

EPIISODE 219

## Fat for Fuel – with Dr. Joseph Mercola

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**Shawn Stevenson:** Welcome to The Model Health Show. This is fitness and nutrition expert, Shawn Stevenson, here with my amazing producer and co-host of The Model Health Show, Ms. Jade Harrell. What's up, Jade?

**Jade Harrell:** What's happening, Shawn?

**Shawn Stevenson:** What's happening? How are you today?

**Jade Harrell:** Today I'm experiencing the rewards of my transformation.

**Shawn Stevenson:** Transformation?

**Jade Harrell:** Yes.

**Shawn Stevenson:** What is that?

**Jade Harrell:** Okay actions in place for my transformation and I'm reaping the reward.

**Shawn Stevenson:** That needs to go into the book. I like that.

**Jade Harrell:** It's in the book.

**Shawn Stevenson:** Can you say it again?

**Jade Harrell:** Transformation!

**Shawn Stevenson:** Transformation.

**Jade Harrell:** Let's see some transformation!

**Shawn Stevenson:** Awesome, everybody thank you so much for tuning into the show today. We've got a very, very special guest, a living legend on the episode today, and it's just going to be powerhouse.

This is going to be some more paradigm shifting information, something that's going to be valuable for your life and the lives of the people you care about for many, many years to come. I am sure of it.

Before we get to our guest, I want to give a quick shout-out to my drink today.

**Jade Harrell:** Oh yeah?

**Shawn Stevenson:** I'm talking about the sippy sippy.

**Jade Harrell:** You're not talking about the joy juice?

**Shawn Stevenson:** No, I'm not talking about getting tipsy in the morning, I'm talking about my Lion's Mane.

**Jade Harrell:** Oh that's good.

**Shawn Stevenson:** Tea that I had this morning.

**Jade Harrell:** That's good.

**Shawn Stevenson:** And you know that this is something that I have on a pretty daily- pretty consistent daily basis, having some medicinal mushrooms for my kind of morning elixir.

And I've been doing this for many, many years, but over the past year I've had the good fortune and joy of utilizing Four Sigmatic.

**Jade Harrell:** Oh yeah.

**Shawn Stevenson:** For their incredible mushroom elixirs. And the reason I love them so much is that they're dual extracted, so they're using a hot water extract as well as an alcohol extract to be able to pull all of the goodies out of the mushroom that you're trying to get.

So you're getting all of the beta glucan compounds, plus the triterpene compounds, kind of hormonal steroidal compounds as well.

So it's really, really great and it's super easy to use, they're convenient to take these little packets with you.

Just got back from the Philippines not too long ago, definitely threw those in my bag and brought those along with me.

And the reason I had Lion's Mane today is that this mushroom is increasingly studied for its neuroprotective effects. There are very few things that have some clinical documentation to back up the fact that it does protect your brain.

The University of Malaya confirmed the neuroregenerative potential of Lion's Mane, specifically for helping brain injuries, and it features a powerful class of nerve growth

factors that are stimulating the differentiation of your brain cells, and also remyelination of your neurons.

How important is this? So the myelination, that's the laying down and it's kind of insulation for those nerves being able to fire so that you can do stuff, right? So that you remember how to move your lips and chew, right?

All of these things are laid down that automation is brought on by myelin. And so this is something that's protective over that.

So they've got that, they've got the Rishi, Chaga, so many amazing mushroom elixirs, and I use them all just depending on the results that I want.

So today I knew I was doing the show, Lion's Mane was the aura of the egg.

**Jade Harrell:** Excellent.

**Shawn Stevenson:** So head over there, check them out, it's [www.FourSigmatic.com/model](http://www.FourSigmatic.com/model) and you're going to get 15% off. So head over, check them out, and let's get to the iTunes review of the week.

**Jade Harrell:** Alright well this one is from Taylor889. 'Can't say enough good things about this podcast. I simply can't get enough of this podcast.'

Shawn and Jade provide their listeners with such fantastic information that can improve every area of their lives. I love how their podcast is set up since they typically start with the science and then always bring it back to how you can improve your life on a daily basis.

I couldn't tell you the amount of books I've written on my notepad from their never-ending list of guests that they have on the show.

So much good info to dig into, I can't thank you both enough for teaching me something new in every single episode. You are the best.'

**Shawn Stevenson:** Oh my goodness, thank you so much! You are the best, right back at you. I appreciate that so much. Everybody, thank you for leaving those reviews on iTunes. It means the world to us.

Keep them coming and make sure that you're subscribed to the show so you stay up to date with all the goodness that we're dropping.

And none better than today. Our guest today- and this is another one to add to that list that she mentioned.

**Jade Harrell:** I'm writing it now.

**Shawn Stevenson:** Definitely get your hands on this one, this is a must-have in your library. And it's from Dr. Joseph Mercola, the one and only. And he is a passionate advocate of natural medicine, a wellness champion, and a visionary who's implemented much needed changes in our current healthcare system. He is a real change maker.

As a physician for over thirty years, he's treated tens of thousands of patients at his wellness center outside of Chicago, and in 1997 he created [www.Mercola.com](http://www.Mercola.com) which everybody should know about at this point, and for the last thirteen years has been the most visited natural health website in the world.

**Jade Harrell:** Wow.

**Shawn Stevenson:** And he's a New York Times bestselling author of books including 'Effortless Healing,' and 'The No Grain Diet,' and he's also appeared on national media such as CNN, FOX New, ABC, The Today Show, and Dr. Oz.

I'd like to welcome to The Model Health Show, Dr. Joseph Mercola. How are you doing today?

**Dr. Mercola:** I'm doing great, Shawn. How are you?

**Shawn Stevenson:** I'm doing fantastic. I am so grateful to have you on today, and excited, and first of all for myself, I want to know your back story, your superhero origin story.

What got you interested in health and wellness in the first place?

**Dr. Mercola:** Well just one of those things. I was fortunate enough early on to recognize my passion which was health. I read a book by Dr. Ken Cooper in 1968 called 'Aerobics' which started me on the journey of exercise.

Unfortunately not the ideal type of exercise, but nevertheless was exercise for 43 years before I really shifted to a more optimal strategy to use exercise to build my health.

And then I was passionate about technology. I took my first computer science course in 1968, took computer programming and was online in the early seventies.

So I'm no stranger to computers, and I just merged those two passions, and was able to provide information to the public to help them really give them details in how to avoid conventional strategies that are typically recommended like drugs and surgery, which typically contributed to needless pain and suffering, and very rarely ever addressed the cause of the health condition.

**Shawn Stevenson:** Exactly. I can't tell you how many times I've referred people over to your site when they're asking about a particular issue because of your ability to package up the information.

And I'm very grateful that you had the audacity to combine the technology to make this so readily available.

I'm curious, what was the catalyst for you to shift gears from the kind of conventional medical paradigm, that training to really opening yourself up to all of this other information, and actually really powerful proven things for chronic illnesses with more natural medicine?

**Dr. Mercola:** Well one of the principles that's taught at almost every medical school is to listen to your patients. Unfortunately most physicians tend to forget that relatively quickly.

There's a few who adopted, of course, but it's a really powerful strategy. So I just simply listen to my patients.

And even though I was brainwashed, manipulated, deceived in medical school and adopted the pharmacological model, I embraced listening to the patients and it just didn't make sense.

People would come in and I'd put them on anti-ulcer drug and they said, "But doctor, don't you need acid to digest your food?" And I said, "Hm, that makes sense, but they say it works."

So I investigated things more carefully, and did some critical thinking, and explored these concepts and came to alternate conclusions than I was taught in school.

And then I initially found a community of like-minded physicians who embraced this philosophy a lot longer than I did and they mentored me in the process.

And I just love reading, so I just read a lot of material, and studies, and books, and developed and used the therapies with my patients, and many of them were getting better so I knew there was some truth to the strategies.

**Shawn Stevenson:** Absolutely. You know one of the things that's pretty obvious is the result. To see that with the different people who've been able to work with you, and obviously the results that you have in your own life.

But something important that you said is that you were adamant and active about research yourself, and that's something that tends to fall to the wayside once somebody graduates from medical school because you're so busy with the day-to-day thing.

And that's huge for us, and moving forward into the future, you're already looking ahead and teaching people what's to come. And a big part of that is featured in your new book, 'Fat For Fuel.' 'Fat For Fuel,' and it's a revolutionary diet to combat cancer, boost brain power, and increase your energy.

So can you start with- your book shares profound evidence that a large part of combating cancer begins with healing the metabolism, right? And it starts with the mitochondria. So can you talk about that?

**Dr. Mercola:** Yeah so have you or your guests in the past reviewed that topic with your audience before?

**Shawn Stevenson:** We've talked about the mitochondria, but it doesn't mean that you can't give us a refresher.

**Dr. Mercola:** Okay. Alright well good. So ultimately the mitochondria, or the core to health. You can live without food for a few months, some people longer. You can live without water for up to a week or so. But if your mitochondria just disappeared, you'd be dead in seconds.

They are essentially the powerhouses of the cell, they create cellular energy as the currency exchange to catalyze all these metabolic processes.

So I was aware of this, as most physicians are, but never really fully appreciated the impact these had on disease. And that there are really specific targeted precise strategic interventions that one can do to optimize mitochondrial function.

What catalyzed my recent interest in this topic is reading the book, 'Tripping Over the Truth' by Travis Christofferson. Basically one in two of your male and one in three of your women will come down with cancer in their lifetime. And I'm not talking about skin cancer, which is the most common. I'm talking about more serious, deadly cancers.

So there's virtually no one listening to this that isn't either personally affected or have someone they know or love is affected by cancer. 1,600 people a day- every day in the United States alone are dying from cancer.

It's my contention that the vast majority, probably 1,500 of those 1,600 didn't need to die prematurely because they were unaware of simple strategies.

And it turns out it's not just cancer. It's heart disease, which is currently the leading cause of death in the United States, but will be replaced by cancer by the end of the decade.

And then diabetes, and obesity, and neurodegenerative diseases like Alzheimer's, Parkinson's, and ALS. These are all epidemic diseases that are really crippling us as a culture. And then we go to the other end of the spectrum and you look at autism.

The projections are one in three, one in two children born in the next generation will have autism. I mean if that happens, our country cannot survive. It is simply pragmatically impossible to survive when half the kids are autistic. It's not going to happen because each one of those children require more than one adult to take care of them.

So it's a devastating potential future we have unless we address these issues at the core, and it's hard to get down to a more fundamental metabolic, physiological parameter than improving your mitochondrial function.

**Shawn Stevenson:** Absolutely. You know a statistic that you put in your book that was just like- blew my mind, was the fact that mitochondria account for approximately 10% of your body weight. What?! Absolutely mind-blowing.

**Dr. Mercola:** And what do they do? As I said they produce ATP, adenosine triphosphate, and most people aren't aware that that's the energy currency of your body, without it you're dead in seconds.

But you produce your body weight in ATP every day. So if you're 170 pounds, you are making 170 pounds of ATP. That's a lot of ATP.

**Shawn Stevenson:** Yeah.

**Dr. Mercola:** And then the other thing is they are also responsible- especially for cancer, they're responsible for a process called apoptosis or cellular death. So that they go in there, they're garbage cleaners, they get rid of the damaged and defective cells, and then stimulate the repair process.

And then they're also with themselves really important metabolic signalers. So they have a whole variety of functions that contribute to your health.

**Shawn Stevenson:** That's just one of the reasons why this book is so powerful in talking about healing the metabolism because you just said something, that it helps to modulate and control apoptosis. That's one of the underlying things when you see tumors, for example.

That programmed cell death is faulty, right? And it's not working, and it's largely because of this circling back to what's going on with the mitochondria.

And I'd love to talk about- well the book is named, 'Fat For Fuel.' So how does dietary fat play into this whole equation with your mitochondria?

**Dr. Mercola:** It's a great question. You know 95% of the energy stored in your body is stored in the form of fat. We need it, it's definitely part of a healthy lifestyle to be able to have fat and to use it.

The problem is that the vast majority of people in the United States currently do not have the metabolic flexibility to burn fat as fuel. They really can only burn glucose, sugar, as their primary fuel.

And that will keep them around, but unfortunately they will die prematurely from a variety of different chronic diseases, and not be very comfortable in the process. Miserable for most people.

And it's one of the primary reasons why people become overweight. Two out of three Americans are overweight.

So the strategy is to have people go on something called a ketogenic diet, which I'm sure you've heard of before. But here's the key, Shawn. It's not forever.

It's only short term which is a quite significant distinction from many other people who are promoting ketogenic approaches.

**Shawn Stevenson:** Yeah.

**Dr. Mercola:** So it might just be for a few weeks, it might be a few months, or it might be even longer depending on how metabolically crippled the person is.

**Shawn Stevenson:** This is bringing up something that we just talked about recently, which is carb cycling, right?

**Dr. Mercola:** Yes.

**Shawn Stevenson:** And having things to not be consistent. So yeah, I see you nodding your head. Can you talk about that?

**Dr. Mercola:** Well actually it applies to almost all the nutrients. In the intro you were talking about the mushroom supplement that you were using, and I'm sure it's a great supplement but it's not something you want to use every day.

**Shawn Stevenson:** Right.

**Dr. Mercola:** You want to cycle it.

**Shawn Stevenson:** Exactly.



**Dr. Mercola:** So otherwise you have a problem. So the ketogenic diet can perform miracles in people. It has, it will continue to help people get over cancers, heart disease, all the diseases I mentioned previously.

But the problem is if you use it long term you will become a metabolic cripple because your body is in starvation mode, and that is not what you want.

So once you obtain the ability, the metabolic flexibility to burn fat as a fuel, and you know this because one of the types of fat that's produced when you have this ability is a very small water soluble fat that's called ketones, and there's three of them.

And you can actually easily measure this in your blood, a bit expensively for about \$4 a test not including the cost of the meter. Or you can use a breath analyzer which measures breath acetone and you can easily check that, which is a bit more cost effective.

Once you're able to burn these fats and you made that transition, then you can do the carb cycling. So typically- well there's another important pathway that we didn't talk about yet, which is really one of the main criminals for apoptosis which is empty.

**Shawn Stevenson:** Yes.

**Dr. Mercola:** And I'm sure you've talked about it in the past, it's a mechanistic target of rapamycin, and that is the one that really shuts down apoptosis, and it's really catalyzed by protein.

So the protein and the carbs I think kind of go hand in hand. You really want to keep your protein levels low, your carb levels low I would say three, four, five days a week.

It depends on you, it depends on your training, what your goals are in life. But then once or twice, maybe even three times a week, especially on the days that you're strength training- and I think that's a really important discipline for everyone, and something I didn't adopt until later in my life.

But like to give you an example, yesterday. Yesterday was a strength training day for me, so I was doing some deadlifts, and actually deadlifted three plates yesterday which is nice for me.

**Shawn Stevenson:** Let's go, yeah!

**Dr. Mercola:** Yeah! I see Jade's got some good biceps there, too.

**Jade Harrell:** I was honoring you actually, but thank you.

**Dr. Mercola:** Yeah so when I came home I had like twenty grams of why protein concentrate protein and really some good berries and a nice big sweet potato. So I

had maybe 100-125 grams of net carbs. And net carb is the total carb minus fiber. And I felt great.

And you would think- you would think your glucose- having all those carbohydrates you'd think your glucose level would rise, right?

It's actually this paradox because when you have low insulin levels, when the primary functions of insulin is to shut down your liver's ability to produce glucose. It's a process called hepatic gluconeogenesis.

And so if you have really low insulin levels, your blood sugar will start to rise which is not good. So the answer isn't eating less carbs, the answer is to have some more carbs in that condition and your blood sugar actually drops, which is a real interesting phenomenon.

But if you did it every day it'd be a problem. So you cycle it a few days a week.

How many days a week are you carb cycling, Shawn?

**Shawn Stevenson:** Generally I'll do a carb kind of re-feed three days a week tops.

**Dr. Mercola:** Okay.

**Jade Harrell:** You brought to our attention something called the metabolic ability to pull the energy from fat, and if 95% of our energy is stored in our fat, we've definitely got to tap into that wealth of opportunity there.

I love that not only can we make a difference if we want to employ these simple strategies to keep from getting sick. Can it also help to reverse and get us back to a natural, normal state?

**Dr. Mercola:** Yeah there are a number of people who are using these strategies as the best biological approach to put the brakes on the aging process. Because we're all aging. There's no question. And the older you get, the more important this issue becomes.

So when you're twenty or thirty years old, you're invincible and that's why you take drugs, and go out on motorcycles, and take care of yourself prematurely.

But as you get wiser and older you realize that abiding by these natural biological processes will optimize your physiology, and keep you along, and improve not only your lifespan, the age at which you'll die, but your health span, the age of which you're vital, healthy, and mobile, and have all the energy you need to accomplish what you want to achieve.

**Shawn Stevenson:** That's fascinating.

**Jade Harrell:** That's fantastic.

**Shawn Stevenson:** And you just basically drilled down and summarized all of the Tom Cruise movies with the drugs and the motorcycle.

So you know, this is really cool because fats have been vilified for so long, and you know this, and you've been one of the- like way before anybody was talking about this stuff, you were really out there setting the record straight with this.

And I would love if you talk a little bit about where this message got crossed up. I mean I remember fat- when I would think of fat, I would think of things like Crisco, and I wouldn't think about healthy fats. Like I just kind of lumped them all together.

So can you talk a little bit about where we got confused?

**Dr. Mercola:** Well we have been confused as a nation. I certainly was. I adopted the low fat craze for three decades before I really understood what was going on, and so did many other of my contemporaries who were really well-intentioned physicians, but we were clueless because we were confused, and deceived, and manipulated.

The confusion started most people believe due to a nutrition researcher- prominent researcher named Ancel Keys in the mid-fifties who really many people believe was responsible for the low fat diet.

And in some ways he was correct, because in the mid-fifties there was really an epidemic of heart disease in the United States that didn't exist in the 1800's.

And that epidemic I believe was in fact due to fats, but it was due to the wrong type of fats. They were having vegetable oils, industrialized processed oils, trans fats like Crisco, hydrogenated vegetable oils.

So these were the fats, but they just lumped them all together and they replaced these fats with sugar which had disastrous consequences.

And now we realize that yes, fats are dangerous if you have the wrong ones. You don't want to have heated oils, don't want to have processed vegetable oils.

I suspect a lot of your- now let me give you an example. A common mistake that many people make, at least when I lecture this is- I lecture to some pretty bright audiences, and a lot of people are making this mistake.

I ask them how many people have some flaxseed oil in their house? And a lot of people raise their hand, they think, 'Well great, it's an omega-3 fat. It's a vegetable oil, it's really good for me.'

Well the answer is you would think it's good. I tell them if you can think of a neighbor or a relative that you don't like, give them the flaxseed oil because it's oxidized, it's damaged.

These omega-3 fats are highly perishable. And is flax seeds- are they good? Absolutely, I pretty much have them almost every day. Not much, just a tablespoon and I soak them overnight, and then I grind them up in my smoothie. But they're great for you. But you don't want to have it as an extracted oil.

**Shawn Stevenson:** Right, so the refrigeration doesn't-

**Dr. Mercola:** It slows it down but it's not as good as getting it fresh from the seeds. I mean if you're going to get seed oil, get them from the seeds.

So I have pumpkin seeds, chia, black sesame, black cumin seeds, which are important sources of omega-6 and omega-3.

When you eat omega-6, most- I mean it's an essential fat. Most of us get too much, but you still need some, and it's best to get it from healthy seeds and nuts too.

**Shawn Stevenson:** Absolutely and that's really what I do for the majority is- and I've been doing this for a long time, having the flax seeds just kind of soaking in my refrigerator, I'll take a tablespoon out, throw it into something, and there you go.

That's definitely the best method to get something like that. Thank you for sharing that.

**Dr. Mercola:** And it's the least expensive!

**Shawn Stevenson:** Right, it's so cheap too! So cheap.

**Dr. Mercola:** Just make sure they're organic, that's all.

**Shawn Stevenson:** Yes. So let's circle back because I just wanted to say something and just to piggyback on what you were talking about earlier in the fact of cycling things in our lives.

Because I think that far too often we get something that's working for us, and we beat it to the ground, and we start to notice different things aren't working as well as they did before.

Even if we're talking about something like coffee, right? Like the first time you have it, it's like- like the lights come on. And then before you know it, you've got to knock down four cups just to get a minor buzz, right?

And so if you cycle things, and that's what I do- at the top of the show I mentioned this, I cycle even the medicinal mushroom elixirs.

You know I'm not using just hammering down- "I love Rishi," boom, boom, boom, boom, boom until I'm Rishi'd out, you know?

And the same thing with our nutrient sources. Because of this fact, we've evolved having a wide variety of foods because we had no choice, right? Things change depending on the time of year.

But today we have this really interesting ability to bring in outside sources to basically- you can have an avocado every day and every night for the rest of your life.

I love avocados, but is that natural? Not so much. You know? So just being able to point to that and just understand how about we make it a strategy to employ some variety- consciously employ some variety not just with our food sources, but the macronutrients specifically. That ratio, right? And I think that it can do a lot of benefit for your metabolism.

And Dr. Mercola agrees, so that's a huge checkpoint.

**Jade Harrell:** There you go. Well what would be a good formula with that, you guys?

**Dr. Mercola:** Well I actually gave this process a name, and I called it Feast Famine Cycling. And because you are obviously very fit, and that's a big part of your life, and I suspect many of your audience is too, I developed a fitness analogy.

So we all know that when you exercise, it's vital, you've got to do it if you want to stay healthy, you want to be optimally healthy. No one is going to argue that.

But they won't also argue that when you exercise, you injure, you damage yourself. There's no question about it.

**Shawn Stevenson:** Right.

**Dr. Mercola:** So the magic of the benefits of exercise actually come in the recovery, right?

**Shawn Stevenson:** Yes.

**Dr. Mercola:** Because if you exercise all the time, you'd beat yourself up, you'd dig a hole deeper and deeper, and you would get hurt, injured, and sick. No question. So you've got to recover.

Similarly if you were to fast all the time, you're going to get incredible benefits. No question about it. But at some point it's going to be too much.

**Shawn Stevenson:** Right.

**Dr. Mercola:** So the feasting, which is two or three times a week like you're doing, is sort of the equivalent of the recovery mode. It's really when the metabolic magic happens, but you don't get the benefit if you haven't fasted.

Just like you can recover all the time, but you'll never get any benefits if you haven't exercised.

**Shawn Stevenson:** Alright.

**Dr. Mercola:** So it's a metabolic stress that your body needs, and then you recover, and that's actually in the recovery is when you gain the benefits. So the recovery, the metabolic magic actually happens in the feasting mode.

**Shawn Stevenson:** I love that. And this really brings up to mind for me, like when you were talking about this whole idea of catabolic versus anabolic, and we think that this catabolism is such a problem. It's part of the process. We need both.

**Dr. Mercola:** Absolutely.

**Shawn Stevenson:** Right? So and the same thing is happening with the mitochondria. We need certain things in place for kind of that fire to be lit, you know?

But some of the other things that we talk about on this show is- they're paralleled in your book in such a beautiful way. And I would love to dive in more and talk about some of the other things that are critical to mitochondria health, and we're going to do that right after this quick break. We'll be right back.

Alright we are back and we're talking with the one and only Dr. Joseph Mercola about his brand new book, 'Fat For Fuel,' and this is so fascinating.

And now we're going to switch gears and talk about some of the other things that are critical to your mitochondria health. And I want to talk about first of all a specific mineral that you talk about in your book that can be a bit of a problem, right? Potentially. So can you talk about what that is?

**Dr. Mercola:** Sure. It's a mineral that's commonly viewed as an important nutrient to take as a supplement because we're told it will improve our energy level, and that mineral level is iron. And yes, some people need it.

If you're a woman and you're still having your period, you're menstruating, or you are a child under sixteen, then you probably would benefit from some form of regular iron use, or maybe even a supplement if you're not getting it from your food.

But if you're not, if you're a male over sixteen to eighteen, or if you're a post-menopausal woman, then there's a high likelihood that this iron is actually triggering the generation of excess free radicals.

And what is a free radical? It's essentially a molecule with an unpaired electron. And free radicals are normal, they're actually important. If you didn't have them you'd be dead too. They're like the mitochondria, they're really important metabolic signaling molecules.

But excess free radicals are very damaging. And what I neglected to mention in the difference between the sugar and the fat as fuel, one of the reasons why fat is so much better to burn, is it burns cleaner.

These ketones burn far more efficiently, they generate far less reactive oxygen species, and then secondary free radicals, and the free radicals can damage your mitochondrial cell membranes, proteins, and DNA, and cellular structures too.

So that's why we want to limit- so when your iron levels are high, and I'll define it in a moment the test you can use to identify that, there's this process where these electrons get transported, and one of these reactive intermediates is hydrogen peroxide.

When we have high iron levels that catalyzes the formation to hydroxyl free radical which is the most potent and dangerous free radical we know of.

So essentially what that means is if you have high iron, you're going to cause reactive oxygen species, and that's something you can easily control. All you have to do, and you don't even need a doctor's visit, you can go online and order this test.

It's called ferritin, and it's a lab test, it's typically under \$50, and your blood test should be about the same number as your optimal vitamin D.

And we're not going to talk a lot about vitamin D because most people know about it now. But the optimal range for that is 40 to 60 nanograms per milliliter. And that's about the same range it is for optimal ferritin levels.

So if you are high, and I don't know if you've had your test done Shawn, but if you haven't I would highly recommend it. It's not that you need to take a supplement, in fact there's really no supplement we know that works relatively well, but the simple thing is to donate your blood.

And 50% of the people can't donate their blood for a variety of reasons, and then all they need is an order from their doctor or even if they have a friend that can essentially draw a little blood out of them.

And that's even better than donating your blood because when you donate your blood it's a pint. It's a little bit too much to be donating.

So I've actually had this problem, and I self-lobotomize because I'm a physician, I can draw my own blood. But if you know a phlebotomist as a friend, they can do it for you too.

And you just take two to four ounces out on a regular basis until you get that ferritin level in the sweet spot.

**Shawn Stevenson:** Perfect. You know there- of course people will just go to Dr. Google, and there are labs like all over the place.

**Dr. Mercola:** Yes.

**Shawn Stevenson:** My most recent test- because I'll ship it out to a physician who's on the level with me, and it's been about a year so now you just kind of encouraged me to go and get my numbers looked at again.

So that's so fascinating. And so we also don't think about that. I think probably guys are going to be a little bit more likely to have issues with high iron. Is that right?

**Dr. Mercola:** Yes because most women until the age of fifty or so are losing blood every month so the primary source of iron is in the hemoglobin, which is in the middle of the red blood cell, it's responsible for transporting oxygen and carbon dioxide.

So when you're losing it every month, then it's not an issue. And it's interesting too, if you look at these studies that evaluate people who do donate their blood two or three times a year, they live much longer, they have less heart disease, and less cancer.

So you know what we call that in Chicago?

**Jade Harrell:** What's that?

**Dr. Mercola:** A clue.

**Jade Harrell:** We have a clue.

**Shawn Stevenson:** I love that.

**Jade Harrell:** Right, right. Fixing that for women though. And a greater understanding of what our cycles contribute to our wellbeing.



**Dr. Mercola:** Yeah and in fact, this is sort of another example of my brainwashing. One of the beliefs in the eighties was that the reason that women died of less heart disease than men was because of their hormones- the estrogen.

So there was a strong push to implement estrogen replacement therapy. And I actually was a paid sponsor by the drug companies that would fly me around the country speaking to doctors about estrogen replacement therapy.

And now of course in the early 2000's all the studies showed it was just terrible, we should have never done it.

But it turns out the primary reason that women have less heart disease than men is because they're losing blood every month.

**Shawn Stevenson:** Wow. You know this is the value of talking with Dr. Mercola because he's been on both sides of the equation at an extremely high level, and bringing all of this data back to us is such a value.

And another thing that you talk about in the book outside of the realm of the nutrition, which you outline just so well, and providing a guide for what our nutrition should look like for- in particular combating cancer which I want to come back to in a moment.

But you talk about other ways to improve mitochondrial health. So let's talk a little bit about light therapy.

**Dr. Mercola:** That's great. And see if we have a little time to talk about cold thermogenesis too which is another important one.

**Shawn Stevenson:** Perfect.

**Dr. Mercola:** But light therapy is one of my passions, or photobiology or even photobiomodulation. And so what the heck does that mean?

It means that most of us benefit- the bottom line here is we really need to be in the sun. And I moved to Florida so I could do that.

I typically walk every day ninety minutes in the sun. And the time depends because in the summer I'll walk early in the morning and in the winter I walk around solar noon.

But we all know of course that it's going to improve your vitamin D levels. Really an important hormone, it really isn't a vitamin, it's a hormone that influences about 10% of your genes positively if it's in the right levels, and negatively if it's not.

So I haven't taken an oral vitamin D supplement in over ten years, and my vitamin D levels are 70 to 90 typically. And you can do it just with the sun. That is the ideal way.

When you swallow it- now if you can't have access to the sun, then probably you're going to have to swallow something, but you have to understand that vitamin D is also a marker of ultraviolet-B exposure. And when you swallow a pill you are faking your body out.

You're telling it it's been exposed to the sun, and you haven't. Will you get some of the metabolic benefits? Certainly, but you're going to deprive it of others. And I think you are in some ways sabotaging your health when you take the vitamin D instead of getting it the way you were designed to.

So what are the other benefits of sun exposure? Well people don't realize there's also red light, there's near, mid, and far infrared, and very important consequences.

Especially the red and the near infrared, they resonate with one of the proteins- the electronic transport chain of the inner mitochondria cell membrane, which is cytochrome C oxidates. And these wave lengths actually put energy into the mitochondria and allow them to produce ATP more efficiently.

So it's a powerful simple free strategy that you can use just by exposing yourself to light. So that's on the positive side. And we're not talking about- just have to figure your life structure out to do that.

Now even if you lived in Florida, or the Middle East, or Africa, I mean you potentially have exposure to the sunshine but if you're inside working all day while the sun is out, you're not going to get the benefit. You have to be outside with not much clothing on to reap the reward.

And the darker your skin is, for Middle Easterners or African Americans, the more important this becomes because the color of your skin is due to this melanin pigment which actually filters out the sunshine, so you actually need more exposure to get the benefits of the sun exposure.

**Shawn Stevenson:** Exactly. You know the melanin is sort of like a built in sunscreen in a way that humans evolved with. And as people migrated north, that pigment began to fade away, right? To make it so that you can pull in more sunlight.

And so here's the question though, Dr. Mercola. There's a large percentage of people who are listening who are in colder climates, or climates that don't have as many days of ideal sun exposure. So what are some of the strategies for them?

**Dr. Mercola:** Well you can vacation to warm places, and that will help because you do store some of this, and then you could access the- ultraviolet-B is kind of tricky because the FDA, the FTC, almost all dermatologists advise against it because they think it's going to increase their risk of skin cancer.

And while it does do that slightly, it doesn't increase the dangerous skin cancer of melanoma which will kill you.

It increases the typically benign skin cancers like squamous cell and basal cell carcinoma. And that's easily addressed.

But then you could also use strategies like exposing yourself to red light and near infrared, and there are some interesting security illuminators- and that's the key word, security illuminator that you can type in on Amazon and pick up for \$60 or \$70 or even less, these LED infrared near infrared, about 850 nanometers and you can use that to nourish your skin.

Basically it doesn't work through clothing, you have to do it on bare skin, but that's a simple way that you can do it. In fact I've interviewed Dr. Michael Hamblin who's one of the experts in the world on photobiomodulation out of Harvard. And he was relaying stories where they would use this simply by putting it on a person's kidneys for people who were on the kidney transplant list, and they would recover and not need a kidney transplant.

And they've used it to reverse Alzheimer's disease. So simple strategies like this. And why does it work? I already told you, it improves mitochondrial function.

Mitochondria are the key. You've got to understand. And most physicians don't get this. They will in the next few years and focus on these strategies to improve mitochondrial function.

**Shawn Stevenson:** So this puts me in the mind frame wondering about- when you talked about the UVB and that kind of phototherapy utilizing different lights. What about tanning beds?

**Dr. Mercola:** Well I believe they're okay, you just have to be careful. And most tanning beds don't have the balancing radiation you get from the sun which is the near infrared, far infrared, and the red.

So ideally you'd want to use them all together because the UVB actually increases reactive oxygen species, which can be beneficial but when you get it from the sun it's balanced with the other frequencies which you don't get with the tanning beds.

So the sun is far better. No comparison.

**Shawn Stevenson:** Got it. Yes, definitely. Now we've got a nice little tool belt, some things to add to your superhero utility belt for phototherapy, for some light therapy if you do find yourself in spots. But I think the best recommendation, again like he just said, you store it so vacation you get a little bit of time in the sun.

I know that you personally- you worked in Chicago for a long time so it's like whoa-

**Dr. Mercola:** Yeah and then for ten years I would spend like six weeks in Hawaii in the Chicago winters. But it was never enough, and I just hated the- it's a huge time difference so it was hard to communicate with my team. So I have since moved to Florida. It's so much easier and I'm glad I did.

**Shawn Stevenson:** Yeah and that speaks to everybody doing what's best for you in your particular- like where do you rank these things?

For Dr. Mercola, his health is a high priority, right? So the best thing for your health is to put yourself in a position to get more adequate sun exposure.

And also another thing, during- and I would love if you talked about this as well. I talk about this in my book, 'Sleep Smarter,' but I do talk about the importance of having a very specific light period and dark period.

And part of this light exposure, just even ambient light being in the room, that's helpful for certain triggers with your biological rhythms. But however, getting light exposure through a window, what's the problem with that? Let's talk about that.

**Dr. Mercola:** Well basically I don't want to beat a dead horse because you've done a very good job, and I've read your book, and it was really well-done, so congratulations on that. And I echo your sentiments.

You need to be in absolute complete darkness. There should not be a photon of light in there. You should be able to see anything. Obviously any light that comes through is going to suppress melatonin.

But you know another thing that really you didn't address in the book that's important, are frequencies that you can't see.

Now what the heck am I talking about? I am talking about your WiFi router, your cell phone towers, and basically portable phones. So what can you do?

There's a simple strategy that I don't talk about in the book but I'm going to share it with you and your listeners now, and that you can get these- there's a material called Naturell. I think it's made in Switzerland.

And it's basically a thin sheer fabric that looks like sheer, that you would have with drapes, and you can make a canopy over your bed. Okay?

And it will shield out all of these frequencies so that you are not sleeping only in the dark, you are sleeping in an electromagnetic dark canopy so that you're not- these signals actually communicate with your mitochondria and they cause mitochondrial dysfunction.

This is not well-known, it's not even well-studied, but there's a number of really profoundly well-done animal studies that support this.

So you really want to not be exposed to these electromagnetic frequencies during your sleep.

**Shawn Stevenson:** Absolutely.

**Dr. Mercola:** Just like you want to sleep in darkness, you want EMF darkness, too.

**Shawn Stevenson:** Yeah and there are actually plenty of human examples, court cases that are showing these issues, and so many of us don't realize it yet, but this stuff is pretty well-documented already.

And I do actually mention that in the resources of the book, funny enough, as something as a bed cover, you know? Because of the springs being an antenna.

**Dr. Mercola:** Well it's not a cover, it's a canopy.

**Shawn Stevenson:** Right, that's smarter.

**Dr. Mercola:** Yeah it's over the entire bed. It's almost like mosquito netting in a way.

**Shawn Stevenson:** Yeah.

**Dr. Mercola:** So instead of eliminating the exposure to mosquitos, you're eliminating these dangerous EMF radiations.

**Shawn Stevenson:** Powerful

**Dr. Mercola:** Dangerous over time. You can pretty much compensate for anything over short term, but the long term you're looking at troubles.

**Shawn Stevenson:** The thing is we don't know. Like humans, we're playing with things that we don't know the long term implications. And they've made so many different wonderful valuable things happen in our life, but what does this do to us long term? What does this do to us as a species?

We don't know. We're in a big old human experiment. We do know cell phone radiation increases the likelihood of mid-brain tumors, especially in small children, right?

And kids are growing up with this stuff. And many of the- it'll say it right on the phone box. Like, 'Don't put this directly to your head. Hold it a few inches from your head.' Who does that?

But these are things that thanks to Dr. Mercola putting this information out there, and all the research to back it up, it really makes it a lot easier for us to understand this thing.

So let's shift gears here. Oh and by the way, the sunlight through the window blocks out a certain spectrum.

**Dr. Mercola:** Oh yeah, it blocks out UVB.

**Shawn Stevenson:** Yes, exactly.

**Dr. Mercola:** So if you're sitting in front of a window all day thinking you're going to increase your vitamin D levels, you're not. You actually get UVA which increases the risk of cancer so you actually increase your risk of cancer.

Now it's good for other things because- not direct sunlight but the other frequencies are beneficial to your retinal health.

And speaking of that, when sunset comes, when the sun goes down for literally however long you believe humans have been on this planet, the only light exposure humans had up to about 100 to 150 years ago was thermal light. Fire, candles, right?

So now we have artificial lights, LEDs, fluorescents which are very harmful. They are nothing like thermal light sources and they are very high in blue.

So when the sunlight comes out, when the sun goes down, you can get yourself a pair of- Uvex makes some blue blockers on Amazon for like \$9 or \$8 that are blue blockers.

But even better would be the red glasses, because that blocks out even more frequency so that you see the world- and essentially it's kind of like instead of black and white, it's red and white.

**Shawn Stevenson:** Right.

**Dr. Mercola:** That's what I do now. I used to wear the blue blockers, but now when the sun goes down, my red blockers are on. They don't block red, they block more than blue, they block the green and the yellow too.

**Shawn Stevenson:** Yeah that's some daredevil stuff there, Dr. Mercola. Be instant superhero, 'I see the world in fire.'

So let's shift gears and talk about you mentioned cold thermogenesis, so let's talk about that.

**Dr. Mercola:** Well that is- and you've talked about it on your show before, I'm sure, right?

**Shawn Stevenson:** Yeah we did an entire show dedicated to it, so we'll put it in the show notes.

**Dr. Mercola:** Yeah put it in the show notes, but you know it's an important strategy that many people forget about. I don't know if you discussed it in your show, that one of the reasons it works is it increases something called brown adipose tissue, or even beige adipose tissue, or BAT for short.

**Shawn Stevenson:** BAT, BAT.

**Dr. Mercola:** What is that? Why is it brown? Why is it beige? Why is it not white or yellow like your regular fat? You know why?

**Shawn Stevenson:** Tell us.

**Dr. Mercola:** It's because it's mitochondrial dense.

**Shawn Stevenson:** Oh let's go.

**Dr. Mercola:** Those are all mitochondria in there. What do you think it is? That's why- so you're strengthening your mitochondrial population, your body's ability to create this energy source.

So important. I just interviewed Scott Carney who wrote the book, 'What Doesn't Kill Us,' who is an investigative journalist initially hired by Playboy to debunk Wim Hof.

And it was some interesting stories. He grew out of adopting these strategies and he really gives a very compelling story to have us adopt a strategy to get out of our comfort zone. You know for humans, for the last 50 or 100 years we've lived in this climate-controlled environment that's very rarely altered.

So we need exposure to the extremes to be metabolically healthy, and to avoid the cold is really highly counterproductive.

Now living in Florida it does get- I live in north central Florida so it gets a little bit cold in the winter, and my pool does drop down into the forties in the winter.

But with time, I gradually learned- trained my body to go into that and was actually quite refreshing and comfortable. My ears would get a little cold in the forties, but you feel so good coming out of it, and it really does enormously beneficial interventions to your body and primarily increasing the BAT, the brown and the beige adipose tissue.

**Shawn Stevenson:** Right and as we talked about in the show, there is some great brain implications, or brain health, but with the brown adipose tissue- and I don't know if you know this Dr. Mercola, but this is so fascinating that melatonin- and this was in the Journal of Pineal Research, increases your body's levels of brown adipose tissue as well.

**Dr. Mercola:** Oh that's good.

**Shawn Stevenson:** Super crazy stuff.

**Dr. Mercola:** Yeah it's amazing how all this connects, you know? You do the right things and your body just pushes the pathways in the right direction. You don't have to know the details. It does it for you.

**Shawn Stevenson:** Yeah, exactly. So that encourages us to number one, make sure that we're getting in a total dark cycle because you're going to get a boost in your melatonin, thus this brown adipose tissue which is mitochondria dense, thanks to Dr. Mercola sharing that with us.

And also getting some cold exposure. Being proactive at doing that, and I promise you, the thing is- I've seen the messages from people like, "Shawn I did it today, I did the first cold-" and they're just like- but they enjoy it. But then some other people are like, "I don't know about that one."

And I promise you, it gets easier when you start doing it. You become adjusted in a really interesting way.

**Dr. Mercola:** The simple way is to use your shower.

**Shawn Stevenson:** Yeah.

**Dr. Mercola:** But it's so hard to turn it on cold, all the way out, and you alternate between cold and warm. Maybe twenty to thirty seconds in all, maybe nine cycles, and end on cold, and that's a really simple easy way to get the cold thermogenesis going.

**Shawn Stevenson:** So do you ever do the full body cryotherapy?

**Dr. Mercola:** No I do full body exposure in my pool at 42 degrees which is pretty darn cold. Actually when you take the heat out, these mitochondrial proteins in the electronic transfer, you decrease the distance between them.

So not only do you increase the mitochondria numbers and the brown adipose tissue, but you increase the efficiency of the mitochondria in your entire body. They work better, they create ATP more efficiently.



That's why you feel so good after you do it.

**Shawn Stevenson:** Wow, that's so interesting. Another thing that I want to cover for sure, I don't want to gloss over this. You talk about grounding in the book.

**Dr. Mercola:** Yes.

**Shawn Stevenson:** And how impactful that could be as well with your mitochondria. So can you talk a little bit about that?

**Dr. Mercola:** Yeah grounding is a process where you're connected to the earth. And why is it useful? Well the earth really has a surplus of electrons, and electrons are really useful. We love electrons, that's what we need.

And it's easy to get them from the earth, and our ancestors used to do it all the time because we are connected and grounded to the earth all the time.

We didn't have insulators. Most people wear shoes nowadays or they're living inside, so they rarely connect to the earth.

So when you do connect to the earth there's a lot of metabolic magic that happens. One of the primary things is you increase the charge or decrease the charges around your red blood cells, the zeta potential, so that they're less likely to clump together and your blood flows more freely, and less likely to cause a clot- a blood clot, or a stroke, or a heart attack. So that's one benefit.

It also decreases inflammation. So a simple way that you can do this is to sleep on a sheet that has like silver impregnated threads, that's attached to a ground, and ideally the ground is attached to the ground outside.

You could use it to the electrical circuit in your house, but if you have dirty electricity which is another form of EMF pollution, then that could be somewhat problematic.

And ideally- this is why I walk on the beach because I'm walking right at the edge of the water where this grounding is just about optimal, and you've got the sun- and the sun is a source of photons which are positive.

So you've got the photons coming in, you're grounded on the bottom, and you're in the middle so you're creating this powerful biological circuit that really does have enormous metabolic benefits for your body.

**Shawn Stevenson:** Yeah and I would love to hear a little bit more insight on this, but there's a lot of implications for health like he talked about. Especially with inflammation, and that can be- and I want you to come back and talk about cortisol in relationship to mitochondria.

But I want to share this quickly with everybody is a study, and this was from 2004, and it found that patients who were grounded during sleep had reduced nighttime levels of cortisol and an overall normalization of cortisol secretion during the day.

So it kind of did a cortisol reset for them.

So there's probably obviously implications with cortisol being a potential issue with the function of our mitochondria. Can you talk about that?

**Dr. Mercola:** I don't know that it's been studied specifically, but just like you alluded to earlier, with the melatonin when you implement these strategies, you push your whole- all your pathways into the positive healthy benefits.

So it's not only cortisol, there's dozens of other hormones, and there's a very complex relationship between all of them. But you optimize them. You don't have to worry about- you don't have to play God and take these hormone supplements or hormone precursors and figure it out.

You just need to implement these natural strategies and your body will take care of it for you. It knows. It wants you to be healthy.

You were never designed to be coming down with disease. We've been blessed with the ability to be healthy. The problem is almost all of us are sabotaging it by ignoring these natural strategies that we were designed, we were created to optimize with.

Again we've got everything we need, we just have to access it. We don't have to take drugs, and capitulate the traditional and conventional medical system.

**Shawn Stevenson:** Oh my goodness. You know what? This is just blowing my mind on so many levels, and just the affirmation that you delivered for everybody with grounding.

Specifically what are- how can we best utilize grounding? Natural first, directly with the earth. What surfaces are going to be conductive?

**Dr. Mercola:** Well what surfaces aren't are asphalt, or wood. Obviously those are insulators. So concrete- wet concrete would be better, but obviously the grass, or the sand, and if there's water on it it's even better.

So just the ground if you can, and wet ground is even better. That's like early morning or late evening when there's a little dew on the ground would be best.

So if you can't do that outside, then indoors you want to- especially like there's two surfaces. I'm in my office a big portion of the day, and I sleep at night. So both of those- I stand on a Wobble Board because exercise is another important part of this, and sitting can be highly pernicious.

So I stand on this and I'm standing on a grounded platform that's hooked up outside my window to an eight foot grounding rod planted in the earth. So I'm getting electrons all day long, and it's pretty rare- I don't wear shoes hardly ever. Maybe 5% of my life I'm wearing shoes, and I'm traveling typically.

So you're connected, and the rest of my home isn't, but I'm rarely- I'm typically at my desk or I'm sleeping. One of the two.

**Shawn Stevenson:** Yeah and this is definitely a flip from your career when you were working in your clinic, and working with people, and again stacking conditions in your own favor. I love that.

I have the same thing. I've got a grounding mat under my desk, I've got a grounding mousepad, I've got grounding sheets. I've been using a lot of this stuff for many years as well.

**Dr. Mercola:** And you are standing too, it sure looks like you're standing.

**Shawn Stevenson:** I am, yes.

**Dr. Mercola:** And so is Jade, too. That's great.

**Shawn Stevenson:** That's right.

**Jade Harrell:** He introduced me to that.

**Shawn Stevenson:** It's the culture, you know? And we can impress these things upon culture as well.

So on that note, one final thing I'd like to ask you about is that exercise component and movement when it comes to mitochondria.

**Dr. Mercola:** So important. There's a whole variety of things. It really suppresses empor, it keeps it low especially if your protein levels are low when you exercise.

It also increases something called PGC-1Alpha which is a metabolic pathway which is responsible for a process called mitochondrial biogenesis.

In other words the process that increases your mitochondria, so when you exercise you actually increase your mitochondria. And then of course your brain, the BDNF, brain-derived neurotrophic factor.

So these are all- it's just crucial, but you've got to combine it with recovery.

Actually you're passionate about fitness like I am too, so I may share this with you and audience.

There's a close personal friend of mine, Zach Bush, who developed this exercise revision that I never really understood. It's called the nitric oxide dump. Now you know many people take nitric oxide supplements because it's so good at lowering blood pressure, and decreasing inflammation.

Well you can actually do this with exercise, and if you just- he does a series of calisthenics where he does some squats- ten squats, and then where you're bringing your arms up for ten times, and then doing overheads like you're jumping jack but just standing still, and then doing shoulder presses, ten reps of those- each of those, so that's forty and you do that four times, and at the end of three or four minutes you're like sweating and breathing heavy. You want to breathe through your nose, not your mouth. And you're going to dump most of the nitric oxide in your body.

You do that two or three times a day and you're getting the benefit of like two or three hours of exercise. And it's free, it doesn't cost you anything. You don't have to have a membership or a darn thing.

Now it doesn't mean you shouldn't do strength training or mobility training and flexibility, but that's a simple strategy to improve your health, and you still get all the metabolic benefits with it of mitochondria and biogenesis.

**Shawn Stevenson:** I love it. This is what I love, is making it simple, you know? This doesn't require that much, it just requires strategy. And all the things that Dr. Mercola is doing today, he didn't start doing in the beginning.

He added pieces as he went along, and it's just great to have an example and somebody that's putting out such great information that we can all take advantage of.

And I would like to ask you if you could share- because the subtitle of the book is 'A Revolutionary Diet to Combat Cancer, Boost Brain Power, and Increase Your Energy.'

I'd like for you to speak to the people who- as you mentioned earlier, one out of two. This is not a small thing. Why is it so important that they understand the information in this book if somebody's dealing with cancer, or somebody they love is dealing with cancer?

**Dr. Mercola:** Well obviously for those, I mean how many tragic stories have each of us encountered and funerals that we've had to attend of those that we've lost prematurely?

I mean everyone can think about it and probably a tear comes to your eye, and it just simply doesn't have to happen.

But even from a selfish perspective, I mean why wouldn't you not only want to avoid that, it's kind of hard to get motivated to avoid something that you don't know about, but why wouldn't you want to feel better and healthier?

Because one of the magnificent benefits of adopting a fat fuel burning strategy is that your desire for junk food disappears. It's like gone, it's not there.

And you also had this incredible mental clarity. Your thinking level improves dramatically, you can remember things, your brain works the way it was designed to.

So you have loads of energy, loads of mental function, and you're avoiding the challenges, the arthritis, the inflammation, you're keeping your inflammation low.

I mean I just challenge you, the best test that you can get for inflammation is something called the High Sensitivity CRP or C-reactive protein. And the people I've had who've had to check in who are doing this, I mean it's like almost unmeasurable. Their inflammation levels are gone, they just don't have inflammation.

So diabetes disappears, just their weight normalizes, their hunger cravings are gone. It's just sort of like the magic strategy that you've always been looking for that really works.

Because I've been playing with diet for decades, and I've never found anything more effective than this strategy.

**Shawn Stevenson:** Thank you, Dr. Mercola. And one final question. What is the model or the example that you're here to set with the way that you're living your life personally?

**Dr. Mercola:** Well I think the clear message is that you want to take control of your health. Now I'm a physician, I've got a little more medical training than most people, but it doesn't matter.

You can learn most of the stuff I've learned online. When I went to medical school, I took the last year of my residency medical training program, a whole year, I spent an additional year training, and I just did searches in the library to understand preventative medicine.

I had to do it by the books, and now you can do that online for free. And I had to not only find the references, then I had to go to the archives, and pull out the journal, and photocopy it, and then read it. Now you can do that online! The tools are there. You have the potential.

If you don't understand it, there are communities that you can see, but the key thing is to be motivated that you can do this, and as your health starts improving, your

symptoms start to disappear, you're even further catalyzed. But you can do it. That's the message is that you can totally take control of your health.

**Shawn Stevenson:** Oh love it.

**Jade Harrell:** Yes.

**Shawn Stevenson:** Dr. Mercola, thank you so much for your passion, and for your persistence. I know- oh my goodness, the amount of work, and time, and energy, and a lot of people don't realize that you've also been somebody who's been constantly fighting with the medical establishment, and them coming at you trying to pull some of these things out of public availability.

And just the courage to do that, I just want to say thank you for that.

**Dr. Mercola:** You're welcome. Well there's an enormous concerted concentrated effort into discrediting anyone who's sharing this type of information because we are causing these companies- the pharmaceutical companies and others, the big food industries that lose- and I'm not exaggerating, this is not hyperbole, tens of billions of dollars.

I mean we've got it all recorded. And when you're losing that amount of money, they're going to put a lot of energy to try to fight you, and they do.

**Shawn Stevenson:** Yeah that's a lot of cash.

**Jade Harrell:** But you've got something greater because you're causing a reaction- a response rather than a reaction, that others can then team in with this, and it won't be a matter of, "We're fighting somebody directly, but we're enhancing our lives to make it better for us all."

**Shawn Stevenson:** Indeed. Indeed. Can you let everybody know where they can pick up 'Fat For Fuel,' and where they can connect with you online?

**Dr. Mercola:** Yeah well my website is my last name, which is [www.Mercola.com](http://www.Mercola.com). And we've got- this is our twentieth year, we celebrated our twentieth anniversary, so we have tens of thousands of articles.

So there's a search engine box at the top of every article, and you can type in whatever your question is, and you'll typically find dozens, if not hundreds of articles on something we've written about in the past.

And the book is available everywhere. Amazon is probably the simplest and easiest. If you come to [www.FatForFuel.org](http://www.FatForFuel.org) which is our website, there are some free bonuses there- same price, so no benefit, but you just get some free additional bonuses; video, seminars that I've given before.

But it's a great book, and it's really the best book I've written to date, and it's just going to provide these tools. I mean the book is such a darn good investment, and this is not a sales pitch.

I mean I read 150 books a year because it's like one of the- I mean you've written a book, you know it takes you months and years to compile this information, and for \$15 you're giving all this information basically for free!

It's just like one of the best values you can get.

**Shawn Stevenson:** I totally agree, I totally agree. And we all have access to this, and Dr. Mercola, again thank you so much for your brilliance, and for your passion to share. Truly, truly appreciate it.

**Dr. Mercola:** Well thank you for the opportunity to connect with you and Jade.

**Shawn Stevenson:** Awesome. Everybody, thank you so much for tuning into the show today. I truly appreciate you being here. And I hope you got a lot of value out of this. Dr. Mercola took us all over, and touched on so many different things that are important for our health.

And he's somebody that I would definitely turn to personally to get more information on specific subject matters relating to things like grounding, things like light therapy, things like cold thermogenesis, things that we've talked about here on the show.

He's one of the people who are adamant about scouring the internet, scouring the data, and putting together information that people can consume easily.

And that's why also the book- like he said, like it's crazy if we're not reading books because you're getting decades, decades of experience right here in these pages for- he's like, "It's basically nothing!"

**Jade Harrell:** "It's free!"

**Shawn Stevenson:** So definitely check out 'Fat For Fuel' and check out [www.Mercola.com](http://www.Mercola.com) if you're one of the seven people out there who have not been utilizing his website.

And a couple of the big takeaways, we've got to really mind our mitochondria. Start paying attention to this. Like he blew my mind with the brown adipose tissue and how valuable that can be.

And also a simple thing, exercise can increase that mitochondrial density in your body. You can create more of this, this mitochondria genesis takes places simply from taking action doing that.

But the functioning of those mitochondria, the support is what's most important, and he details the lifestyle factors, and specifically the nutrition that is going to be supportive for that in the book.

And if somebody that you know or yourself is struggling with chronic illness, specifically cancer is what he's highlighting here in the book, this is a must read for sure.

And also for all the practitioners out there, the health practitioners, to have this in your utility belt to be able to serve your patients, I think it's of the utmost importance.

And I appreciate you so much for tuning into the show. Make sure that you hit the subscribe button so that you're staying up to date with the new episodes, and make sure that if you're in Austin, come out and hang out with me. I'll be at a very, very special meet and greet at Onnit HQ, at Onnit headquarters, and it's coming up soon. So head over there right now at [www.TheModelHealthShow.com/Austin](http://www.TheModelHealthShow.com/Austin).

Alright so make sure to check that out. And of course again, make sure to pick up 'Fat For Fuel.' Have an amazing day, I appreciate you so much. Take care, and I'll talk with you soon.

And make sure for more after the show, you head over to [www.TheModelHealthShow.com](http://www.TheModelHealthShow.com), that's where you can find the show notes, and if you've got any questions or comments, make sure to let me know. And please head over to iTunes and give us a five star rating, and let everybody know that our show is awesome.

**Jade Harrell:** Yeah.

**Shawn Stevenson:** And you're loving it.

**Jade Harrell:** Yeah.

**Shawn Stevenson:** And I read all the comments, so please leave me a comment there, and take care everybody. I promise to keep giving you more powerful, empowering, great content to help transform your life. Thanks for tuning in.