

Embrace the Sun: A Special Interview With Dr. Marc Sorenson

By Dr. Joseph Mercola

JM: Dr. Joseph Mercola

MS: Dr. Marc Sorenson

JM: Welcome, everyone. This is Dr. Mercola helping you take control of your health. Today we're in for a real treat because we're going to talk about one of my favorite topics, vitamin D. You're going to learn a lot of insights which you probably didn't realize before. I certainly didn't before I read our author's book, Dr. Marc Sorenson, who wrote the book *Embrace the Sun*. In fact, the book is so good that in all the lectures I've given for the last six months and the ones coming up for this year, I've embedded a copy of the cover of his book and encourage all the people attending my presentation to get a copy, because it's really good.

Vitamin D is at the core – is absolutely foundational core – of optimizing your health. If you don't get that right, so many other things are just not going to fall into place. It's not. It is absolutely not – I've said this before and I'm going to repeat it because it's worthwhile – not about swallowing a pill. It's about getting it from the sun the way all of our ancient ancestors were designed to do.

MS: Exactly.

JM: Yeah. I can go on for like an hour on this, Marc. But I want to have you – Because there's so much good stuff here. Welcome and thank you for joining us. Perhaps begin by discussing the motivation for writing this great book.

MS: You know, when I was a young man, I was running a world-class health resort. We were getting all kinds of wonderful things happening. We have an average of 11.7 days to have two of every three diabetics off of all medication; to have arteries, heart disease reversed to where people did not have to have bypass operations that we scheduled for. I chocked it up all to good nutrition and a lot of exercise and so forth.

After I actually sold that business and retired for a while, I began to realize that a lot of what was happening was due to the sunlight. I got interested in vitamin D at that time and wrote a book in 2004 on vitamin D and updated it a couple of years later. You began to sell that book on your site at that time.

Now, I've had like another epiphany at this time. I had to realize a few years ago that even though vitamin D was the most important photoproduct and I perused it to the nth degree, that probably sunlight was more important than vitamin D. Just like you said, I got the idea real quickly that you can't just take a vitamin D pill and – what should we say – substitute for everything the sun does.

In fact, things like heart disease – we're not seeing very good research when we take pills for it. But when we get out in the sun, the research is incredible. The risk of heart disease and the risk of myocardial infarction drop dramatically in the summertime, and go up dramatically in the wintertime. Meaning, there's something there that has to be beyond vitamin D, because the vitamin D supplement studies with heart disease haven't worked out well.

What we know now is the main mover to prevent heart disease is probably nitric oxide, which is a potent vasodilator, as you know. It vasodilates the arteries, opens them up. Heart disease is less – Blood pressure can go down dramatically with regular sun exposure, which it does.

People, as I said, people who are using sunlight on a regular basis, their risk of dropping dead of a heart attack go down rather dramatically, whereas the vitamin D pill doesn't do that. I'm not saying anything against vitamin D. Vitamin D is the No. 1 photoproduct that is produced by the sun. But if we think we can get the holistic sun, we could get the benefits of the holistic sun by taking any one pill, whether it was for nitric oxide or anything else, that's not going to work. We need to be in the sunlight. We need to realize a few other things.

One of those things is that for every death caused by sunlight exposure or diseases that are related to sunlight exposure, there are 328 deaths caused by diseases of sunlight deprivation – 328 to 1. The powers that be – the people who I call the powers of darkness – are still insisting that we need to get out of the sun. They're killing millions of people worldwide.

Having realized these things, those were the reasons that I went – not away from vitamin D – but I realized that I needed to write a book that was vitamin D and beyond. That's what this book is about, *Embracing the Sun*, so that you get the holistic effects of sunlight, not just one or two, or maybe none in some cases.

JM: Well, thank you for that summary. I definitely actually wanted to actually go back to it a little bit with respect to the nitric oxide and discuss that a bit more, and then go onto some of the other reasons, which I think is really a foundational component of the book. I think everyone would benefit from picking up a copy of your book, *Embrace the Sun*. But as I understand it, the ultraviolet A (UVA) and the near-infrared both increase the nitric oxide. You've got it on both ends of the spectrum. The near-infrared also increases the cytochrome c oxidase, the fourth cytochrome in the mitochondria, benefits that you don't get from swallowing a pill.

MS: Yes. You can get them. Even a sunlamp was going to be better in some cases than trying to take one pill. A sunlamp will do more for you. You're the expert on infrared: the next thing I'd like to get into. But I can't speak intelligently on that, so I'll leave that one to you.

JM: I'm just in love with near-infrared. I think it has so many good benefits. Just as an extension, I know of – not concern – embracing that value of the sun. Forty percent of the wavelengths of sun exposure are near-infrared. Forty percent of the sunlight is near-infrared.

MS: That's amazing.

JM: That would come to some – If you're rational, you'd think that there might be some value there. But I want to get back to the central purpose of your book, which was news to me. I'd always wondered why on Earth would there be such a conspiracy with modern medicine of having us avoid the sun. It just doesn't make any sense, until I read your book. I didn't understand what the motivation was. I'll let you explain that in great detail, because you go into it. It opened my eyes as to what was behind this conspiracy.

MS: Well, the powers of darkness, as I call them, are very highly invested in the sunscreen industry. About 70 percent of the funding comes from the sunscreen industry. Of course, with a dermatological society, we find out that they are backed by, or they back, I should say, those who produce sunscreens.

We've got a vast conspiracy with the sunscreen industry. That's one of the main things. Besides, I have never felt that most physicians in this are not throwing it all into one basket. Most physicians are not that interested in keeping people well, or should I say medicine in general. Because if they do get people well – and sunlight will do that to a great extent – they're out of business. There is a conspiracy out there. I've written a very large chapter that you've obviously read about that and how they used their anti-sun to keep people sick. I hope that's a good enough explanation for it.

JM: Well, I would just like to elaborate on that a bit because I'm not convinced that the vast majority of physicians are conspiring in that model. They're well-intentioned. They're just merely misinformed and ignorant for the most part.

MS: Uninformed.

JM: Well, misinformed, uninformed, I guess it's pretty similar because they have the facts and their information incorrect. It's largely based on a model that the powers that be – these powers of darkness, as you refer it to them as – have literally captured the whole educational intervention system, from the peer-reviewed medical journals to the faculties and the institutions who are teaching this. It's really, really hard to come out there objectively and to graduate with a comprehensive view that more represents the truth. It's going to be completely biased towards a pharmacological and surgical paradigm.

I don't think the physicians know that and are actively seeking to not let their patients out. They knew and truly believed that they would let them know, most physicians. I'm pretty convinced. They just don't know.

MS: That's true. Things are changing for the better however. I know a physician here in town, a dermatologist in fact, who talked to a friend of mine because the guy was afraid of getting melanoma. This dermatologist, believe it or not, said, "If you want to prevent melanoma, get out and get yourself a good tan." I about fell on the floor. I thought, "Well, things are changing." They are becoming a little more informed than they used to be.

JM: Why don't you expand on that comment that you just made? Because typically, the basis for what most dermatologists and other professionals – but primarily dermatologists – are radically encouraging their patients to avoid the sun because of this risk of melanoma.

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Basically, there are two different types of skin cancer, two general types: the melanoma and non-melanoma. Really, having a foundational understanding of this would go a long way towards defending your position among others who are really concerned about the skin cancer. Because that's the central argument that's being used to encourage people to stay out of the sun and receive all the benefits.

MS: Yes. One point that those physicians should understand is that 75 percent of all melanoma occurs on areas of the body that never see the sun. We also need to understand that back in 1935, about 1 in 1,500 people would succumb to melanoma – not succumb necessarily – but would contract melanoma. Today it's 1 in 50. There's been a 3,000-percent increase in the risk of getting melanoma during that time.

JM: Marc, which timeframe are you referring to again?

MS: Well, 1935 up to the present, basically.

JM: Okay.

MS: I think my last figures may have actually been about 2002, but I don't think it's changed much. We're still getting more melanoma each year. The more we use sunscreen, the more melanoma we get. Australia's proven that for many, many years. They use more sunscreen than any people on Earth. Yet, they have the highest degree of melanoma. They keep making the same mistake every year. Get people out of the sun, and then what happens is they get more and more melanoma.

What I'm saying is that melanoma increased by 3,000 percent between 1935 and, let's say, 2002 to 2003. That's a tremendous increase. Sun exposure during that time, by my government figures, has gone down by over 90 percent. We have a 90-percent decrease in sun exposure and a 3,000-percent increase in melanoma. How does that add up for their theory? It doesn't add up at all. They're now beginning to realize that, I think, little by little. But still, they're in that hip pocket of the medical schools that promote sunscreens and such.

JM: Why don't you go there now? Connect the dots though and add in the additional variable of the equation with respect to the decrease in the sun exposure and the increase in the incidence of melanoma? But what happened with the use of sunscreens?

MS: Same mathematics. Its exponential increase in sunscreen with the 90-percent decrease in sun exposure. Part of that sun exposure decrease, of course, could be due to the sunscreen themselves. But I grew up on a ranch. I ran tractors and so forth. I was out without my shirt or I was out on a horse chasing cattle. I got all the sunlight I could even possibly imagine. I should have melanoma four times because I'm a blue-eyed, white-skinned Caucasian, but I never got it because sun protects us from melanoma. It does not protect us from the common skin cancers. They will increase, provided all else is equal, and all else shouldn't be equal. We should be stuffing ourselves with high-antioxidant foods.

I think you're a fan of curcumin. Curcumin is something people should be taking every day because of its antioxidant properties. If we do that, then we can also put a halt to the common skin cancers, which are sunlight-sensitive, all else being equal. But if you're going to bet on getting one or another, we know that people who have more common skin cancers actually have far less melanoma. That was some research that Dr. Grant, who you know many years ago, is absolutely correct.

JM: Yeah. I'm a big fan of polyphenols like curcumin. But you've got to be careful. I'm much more inclined to get them from foods and then let your body figure out how to use it. But it's all about the timing too. I do use curcumin, but I tend to use it at night, because it facilitates a process called autophagy.

MS: I didn't know that.

JM: Autophagy is from two Greek words, from "auto," meaning self, and then "phag," meaning eat, so it's self-eating. It describes a process in your body where you get rid of damaged and defective cellular parts that essentially are targeted and directed towards lysosomes that would digest them.

Now, the reason I mention autophagy is because literally last week, I was flying to Las Vegas to give a presentation in front of 2,000 doctors. I read a study that surprised me. But I was so excited, because guess what else increases this incredibly valuable process called autophagy? Sun exposure. Isn't that amazing? That's not in your book because it's relatively new research, but it really surprised the heck out of me that sun exposure could – Well, it wasn't surprising. It was just I guess – Well, it was surprising to a certain extent, but I had no idea that it provided that additional benefit. That's another reason to be in the sun. But I want you to –

MS: I'd love to see that paper.

JM: Yeah. I can send it to you. That's easy. It was a nice review on autophagy. Actually, the other thing that did it, which was surprising when I didn't realize, was exercise, aside from a whole variety of important polyphenols and intermittent fasting. But I'd like to go back to the non-melanoma skin cancers, which are primarily divided into basal cell and squamous cell cancer. Can you give us the statistics on those? Because sun exposure will increase your risk of those cancers.

MS: Yes.

JM: But that's not necessarily something to be concerned about. Why don't you cite the statistics and give us some reassurance? Because I remember from your book, it's only 1,500 people a year die from these types of cancers. These are almost all immunocompromised people, pretty sick people.

MS: Yeah. You have to be sick to die of a common skin cancer. Your immune system is not working and you do have a chance of death. You're right. Fifteen hundred people per year die of common skin cancers. I don't remember how many people die of melanoma right now, but I know it's many, many times that high.

Many times, you see a paper that is trying to fool you. They say, "Okay. Skin cancer." They throw it all into one box. What they're really talking about is the research has been done on common skin cancer. But they think – So many people believe that common skin cancer turns into melanoma. Absolutely not true. As I mentioned, people with more common skin cancer get less melanoma. If you're going to bet, you bet against this common skin cancer or against melanoma and for the common skin cancer. Beyond that, did I care for that?

JM: Yeah. I think so. I'd look up the statistics to make sure that I didn't miss anything. I just want to bring home this point because it's so important. I just want to emphasize the statistics. I think this is the central reason and justification that physicians use to encourage people to avoid the sun. That is that by exposing your skin to the sun, you will decrease – decrease – your risk of melanoma.

MS: Exactly.

JM: What's going to kill – Why does it do it? Primarily we think because it increases vitamin D, probably other factors too. But that's the primary one, then your increased risk of the others. But these are non-dangerous skin cancers. Fifteen-hundred die every year. For every one of those 1,500 people – most of who are already immunocompromised, who were going to die from something else anyway – For every one of those people, you're going to have over 300 – I think it's 326, the number you quote in your book – others who are going to die from other diseases as a result of vitamin D deficiency, like cancer or heart disease.

MS: Yes. I mentioned too that's 328 to 1.

JM: Yeah.

MS: That's the way it works for every person who dies from not necessarily common skin cancer, but other things like lip cancer and couple of others that do relate to sunlight exposure. But most of them do not. Therefore, you're finding out that, yes, there are a few. That's the one, then the 328 are the ones who have their lives saved by sunlight exposure.

JM: Okay. We're touting sunlight exposure. There are loads and loads and loads of benefits. We just touched on the surface of some of them. But many people watching this video aren't able to get sun exposure, adequate sun exposure on their skin, which is where it counts. You can be outside and if you just have your face exposed, it's not really going to work too well. Let's get into the details.

Fortunately, by the time this video is airing, it will be summer for most people in the Northern Hemisphere. But in the winter, which usually starts from October to March or so in most of the country. You're not going to be able to get enough ultraviolet B (UVB) exposure on your skin. It's certainly not going to be warm enough to get the sunlight on your skin. I think the magic latitude here is 35 degrees.

Now I think also 75 percent of the population in the planet lives in the Northern Hemisphere. It's a relatively small number of people who live in the Southern Hemisphere, but it's the same way. Either you're north of 35 or south of 35 degrees, in the winter, it's not going to work. You can look that up, but just tell us where that line runs across the country from.

[----20:00----]

MS: Well, from Los Angeles to Atlanta basically, you've got the line. If you're south of that line, you can get at least some vitamin D in the winter. But south of that line, you may need to get out right at noon to do it. The farther south you go, of course, the easier it is to get the vitamin D from the sunlight. But north of that line, you're not going to get any. However, you are getting lots of other photoproducts, like brain-derived neurotrophic factor (BDNF), nitric oxide and others. They will be produced even in the winter.

I tan every day. Even in St. George, Utah, maybe 40 degrees outside, I step into my – Because we've got a lot of sunlight even if we've got snow. I step into the garage, so I'm protected from the breezes. I get out in the sun every day. It's not doing me a bit of good for vitamin D, but I do have my own tanning bed. I can go into that tanning bed and it produces a dramatic amount of vitamin D, so will a good vitamin D sunlamp will do that for you in the winter. If I'm worried about that – And I'd rather do that – Sometimes I fudge and take a vitamin D pill, but I would rather do that because it would be a lot more natural than taking a vitamin D pill, in my opinion. That's the way that I do it. I think everybody should.

Of course, a tanning bed has been much maligned. It dramatically increases bone strength. It dramatically increases vitamin D levels. It reduces the risk of psoriasis and eczema. It does many other things that they never give any credit for. In my site, called SunlightInstitute.org, I write something about one of this subject about every single week and mention that I do like to get out in the sun even in the winter, if there's any sun available. If there isn't, then you're left with a tanning bed and sunlamp that produces vitamin D or whatever for the winter.

JM: You hit on a good point. You live in St. George, Utah, which is considerably north of the 35-degree latitude, but the variable that we neglected to mention was altitude. For every 1,000 foot of elevation, you're going to get a 4-percent increase in UVB, up to 8,000 feet, and then it goes up to 8- to 10-percent increase per thousand feet. What's your altitude?

MS: Our altitude here is 3,000 feet. However –

JM: So you're not getting that much. You're getting like a 12-percent increase.

MS: No. I'd have to do it right at the right time of day if I got out right at noon, which only lasts maybe a few minutes in the winter. But that's interesting because I own a ranch that's at 6,500 feet. I go out there. It's in Nevada, north of Vegas by about a four-hour drive. But it's very high. I can also go up Wheeler Peak, which is right next to it, which is 13,060 feet.

That's where you have to be careful about sun-burning, because I get up there and I always have with me – I have on one of my shirts – that's hard to say. And I have some white gloves, everything very light, and I have a big hat. When I'm hiking at 13,000 feet and I start to feel even a little bit of heat or I watch my skin and it becomes the slightest bit red, I immediately put all those things on and go continue my hike. I get myself out of the sun at that time, which I think is God's way.

Now I don't know if I have this in the book. My mind skipped to another subject. I was just thinking about the new study on Parkinson's disease also that showed people who are out in the bright sun daily, regularly have 1/50th the risk of ever getting Parkinson's. I don't know if you saw that. That's fairly new research or

not. I was stunned by that research. I know. I had written in the book about Parkinson's, but I hadn't seen that much of a change. But up in those mountains, you do have to be careful. I am, because altitude, as you say, every 1,000 feet more, it gets more and more intense. But that's good. You get a lot more vitamin D.

JM: But like anything in life, there's a Goldilocks dose. You need a certain sweet spot. If you get too much, it gets dangerous. Neither of us, no rational person is recommending or endorsing ever, ever getting sunburnt. Listen to your body. If you have the slightest bit of pain, get out of the sun. Don't throw on sunscreen. Just get out of the sun, ideally a shirt or some sunscreen blocking material. Get in the shade. You do not need extra sun, because you have maxed out your benefit. There is no additional benefit, only danger.

MS: Your body shuts it down at that point, in fact. Your body will shut down your vitamin D production, along with anything else that it doesn't want. There is a very interesting piece of research that's come out, I would say, eight weeks ago that shows that people who use sunscreen have anywhere from three to six times the risk of getting sunburn. You heard that one. Three to six times the risk of sun-burning with sunscreen.

JM: Yeah.

MS: Another one was a big meta-analysis showed that there was no benefit whatsoever in using sunscreens, none at all. In fact, there was a slight increase in the risk of all skin cancers together.

JM: Yeah. Let's get back to the sunscreens for a bit, because I believe there's an important differentiation. I'm not sure what the current status on them is. I know the initial ones, they really only screened for UVB. They did not screen for UVA.

MS: That's who I used to be. Yes.

JM: Yeah. I don't know what the current status is. I'm sure there are some who still have those types or similar formulations where they're not letting the UVB that makes the vitamin D come in, and they're allowing the UVA to penetrate, which causes the skin cancer. Do you know the current state of the percentages of the sunscreens that do that?

MS: No. I do not know. However, I do know they've changed a lot because of what you were quoting there. Most of them are trying to be full-spectrum blockers now, trying to get both UVA and UVB blocked in the sunlight. They say that they're doing it, but I have not seen anything that would indicate that sunscreen is preventing melanoma in any way.

JM: Yeah. I want to get back to the melanoma too, because Dr. Frank Garland, who you quoted earlier in your book, really described melanoma as a risk factor for sedentary office workers, who works with no sunshine, but primarily with fluorescent indoor lighting, which has no ultraviolet A or B. B would be the primary one. But it also has these digital spikes of primarily blue light that cause lots of problems. In addition to that, it will generate dirty electricity about 62,000 hertz, so 62 kilohertz, and put that into your body. That combination, especially combined with being inactive is a good prescription to increase your risk for melanoma.

MS: And breast cancer. Both of them are increased by that type of lighting.

JM: Have you found any studies that correlate the actual production of vitamin D in the skin on the breast that would support a woman – of course, you do this in private – to sunbathe her breasts?

MS: Sometimes I see some very interesting research. Like the most interesting piece of research for me on breast cancer and sunlight is one that actually came out of Iran. They found that the women who were wearing a burka or whatever it is –

JM: Burkas.

MS: Yeah. Those who were using that and never get out in the sun have exactly 10 times the risk of breast cancer as those who got out of the sun in just a normal way. Now, whether those others are sunbathing nude on the beach, where they got the breast exposed, I don't know. It just says women who were seeking the sun versus these who absolutely got no sun, 10 times. I mean we're talking about 1,000-percent greater risk of breast cancer. The women are being frightened out of the sun all the time. It's ridiculous. That's probably the best I could quote. I don't know if you saw the Iranian study, but that was –

JM: I did. I read about it in your book.

MS: Yeah.

JM: That is one of the key components of vitamin D therapy, especially for breast cancer and breast cancer recurrence; because there are so many women who get treated but fail to pay careful and serious attention to their vitamin D levels and get them into optimal range. Because if they don't, their likelihood of breast cancer recurrence increases dramatically. I think that's probably the single biggest variable to prevent breast cancer recurrence, and also for primary prevention. It's not getting a mammogram or even a thermogram that's going to prevent the breast cancer. It's making sure that your vitamin D levels are optimized.

MS: Yes. Absolutely. You probably read my book too or do it yourself already that you can produce 20,000 international units (IU) in 20 minutes of unobstructed sun exposure on both sides of the body – 20,000 IU. You take a pill and what's it got? Six hundred IU of vitamin D now? And they're wondering why some of the vitamin D studies don't work very well. Because it's like trying to pour food coloring in the ocean and change the ocean. There's not enough there to make the difference in many cases.

[----30:00----]

JM: Yeah. There was a study published earlier this year that we did a lead article on showing that high-dose vitamin D didn't work. Well, high-dose was 2,000 units. Even if it was 5,000 or 8,000 or even 10,000, it's almost irrelevant because you don't know what dose the person needs unless you measure their blood levels. In this study, they never measure blood levels.

MS: Yes.

JM: Of course, they're not going to get significant results. They're going to – The media ate that up and had it all over the headlines of the newspapers that vitamin D doesn't work. When in reality, the study was fatally flawed.

MS: Yes. They don't know. Like you said, they don't know if it works. As we mentioned before, 20,000 IUs in the body will shut you down if you don't need any more of that. That's what you should be getting, because that's the natural way. You can be toxic with too much vitamin D, but never with the sun. The sun will never make you toxic.

JM: Yeah. It's got its own built-in safeguards. One of the other benefits – Well, you probably would get this benefit from an oral vitamin D supplement too, but again, we're both strong advocates of getting it from the sun. Personally, I have not swallowed a vitamin D supplement in over 10 years. My vitamin D

rarely ever goes below 60 nanograms per milliliters. It might get into the high 50s in the middle of the winter. But I live in Florida, so that's easy for me to do.

But one of the benefits is that it radically decreases your risk of autoimmune disease. That's a disease that your body identifies proteins and other structures in yourself as foreign, and it tends to self-destruct them. The classic examples would be multiple sclerosis (MS). That would be the classic one. And Type 1 diabetes. You have a quote in your book about Type 1 diabetes in Finland, that the child there is 400 times – 400 times – more likely to get Type 1 diabetes, which is a terrible, terrible disease.

Universally, at least in the past, that was a prescription for dying prematurely. I think that will change in the next decade or so when we develop some really novel technologies, essentially to recreate a pancreas to provide this feedback, this hormonal feedback to optimize glucose levels. But right now, it's dangerous, 400 times more than a child born in Venezuela.

MS: Absolutely. Absolutely. That is absolutely true. There was one study on vitamin D supplementation there in Finland that did show that it was five or six times less apt to get Type 1 diabetes. But then if you take a look at people who were really getting the sun, it goes from six times to 400 times, like you said. If you want to take a look at the best way to do it, of course you always get out in the sunlight, which is the natural way to do things.

You have probably the most popular natural health website on the web, so I know that you like natural things. The fact that you won't do vitamin D pills really tells me you like natural things. But if you live down in Florida – I think you used to be in Chicago, but you've been living in Florida.

JM: I sure did.

MS: You probably get, every day of your life where you live, I would imagine you get all the vitamin D you want out on the beach. Yeah. I'm glad you mentioned that. I need to read my book again, because I had so much information I'd almost forgot about that. There are a couple of other absolutely stunning –

JM: Another one is the incidence of MS, which is not quite as dramatic but is one I've known for a long time. I think that was Dr. Garland's epidemiological research also that pretty definitely proved – and this was well, well before the advent of vitamin D supplements. I mean they existed but there weren't more than 400 units. This was just clear epidemiological observations. People were not swallowing vitamin D supplements. They were just getting their vitamin D levels optimized through sun exposure. What he found was the incidence of MS, devastating neurological disease, was 100 – not 400, but 100 – times higher in the Northern Latitudes than it was where sunlight was intense.

MS: Yes. It virtually disappears in the equator, that disease. There is none. If you look down in Ecuador, you're going to find virtually zero MS. It's really interesting when you plot it on a graph, because it just keeps on getting higher and higher in its incidence as you go farther and farther north, where the sunlight gets less. Absolutely. One of the great studies by the Garlands, no doubt.

JM: Yeah. And then interestingly, Michael Holick, who's probably the premiere vitamin D researcher in the world, as far as most people, most experts would acknowledge. I've had the pleasure of connecting with him on several occasions, personally and professionally. He has done some interesting research. He quoted a book that I wasn't aware of, but it makes sense. It actually increases – Sun exposure increases dopamine.

MS: Yes, yes. He's the only one who mentions that, almost besides what I put in my book. I had to go to him for that. You probably noticed that he wrote the foreword for my book though.

JM: Yes.

MS: Yes.

JM: That dopamine, if in case you didn't remember, is a neurotransmitter that makes you feel good. In some cases, it's actually really counterproductive because it motivates people to get to some of these addictive behaviors. They're increasing their dopamine levels in unhealthy ways. But a healthy way to do it is just to simply get yourself out in the sun.

MS: That's right. Dopamine's so important.

JM: Yeah. You're correct. I did live in Chicago. But the reason I moved to Florida is to get – One of the primary motivations is to be comfortable in the winter and not have to fly to Hawaii to get sunlight. It's to really optimize by vitamin D exposures. You can't get vitamin D here every day of the year. It's not necessary because vitamin D is a fat-soluble, steroid hormone. It sticks in your fat cells, and there's a buffer so that – It's not sunny here every day of the year.

MS: Of course not.

JM: But most of it is. It's pretty uncommon. I would say less than 5 percent of the days where you can't get good sun exposure.

MS: It's pretty much like St. George.

JM: Yeah, yeah. The days that you aren't getting the sun exposure, the vitamin D that you need is leached out of the cells and the body uses it. That's why you want to be – let's go over the ideal optimal ranges. But my understanding and what I recommend is 60 to 80, because the level – I forget the researcher who did this, but it was an interesting study in breast-feeding women. But if the levels got below 40, that was the problem. Sort of give yourself a buffer. If you get it up to 60, then you're just not going to go below a level that your body is not going to have sufficient vitamin D to do whatever it needs to do.

MS: That's true. My numbers are just a little bit different. I can't remember who did that research. But they found out that –

JM: That was Bruce. Bruce is the first name. Bruce Hollis.

MS: Bruce Hollis. Yes. Then there's not enough vitamin D3 in the blood. You just have the active form at that time or the vitamin D3 that will be converted into salt. Right there, you know that your body is probably taking all it needs and converting it into one 25-OHD, and that's all that you need. That was a great thing. But I wrote a book – I didn't get credit for it because he bought me out. John Cannell and I wrote a book called *The Athlete's Edge: Faster, Quicker, Stronger With Vitamin D*.

JM: Oh sure. He was widely promoting that.

MS: Yes. I was really the co-author, and then he decided he wanted to buy the book from me, so I sold it to him. But one thing that we found out that surprised me is that athletic performance and risk of falling and all those things that the non-athlete would be interested in too, they got better, up to about 63 nanograms. Beyond that, there was an S-curve. They went back and got a little bit worse. I've always said I want mine to be at 63 or 65.

JM: Interesting. Explain that a little more in detail, because I must have missed that in the book. Sorry about that.

MS: Yes. Once the vitamin D levels went past 64 nanograms per milliliter, then you had an S-curve in terms of falling and a few other things that were not given. So you became less apt to fall until about 60.

JM: Was this athletes?

MS: About 40 to 60, but 60 is my favorite.

JM: Okay. So is that an athlete's or in the general population?

MS: Both. Athletes and in the general population.

JM: Okay. That's interesting. Maybe 60 to 65 would be the sweet spot.

MS: However, I must say that people who were preventing breast cancer, there does seem to go up to 80, so what are you going to say?

JM: Breast cancer is not an insignificant risk, as is heart disease. I believe more women, significantly more women – I forget the statistics or the actual number, but it certainly increases as you get older. But more women die from heart disease than breast cancer.

MS: Absolutely. Yes. That's the No. 1 killer for women. The medical societies tend to think that that's just something that women don't have to worry about. I heard physicians say, "Well, women don't have to worry about that very much, about heart disease," when they're more apt. In fact, if they get heart disease, they're more apt to die than a man if they have a lot of clogging in the arteries. It's very, very important. However, I think if you get an 80 nanograms per milliliter, maybe saying that's the max a woman should get, get it from the sunlight, of course.

[----40:00----]

JM: Yeah.

MS: Realize that along with that, maybe the reason that 80 is better for them is because every single one of those women who has an 80 is probably getting it from the sunlight, which produces nitric oxide, which keeps the vessels clear and improves circulation. Could that be the reason? Of course, at the same time, getting all of that sunlight maybe brings them up to 80. I believe that if we get 80 with the sunlight, there is no danger. Because God, nature – whatever you prefer – knows how to shut down the bad things that might happen if you got a little bit high the natural way.

JM: Yeah. That's exactly what I was going to say, because that's probably the differentiation. When I say 60 to 80, I'm talking 60 to 80 from sunlight, not from swallowing a pill. Different, massive difference between the two. If you're going to do it with a pill, then you're probably going to want to stick to 60 or 65. Part of it may be just the way you feel, because another neurotransmitter that's impacted by sunlight exposure is serotonin. You know, depression is epidemic in this country. We've got so many people taking SSRIs or serotonin-reuptake inhibitors. Why not just get into the sun and increase your serotonin levels?

MS: Yeah. Afterwards you're not going to go out and shoot up half the school yard either if you did get it the natural way.

JM: Yes.

MS: Which is very, very important. Serotonin. You probably saw the study by Lambert that I quoted in my book eight times. If you spend the entire day in bright sunlight, your serotonin levels will increase by 800 percent. Try doing that with one of those antidepressants.

JM: Yes. Aside from the way you feel, the other value of serotonin is it's the immediate precursor, I believe, for melatonin, which you need to lower your risk for cancer, but also help you sleep better. We know that good quality of sleep is just important for just about all aspects of life.

MS: Absolutely. Of course, the problem is most people do it backwards, don't they? They are coming in with their blue light at night and so forth. They have melatonin in the wrong time of day, so they get woozy and out of sorts in the daytime. They're out of sync.

Of course when we get to syncing in, we also know that the circadian rhythm, which relates very closely, in my opinion, to the things we were talking about, should be reset in the morning. If you've got bright light available, you should reset it every morning with bright light, so that your whole physiological system works better than otherwise. It is so important to get in the sunlight, you and I would both agree. No wonder I wanted to do an interview with you. You're a very intelligent person. You believe just like I do.

JM: Yeah. There you go. But it's more than believing. It's actually – When I lecture, I accused many of the professional groups that I lecture to of FTL, which is my acronym for “Failure to Implement.” There's one thing of knowing it. There's a second thing of implementing what you know.

MS: Yes.

JM: So many people, including healthcare professionals, physicians and such, just don't implement what they already know to make themselves healthier.

MS: Yes. I'm not saying one thing about you, Dr. Mercola. You implement. I can tell because you're one of the healthiest men I've ever seen in my life.

JM: Well, thank you. It's really a goal of mine. I've been blessed to be in a position where a lot of the heavy lifting for our business and everything is such done by other people who help me out, so I can research things and really can take committed, dedicated time to make myself healthy, which is several hours a day.

But I want to get back to the benefits of the sun exposure. We have an epidemic of visual dysfunction, people needing glasses at an early age that's called myopia, and at a later age, which is called presbyopia – the ability to need the reading glasses. We've got an epidemic of both. Why don't you talk about how the sun influences our visual ability?

MS: Pertinent with myopia, one of the studies was done comparing people who were in Singapore to people who grew up in Australia, the same ethnic background, basically Oriental Asian background. We found out that those who were playing in the sun in Australia had about one-sixth the risk of ever getting myopia. It is so important. If we don't get out and we don't focus with the sun, we don't look into the distance, that may be one of the reasons we don't get enough vitamin D. We don't get enough serotonin, nitric oxide and any of the other photoproducts that are produced by the sun. There's a tremendous – I wouldn't call it – It's not an epidemic, because an epidemic has to be caught from one person to another. But there's a pandemic –

JM: Pandemic, yes.

MS: There is a pandemic of myopia – We’re seeing it here in the United States with the Asian kids. Oh my goodness. They have a pandemic. It will lead – In many cases, as they get older, it will lead to 100-percent blindness. Of course, they always talk about macular degeneration and so forth, but there’s kind of a dichotomy here, because if you have macular degeneration, they tell you to totally stay out of the sun. It does tend to relate to sun exposure, at the same time, vitamin D levels that are high tend to reduce the risk.

So what do you do? Stop getting your sun and take a vitamin D pill? I don’t think so. I think we’re in the sun the way we ought to be and eating the polyphenols and so forth, foods with polyphenols and other antioxidants that we can, like the curcumin and so forth. I think that’s probably the way to prevent most of the older-age diseases.

Now, as far as presbyopia – I want you to school me here, Dr. Mercola, because I have it. I’ve had it since I was about 40. I just take some reading glasses and I can get along with reading my fine print and everything with those. But I wasn’t able to escape it. It runs in my family. I think there must be some genetic component there, because I was out in the sun and I never had any myopia. I was out in the sun driving tractors, chasing down the cows on horses and so forth in the ranch where I grew up. But I couldn’t escape the far-sightedness. I don’t know if you have it.

JM: How old did you say you were, Marc?

MS: I’ll be 76 this year.

JM: Okay. Well, that’s getting up there with respect to increasing risk of presbyopia. But before we go there and answer your question, I just want to get back to the leading cause of blindness in the U.S., which is age-related macular degeneration. I’m actually interviewing Dr. Chris Knobbe, who’s an MD ophthalmologist and who wrote a book on specifically the risk factors and why people get age-related macular degeneration. It is just a massive compilation of data. He was a real scholarly worker. He went back and looked at all these ancient ophthalmology textbooks.

Essentially, it did not exist. It did not exist before 1930. It seems to be an artifact of not necessarily lack of sun exposure, but primarily processed foods, and specifically the processed vegetable oils. The sugars, of course, did not help. That combination is just causing this massive degeneration. Actually, it’s very difficult to reverse once it becomes advanced. But if you get it at an early stage, you can if you pay attention to the diet. He’s got some really brilliant descriptions in the book.

But getting back to presbyopia, the issue here – I mean clearly sunlight exposure is one, not wearing glasses. I walk in the beach every day. Pretty much, I’m in Florida. When I’m travelling, obviously I can’t. But unless it’s miserable weather – So maybe for 10, 12, 14 days of the year that I’m living here that I don’t walk on the beach, because there’s a thunderstorm or it’s just like 40-mile-an-hour winds or a hurricane. But pretty much I’m out there. But I can’t tell how many people I see making basic mistakes. First of all, they’re wearing too many clothes. They’re walking with shoes on. They’re not getting the benefits of the grounding, which you can get in North America if you’re walking near the ocean.

MS: I’m a big believer in that, just like you are.

JM: Yeah. Well, it becomes a problem if you’re in-land or if you’re in a dense urban area, because of dirty electricity. But certainly near the ocean, it’s not a problem. But then here’s the big thing, they’re wearing sunglasses. That’s a key thing. You don’t ever really want to wear sunglasses, unless you’re like at St. George and it’s snowing out and you’re getting this reflection from the sun, then there’s excess. You’d want to really be –

MS: Or sundown, when you have to look directly into the sun.

JM: Yes. You don't want to do that. But essentially, don't wear sunglasses, and then don't wear reading glasses, which is just a prescription for disaster. As you age, there's a tendency to want to make that font bigger on your computer so that you can see it better, or in your Kindle, but you've got to resist that temptation, because it's like almost going to a walker. You're being handicapped, and you're going to make the vision worse. You've got to exercise and then keep the font at the same size. I don't know if you've been wearing reading glasses, but that will definitely make your vision worse.

MS: Yes, I have.

JM: Yeah, yeah, yeah.

MS: I need to stop that.

JM: I would ditch those as soon as you can or at least progressively go down. Instead of squinting to see, the key thing is to just avoid squinting just completely. Instead, just blink. Blink multiple times until you make it clear, and then relax your eyes to refocus. Then you can start to read it. It's just – I'm telling you.

I mean I read my Kindle at the next to lowest setting, unless it's really kind of dark. This is the key too – light. If you have difficult to read fonts or if you're in a restaurant and you can't read the menu, just put a little light on it. You don't need a magnifying glass. Don't get the magnifying glass out. Get the light. Because the more light you put on it, the easier it's going to be to see.

[----50:00----]

MS: I've noticed that. I think that during this interview, I just received the most important counsel for myself that I could have gotten. I'm going to start doing what you said immediately.

JM: Yes. I'm 65 now and I don't wear reading glasses. I started to wear them in the mid-40s or started to perceive the need for it. Then I met a guy on a cruise that we went on, Larry Clapp, who wrote a book on prostate cancer. He was in his mid-60s. He's since passed. I think from prostate cancer actually. But when we had this cruise, everyone there was older than 40. Almost everyone had reading glasses on except from him and he was like 65. I said, "This guy knows something." He taught me some of the details in that. I learned a lot and did some training. But there are more details.

Anyway, I don't want to hog up the conversation here, because this is about the value of sun, and that's sort of an artifact. So we talked about the athletic performance, which is another interesting thing. Let's talk about historical components. Because it's not like the ancients knew everything, but we can learn some pearls of wisdom from their practices, because our genes don't change much over hundreds of thousands of years. They change very slowly, so we're probably adapted to it. Let's talk about the Egyptians', the Babylonians' and Assyrians' relationship with the sun.

MS: Oh yes. Interesting thing. I know what you're referring to. I don't even remember which group it was. But one of the groups, they looked at the thickness of the skull in people who had been killed in some of these wars. Those who were always wearing something on the head to protect them against sun or the blows of the enemy and so forth like that, they didn't do so well because their heads were covered. But those who fought with bare heads and so forth, they had several times the strength of bone, the thickness of bone, when they took a look at that. Whatever they did for ancient autopsies at that time, I don't know. But there was definitely a correlation between bone strength and the amount of sunlight that they would have been getting in those days.

As far as athletics are concerned, the Greeks used to train loads for the Olympic Games and so forth. They were really under the sunlight. They didn't wear anything and they'd be out there doing their athletics totally nude. That kind of conjures up a strange scene, but that's what they did. They felt that they knew clearly, back at that time, 2,500 years ago that that was going to help them.

Now, other research not quite so ancient is showing that people who are in the sun or get under the sun using the UVB rays and so forth, they are able to decrease their time, and something like 100-yard dash by about three-tenths of a second, compared to people who do not do that. They probably have testosterone increase, which does happen with sunlight exposure and so forth.

But as I said in the book, can you imagine if you're taking a look at world-class athletes and somebody improves the time by even 300ths of a second, it can be the difference between first and last place, because they're so honed, so something like that.

I'm a great fan of basketball, Utah Jazz, of course. But I have been trying to get them to get out in the sun for some time. I had an interview with them, but I never really got them to pick it up and get into tanning beds or whatever they need to do in Utah. In Salt Lake, there's a lot less sun than there is here in St. George. But I couldn't get them to do it. I thought the same thing.

Let's suppose you're on a fast break and you can make it down there just one-twentieth to one-tenth of a second faster than your opponent, that's a basket that you wouldn't have made otherwise. You beat the defense or you get down there and you perform the defense. There are many others that we did. That was in the book that I wrote with John Cannell.

Reaction time, we used to do those when I studied physiology at Brigham Young University. A light would come on and you have to hit something immediately. They increased, or I should say decreased the reaction time dramatically if they had sunlight. Some of the studies were on vitamin D. We found some of those things from way back when in the '30s and '40s, where vitamin D didn't help, but sunlight did.

I think that's why we have to have the holistic sun again. We need to have every single photoproducts produced. I'm just reading not long ago. I have written down about five more photoproducts I haven't even had the time to study. We don't know what they do yet. But why would you go for a vitamin D pill when you could get out in the sun and you get all of the available sun things that we don't even know yet? We need to be in the sunlight.

JM: Yeah. A few comments on that. One is the athletic performance. Especially with basketball players, I'm not sure exactly why, but clearly, the majority of them seem to be African-American and have very deeply pigmented skin. The problem with that is it's great if you're in Africa, but living in the U.S. is certainly – and most northern cities – that just makes it that much more difficult. That's another variable that will radically increase your need for sun exposure. Rather than someone like yourself who might get by with 10, 20 or 30 minutes, depending on the time of year, they're going to need maybe three to four hours or longer.

MS: Depending on how dark they are. If they're very dark-skinned, absolutely. I'll tell you an anecdote about that, if you'd like.

JM: Go ahead.

MS: A good friend, who's an African-American, he was getting colds and flu a lot in the winter. I said, "What you need, Mike, is to get into a tanning bed for a long time." He called me about a week later and

he was just laughing. He said, “I had the most interesting experience.” He said, “You’ve never seen so many eyebrows raised as the crew at the tanning salon when I walked in and told them I wanted to get tanned.” This guy is pretty dark. But I’d tell you, he would get in there and go for half hour or so. It’s a little more intense in the tanning bed generally. It helped him. It helped him dramatically. I never heard him talk about colds and flu again once he started doing that.

JM: Yeah, yeah. Obviously, no matter what the color of your skin, you’re going to need vitamin D. There’s just being dark and living in northern hemisphere is going to make it that much more challenging, or at least “far from the equator” might be more accurate.

I want to get back to take off on the story you shared with the ancient warriors who covered their skull or their head with a helmet and had weaker bones there. That is another strong component that really validates the importance of women who are serious about this, to find a private spot and sunbathe their breasts, to get the sunshine on their breasts, because vitamin D is produced locally. It converts a form of cholesterol to vitamin D, and then it’s absorbed into your bloodstream. It can work systemically too, but I’m convinced, and as your story suggests, that there’s a strong local effect that it’ll work where it’s produced. If you can’t for another reason, that may speak to you using a vitamin D cream.

MS: Yes. Let’s go back, if it’s okay, for a minute to the strong skulls.

JM: Sure, sure.

MS: Let’s talk about the study in Spain, which we haven’t mentioned yet. We go to the skull here. We didn’t really talk about the pandemic of osteoporosis. The one study – They have given women vitamin D for a long time. Sometimes, it doesn’t even work, which surprised me. It should work to produce stronger bones, but I don’t think they use enough.

However, in Spain, women who were sun seekers, those who were always out, trying to tan, go to where the weather is best so they can get the sunlight on them as much as possible, those women have one-eleventh the risk of ever having a hip fracture as women who were avoiding getting the sun – one-eleventh. I mean that thing alone, that one point alone should get every woman out in the sun who exists. Because everybody is afraid of death, not only of breast cancer, but osteoporosis. Women need sunlight to prevent it. Whether vitamin D pills will work, I have – I am not convinced. They don’t give them enough vitamin D so they can really tell in the research. But we know darn well that sunlight works to prevent hip fractures. Boy, that’s a big one to me.

JM: I couldn’t agree more. I share your concern that swallowing it, even at adequate levels, betrays your vitamin D levels to the appropriate ranges is going to be insufficient to provide most of the benefits, especially something like osteoporosis. Don’t take the risk, the chance. To get sun exposure would be the best strategy.

I know it’s a long-term play. You might be 40, 50 years old or somewhere in that range and you can’t do it because you’ve got a family there. Well, when you get older, you can kind of direct where you’re going to retire and really put your body in an environment where it’s going to give you the optimal life. Move your whole family down there. I meant there are a lot of good states that have good sun exposure and essentially no tax rates, so you actually can save in the process, because some of those tax rates in the Northern states can be pretty atrocious.

[----1:00:00----]

MS: Yes. One other point that might be interesting, my wife and I, for three and a half years had charge of church meetings for a rest home, an assisted care facility. We got to really be close to those people. As soon as you got close to them, they died or something. It's an interesting thing. It was very touching, and yet you – When I was finally released from that position, I thought I'm kind of glad to be away, because I don't like crying with every person who I got to know a little while and goes.

But one thing I tried to convince people of over there at the rest facility was, "Get your people in the sun." They had a big balcony where they could have gotten people out to the sun. We get about 260 to 300 days of sunlight here in St. George. Not all day long, but at least where you can get out. I said, "You should have your people required to come out and get there."

One of the reasons I was telling them that was a study. You may have seen it in the book or was in the previous book that you sold for me. It's that vitamin D levels dramatically helped brain, of course. People think better when they're like that. You are three and one-half times as likely to end up in a rest home if you do not have a good vitamin D level. I think it was probably a sunlight exposure, because people were not giving them vitamin D.

Those who got out in the sunlight and increased their vitamin D level – It could have been other photoproducts. All we know is that at least vitamin D was along for the ride, right? It would go up, but maybe it was something else in the science. That 350-percent increased risk of ending up in a rest home. You've got a mom, dad, uncle or whatever who's about to get there, I think that we can prevent it.

Today, most people who might be there in a month or two, in my opinion, from what I saw, you could probably prevent that. They never have to be there. They can stay at home, maybe with a son or daughter and they wouldn't have to worry about them falling every other second or something. Anyway, that was something I thought I would bring up.

JM: That's a good point. Both my parents passed within the last year or two and were in assisted care facilities. They lived in Chicago. I was really striving to get them to at least visit down in Florida and ideally move down here and get some regular sun exposure, because you can't just get it in the winter. I'm sure that was a contributing factor to their relative premature passing. Even though my dad lived to be 89, I think he could have had a lot more years. My mom certainly could have too.

MS: Yes.

JM: So yeah. I couldn't agree more. Amazing information that you've provided. I greatly appreciate you compiling that in the book, *Embrace the Sun*, which is a really good thing. Again, it's sort of highlighting one of the components. The No. 1 cause of death in the U.S. is cardiovascular disease. It appears that sunlight – not necessarily vitamin D levels that you take from swallowing a pill – but sunlight, probably through the result of increasing nitric oxide levels, lowering blood pressure and increasing the blood flow to your organs and your tissues, will reduce the risk of heart disease quite dramatically. That's the key. The book is *Embrace the Sun*. Any closing words, Marc?

MS: Well, I always am reminded of various things. Also, one of the big problems we have right now is erectile dysfunction. I believe that one of the major reasons for that is lack of nitric oxide. That's a vasodilator. That's exactly what we need to get rid of that particular problem. It's vasodilation.

JM: Not Viagra or Cialis.

MS: No. Not at all. They use that too. Of course, they use nitric oxide in those products, but no. We don't want that.

JM: Actually, it's not nitric oxide. It stimulates nitric oxide production. That's what it does.

MS: It stimulates nitric oxide production.

JM: There are so many safe ways to do it.

MS: Yes.

JM: Sun exposure being one.

MS: You don't need one of those pills. You need sunlight.

JM: With respect to tanning beds, many people may know that the Federal Trade Commission (FTC) filed a lawsuit against me a few years ago not because someone complained about the tanning beds, not because anyone was injured, not because anyone had cancer, but because we failed to warn them that it could cause skin cancer even though it decreases the risk of melanoma, and even though 1,500 people die every year from non-melanoma skin cancer. Almost all of them are immunocompromised in some way.

For every one of those people who are dead, there's 326 people who die from heart disease and cancer as a result of vitamin D insufficiency. Despite that, they were able to successfully sue me and stop us from selling tanning beds. But interestingly, Marc, you heard about this lawsuit and compiled a 40-page reference, which was the inspiration for the book. Why don't you expand on that please?

MS: I thought, "This is really good. My gosh. What I've gotten here would be a great introduction for a book. People need to know them. I'm going to do my next book." It took me nearly two years to write that monster, but it came out well. So I thank you again for the fact that I had to write that paper, even though you didn't see it, because that's the reason that I wrote *Embrace the Sun*. I wouldn't have written it otherwise.

JM: Thank you so much for the book, *Embrace the Sun*. I would encourage everyone who's found some value in this discussion to pick up a copy because it's really enlightening. Hopefully we'll encourage and motivate you and your family to get into the sun to help you take control of your health.

MS: Thank you, Dr. Mercola.

[END]