not all that controls our circadian timing. Okay? If that's the first signal, you want to guess what the second signal is?

SHAWN STEVENSON: Food.

DAVE ASPREY: You nailed it. And that's because during the middle of the day, in fact, two o'clock would be the top time is when there's the most algae available because it's been growing all morning, and that's when there's most food available for these dumb little mitochondria. This is why eating after the sun goes down is provably bad for your metabolism. Right? So, we're just saying, "Hey, okay, if the first thing is the angle, intensity, and color of light, the second thing is the timing of food, doesn't even matter what kind of food it is at that point." What do you think the third thing is?

SHAWN STEVENSON: Beats me.

DAVE ASPREY: Well, it is probably physical activity.

SHAWN STEVENSON: I was going to say that, but it was too obvious.

DAVE ASPREY: Yep.

SHAWN STEVENSON: Too obvious.

DAVE ASPREY: See, what's the best time to work out? Two o'clock is the best time to workout at the end of a fast and then eat a whole bunch 'cause that just completely builds a big spike around your circadian rhythm, right? And then we go on one from there, and it turns out after physical activity it's temperature.

SHAWN STEVENSON: Yes.

DAVE ASPREY: 'Cause it gets colder when it gets darker.

SHAWN STEVENSON: Right. No matter where you are on the planet.

DAVE ASPREY: Yeah.

SHAWN STEVENSON: That happens.

DAVE ASPREY: And what is... It turns out infrared is heat and cold is the opposite of that. So, you want it to be cooler at the first half of the night, and that gives you more deep sleep. And in the second half of the night, you want it to be not too hot not too cold, which gives you more dreams. We understand all this now. But when I first started wearing my cool and true dark glasses, people were like, "What are you trying to be a rock star?" I'm like no, I'm just training to not weigh 300 pounds anymore. And I'm trying to have a brain that works all the time and do not have sugar cravings by the end of the day 'cause my brain is tired from filtering out junk light. I think it's really important. But since food is such a big thing, intermittent fasting's been a big part of the bulletproof diet for more than a decade now. And it's become a much more known thing than it used to be. But when you stack light and food availability, and you use tools like coffee and minerals. All of a sudden, wow my metabolism works to the point that your body just makes energy without needing a lot of substrates.

Like I was just showing you before the show my blood sugar. I've got the new levels monitor. I'm at 65 right now. Now, people would say you're going to die. And it's red alerts like, "Oh no

you're going to..." No, I'm not actually going to die. I'm intermittent fasting right now. And my body's just fine. My brain is just fine, and I'll eat when I want to eat. And this works.

SHAWN STEVENSON: Yeah. Oh man. I love it. You know, and again, being able to see your blood sugar management and you also moved it from having it on your arm to placing it on your stomach?

DAVE ASPREY: Yeah.

SHAWN STEVENSON: That's really interesting as well. So again, there's so much diversity. One of the things I really admire about you is your audacity to test things and to experiment at such a high level. And by the way Levels' my favorite continuous glucose monitor.

DAVE ASPREY: That's so good.

SHAWN STEVENSON: Go to levels.link/model. That's levels.link/model for a great hookup over there. And just the team of people you're involved with them. And you know just topnotch people. The thing about it too is not just the accuracy and the technology use, but the data points that they extract and the content they create around that with education and empowerment, super powerful. But I want to ask you about this as well and thinking about in terms of the timing of certain things to line up with these circadian rhythms. So, we talked about physical movement. We talked about the intake of food. We talked about light exposure. What about sex? Is there an optimal time in this circadian timing system for that? And there's a reason I'm asking this question, we're going to get to in a moment.

DAVE ASPREY: You know what I think about every three hours is the right increment for that.

SHAWN STEVENSON: Of course. Of course. That's exactly what I was looking for.

DAVE ASPREY: There you go. Problem solved. And next?

SHAWN STEVENSON: Every three hours.

DAVE ASPREY: Now, there's some arguments about this. And so, you could say morning is good and there's some pretty clear indications that we're wired to do that, as men 'cause...

SHAWN STEVENSON: Testosterone.

DAVE ASPREY: 'Cause we wake up with a kickstand if things are working right, so there you go. But that doesn't always work. So, I think the most important thing is actually that you do have

sex regularly. And if you have young kids, you have to put it on your calendar and just do it whether you feel like it or not because it's a critical part of keeping a relationship alive. And there's a lot that has to do with testosterone ranges. Some of my books, particularly Game Changers, I talk about the change in hormones in women, but also in men that come about from sex. And with men when you ejaculate there was a massive drop in testosterone for two days afterwards. And I tried to disprove that. I tried to disprove the ejaculating too often is bad for you thing. I failed to prove it. In fact, I proved that there's a case for semen retention. And I think that's a really good practice to learn how to have sex and not ejaculate. If you're having sex every day, it will deplete you as a man, there's just no way around it.

SHAWN STEVENSON: Now, the reason that I brought this up was a bigger conversation. Which is a conversation around infertility.

DAVE ASPREY: Oh, man.

SHAWN STEVENSON: And it's so fascinating that at this time in human history where again on the surface we seem to be so evolved and so intelligent and all this innovation in science and yet there are many different pockets and different populations of folks where we're seeing infertility rates increasing as our so-called innovation is increasing as well. Something is clearly off here in this equation. So, can you talk about alright this current situation with infertility?

DAVE ASPREY: Sure. My very first book was called, The Better Baby book and it was a book on fertility. It took me five years to write it. My wife at the time was infertile. She's a medical doctor trained at the Carol Lynch Institute and her colleagues said, "Well, sorry you're not going to have kids." I'm like, "We can biohack that." So, we put together a nutrition program, detoxing and all that stuff. Restored her fertility. Had one child at 39 and one at 42. And that was with no IVF and no outside treatment. Just from lifestyle modification. So that book has had... It's helped thousands of people conceive even though it's now 12 years old. And I studied it a lot. My conclusion at the end of that book was that we do not have a population problem. Just wait. Because our fertility rate is plummeting, and most developed countries are having kids at below the replacement rate. Japan lost 600,000 people from their population last year as they aged out. And no one was there. They have entire cities in the countryside where no one lives in the houses anymore. They're just abandoned. So yeah, we don't have a population problem. We have a fertility problem and it's caused in large part by chemicals and circadian disruption. One of the things. If you want to get pregnant? Make sure that the woman's circadian rhythm and the man's, so we can make good swimmers, are synchronized with the sun.

In fact, isn't that weird? Aren't women supposed to have their cycle with the moon? Yeah, they are. We also have chemical birth control for women which is a terrible crime against women.

Birth control is necessary for women, but chemical birth control is causing huge health problems in women and we're not telling them about it. It changes their brains; it changes their biochemistry and something that you don't hear about very often. But something that is very, very powerful, all mammals use pheromones to communicate. And the way men work is that when we smell unconsciously, it's our meat operating system doing it. It's not like you're choosing to. When we smell a fertile woman is around us, we get sh*t done. And when our bodies believe that we're in a world that is devoid of fertile women, it's totally fine to play video games in grandma's basement for your entire life. Since 85% of women use chemical birth control, hormonal birth control at some point in their life versus all the other methods that work as well but are safer for women. I think it has a negative effect on men as well because there's a sacred interaction between men and women and a lot of it is unconscious.

And I'm not talking about just your partner being fertile, I'm just saying, if you walk through the park and there's fertile women around, your body knows. And it goes, ah, I guess society's continuing. But if it doesn't know, then society isn't continuing and you lose your testosterone, you lose your vibe for life. So, there's something nefarious going on there and that's not even talking about plasticizers and glyphosate which is... We just showed in studies now in mammals, glyphosate, the stuff they're spraying on food everywhere is increasing the space between the vagina and anus basically a bigger perineum which is a sign of pushing towards androgyny. So, we really don't want anyone from this point forward ever again to use glyphosate, especially on our food but anywhere on the planet. This stuff is actively harmful and it's harmful for a long time. And it's destroying our soil. It's destroying our fertility. It's destroying our kids. It's a big deal.

SHAWN STEVENSON: Yeah. Yeah. It's so crazy that we're still even having this conversation with the... Especially over the last couple of years with WHO kind of emerging as this intelligent body of science, right?

DAVE ASPREY: Wait who accused them of being intelligent?

SHAWN STEVENSON: I know. I know, I know. Who? WHO. But classifying glyphosate as a carcinogen, right? So, a cancer-causing agent, and yet this is still something that's cycling through our food cycle in such a big way. It's so crazy to me.

DAVE ASPREY: The thing is, economics drives everything, it just does. And people use glyphosate because it's cheaper than weed killers. But we have giant tech companies right now that are as powerful as the chemical companies. Guys, make me weed killing robots. That is a trillion-dollar industry that would preserve soil. And you can have all of Monsanto's profits. I'm down with that. Solar powered robots that pull weeds instead of people, no more glyphosate ever again. And that would change human fertility but it's going to take 30 or 40 years to fix

the damage we did. That's important because we have 60 years of topsoil left on the planet. And the side effect of all this by poisoning the soil. In fact, glyphosate poisons earthworms at 300 times less than the allowable limit. Earthworms have seizures when they're in soil like that. So, you can't have earthworms making good soil.

This is truly a bioweapon. But what happens with glyphosate is that it takes all the minerals out of the soil. It's actually a chelating agent. So, they spray glyphosate on your grains to make them ripen early so they can harvest sooner. And then of course you get all that. What that means is that your food is devoid of minerals. And what minerals are in it are already locked up. Plants lock up minerals anyway using something called phytic acid and oxalic acid. Which is present in kale and spinach and stuff like that. And they do that because animals need minerals to make energy and to live. So, if you eat a lot of plants, the plants are like, well, I couldn't run away so I'm just going to poison you slowly so that you won't eat too many of me because I don't like it when you eat my babies.

That's the plant consciousness, right? So, we're having this dance, but our soil has no minerals. So, our plants have no minerals. And then we spray poison on 'em that locks up the minerals and then we're mineral deficient. And that's why Danger Coffee which is my new coffee brand. It's full of trace minerals to put back what is not in your food anymore. If you're eating grass fed animals from good quality soil, you're probably getting minerals, especially, if you eat the organs. Very few of us do that on a regular basis. So, what does that mean? It means that everyone is lacking in trace minerals. And when you put those back in, your metabolism works better, you're more fertile, you sleep better, and you literally can make more electricity all the time.

And that's why people feel different when they drink Danger Coffee. Why do I like this? You like it because of your body, the unconscious parts of you. The same parts of you that smell pheromones and are like, yeah, I got to get motivated. They're like, there's minerals in here drink that and then you feel different because you got electrolytes, and you got ionic minerals. So that's the deal with Danger Coffee. I'm putting back something that's missing which is restoring power at a different level.

SHAWN STEVENSON: Yeah. And in a medium that is socially integrated into our culture, right?

DAVE ASPREY: Yeah. You you're going to do coffee every day. You might not take your vitamins every day, but you'll do your coffee every day and that's why Danger beans use those.

SHAWN STEVENSON: So, we covered a couple of the reasons because... What's so fascinating as well is the fact that we have these outcomes seen and infertility in particular is what we're talking about, but it seems like this random occurrence like, oh, infertility what's going on,

right? But there can be... This is ignoring basic principles of causality. Something happened that's causing this outcome and the outcome is so pervasive that we need to address it. Seriously, we're talking about the continuation of humanity. And so, one of those things you just mentioned again, it's our environmental pollutants, things that we're putting into the environment, that we're eating food that contaminate with these things or breathing in the air or whatever the case might be. But I want to dig in a little bit more with food. How is food contributing to infertility?

DAVE ASPREY: It's really straightforward. Most cells in your body have a few hundred to a thousand mitochondria in every cell and people think of mitochondria as power plants of the cells, that's not real. What they are is environmental sensors and individual decision-making compute nodes. So, each mitochondria says, huh, what's the world look like from a nutrient availability, from a timing, from a safety perspective? And it's a stupid little bacteria but it's still doing its best. But it votes with all the other many billions of them throughout your body in something called quorum sensing. And based on that, your mitochondria decide what the world's like and then they can make electricity. They can make sex hormones. They can make inflammatory molecules. And they can pretty much make any protein they want. So, these are not power plants. These are sensors, decision makers and manufacturing plants that can make anything.

And your brain and your heart have 15,000 of them per cell because those are the most energy dense parts of the body. But what no one talks about is that ovaries have 100,000 mitochondria per cell, far more than anywhere else in the body. Why do they have that? Because they're making a very critical decision. Those mitochondria are deciding what the world looks like and they are selecting one of several billion eggs to pick the one that is going to thrive the most in the world that you live in today. And they are deciding whether or not there's going to be any egg. Because if the world is unsafe or there is not enough energy and not enough nutrients including minerals, not enough of the right fats to have a baby that's likely to survive, the best thing for the mother is to not to have any baby and you get infertility.

And that's why what you do for six months before you get pregnant or at least three months is critically important. You want to show your mitochondria that you live in a place with lots of sunshine without too much stress. With all the minerals. All the best fats all the egg yolks. Fish, eggs, grass-fed meats, oysters. All the stuff. You're swimming in abundance and safety, so you can select a world class egg that's ready to thrive. Instead, you could be eating a plant-based diet. You could be over-exercising. You could be limiting your calories. You could be staying up late under artificial blue light and if you can get pregnant, which you'll be able to do when you're very young, usually mother nature wants you to have kids when you're 24 even though that doesn't work well societally or from a personal development perspective. But if you do that you might get away with it. But if you wait till, you're in your early 30s when you can afford

a kid or maybe you've done enough therapy that you're ready to have a healthy family and be a good parent, it gets harder and harder because of what we're doing to the environment and that's the conundrum.

You want to be vibrantly healthy for the women. For the guy? It's important because a large amount of infertility is coming from men, but we replace our swimmers a lot more often than women with their eggs. So, for guys, I like to see six weeks of cleaning up their act. Or ideally six months is better. But within six weeks, you can radically improve sperm quality, sperm motility, and that provably lowers the risk of having birth defects and other problems and just infertility issues. It's also worth noting that in animal agriculture, we know that if you have food that's contaminated with mold toxins that it increases infertility and it increases still births dramatically to the point that they feed extra clean mold-free food to pregnant animals or animals that are mating. But when the animals are not mating, they feed the animals more moldy food even though the mold accumulates in the animals and we eat them. So, this is one more reason they get breast-fed, 'cause they'll feed the moldiest grains to the chickens and cows and when they slaughter them, it's bad for us, bad for our fertility because many of the mold toxins are xenoestrogens that are thousands of times more estrogenic than human estrogen.

In fact, you might know about this. This is a little-known thing in animal agriculture. I can say this 'cause I live on an organic farm that we build from the ground up. If you want to make a cow fat with 30% less calories... Oh, by the way that's supposed to be impossible if you listen to all the calorie health influencers like just... You can drink a diet soda and eat potato chips as long as you're on the treadmill, dude, screw you guys. It's so wrong. So, alright, I'm going to calm down for a second here. But there's a drug called zeranol. And it's based on a mycotoxin called zearalenone. And it's one of those estrogens. You put a little wax pellet in a cow's ear, it'll melt, and it'll be absorbed through the blood vessels in the ear and that cow will get fat on 30% less calorie.

SHAWN STEVENSON: What hell is in that pill?

DAVE ASPREY: Well, it's a synthetic estrogen, except it's not really synthetic, it's a natural estrogen from toxic mold. That same toxic mold may be growing in your house. There's about 100 million structures in the US that have toxic mold problems that are massively contributing to infertility in people and they don't know it. That water leak in your ceiling, that funky smell in your bedroom, no wonder you're having all sorts of health problems, and you can't get pregnant. We know this from animal agriculture, we're animals too. So, controlling your environment is important. Now, you can say, Dave, what the heck are you talking about? Look, I believe in this stuff a lot, Shawn. So moldymovie.com is totally free documentary on toxic

mold that I funded and filmed with a professional crew going around the country interviewing doctors, and people that have been affected by mold the same way I was.

This is a part of the equation that we don't talk about enough. To do something about it instead of complain about it and raise awareness, which doesn't do anything. My company, Homebiotic makes a probiotic spray that you can spray around your house that counteracts mold. It's part of what's in soil to keep the soil and bacteria working, it's what I spray around my house, so that if there is moisture... I live in a tropic... Well, it's not tropical, it's a rainforest, but it is a temporary rain forest up in Vancouver Island, so I don't have mold problems indoors, 'cause I use that.

From a light problem thing, TrueDark makes my glasses, TrueLight makes my light therapy, Danger Coffee makes coffee with minerals. I start companies that solve these problems, that make things I can't buy somewhere else. And that's me doing my best to change the world, not to go out there and make a bunch of money. Frankly, I'm tired of starting companies. I want others to start companies. That's why we both work with Levels. There's so many problems that need solving, and it's entrepreneurs' jobs to solve them. And if I see one more of the, what's the name? Greta Grundelberg, the teenage person who's like... Whatever teenager, "I'm very angry that someone should do something, so I will skip school to change the world!" I don't get it. You think the oceans are a problem? Clean 'em up. There are people her age who have designed systems to clean plastic out of the ocean, who are doing it. So, my call to everyone listening to your show is, don't complain about things. Go start something, solve a problem in a new way, and get to it. When do you do this? We have a lot of time.

SHAWN STEVENSON: Yeah, get to it. You just said it. So powerful. So, another one of these things, you just brought up the use of xenoestrogens, mold-derived, to increase the body weight of cows faster. Another one of those things is the systemic use of antibiotics as well.

DAVE ASPREY: Man, antibiotics are just mold toxins. Let's be straightforward. At least most of them are. There's a few chemical ones. So, the vast majority of them are penicillin. And people say, "Dave, how could mold be causing such a thing? That's just mildew in my bathroom." Mildew is a marketing word for mold. They're the same thing. And here's the thing, that tiny little antibiotic pill you take, how does that have such a profound effect on your body? Well, it turns out breathing stuff is more effective than swallowing it for delivering things. And if you are in a moldy bedroom, for instance, one of the things that will happen is that the bacteria mix in your sinuses will change, and you'll get strep throat or chronic sinusitis all the time. And we're showing more and more, like our friends at Viome are doing this, that your oral and your sinus microbiome directly and profoundly affects the bacteria in your gut.

So, what's going on here is you breathe antibiotics, you change what's going on up in here and it changes what's going on in your gut, gut bacteria shift, and it reduces fertility, it increases obesity, it changes even how you dream and it sets off systemic inflammation. That's very similar to what people are getting even from long-COVID. It's mass cell over-activation. So, it's a very interesting scenario, but bottom line is eat less toxins, breathe less toxins, clean your water, turn your lights off at night and don't eat plant-based Frankenfood, you'll probably be okay. It's not the end of the world. These things aren't that hard.

SHAWN STEVENSON: Yeah, man. I want to touch on one more aspect with the infertility. This study... And this is just leading into another subject here. This study was published in the journal of the American Medical Association, and they found that young men, young men, put themselves in a sleep debt for just one week under these ward study, for just one week, getting five hours of sleep per night, saw their testosterone levels drop by up to 15%. That degree of drop is as if they suddenly were 10 to 15 years older. This was just in over the course of five nights of taking a few hours of sleep away per night. It happened that quickly, where their testosterone began to plummet.

DAVE ASPREY: Well, when I was 26, my testosterone was lower than my mother. And I was 300 pounds. When you have lots of extra body fat, that happens. When your cholesterol's low, that happens. When you eat a plant-based diet, that happens. And all these soy boys, it's a serious problem, because right now, testosterone levels in young men are probably 40% of where they were 50 years ago. That's without all the sleep debt. So, if you're doing that, you're literally half the man your grandfather was. Or you could do what I did when I was 26, under the advice of my anti-aging doctor, I started taking testosterone, because my levels were so profoundly low. My thyroid was almost undetectable. I went on thyroid hormone, I have Hashimoto's and a bunch of other stuff, and I replaced my testosterone. And it brought my brain back online because what testosterone does, it's not about sex, it's not about being lean and ripped and all that kind of stuff.

Testosterone is the hormone of desire. Desire to change the world, to do things that matter. And when men have appropriate testosterone levels, they will build The Great Wall of China, they will change the world, they will go to the moon. And they'll do it pretty much for women, because we're wired with pheromones to do that. And when women have enough testosterone, which is a different level, it is also the hormone of desires. Desire to do stuff that matters. And what we have now is we have an epidemic of men and women with lower testosterone than they're supposed to have, and it makes you weak. It makes you programmable. It makes you just not give a sh*t about life. And I know because I've been there. You ever see Grumpy Old Men, the movie?

SHAWN STEVENSON: Yes. Of course. Yeah.

DAVE ASPREY: It's a documentary on testosterone deficiency. That's what people are like. You wonder why the worlds like it is? Amp up testosterone in men and women, and suddenly we'd like each other again, and we'd like our lives a lot better. But that's not enough. Because if you're saying, "Well, I have desire now, but I'm too tired," you got to look at thyroid. And thyroid is tied back to minerals. That's one of the reasons I'm putting minerals in my coffee, because people are deficient in iodine. In fact, if we could just get the global iodine levels up, it would raise the global IQ by several points. Because iodine deficiency during a pregnancy lowers IQ of children for life, even if you give them iodine later in life. So, we've got to get our levels of iodine up, which affects thyroid. And so many people, because of what we've done to our soil, to our diets, to our lives, get Hashimoto's, which is when your immune system attacks your thyroid. If you're over 40 right now, the odds are substantial that you're slightly low on thyroid.

Since thyroid is the hormone of energy, it's the thermostat for your body. It not only keeps you lean, it gives you energy. So, when you come home from work and it might be 5 or 6 o'clock, you could say, "Man, I feel so good. I want to do something that matters. I'm going to play with my kids, because I have the energy and the desire to do it." Or you could come home and say, "I barely made it through the day. I'm so tired. I just need a beer." You can pick. And it's not because you're a bad person. It's because you don't have the hormone that lit the fire or the one that made it hot.

Those two hormones matter so greatly, and they're influenced by your lifestyle, they're influenced by your sleep, by your diet, and by how many toxins you get. And if we can just make those a little bit better, or you can just take testosterone based on your lab test. Don't just go take it all willy-nilly, you need to know your numbers. And I think there's an argument for everyone over 40 to get an advanced thyroid panel, and if your number is even a little bit low, start taking a little bit and you will live longer, and you'll feel so much better. Having adequate thyroid hormone reduces your cancer risk and your cardiovascular risk dramatically. It is dirt cheap and it's widely available, and it gives you your brain back, it lowers anxiety, it lowers depression, and it makes you way more dangerous, 'cause the goal here, everyone listening to the show, I want to make them dangerous.

What dangerous people do; they do whatever they choose 'cause they have the power to do it. They might ask her out finally, they might ask for a raise, they might say no to something stupid, they might remove an antiquated sign, warning about 6 feet distancing that was put up two years ago by a misinformed government drone, all that stuff, you can do that. If you have energy and you have desire, that makes you dangerous. And I am doing everything I can to make a world full of people who are peaceful and kind and can handle their sh*t, 'cause that's who I want around me, that's who I want my kids to grow up with, and I'm tired of weak, programmable, tired people. Get your testosterone, get your thyroid, get your minerals, and

stop eating fake plant-based foods, just eat the real food and watch what happens. You might have to wear camo pants, like Shawn here.

SHAWN STEVENSON: Let's go. And you were going to wear your camo pants today, but there were some human remains on it, we're not going to share that story.

But it's not what you think, it's not, it's not a bad story. But, man, so powerful, I'm so grateful for that, because what those who are in the know and people who are expressing that drive and that activity, are doing something, we can get into this place where we're starting to question like, "Why aren't other people doing this stuff?" It's not necessarily that it's not within their capacity, it's just harder. When you don't feel well, it's so much more difficult to be critical thinking, to perspective-take, to take action.

DAVE ASPREY: It's not that people are weak or stupid, although there are weak and stupid people out there, it's mostly hardware problems, and this is what I ran into in my mid-20s. I'm going to Wharton Business School, I'm about to fail out of my classes, "What is going on here? I thought I was smart. I have this good career going on in Silicon Valley." And I went to one of Dr. Daniel Amen's physicians, and he's like, "Inside your brain, there's total chaos. You have mold, toxin-induced, brain damage. I don't even know how you're standing here in front of me." I'm like, "Oh, thank God. I have a harder problem. It's not that I'm stupid or weak or that I'm just not trying." And most people who are tired and aren't feeling the desire, "God, I'm so exhausted right now." It's not you, it's your meat, your meat has a problem, and those two hormones and minerals are likely the fastest fix, but it's not going to work if you bathe yourself in glyphosate and you bathe yourself in blue light, you've got to do those at least mostly right. I'm sure I have glyphosate in me 'cause I am alive, that's okay, but if you just get those two hormones up, man, you're going to change your life. You get your mineral levels to where they would have been in 1936, instead of 2022, you're just going to look around and go, "Wow, I didn't know the world looked like this."

SHAWN STEVENSON: We've got a quick break coming up, we'll be right back. Neuroplasticity, the ability of the human brain to grow and adapt and evolve, and really to unlock our super-human capacity, is driven by our experiences, our practices, our activities, but also our nutrition. Fascinating new research published in the journal, Neuron, found that magnesium, this key electrolyte, is able to restore critical brain plasticity and improve overall cognitive function. Again, neuroplasticity is the ability of our brain to change and adapt. Now, this is one key electrolyte, but it works in tandem with other electrolytes like sodium. Sodium is critical for maintaining proper hydration of the human brain. If you didn't know this, the human brain is primarily made of water. We're talking somewhere in the ballpark of 75, upwards of 80% water. It's so important because, just a small decrease in our body's optimal hydration level, what's noted in the data, just a 2% decrease in our baseline hydration level can lead to dramatic

cognitive decline. Helping to sustain and maintain proper hydration levels in the brain, sodium is critical in that. And also, researchers at McGill University found that sodium functions as a "Off-on switch" for specific neurotransmitters that support our cognitive function and protect our brains from numerous degenerative diseases.

Right now, the number one electrolyte company in the world is delivering a gift for new and returning customers, with each purchase of LMNT, that's L-M-N-T, the number one electrolyte in the market, no binders, no fillers, no artificial ingredients, no crazy sugar and sweeteners. My friend's son was just over at our house, and my son, my oldest son, Jordan, was training them, taking his teammates through some workouts, and we opened the freezer and there's a bottle of Gatorade, there's a bottle of Gatorade in our freezer, and my wife is like, "Who's is this?" 'Cause we know we don't roll like that, we don't mess with the Gators, alright, we don't mess with Gatorades. And we knew who it was, it was one of his friends, and he came, and he is like, "Well, at least this is the no-sugar kind." And then I go through some of the ingredients with him and I find those curve balls of like, "Here's where they're sneaking in these artificial ingredients and things that the human body has no association with." But he's taking a step in the right direction by being in our environment.

So, you know what I did, I put the LMNT in his hand, alright, I made sure that he's got the good stuff, the very best stuff. And also, this is backed by peer-reviewed data and a huge body of evidence, we're talking about the folks at LMNT, that's L-M-N-T. Go to drinklmnt.com/model, and you're going to get a special gift pack with every purchase, whether you're a new or a previous customer for LMNT. So again, this is a brand-new opportunity, a free gift pack with every purchase over at LMNT. Go to drinklmnt.com/model. And now, back to the show.

You know what I was most surprised about... well, not most surprised about, but one of the things that really jumped out of me over the last couple of years was the overlooking of the host defenses in doing things to make us more resilient as a species versus superficial things. You just mentioned one of them, this antiquated... And I just went to the gym yesterday, and I saw in the fitness room, the aerobics room, there are the six feet apart stickers on the floor.

DAVE ASPREY: Oh my God.

SHAWN STEVENSON: "Stay six feet apart, stay safe." And it's just not pulled out of the air, but almost, just to make up a number, six feet, that's going to protect you.

DAVE ASPREY: I was just down in Peru. And it was funny, in Lima where it's crowded, it was one meter apart. And when I got to Cusco, it was 1.5 meters apart. Same country, different provinces, but clearly very rationality based. And you get to other places, it's six feet or two meters. It's all just meat operating system fear-based stuff in people, it doesn't make any sense

anymore, given what we know now. So, I would encourage people wherever it's possible and legal, things evolve, things change, so it's okay to remove a poster that was put up a long time ago. They're obsolete. Things have changed, someone forgot to take the poster down. So just like I pick up trash when I see it on the ground, if you see a poster that is now trash, the right thing to do for your society would be to help clean that stuff up. I've also seen a few people putting stickers that say, personal lubricant over the dispensers over that weird alcohol stuff people are doing. That seems really funny to me, but I would never do such a thing.

SHAWN STEVENSON: So, you're talking about the hand sanitizer phenomenon that we're experiencing right now. Yeah, I just went to the mall this past weekend, or maybe it's last week, and I saw so many spots where they had hand sanitizer just pop. I'd never seen that before prior to this.

DAVE ASPREY: Dude! The virus isn't transmitted through touch. Can we just say that again? Oh, and smearing alcohol disrupts the microbiome of your skin and makes it, so you absorb BPA a lot more from all those dumb receipts that you don't have to touch, just tell them, "No, you throw it away." And BPA is an endocrine disruptor that is a provable problem in humans. So why would I marinate in something that's bad for me and then use those newly opened cells against some kind of hormone disruptor to stop something that isn't transmitted through your skin? It's almost as dumb as replacing meat with something that looks like meat but is made out of plants that makes you feel like crap and is more of an environmental burden than meat itself. Which is what people are doing. So, I'm just going to say all of this has to do with hardware problems in our meat, because thinking creatures would never do such a thing.

SHAWN STEVENSON: Yeah. Wow. So, we're not thinking right now, we're reacting.

DAVE ASPREY: As a matter of fact, this is provable. My other company is called 40 Years of Zen, and we've got 1500 brain scans of very high-performance brains, we do brain training. And the brain is lazy. When you don't have enough energy, 'cause your thyroid is low, 'cause you're out of minerals, 'cause you're eating the wrong stuff, you have blood sugar issues, you have blood flow issues, you have stress issues, all these things, the body says, "I don't have enough energy to think all the way through." It'll just make you take thinking shortcuts. And this is why malnourished people, who don't have enough minerals and don't have enough fat or maybe don't even just have enough calories, 'cause they're eating too little and exercising too much, they're easy to program, because they don't have the electrical capacity to think it through, they're just too tired. And I can say this having weighed 300 pounds and had Chronic Fatigue Syndrome, I was there. I'm just not going to think about it right now, that's not how we're supposed to be.

SHAWN STEVENSON: Yeah. I know, I know. Again, this does... I love that we're having this conversation, because this doesn't point to somebody who's not capable or who's a bad person, it's just become normalized to be in that state.

DAVE ASPREY: Yeah.

SHAWN STEVENSON: I know that this is something that my mom would actually say this. And in my family, probably 95% of my family members have one or more chronic diseases. So, for me at 20, I'm diagnosed with degenerative disc disease.

DAVE ASPREY: Yeah, right.

SHAWN STEVENSON: It's an advanced arthritic condition of my spine, I'm a kid, and low bone density where I broke my hip at track practice and asthma and all these other lists of things. And my mother... Obesity was very rampant in my family. But she would say this, especially as the years went on when we'd face a problem, like there's something coming up in the family or like with my school or something, she was like, "Shawn, I'm just tired. I'm tired." And so, hearing that it became our mantra. And I understand... And of course, you just want to be like, "Just get up, do something, do something about this." It's not that she can't, it's just so much more difficult when your biology is so dysfunctional and dysbiotic.

DAVE ASPREY: You ever see a bull fight?

SHAWN STEVENSON: Not in person, Dave. No.

DAVE ASPREY: Okay. Well, I've only seen 'em on video. But what they do is they take a big, powerful, strong bull full of energy and life, and they put it in there, and they start chipping away at it. The goal of the bullfight, it's a cruel thing, it's not to just kill the bull, 'cause you can do that easily, it's to piss the bull off until it collapses, because it's too tired. So, they'll put a little knife in, a little knife in... It's evil, right? How is it that this big, majestic, beautiful, strong creature eventually gets to the point that it's too tired to get up again?

If it can happen to a creature that powerful, it can happen to us. We just insert those knives in a different way, and we do it subtly, and we actually have media designed to do that, we have food designed to do that. And it's okay to say, "I am too tired," 'cause you actually are too tired. And it's not a moral failing, it's not 'cause you're not trying hard. I used to feel, especially in my late 20s, my career has taken off, I'm so excited. I've got the accelerator pressed all the way to the floor, and I'm slowing down. Like, "I'm going to press harder," dude, there's nothing else to press. You got all the juice out of that orange, there's just nothing there. Right. And that is a feeling of helplessness, it's a feeling of almost terror, like, "What am I going to do?" In my case

I'm lucky I did something. I had been very successful in my early career; I spent a million bucks getting healthier. It should've cost me \$10,000. I just didn't know what to do, and we didn't have all the tech, we didn't have all the knowledge we have now, and that's what motivates me, it's what motivates you too. Is that feeling of, "Good God, what am I going to do?", but it's the same thing your mom felt, "I'm just so tired, I don't know what to do".

But the knowledge that you're sharing man, people don't have to be that tired. You can fix the hardware and suddenly, "I got my energy back." The fastest thing I know, get your minerals up, get your thyroid up, get your sex hormones tested and get those up, and all of a sudden at the end of the day, you know what, "I'm less tired than I was yesterday, and you've got 10% more, and you put that back in as an investment in to get even more and then you have 20% more, and pretty soon you're like, "Holy crap, these are pants smaller than I would have worn in high school, and I got my brain back, and I can think all day long, and I can pay attention, and I can see when people are telling me just bold ass lies." But mostly I just have inner peace and I'm calm because I'm actually dangerous again, 'cause I can handle my own stuff. You don't want to be peaceful 'cause you're weak and too tired, you want to be peaceful because you chose peace.

SHAWN STEVENSON: Yeah, yeah. That reminds me the quote that, "It's better to be a warrior in a garden than a gardener in a war."

DAVE ASPREY: Damn straight.

SHAWN STEVENSON: Yeah man, so powerful. So, this gets us to the actionable part of the conversation, what do we do moving forward? Because... I'm really grateful, I've been trying to find a way to articulate this because it's strange to say you're grateful for something that is so destructive. But the past two years has really brought for me, really highlighted, something that... You hang around a lot of healthy people, so we can tend to find ourselves in these bubbles. And we know externally that things are not going well, but we don't really get it, right. And something like this brings into the surface, our susceptibility as a species really being the highlighted thing that's ignored, but this has been happening for decades now. There's been this decline in our health and an increase in all manner of infectious diseases and chronic diseases, there's this misnomer that even our sophistication against infectious diseases has made them go down, now they've been going up. And something is clearly awry, and so much so, just one of the statistics, I'm just going to throw this one out here again, the rate of childhood obesity has tripled since the 1980s...

DAVE ASPREY: Oh, it's scary.

SHAWN STEVENSON: Tripled, right?

DAVE ASPREY: Man.

SHAWN STEVENSON: Something is severely wrong where this is the number one risk factor for poor outcomes from this particular virus has been on everybody's mind, the number one risk factor, and our children are coming into this situation without even having necessarily a choice, they're just inundated with a culture that makes it happen.

DAVE ASPREY: Let's just be straightforward. The number one risk factor for any infection is obesity. It doesn't matter if it's the most famous infection or the flu, or cancer, or strep throat, it doesn't matter. If you're obese, you are less resilient, hard stop.

SHAWN STEVENSON: Yeah, thank you for pointing that out, because what I want to ask you about, can we dig into why that is, why is obesity this risk factor for again, all manner of infectious and chronic diseases?

DAVE ASPREY: It's pretty clear that our seed oil consumption has gone up hand-in hand with obesity. There's also the destruction of our microbiome in soil by antibiotics that we only really started using in the '60s and '70s, just all over the place. I grew up, I took antibiotics every month for a week because I had chronic strep throat, because I lived in a house with toxic mold. So, it used to be that I would have either solved the problem or moved, or maybe I wouldn't have made it to be perfectly honest, but since we had all that medication, my gut still show signs of someone who took antibiotics for a long period of time.

Even worse, we're doing this in our animals. So, the amount of saturated fat that we eat has gone down. Saturated fat accelerates your metabolism. And corn oil, soybean oil, seed oils, slow your metabolism. This is provable, and I've written in my books about when you eat fat, which cells in the body incorporate it. It turns out your brain and your white fat are particularly susceptible to Omega-6 oils.

So maybe one of the big problems is what I did when I grew fat as a teenager, we knew butter was bad, based on absolute BS science, as bad as the smoking and tobacco industry is saying that "Smoking is good for you, your doctor recommends it". Yeah, your doctor also recommended squeezed margarine, which is what we replaced butter with, and I got fatter and fatter and had the brain issues and behavioral abnormalities and all these other things. Well, we've done this to ourselves as a species. I look at what they feed kids, in fact, I was in Austin, and my Uber driver had been working for 30 years in school cafeterias, managing lunch program. I said, "So what's hot these days? What are you guys doing?", and he goes, "You know, these days, there's a lot of wheat." He's "50% of what the kids eat is wheat." 'Cause what we're doing, is we're making human kibble.

You literally go to the store, and you buy a bunch of nuggets and you feed them to your dog, and then your dog dies. In fact, golden retrievers used to live 18 years in 1970. They live 12 years now. And dogs are all fat, and they have all these weird lipomas and cancers and stuff they didn't used to get, it's the kibble. We're feeding our kids kibble and we call it school lunches and McNuggets. We got to stop that. My kids eat animals that we raised or eat grass-fed stuff whenever they can. And they know if it's fried in seed oil, they don't eat it. They just don't eat it, 'cause it's not food. Every now and then, we'll take 'em out. Alright, we'll get the deep-fried fish, we just did that and 20 minutes later, like, "Oh my stomach hurts. I don't like this." And if it's not worth it. The thing is you don't know it's not worth it if it's all you've ever known.

SHAWN STEVENSON: Yeah.

DAVE ASPREY: If you're a kid who grew up, all you ate was Skittles and Starbursts when you had a choice, you didn't eat the dark chocolate you didn't know that you eat the fat on the ribeye 'cause that's the best part, how are you ever going to know what it's like to have good fat and good metabolism that comes from eating saturated fat? Well, that's a big part of the problem. I think that's it.

SHAWN STEVENSON: Yeah, yeah. I was talking with Dr. Cate Shanahan and...

DAVE ASPREY: Yeah, I like her. She's great.

SHAWN STEVENSON: Yeah. And she was talking about when biopsies were done on human fat cells back in the earlier part of the 1900s, and the makeup of a fat cell was maybe around 2% polyunsaturated fatty acids. Whereas today, it's around 25% of the makeup of a fat cell.

DAVE ASPREY: For a white fat.

SHAWN STEVENSON: Yeah. Yeah, for white fat specifically. Yeah.

DAVE ASPREY: It's funny in cows it's 1.6... In grass-fed cows, 1.6% polyunsaturated fats, which is why beef tallow is kind of the gold standard or ghee for what you want to eat. And ghee just being clarified butter for people who haven't heard about ghee. So, you're thinking if that's what we used to eat and that's what made us look like that all you have to do is just watch... Remember that TV show Chips?

SHAWN STEVENSON: Yeah.

DAVE ASPREY: It was like the dumbest show ever. Right? And it's full of sexism and all sorts of other stereotypes from the '70s, but what you'll find is they do a scene of the beach of just people walking around. Everyone looks... They're not like ripped like Arnold, but they just look lean and it's just a normal look. And you realize today we've so lost that. It's that, it's that seed oils plus all the chemicals we put in our environment that didn't exist back then. And glyphosate is a number one cause of that, that we're not talking about enough. So, drop the seed oils and if it's palm oil, coconut oil or olive oil, to a certain extent, you can eat it. If it's a fresh avocado, you can eat it, if it's a macadamia nut, you can eat it. But if you think seeds and nuts are going to give you the kind of fats that you're made out of you are sadly wrong. And certainly, squeezing soybeans is provably bad for you. Canola oil, soybean, safflower, or sunflower, all of those things, they are not in my nutritional profile. I have not eaten those foods in 17 years.

The Bulletproof Diet specifically tells you which animals to eat to get the best fat. Even chicken is high in Omega-6 oil, duck is better than chicken. Turkey is better than duck. Goose is better than Turkey. Pigs are better than those if the pigs are fed right. And then you get lamb and goat and finally beef and buffalo and any wild game, that's what you want to eat. And we can with the land we have now produce this kind of food for the entire country. Because cows, they eat plants that we can't eat, and they do it on land that doesn't have to be watered and plowed with environmental devastation. In other words, they walk around, they sh*t everywhere, they make healthy soil, and they allow an ecosystem around them. We can do this. This is how all countries worked, whether it's the big game in Africa like elephants, whether it's the buffalo that we had in the US. Well, we can go back to that, and it involves allowing animals with hooves to walk around so we can eat them. That's good.

SHAWN STEVENSON: I'm so grateful you brought up the specifics, soy oil, canola oil. These are... When I mentioned the PUFAs earlier, the polyunsaturated fatty acids are coming primarily from these industrialized seed oils...

DAVE ASPREY: Absolutely.

SHAWN STEVENSON: And they've become such a huge part. It's really difficult if you're eating processed foods to avoid them period. Right. And so that's what's making up the majority of our fat cells.

DAVE ASPREY: No. It's not just the processed foods problem. This is... It's a restaurant problem. So, I've had my...

SHAWN STEVENSON: Right, right, right.

DAVE ASPREY: My restaurant in Santa Monica open for eight years now, it's called the Upgrade Cafe. We've never used a seed oil. It's only grass-fed ghee, coconut oil, tallow, all the normal fats I just talked about. And it makes for a more expensive food, but not more expensive than most restaurants in LA. You can turn a very small profit running a restaurant that makes food made with real oils, 'cause there's enough people who know about it, that they'll drive across town to do it. I don't want to eat at most restaurants, 'cause the meat is from industrial animals that are full of glyphosate and full of corn and soy, 'cause that's what they ate. And so, you're getting these things and maybe antibiotics and maybe that zeranol, you don't really want to do that.

And then they cook everything with canola oil, so you don't want to eat it. So, like, I'll have the steam rice, can you sauté some veggies, maybe in olive oil or butter? And then I try to choose the least harmful protein from the menu, right. That's kind of rough and you don't want to do that on a regular basis. If you live at home and you're not on the road traveling, learn how to cook. You'll save so much money and you'll feel better. And grass-fed butter is still the cheapest thing you could ever buy on a per calorie basis. It's 4 bucks for a pound of butter. Even if you're on a serious budget, you will spend less if you do eggs and yes, organic free-range eggs are better, but seriously, any egg is pretty decent. So, you could do eggs and rice and some herbs and some butter and it's going to not cost you very much.

And if you can't afford the grass-fed meat, which is about a buck and a half a pound more if you buy it frozen, then get the non-grass-fed meat and have some activated charcoal with it and do your best, right. That is so much cheaper, and you avoid all the bad oils. It's not very hard to cook it. You can do it in one pot if you want to. And if you don't know how to do it, Jesus Christ, don't you have YouTube? That's what adulting is. It's going to YouTube, figuring out how to do something by watching a video then doing it yourself. You'll burn it a few times and then you'll learn how to cook a damned egg. It's not that hard.

SHAWN STEVENSON: I love that you brought up the egg's spectrum, which any egg is going to be better than host as mini muffins, because that can be a barrier to entry where it's just like, "I can't get the expensive eggs," just any real whole food is going to be so much more better for your biology.

DAVE ASPREY: How about the fake eggs? It's like a highly processed plant-based product full of all these weird chemicals and it's just eggs because no chicken squeezed an egg out. I have chickens, they squeeze eggs out every day no matter what you do, and yes, there are chicken farms, they treat chickens horribly, but it's very easy to find eggs at a farmer's market, and usually you can find an egg dealer if you're at all suburban and a lot of people are now starting to keep chickens. I would recommend, giving the looming food shortages that appear to be intentional as far as I can tell, it's not that hard to have six chickens without a rooster in your

backyard, they will make a shocking amount of protein and fat, and they'll eat anything including your vegan neighbors when they don't have enough resilience. So, there you go.

SHAWN STEVENSON: Alright. Let's get into one more topic I want to ask you about. So, this is tying in everything which we were just talking about these omega-6 oils, predominantly omega-6 already oxidized damaging oils. Let's talk about that connection between this substance and inflammation, because what we've been dealing with here is a virus that has this kind of pro-inflammatory interaction with the body. Are we getting into a pre-inflamed state by consuming so much of these highly processed oils?

DAVE ASPREY: There's abundant evidence that having a higher amount of omega-6 fat creates inflammation, and the reason that does this is the body can use protein and fat as energy sources. Protein's not a great energy source by the way, it's expensive to make energy out of it, it creates a lot of by-products. And you can use carbs for energy, but really, we're not made out of carbs, we have very, very few, maybe 1% of us is carbs or less. So pretty much we're minerals, we are fat and we're protein. So, you eat these things, and the body says, "Alright, I got to burn some of them, and I've got to use the rest to make myself." Well, if you eat the omega-6s, the body says, "Shoot, I guess I got to make my cell membranes out of this," and omega-6s are called poly-unsaturated, because poly means many, so there's multiple branches on these fat molecules, and unsaturated means that they're waiting to receive an electron. So, what's going on here is these are things that provably are creating free radicals because they're just unstable, they're like, "I got to attract things to me." So, they pull those things off on other things that creates a chain reaction.

So, you get a body that's more inflamed because of free radicals, but then you have these two big problems going on, one of them is toxic mold, we talked about before, the other one is the effects of the famous virus that shall not be named or the AI overlords will ban whatever we talk about, so everyone knows what I'm talking about. Both of those things in lots of studies now increase mast cell sensitivity. You know about mast cells? See, very few people do. I love that you're super informed. So, the way to think about these, mast cells are like landmines in your immune system, and as soon as something comes in and triggers the landmine, they explode literally, it's called de-granulation. And when they do that, they release histamine, which everyone's heard of, and it causes allergies, all this sort of stuff. You take Benadryl, some antihistamine, it makes your allergies better. Well, they don't just release histamine, they release 100 other inflammatory compounds, inflammatory cytokines, TNF alpha, and just tons and tons of these things.

When you get exposed to the virus or to toxic mold and you have a body that's made out of omega-6s instead of the more stable saturated fats and some monounsaturated, what you end up with is when one of the landmine goes off, the trigger gets set so it goes off way too easily,

that's what the virus is doing, that's what mold exposure does, and when it goes off, it sets off all the landmines around it, so you get these waves of inflammation that go through there. And that inflammation shows up as anxiety, depression, bipolar, back pain, rashes, persistent cough, brain fog, vertigo, all these weird things and you go to all these different specialists, this is a foundational thing that's happening, and it's funny that long C-word and toxic mold exposure have almost identical long-term effects, and it's because of this mast cell issue. So, if you wanted to have stable mast cells, the first thing you do is build your body out of good fats. The good news is you can do it, the bad news is that the half-life of fat in the human body is about two years, that means if you start eating good fat right now, so you're going to do your butter, your egg yolk, your beef tallow, things like that, after two years, 50% of your cell membranes which are all made out of little droplets of fat will be replaced with a healthier composition.

And if you do another two years, you'll be 75% good fats, and if you go from there, obviously it gets better and better. And it's funny, most people when they call it go Bulletproof, when they first started drinking Bulletproof coffee, when I first came out with this, just like me, the first two years, like, "Oh my God, I can't get enough butter, give me eight tablespoons a day, I just ugh." And it's this need, I'm finally... And what you're doing is you're restoring all the broken cell membranes from being a vegan, which is what you and I both have done, because vegan diets provably have all omega-6 fats on them. So eventually, after two years, you just wake up one day, I just want a tablespoon. You finally got enough to flush through all the bad stuff and the body's like, "Yes!" And it's like a celebration of saturated fat. It's okay if you feel that way when you eat the ribeye, it just means you need more ribeye and you need more eggs if you're not allergic to 'em and you need more of that butter. And eventually, alright, I got my metabolism back, I got my equilibrium back, you just have to listen to your body. If you want to sing a song after you ate the steak, you need more steak.

SHAWN STEVENSON: Oh, man. You just shared so much. So many incredible insights. We also touched on these omega-6s and anxiety, and I wanted to... We'll throw this up on the screen for everybody. This was just published a couple of months ago, and the title of the study was the relationship between linoleic acid intake and psychological disorders in adults published in *Frontiers in Nutrition*, prestigious medical journal. And again, more scientists are asking these questions, but it takes folks to come along and to question the prevailing paradigm, and that's something that I really admire about you and I appreciate because especially at times like this when the tension can be high, we can have a tendency to coil up and to hide out and to not speak up and to share our perspective and to critical think. And you've been promoting that since the beginning, and I really appreciate that about you. Can you let everybody know where they can connect with you more, follow you, get their hands on some of your coffee.

DAVE ASPREY: Absolutely, and thanks for the compliment, and I admit it, I am a dangerous person, 'cause I have enough power to do this because I have my energy back. So dangercoffee.com is where you can try the new coffee. It's outstanding coffee, and you will get your daily minerals the way you wanted to, and you'll feel different from the first cup, even if you drink it black. Stuff is totally legit. My podcast is The Human Upgrade, and you've been on... I don't know how many times?

SHAWN STEVENSON: It's been a while.

DAVE ASPREY: It's been a long time, but you're going to come on again soon.

SHAWN STEVENSON: Yeah.

DAVE ASPREY: And then, let's see... I don't know, I write books and you'll find me on Instagram and all that kind of stuff. Just Dave Asprey, you'll find me everywhere.

SHAWN STEVENSON: Yeah, man. I appreciate you, thank you so much for coming by. And also, you've got a big event, one of the most epic events is coming up next week. So as of this recording, people would have missed this one, but whenever you hear about a biohacking conference coming up, come out, attend. The lineup of speakers, so many people, friends who've been on this show, who've been sitting in that chair, are going to be there speaking, coming out, just come and hang out, period. It's a really great place to connect with some great thinkers.

DAVE ASPREY: Oh, thank you. Biohackingconference.com, people can sign up for next year actually. And this is my favorite event of the year, 'cause you get a community of people like us. We all get to hang out and just realize, you know what? We're not alone, there are millions of people who are owning their own biology, who are just saying, "You know what? I don't care what all the weird people are doing right now, I'm just going to do the things that work, and I'm going to measure it and I'm going to do what works even better." And that's what you've done, you've brought yourself back from degenerative disc disease. I did the same thing with my brain, with my obesity. Everyone listening has that power to do it and maybe something in the show is going to help them get that spark so they can get it started.

SHAWN STEVENSON: That's right. Become more dangerous.

DAVE ASPREY: I love it.

SHAWN STEVENSON: Awesome. My guy Dave Asprey everybody. Thank you so very much for tuning in to the show today, I hope you got a lot of value out of this. If you did, please share it

out with your friends and family, of course, you could tag me @shawnmodel and tag Dave on Instagram as well and let him know what you thought about this episode. It's a really important conversation to have. We've covered a lot of ground, but most importantly it's what are you going to do about it, right? It's having the audacity to take action on the thing and cultivating that inner strength and inner wellness so that we can really attack this mission, this much needed mission of getting our families and our communities healthier.

Again, I appreciate you so much for tuning in to the show today, we've got some epic master classes and world-class guests coming up very soon. So, make sure to stay tuned. Take care, have an amazing day and I'll talk with you soon. And for more after the show, make sure to head over to themodelhealthshow.com, that's where you can find all of the show notes, you could find transcriptions, videos for each episode, and if you got a comment, you can leave me a comment there as well. And please, make sure to head over to iTunes and leave us a rating to let everybody know that this show is awesome, and I'd appreciate that so much. And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.