THE MODEL HEALTH SHOW

EPISODE 505

Covid-19 Vulnerability & Clinically Proven Tips To Reduce Your Risk

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SHAWN STEVENSON: Welcome to The Model Health Show. This is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning in with me today. On this episode, we're going to be diving in and breaking down some of the underlying susceptibility to COVID-19, and also start to direct our attention to what are some of the things that we can actually do to fortify our health, to reduce our risk and our susceptibility to infection.

I'm going to be listening to several of the world leading experts in different modalities with health and wellness. And this topic obviously is not getting a lot of attention, which is, what are the things that we can actually do? Not just surface level superficial prevention and avoidance. That's great, that has its place, but what are the things that we can do to truly fortify our health, and defend our bodies from all manner of infectious and chronic diseases? Because this is just going to continue to happen.

And as you well know, I've mentioned this many times in the show, it's one of the most important fundamental tenets to be taken away from all of this that we've seen, is that, this is reported by the CDC, but it's funny, the CDC is the directive where a lot of posts are going to, like, "Make sure to stay up-to-date with CDC," but people aren't actually doing that and looking at the data because they'd be shocked, they'd be alarmed, their paradigm will be shifted.

So, the CDC's latest report on the comorbidities in regard to COVID-19, the pre-existing conditions involved, 95% of the folks who've passed away with SARS-CoV-2 on their death certificate, 95% of them had an average of four pre-existing chronic diseases and/or comorbidities, right? So, it's not just some random thing. It's not just, "Oh, that's interesting, it's 20% of people had these pre-existing chronic diseases, or 50% or 60%... " It's 95%. There's an underlying susceptibility when our health is already compromised.

So, what are we going to do to get our citizens healthier? What are we going to do to improve our immune system function and performance so that our bodies can do the things they're designed to do? Which is to adapt to our environmental stressors and the things that we're exposed to. Being viruses, bacteria, fungi, and the like. Even if they're souped-up viruses, you know. On the super soldier serum.

Those kinds of viruses, we're still, the human body, our bodies are so remarkable, we're so powerful. But that's not being highlighted, that's not the message that you get. The message that you get is that you are a victim, there's nothing you do about this but run and hide. And wait for you to get the all-clear when this particular modality that's put in place, superficial thing doesn't work, when the next thing, superficial modality put in place, doesn't work, when

the synthetic intervention is put in place, and it doesn't work. We just keep checking these boxes.

And the funny thing is, many people in our society... More people are waking up to this, but many people still haven't really gotten a picture that, look at what's transpired. We've done the things. Why isn't it working? And the truth is, we're not looking at, at the core of all this, what does it really boil down to? And what it really boils down to is, how susceptible we are in the first place. How susceptible we are to infection; how resilient our bodies are in recovery when we are exposed to these things. These are very basic principles.

So, this shouldn't be controversial in any stretch of the imagination. These are just fundamental principles. But the problem is that our society has not been built on... The health of our society has not been on real sustainable principles, this is why we're in such a poor state of health.

So, with that average of four pre-existing chronic diseases and/or comorbidities, we have to look at the state of our health as a society right now overall, which in truth, we are the sickest nation in the history of the world with self-inflicted chronic diseases. Our epidemics, simultaneous epidemics of heart disease, diabetes, cancer, obesity, Alzheimer's, kidney disease, liver disease, autoimmune diseases, everything is absolutely skyrocketing.

We're talking about hundreds of percent higher than in previous generations. And for whatever reason, we're not stepping back and like, "What is going on? Something's not right here." But we keep doing the same thing. We keep operating in the same way with our healthcare and with medicine.

And what's the definition? You know it. You've heard it, I've heard it, Einstein's definition of insanity, doing the same thing over and over again, expecting a different result. We got to opt-out, we got to get out of that mindset, because the system that we exist in right now is not working. Simple, very simple principle to understand. It's just being honest about it. Has this been working out? It's not working. We're sicker than ever.

But here's the good news, here's the good news. We can use it as a learning... It's a teachable moment. This is a teachable moment in humanity, we can use this as a learning opportunity and do better. We can do things better and stop trying to superficially treat things. Stop trying to treat symptoms, 'cause we have a very, very, very effective symptom management system, but not a system that actually is about health. It's a treatment of symptoms, right?

So that's what a symptom... For example, abnormal blood sugar, and it can get to a degree where that's chronic, it's a symptom, but it gets the label of diabetes. But it's a symptom.

There's a symptom here, there could be some abnormality with insulin sensitivity of the cells, it could be some abnormality with the beta cells producing the insulin, it could be some abnormalities with the alpha cells producing glucagon, it could be some abnormalities with circulatory issues.

It could be abnormalities with what's happening with the neurochemistry and the neuropeptides and neurotransmitters produced by the brain and the communication with the endocrine system. We can get into all of these different pieces, but at the core of it, we're still talking about what is the out-picture and we're labeling a symptom, something that is massively complex, and you get this diagnosis, and we treat the symptom. Instead of putting the body in a state where all of these systems are working in unison like they're designed to do. That's what it's really about.

And so, obviously, we've got a lot of work to do, and so I wanted to bring on a multitude of voices for you today, to share some more perspective and insight on what we're dealing with as far as our risk, our susceptibility to this particular virus that's on a lot of people's minds. And this has me thinking about... I don't know if anybody's seen this movie. I've heard... I was right there at the beginning, before it came out, I saw the preview, and it was a movie that had to do with... It was, at this point it was COVID-23. It was COVID-23. The name of the movie is Songbird. It's on Amazon. I don't know if it's worth watching. I don't know.

Just when I saw the commercial for it, before the movie came out, I was like, "Are you kidding me?" COVID-23. Because in truth, where are we at right now? That's 2019. This is 2019 when it... We are 2021 right now. We're well into... We're almost at 2022. Come on. And those type of production and films of that nature. So where are we at right now? We are still calling this COVID-19, but of course, we know about the different mutations and the variants. And these are all things...

I literally talked about this back in May of 2020, put out really, a launching pad work or a lightning rod work in analyzing some of the things that we were doing to address this issue. And already mentioning, we already had noted in the science multiple variants at that time way back, over a year ago. And again, it's like these are the things... These are some of the things that you can count on them transpiring.

But we're still caught up in this paradigm and still trying to target and address this old thing, this old paradigm, when everything is so different now. And so, what are the things that we can do that we know for certain are going to help us to be more resilient, that are going to help us to uplift and support the health of our families and our communities? This is what we're talking about today.

And to kick things off, I've got a segment from the conversation that I had with New York... Multi-time New York Times bestselling author, pioneering physician, Dr. Steven Gundry. And this clip, he's going to be talking with you about the importance of addressing our society's underlying susceptibilities, and how a change in the amount of time that we're eating can actually support healthy immune function.

So again, we're going to be addressing susceptibility, call a spade a spade, and also, hey, what are some of the things that we might look to? What are some of the things that can possibly help in this situation? And provide something that's actionable in this episode as well? So, let's jump into this conversation, this special clip from Dr. Steven Gundry.

DR. STEVEN GUNDRY: We've known from day one that people with pre-existing conditions are the people who are going to get COVID. Well, start naming the pre-existing conditions. So, it's obesity, it's diabetes, it's pre-diabetes, it's hypertension, it's heart disease. Well, all of those are actually from leaky gut.

Hippocrates 2500 years ago said, "All disease begins in the gut." And if we said, "Wait a minute, these people are setups for COVID because they have leaky gut, why don't we go and restore these guys' gut? Why don't we get gut diversity? Why don't we change the foods they're eating?"

And again, and this is important for your new book, in World War II, rationing was done in many countries, United States, Great Britain, Norway, Denmark, and we know the effect of rationing. And rationing was, we rationed sugar and flour. And 40% of all the food eaten in the United States in World War II was from home victory gardens. 40% of all the food was grown at home.

And you look at the incidence of diabetes, you look at the incidence of heart disease, you look at the incidence of death during World War II, and in those five years, all of these things dramatically plummeted. In fact, there were diabetes clinics in Norway and Denmark that closed because there were no more diabetics to take care of during the war.

And so, if we don't... If we just took some steps to arm ourselves, then you're right, we're surrounded by viruses 24 hours a day, we're surrounded by bacteria 24 hours a day. And they're not necessarily our enemy. They're looking for chinks in the armor. If we don't give 'em the chinks, they're not going to get a toehold. And if they do get a toehold, then our immune system, if we fortify it, it was designed to handle what comes at us.

Let me give you something else that we learned from World War II. Now, I've already talked about when rationing was instituted how much healthier everyone got. So certainly, that's number one. But one of the striking sad findings that was actually really important, was the

concentration camp survivors. Obviously, a large number of people died in concentration camps.

But the survivors, who were literally starved to death, for the most part, one of the shocking things among the survivors was that these people never were ill, never got the flu, never got a cold, never got cancer. And you would have thought that in their profound weakened condition that they'd be a set up for catching death of a cold, getting pneumonia, but they didn't. And that was actually... Researchers said, "That doesn't make any sense. Their immune system ought to be shocked. They should be a setup. What's the deal?"

Well, it turns out that fasting is actually one of the best ways to make your immune system strong because we're designed, and I talk a lot about this in my books, we're designed in crisis, if you will, that our green life force energy will empower every system to protect you because if you don't make it through this hard time, you're not going to be around to reproduce. And at the end of the game, that's what we got to keep around to do.

So, it was actually these concentration camp survivors that were the impetus, sadly, to find out why simple fasting actually gets your immune system revved up to protect you. So, what I ask people to do is, folks, just start skipping breakfast. If you wanted to do one thing to change your ability to fight infection, skip breakfast. And everybody goes, "Well, but, but, but, but breakfast is the most important meal of the day."

Well, I can assure you that our ancestors didn't crawl out of the cave and say, "What's for breakfast?" There wasn't any breakfast. There was no refrigerator, there wasn't a pantry shelf, there was nothing. We had to find break fast. And you look at hunter-gatherers like the Hadzas, they don't eat breakfast. They head out and they may eat breakfast at lunch.

But we're designed not to eat breakfast. Breakfast is a cultural phenomenon, and quite honestly, Big Food taught us that breakfast is the most important meal of the day. Remember, no one ever ate a bowl of cereal until 1906. Never existed. The Brits never had a bowl of cereal until 1941, when America arrived and brought it. Didn't exist as a food.

SHAWN STEVENSON: It's the power of marketing.

DR. STEVEN GUNDRY: Power of marketing. If you say an untruth long enough and loud enough, it will become true.

SHAWN STEVENSON: That's fascinating. Thank you so much. I was not expecting that one, but it's so powerful, so true. And all the, just revitalization that takes place, the autophagy, the HGH production, all of those things by extending out that fasting window a little bit.

DR. STEVEN GUNDRY: Yup.

SHAWN STEVENSON: Up next in this compilation is some science that was really, really surprising to me, but once I got a chance to look at the evidence, it became so obvious. It's one of the most obvious things, truly, in our universe, if we're talking about overall health and human performance, but also our susceptibility to infections, be it bacterial infections, viral infections and the like.

This clip is from a conversation that I had with New York Times bestselling author of the book, Breath, James Nestor, world-renowned, award-winning science journalist. And in this particular clip, he's going to be talking about how a certain modality of breathing that we've strayed from as a society can actually help to reduce our risk of viral infections.

So really, really interesting stuff here. And again, we're looking at what are some of the causative agents increasing our risk of infection, and what are some of the things that we can do about it. So, check out this clip from the amazing James Nestor.

JAMES NESTOR: For anyone listening, I'm just holding up a cross-section of a human skull here. So, if you notice, when you take air in through the nose, you're forcing it through... Look at all of these structures it has to go through before it gets into your throat and before it gets into your lungs. So, as it goes through those structures, your air is filtered and it's purified. So, our noses are the first line of defense for our bodies.

There are millions and millions of cilia. These are little hairs. And there's a mucous membrane which catches crap, which is why when you sneeze or exhale, there's a bunch of gunk in your snot because that's like a sticky fly trap for stuff that's going up your nose. We have nasal hair as well.

So, all of these structures are there for a reason, because it is so much healthier to use purified, cleansed, heated, moistened, pressurized air than it is just taking air in through your mouth. When you take air in through your mouth, you might as well be wearing your lungs on your chest, just dangling them out in the environment. 'Cause they're exposed to everything in the environment, allergens, pollution, dust, mold, everything else.

Our nose is our filter. So that includes... It's a great filter to help bolster your immune function and reduce the viral load around you if you are exposed. These are not my opinions. This is the work that was done by Louis Ignarro, who won the Noble Prize in the 1990s for his work with nitric oxide.

He found that when you expose viruses, and he was doing this 14 years ago when the first round of SARS COVID was going around when you expose them to nitric oxide, mammalian cells can live so much longer. That's why people with COVID have been treated in I think 11 or 12 clinical trials with nitric oxide, and it worked amazingly, amazingly well.

So, we produce a perfusion of nitric oxide in our noses. Along with filtering that air, we're producing this molecule, which essentially kills off bacterias and viruses. I want to be very clear that I'm not saying if you breathe through your nose, you're not going to get COVID, you're not ever going to get sick. I would never say that. I'm saying that this is a healthier route, and it can help bolster your immune function and filter out more of that gunk.

SHAWN STEVENSON: Alright, there's so much here. Versus breathing through our mouth, is there a percentage increase that we see breathing through our nose with nitric oxide?

JAMES NESTOR: Yes, so we get about six times more nitric oxide breathing through our noses, so that's a lot, everybody. And I know that you understand the benefits of nitric oxide, so I'll just give you a little side note here that Viagra and Cialis and all of those other drugs guess how they work? They teach your body to release nitric oxide, that's why these drugs are able to open up the blood vessels and deliver blood so much more easily that way. That's what our noses help to do as well.

And if you hum, you can increase your nitric oxide by 15-fold, 15 times the amount. So humming, which humming is a part of many prayers, it's a part of many religions, it's a part of many mantras, "Om Sa Ta Na Ma," you know, and I think that there's a reason because these prayers were, at least according to some researchers, developed to get us to breathe at a certain respiratory rate, and many of them include this deep vibrational humming, which can release a lot more nitric oxide.

SHAWN STEVENSON: Next up in this compilation looking at how can we reduce our susceptibility to viral infections, and also what are some of the things that we can do about it, is from a masterclass that we did on vitamin D. So, this is from the vitamin D masterclass. And in this clip, I'm going to be sharing with you the real connection, the surprisingly powerful connection in the peer-reviewed evidence looking at vitamin D and COVID-19. So, check out this clip from the vitamin D masterclass.

So, at this point, we're going to look at the peer-reviewed evidence regarding COVID-19 and vitamin D. We're going to start with a peer-review study published in Scientific Reports, and it took a set of people with confirmed cases of COVID-19, who had no symptoms, and these were folks categorized in Group A, and they tested their vitamin D levels. They also looked at people

with COVID-19 who were suffering from severe symptoms, and they were categorized as Group B, tested their vitamin D levels. And here's what they found.

The scientists uncovered that the people with severe symptoms were significantly more deficient in vitamin D than people without any symptoms at all. It was one of the things that really jumped out at the researchers, you know, it raised some eyebrows. The conversation started to get around at how this association might be something for us to investigate more. And so, many other studies have come out since, digging in deeper and looking at this.

Now, the researcher stated that "The fatality rate was high in the vitamin D-deficient Group B. Vitamin D level is markedly low in severe COVID-19 patients. Inflammatory response is also high in vitamin D-deficient COVID-19 patients. This all translates into increased mortality in vitamin D-deficient COVID-19 patients."

Now, this is just one of dozens of studies that we now have. And mirroring the conclusion of almost two dozen other peer-reviewed studies, the scientists stated, "We recommend mass administration of vitamin D supplements to populations at risk for COVID-19." They recommended mass administration. Prior to all of this stuff and the drugs coming on the market, all these things, but did you hear about this on the news? Did you hear that scientists were recommending mass administration of vitamin D?

Because they could see right there in black and white, that folks who were deficient in vitamin D, the likelihood of severe symptoms is exponentially higher. As a matter of fact, people with efficient levels of vitamin D, sufficient levels of vitamin D, were far more likely to have no symptoms at all. But yet you don't hear that on the news. You don't see the government agencies rushing to get something that is incredibly inexpensive to citizens, especially those who need it, who might not have money. That didn't happen. Why?

Well, you very well know the answer to that already. We're talking about multi, multibillion-dollar industries that are designed and built on the farming of sick people, and continuously creating synthetic pharmaceuticals to treat the symptoms that result from abnormal diet and lifestyle interactions. And one of those lifestyle interactions being getting adequate sunlight.

And so, we've got a drug for that, we got a drug to treat the osteoarthritis, we've got a drug to treat the autoimmune condition. How about we address the underlying cause? Vitamin D is critical in this equation. And it's inexpensive. As a matter of fact, it's free if you go outside. But there's nuance there, and we're going to talk more about that.

Alright, now moving on, there are over 20 more peer-reviewed studies affirming the connection between vitamin D deficiency and COVID-19, including another study published in

the BMJ, one of the most prestigious medical journals. And they found that COVID-19 ICU risk is 20-fold greater in people who are deficient in vitamin D.

20-fold greater. Not two-fold, not five, 20. It's astronomical. The research has noted that in this study as well, so if that wasn't bad enough, the research noted that African Americans are specifically at the greatest risk. Well-noted in this study. And you see this in the data with COVID-19 hospitalizations and mortality as well.

We're going to talk more about this in a bit, but a big reason for that obviously is melanin. The melanin in darker skin doesn't allow the skin to absorb as much UV radiation, it's really just... It's like a built-in sunscreen. And so, we have to adjust for that. And again, we're going to talk more about that in a moment, but here's another study.

Now, this is a meta-analysis of 40 plus patients' studies published in the BMJ, and it states, "Collectively, studies strongly suggest essential pro-hormone and nutrient vitamin D is a far more effective potential basal COVID-19 treatment than any additive pharmaceutical available to date." The data exists, it exists.

Yet another study, this is one affirms that vitamin D isn't just helpful in prevention, it can also be helpful in treatment in regard to SARS-CoV-2. A randomized placebo-controlled study gave patients with SARS-CoV-2 short-term high-dose vitamin D for seven days and gave another group of SARS-CoV-2 patients, a placebo.

Now, both groups in this study, so the placebo group and the vitamin D treatment group, are already deficient coming into the study, which most folks are in this situation. Now, here's what the study found. In the vitamin D group, the test subjects who were given vitamin D, a greater proportion of these previously vitamin D deficient individuals with SARS-CoV-2 infections, turned SARS-CoV-2 RNA negative faster, with a significant decrease in the inflammatory biomarker, fibrinogen, by receiving the high dose vitamin D3.

They turned negative faster than the people in the control group who didn't receive the vitamin D. Significantly faster. In some instances, if you look at the numbers, three times faster. It's pretty remarkable. The amount used in the study, when they're talking about high dose for their short period, was 60,000 IU daily for seven days. Alright, so that was the amount that they used in that particular study.

Now, again, pretty remarkable. There was no other treatment involved, they used the vitamin D to see what happens, and it has these kinds of stand-out effects, but again, you're not hearing about that because you're not meant to hear about that. That's why this is so important. Saying plugged into things that are real and being able to see all of the nonsense and the

misinformation, and the lack of questioning things, and looking at things from multiple perspectives. We just jump right to problem, pharmaceutical. That's it, it was from the get-go, "We got to find a drop for this, we got to find a drug, guys."

Now looking at the fact, 80%, according to the CDC, 80% of people hospitalized with COVID-19... 78% to be exact. Almost 80% Were clinically obese or overweight. Not... This matters. Let's address this, it's been over a year, matter of fact, five years from now, unless we change it, the conversation still isn't going to shift to getting people healthier, because the susceptibility is so high when we're venturing into obesity.

Also, top comorbidities, 94% of folks according to the CDC's latest report, who passed away with SARS-CoV-2, in regard to SARS-CoV-2 on their death certificate, had an average of four comorbidities and/or pre-existing chronic diseases. We don't talk about the four, you don't hear nothing about the four, you just hear about SARS-Cov-2.

Let's address the four. Wasn't there a TV show, The Four? Yes, pretty dope. But we get to address it, we get to change it, we get to change the conversation to reduce susceptibility, because the next thing is coming, the next infectious disease. It's going to get into a loop, if we allow it to, it's just going to get onto a loop, we're going to keep doing this stuff over and over again. Pandemic, endemic, epidemic.

We've been experiencing epidemics and pandemics for decades now, we have an epidemic of heart disease, still the number one killer by far. Do you know how much heart disease deaths jumped up this past year? The average is somewhere around 630,000 a year. We had about 700,000 last year. But you don't hear that. And we'd also don't talk about the fact that a huge percentage of the folks who passed away in relationship to SARS-Cov-2, hypertension and heart disease was one of the comorbidities.

So, wow, that number jumps up even more if we give some credence, give some credit to the pre-existing chronic disease that created the condition in susceptibility to SARS-Cov-2.

Alright. I hope that you're enjoying this compilation. And in that vitamin D masterclass, make sure that you go back. Any of these episodes that really jump out at you, but especially this one, we actually go through and talk about how your body makes vitamin D, how the process actually happens. It's really, really miraculous.

So, we know that the foundation here is sun exposure. It's really, again, how we evolved. There's certain food implements as well, supplementation. So, make sure to check out that vitamin D masterclass. But in addition to vitamin D, another important nutrient that is incredibly important, a regulatory agent for our immune system, is vitamin C.

Now, vitamin C is obviously a major player in our immune system function, but what's the mechanism? Well, the major part of vitamin C's effectiveness is its role in the reduction of infection-oriented inflammation. A recent study cited in the journal Pharma Nutrition investigated the impact of vitamin C in relation to the cytokine activity associated with COVID-19 and found that vitamin C is effective by inhibiting the production of cytokine storms.

This should be front-page news because the term "cytokine storm" has just been raining down on people without any hope of protection. It's just one of those things that seems like you don't want this thing to happen, it's terrifying, it's terrible, there's nothing you can do about it. When in reality, we have peer... This is not hard to find. This is light work for me. This is light work. But it just goes back to the simple principles that were ignored in the very beginning of this whole thing.

And so, vitamin C is incredibly important. But here's the key, it's not just vitamin C, and that's it, end of story. Because there's a spectrum of vitamin C types, there's different forms of vitamin C. And in addition to that, there's a simple distinction between botanical, natural, whole-food-based vitamin C, and synthetic vitamin C. That in and of itself creates two different camps.

But one of the most viable sources of vitamin C is something called amla berry. A-M-L-A berry. Amla berry. This is one of the most potent vitamin C-dense foods in the world, and it demonstrates this anti-inflammatory performance, specifically in the cells that are targeted by COVID-19, the endothelial cells. This is powerful stuff.

A study published in the Journal of Diabetes, Metabolic Syndrome and Obesity, found that amla berry significantly improved endothelial function and reduced biomarkers of oxidative stress and systemic inflammation in people who have that comorbidity, that underlying pre-existing chronic disease, this being type 2 diabetics. So not just for in general, but also people who are especially susceptible. Thank you, amla berry. But the thing is, people have to ask these questions. Scientists have to ask these questions and investigate, does this thing really make a difference? And absolutely, it does.

So, in that same vein of synthetic versus natural forms of vitamin C, where do we see this clearly in the data, botanical versus synthetic? Well, one of those is seen in the most dense source of vitamin C ever discovered of any botanical food, and that is in the superfood, the super berry camu-camu berry. It's 700% of your RDA vitamin C in just a teaspoon.

But what I really love about this, what I'm about to share with you, is how it stacks up against isolated synthetic versions of vitamin C, because this was actually studied. This was published

in the Journal of Cardiology, and it had 20 male smokers consume camu-camu berry daily over the course of a one-week study period. So, these are people who are proactively assaulting their lungs, they're proactively assaulting their cardiovascular system.

And so, they gave these test objects camu-camu berry over the course of just a one-week study period, and they found that it led to significantly lowered oxidative stress and lowered inflammatory biomarkers, like C-reactive protein being another one of those inflammatory biomarkers. Alright? Super powerful stuff.

And what's more, is that there were no changes in these biomarkers in the placebo group who received... The placebo group didn't just receive nothing, they received ordinary synthetic vitamin C tablets. The stuff that you find out there, those little packets that are by the checkout. "Vitamin C. Get your vitamin C." Compared to that, there was no reduction in those inflammatory biomarkers in oxidative stress. But camu-camu berry absolutely performed.

For the researchers, this indicated that the combination of the other antioxidants from the camu-camu berry, so these bio-potentiators, these co-factors, had a more powerful antioxidant effect than standard vitamin C alone. Camu-camu, amla berry, my other favorite vitamin C-dense super food, acerola cherry, this is all in the Essential C Formula from Paleovalley. It's my all-time favorite vitamin C supplement. Nothing even compares.

No binders, no fillers, no preservatives, none of that crazy stuff. Just real whole food concentrates of the three most powerful vitamin C-dense superfoods ever discovered. Go to paleovalley.com/model. That's P-A-L-E-O-V-A-L-L-E-Y. Paleovalley.com/model, get 15% off the Essential C Formula. Their incredible Turmeric Complex is amazing as well. They've got, bar none, some of the best snacks on the planet for yourself, for your kids, and family. Check 'em out ASAP. Paleovalley.com/model. Alright?

So, we covered vitamin D, we covered the importance of vitamin C in this equation. There are things that we can do. But there's nuance here. It's not just like willy-nilly... I don't think I've ever said "willy-nilly". This is the first time I said it. And if you can't see me on the video, I was waving my hands in a very strange way. We can't just be willy, "We just need vitamin C, take some vitamin C." It doesn't work like that.

What are our cells actually going to resonate with and actually utilize? What's the bioavailability of those things? And it's going to have a tendency, leaning back to real whole foods and whole-food concentrate. So again, there are many things that we can do in this equation.

Up next, we're going to jump into a clip from a conversation that I had with world-renowned gastroenterologist and UCLA professor, Dr. Emeran Mayer. He's the author of multiple books, including, The Gut Immune Connection. And in this clip, he's going to be talking about a little snapshot of how our gut health plays a major role in immune function, and how stress can inhibit our immune system.

Which, if we're talking about our immune system, most of our immune system is located in our gut. Our gastrointestinal drag is the hub. The main hub of our immune system is hanging out right there, front line. So, this is why this part of the conversation is incredibly important, if we're talking about immune system function, immune system response, we have to know where is our immune system actually located, how does it actually work? What are the things that can damage it? So, let's jump into this clip from the amazing Dr. Emeran Mayer.

I sent this paper over to you and I knew that you had already seeing it, but I wanted to ask you about this because you also mentioned with the richness, it really holds within it, its ability to bounce back. When we have any kind of intrusions or anything, any abnormalities, it's the ability to bounce back.

And this recent paper was published in the journal Gut and is titled: Gut Microbiota Composition Reflects Disease Severity and Dysfunctional Immune Responses in Patients With COVID-19. And the researchers uncovered that hospitalized COVID-19 patients consistently have lower levels of immunomodulatory bacteria, coinciding with higher levels of inflammation.

You would think that this would be getting more attention, and what I noticed also with a study that kind of jumped out afterwards, and even more so now talking with you, is that they noted that even after they "cleared the virus," their microbes didn't bounce back. It was still at that kind of declined state where they're missing microbes that are associated with robust immune function.

DR. EMERAN MAYER: Yeah, no, this is a very interesting point. Has not received... This will receive a lot more attention. I'm sure there's... There's so much research going on in this field that in the next five years we'll see papers coming out on many aspects.

SHAWN STEVENSON: We need it yesterday, though.

DR. EMERAN MAYER: Yeah. We've been so absorbed with fighting the pandemic and less so from preventing the next one. And the next one will come. If you see, we've had several smaller ones, but with all the things going on that we've talked about before, the likelihood of these

events is increasing. So yeah, what is the connections? So COVID-19 enters our body really through the respiratory systems, so you're wondering what does the gut have to do with it?

But then we talked earlier also about the fact that 70% of the immune system is in the gut, and a lot of the programming and modulation of the immune system that then goes to all the other organs happens at the gut level. So, whatever... So, the microbes have a big word to say on that. And so, the finding that they reported there, could be interpreted in two ways.

One is, if you have a compromised gut microbial system, that by itself will increase the risk that you have exaggerated immune responses to any perturbation. And so, it's quite possible that these people that they studied, they had these abnormalities before they got infected. In this study, this wasn't... There weren't people that were infected and studied them.

But in a real longitudinal study, you would want to know, and these studies are coming out, somebody who didn't have it and then developed it, did they have this microbial abnormality before that put them in an increased risk? And I would say that's more likely. Because you also know, so some people get a more severe, you got a more severe form of the infection, some developed this long COVID phenomenon that the symptoms don't go away. And people that are at a higher risk of developing these more severe forms are...

So, we know who these high-risk populations are, unfortunately it breaks down along socio-economic categories with socio-economic, even racial, and it's very not genetic, it's probably the co-relation of socio-economic with racial.

SHAWN STEVENSON: Environment?

DR. EMERAN MAYER: Yeah, the environment. So that... A big part of our population eats very unhealthy food, either because it's cheaper or because they don't have access to the whole food markets and all these healthy things that are being promoted. Like on the Westside of LA, it's not... Go to downtown areas, you don't see the same.

So those segments of the population had a much higher risk of not just getting it, but getting a more severe form, and also for this long COVID complication. We know people that are on this poor diet have a compromised microbial ecosystem, and they're missing exactly those organisms that they found in these patients. So, I think there's a pretty good link between... And it spans from...

It's not just a biological thing, it's also sociological, it's a political thing that... And hopefully, we'll draw more attention to populations that were most really affected. In the jargon of the

discussion, in the media, it's always said, "Well, it's the people that have more comorbidities that were more likely to develop the more severe form."

Well, what these comorbidities are, as I point out in my book, are the consequence of an unhealthy gut microbiome and overreactive immune system. So, it all fits together, and I think regardless, where this infection attacks your body, it will always be influenced by what... By your gut health. And indirectly then, by the things that you feed your gut.

It's really important to realize stress is not just something that happens at your brain level. It's almost like you have a mirror image of that state at your gut level. And every part of your gut, the peristalsis or contractions, the secretions of fluid, acid secretion, mucous secretion, everything is affected by stress.

If you take a stressed individual, either with an acute severe stress or prolonged chronic stress, and you could characterize all the systems and you got... They'll all be altered. And so not only the habitat in which the microbes live in is altered, but also some of these neural transmitters, the stress mediators, affect the microbes directly, they have receptors for our own stress mediators. So, it changes their behavior as well, it makes them more aggressive.

So, if you have an enteric infection and you're in a chronically stressed state, and so this is a very common thing. So, people go, go to Mexico, get a GI infection. Different studies, if people go to Mexico when they're really stressed, to de-stress, and they get one of these infections, it takes long, it lasts longer and it's more severe as if somebody is in a completely relaxed state to go on a week to Cabo or the summer.

SHAWN STEVENSON: Get that south of the border surprise.

DR. EMERAN MAYER: Yeah. And it's clearly a reflection of what happens in your brain ongoing. We knew this for a long time, but now we know the microbes are also a thing, are affected equally in a direct way, by changing their behavior, their chain expression, but also changing their habitat and their... So, we know we lose certain active lactobacilli during stress, and that has consequences downstream. But we also make individual pathogens more aggressive to attack our gut, in track with our immune system.

SHAWN STEVENSON: Up next in this compilation, we have somebody... She's just one of my favorite people. Absolutely brilliant scientist and physician, Dr. Cate Shanahan. She's a bestselling author of multiple books, including the seminal work, Deep Nutrition. And she's also been... She's done some of the most diverse things, working with the Los Angeles Lakers, for example, and you know, kind of helping...

Like, Kobe Bryant literally extended his career following her advice. And if you saw his last game, I mean, wow. But it's not just the mindset and the training, because we also, we've had on Kobe's trainer as well, Tim Grover. Shoutout to Tim Grover. That episode, the latest episode, definitely check it out. Amazing, amazing.

But also, the nutrition. And Kobe, no matter where he would go, as far as his travel being on the road, he would make sure that he had access to the nutrition that Dr. Cate Shanahan brought into his world for him. Dr. Cate Shanahan is also on leading voices in talking about diet-induced inflammation. That's what we're going to be talking about here in this clip, and how this diet-induced inflammation is increasing our susceptibility to COVID-19. So, let's check out this clip from the amazing Dr. Cate Shanahan.

DR. CATE SHANAHAN: What you can do to find out what's in your body fat is, it's really simple, you stick a needle in it and you suck out a little bit of fat and then you send it to a lab and analyze it. They did that about 100 years ago, and they found that the portion of fats that are in this unstable category called polyunsaturated, or I'll just call 'em PUFAs, was somewhere between 2 and 4%.

And throughout the century when they checked in again, it kept on increasing, and now it's somewhere between 15 and 30% in the average person, and it's going to depend on your diet. Yeah, 15 to 30%. So that's 10 times what people used to have. It's changing the nature of our body fat. It's like, think of any recipe for making anything, if you put 10 times of one ingredient in there, what the recipe calls for, it's a radically different thing in the end than what you are trying to make.

And that's what's happened to our body fat, it's radically different now. It's supposed to be our friend, it's supposed to help regulate our body composition, it's supposed to be like a complete system that takes care of itself. Between our body fat and this communication line between our body fat, our body fat creates hormones, and it sends them to our brain, and the brain receives the hormones in the appetite center, and the appetite regulation center says, "Oh gosh, there's so much energy here, let's give this person some adrenaline."

So, it shoots a message sent down this nerve, that goes from your brain to your gut, and your heart, and a whole bunch of other organs that regulate how much energy you feel, just how energetic you feel. It's called the "sympathetic nervous system". And so, your body fat talks to your sympathetic nervous system, and the more healthy fat that you have, the more your sympathetic, which is your "get up and go" nervous system, is activated.

So, you're supposed to feel like a ball of energy, but instead, when people have overeaten for a couple of days, they feel horrible. How do you feel after you go on a trip, and you just eat out the whole time? Or go on a cruise and you just eat the deep-fried or whatever. People come back and they tell me, "Oh my God, I just, I felt terrible, and I know it's 'cause of what I ate."

But they don't know specifically that it's these oils, these polyunsaturated fatty acids, that did not use to be part of the food chain. So, they don't have to be, and you can get them out of your diet and out of your body fat, and that's when your life will change. Nature does not make bad fats. So, if you're eating a whole food or anything that looks like food that has flavor, it's not a bad fat.

But if it has... If it's in a bottle, it's clear, you don't know what it tastes like, it has no odor, it probably came from a factory. And what they do in the factory, it's at least 40 steps, 40 different types of machines. The first thing that they do is they pour a whole bunch of the seed into a giant container, and they... Usually, they heat it, they put pressure in there, and they get some kind of a solvent, like hexane, which is in gasoline as well.

And they try to dissolve out the lipid, the fat from the seed. So, they separate the fat from the protein and the starch and all the other stuff, and that creates a big ugly sludgy, disgusting, foamy, waxy mess. But what I just said is multiple different machines. So, they pump the oil in one direction, and then the solid parts, they're not done with that, there's still something that they're going to do with this disgusting pile, it's just... It looks like poop; it just plops over the edge of stuff, and it sits there in a ugly heap.

They use that for animal feed. Or they might use it to make carpet backing. Or they use it for industrial purposes, but they do feed it to animals. And so, then they've got this foamy, waxy crude oil, and it has to be refined. And that's where a lot of damage occurs because these are very unstable fats, they've already been put through one process that strips out... That separation I just described; it destroys any kind of vitamins that were in the seed.

So, vitamin E, which is a highly fat-soluble vitamin that we need, and the seeds need to keep those PUFAs stable, it destroys the vitamin E, it takes out a lot of minerals. So that it's not just that these oils are unstable, they've also been just stripped of nutrition. And then they have to be refined, bleached, and deodorized.

And so that's where a lot more of the damage to the PUFAs occurs, and you actually get toxins that are sitting in the bottle by the time it leaves the factory because the unstable fats have broken down and they degrade into unnatural molecules that don't exist in nature and our bodies can't use and they have very toxic effects. But what does it look like?

So just to paint a picture, we're talking about a huge warehouse with giant steel containers and lots of piping, and this is the same technology, if you've ever driven by a motor oil refinery where they make gasoline, there's usually a stinky smell, it's the same technology. They're refining the oil; they're fractionating out the different components of stuff that were in the seed.

So, our bodies suffer from inflammation when we are injured or when we have an infection. And so, if you sprain your ankle and it swells up, that's an example of inflammation. You get punched in the face and you get a big swollen black eye, that's because of inflammation. Your body is actually doing it on purpose, even though it hurts, your body is doing it on purpose, because there's injury, there's destruction, and your body senses this, and it comes to the area that's been injured and starts breaking it down.

Because just like any good home improvement project, if you got something that is not working right, it's broken, you got to remove it, you got to take it out, so you got to make it actually worse almost before you can rebuild it back from scratch up again, so that's what inflammation is for. And it's supposed to occur only when there's an injury or an infection or some other good reason.

But what happens when your body fat is loaded with these seed oils, is that the inflammation is triggered for no good reason. If you're... A lot of people have psoriasis or eczema on their skin, that's because the fat right underneath their skin, which is where most of our body fat is stored, is inflammatory, and it's for no good reason. It's just damaging the cells and it turns red or it makes certain skin cells divide and divide and divide, that's what psoriasis is. It's super thick.

So that's one example of an inflammatory condition that comes directly from the fat beneath your skin. Is it all about the weight? No. Actually, it's a cause of the weight, because of what I said about how it makes us tired, and in The Fatburn Fix, I talk about how it also makes us hungry, controls our appetite, it makes us crave sugar.

But even if you're a normal weight, if your body fat is still this 30%, 20% or 30%, way too much of these unstable pro-inflammatory fats, your body fat is prone to inflammation and you can have these diseases, even with a normal amount of body fat. And this, I believe, is the number one cause of some serious conditions, autoimmune diseases like celiac disease, like lupus, and cancers.

It's why actually I was on the Bill Maher Show recently talking about the most important thing people can do to protect themselves from the coronavirus is to get these seed oils out of their body. Because when... Like I said, inflammation is for fighting off infections. So, if we have an

infection, a viral infection, all throughout our body, we are going to have inflammation all throughout our body. So far so good. You cannot fight a... That's a good thing in normal...

In a normal world, it would be good, it would help us fight the infection. And we feel sick, we feel like we have a fever, we don't want to move. But it goes out of control when we've had... When we have all these inflammatory fats in our body fat. They incite... It's like throwing fuel on a fire and they make the inflammation out of control.

And so that's why when people are dying from the coronavirus, the young people who are dying from the coronavirus, it's not actually the coronavirus causing the deaths and the serious cases, it's the body's own inflammation out of control, that can't be reigned back in because of the diet. And I know you... The frustrating part of this is that we've been told to eat more of these polyunsaturated fats, by Harvard, by Tufts.

We've been told to eat these things. And so, in my opinion, it's wildly, wildly irresponsible of the medical leadership, the people who are running these institutions of metabolic health to be saying, "Eat more of this stuff." It's wildly irresponsible. They've got to know that it's not a good idea. And I think it's business. You could call it politics. If you don't want to talk politics, then okay, let's talk business.

It's good business for the canola oil industry and the soy oil industry, and that's why we're hearing what we're hearing about food. And food is one of possibly the biggest... It's the biggest business really in the country, I think. Might be tied with health right now, or poor health. We have no chance of fighting off this virus as efficiently as we would if we just didn't have these seed oils in our body, and we had a full-on healthy traditional kind of diet.

SHAWN STEVENSON: Up next, in this compilation we're going to be looking at another food compound, or category of food compounds that have some remarkable effects. Again, real-world peer-reviewed evidence, it's so much so that I was surprised at the amount of data that existed on this, but food compounds that show remarkable effects against COVID-19. This is from a masterclass episode that we did analyzing this very strange similarity that certain foods have with the human body.

So, the subject of this doctrine of signatures I've seen, is it actually valid? And so, in this episode, this was Episode 490: Eat These 11 Foods For Total Body Health. And this one, this particular food has an immense amount of data being able to improve our health and help to reduce our susceptibility to COVID-19. So, let's check out this clip from this powerful masterclass.

Well, researchers at Johns Hopkins University found that sulforaphane, a plant chemical that is made by broccoli and other cruciferous vegetables, helps to restore the immune system pathways within the lungs that clean out harmful pathogens and reduce the risk of infections. Researchers at UCLA also noted the potent ability of sulforaphane to reduce inflammation specifically in the lungs.

Another study and this was featured in the journal, BMC Cancer, revealed some remarkable benefits in reducing lung cancer risk in smokers and former smokers. The research has found that the isothiocyanates that are uniquely found in broccoli and other cruciferous vegetables have a cancer-modulating effect that defends the lungs against smoking-related damage. They noted that the isothiocyanates modulate carcinogen metabolism and facilitate carcinogen detoxification. That's really, really powerful.

Now, circling back to the anti-inflammatory effects that broccoli compounds have on the lungs, I was shocked by how many peer-reviewed papers have come out recently analyzing the benefits that these broccoli compounds can have against COVID-19. I couldn't believe it. Who thinks of that? But I love it because this is the world that we live in right now.

Yes, there's a lot of nonsense. Yes, a lot in medicine has been barking up the wrong tree, but there's so many folks now who are aware of the remarkable benefits and compounds that are found in foods that have just amazing benefits in the human body. Whereas food has largely been brushed off to the side in its importance in medicine and negating the fact that our tissues are literally made from food, and we're trying to adjust and treat tissues with these external synthetic treatments, these newly invented treatments, not understanding that our tissues themselves are made from the things that we eat.

So, does food matter? Of course, it matters. And now many researchers have really put this top of mind and looking at things like this. Because again, I was shocked. I couldn't believe how many studies were looking at these broccoli compounds and the relationship with COVID-19. Check this out.

A report published in Trends in Pharmacological Sciences highlighted how sulforaphane acts upon the defensive pathways used by the lungs and other tissues that combat excessive inflammation triggered by COVID-19. Another study, published in the World Allergy Organization Journal, titled: Efficacy of Broccoli and Glucoraphanin in COVID-19. A paper, again, looking at broccoli and COVID-19. Who knew? Who thought of this?

Alright, so the title of the paper again was: Efficacy of Broccoli and Glucoraphanin in COVID-19: From hypothesis to proof-of-concept with three experimental clinical cases. Alright, so this is

the title of the paper. And this paper analyzed several studies employing broccoli compounds in relationship to COVID-19.

In one study, the scientists detailed that capsule of broccoli seeds containing glucoraphanin, so this is another one of these compounds that are abundant in broccoli, and they found that consuming these capsules of broccoli seeds containing glucoraphanin, being taken before the onset of SARS COV-2 infection and were continued daily for over a month after the first COVID-19 symptoms.

So, they started taking them before, got the infection, and continued taking them. And the researchers stated that this intervention, consuming these broccoli concentrates, was found to reduce many of the symptoms of COVID-19 rapidly. Another aspect of the study found that the intervention led to a reduction in severity of cytokine storms.

Now, I'll tell you, this doesn't sound real, like broccoli versus COVID, it doesn't sound real. It doesn't. Alright? Because our paradigm is such that we're looking for a new drug, some kind of like scientists to come together and we find this thing, and this doesn't fit into that paradigm, but the data exists.

Alright, it's really interesting. It's not saying this is some curative agent, some magic end-all-be-all, but there are some notable compounds in here that are helping to reduce inflammation and helping to reduce the severity of symptoms. So, we should definitely acknowledge that. And this is why, again, there is multiple papers looking at this, and I was going to say, this is why we need to investigate this further. Because if this is beneficial here, what else can it be beneficial for?

Again, I hope that you are enjoying this compilation. And broccoli is in that cruciferous family that has remarkable benefits for our immune system, but also for cancer prevention, but also for issues around and helping to modulate and improve overall metabolic health. But also, it's in this category if we're talking about broccoli, of green veggies. So, we know that that green color is a indication of chlorophyll content. Why does chlorophyll matter?

Well, if we're talking about adding in foods like these that help to fortify the immune system, the foods that absolutely demolish our immune system function because again, we're making our immune cells out of the food that we eat, are the highly refined, crazy processed foods that are just everywhere you turn in our society today.

So, these hyper-palatable, devoid of nutrition, absolutely toxic processed foods. And again, it's not about being perfect, but somebody like myself, that was the primary... That was the greatest proportion of my diet, it was almost all heavily processed foods myself, leading to

terrible health outcomes. For me personally, it really helped to bring me into this field, helping to really addresses these issues, but also understanding that it's not just making a decision like, "Oh, I'm not going to eat that food."

Sometimes there are some capacities there, this word "addiction", it's not just the flavor, but the chemical connection that can take place, affecting our brain. So, the taste connection, but also the neurological disruption that it can create. And funny enough, chlorophyll might have something to do about that.

A study published in the peer-reviewed journal, Appetite, found that chlorophyll can assist in weight loss and reduce the urge to eat hyper-palatable processed foods. That's pretty special, right? This journal specializes in looking at clinical evidence around our appetite and our desire to eat and found that chlorophyll has this really interesting ability to reduce the urge, to help to kind of reset our association with foods.

So, chlorophyll, where are you going to get that most dense source of chlorophyll? This is going to be in superfoods like spirulina, like chlorella, chlorella gets its name from chlorophyll because it's so dense in chlorophyll. Chlorella contains also compounds like lutein and zeaxanthin, two carotenoids that are proven to protect our vision, for example, improve our cardiovascular health, the list goes on and on.

You're not just going to find one thing when you get it from real whole foods and these powerful superfoods that are time-tested and have today a lot of period evidence to affirm how amazing they are. So, chlorella is one of my favorite things, and I have it along with spirulina. Spirulina is also incredibly dense in chlorophyll, but also rare compounds like phycocyanin, which we have peer-reviewed evidence now of phycocyanin helping to stimulate stem cell production.

Stem cell genesis is very, very rare. Very, very rare to find a food, a food source that can do something like that. And also, both of these are very, very dense proteins, so we're talking about uppers of 70 plus percent protein by weight of spirulina, over 50% protein by weight with chlorella, and those combined that's a powerhouse of amino acids, bioavailable amino acids, plus all of these micronutrients that we've been talking about.

And I get both of those together, as well as moringa, as well as ashwagandha, and it actually, this is the key, it tastes good. Because those things by themselves, not so much. But when you have them combined in this incredible formula from Organifi, it actually tastes amazing. It tastes refreshing.

And without, here's the key as well, without added sugar. So, they're using great flavor notes, they've found a really great combination with coconut water, with refreshing organic mint. And by the way, everything is organic in Organifi, but again, no abnormal added sweeteners, we're talking about added sugar, but low glycemic like monk fruit added, to help to round out those flavor notes, to make it so again, even kids drink Organifi.

They've got an incredible red juice formula as well, that kids absolutely love. The green juice is one of those things that my family has on a consistent basis. I think every single person in our world today could use a green superfood concentrate for those benefits that come along with things like chlorella, but also the immune system benefits there too.

So, head over there, check them out, organifi.com/model. That's O-R-G-A-N-I-F-I.com/model. And you get 20% off, 20% off their green juice formula. Head over there, check them out, organifi.com/model. Moving on in our compilation, next up, we're going to be discussing how our immune system functions like a language, like a language for communication within our bodies, and why preventing exposure to COVID-19 is simply not enough.

And here sharing this is Dr. Austin Perlmutter, incredible physician, New York Times bestselling author, and he's going to be sharing this important insight on looking at, again, how our immune system functions like a language. Check out this clip from Dr. Austin Perlmutter.

DR. AUSTIN PERLMUTTER: Let's think about coronavirus in general. This is a virus that has a tropism or preference for lung tissue, so it goes in, it sits in the lungs, it damages the lung tissue, it makes it hard for us to ventilate. It also seems to have effects on other parts of the body. But the question is, how do we respond to this? And the way that we respond to a virus or to any infection is through our immune system, and our immune system has multiple different components.

So, if you're thinking about what do you want to do to prepare for COVID, or let's say, what do you want to do right now to keep yourself safe. The conversation, unfortunately, is all about prevention and exposure, which I think is an important part of the conversation. If you are somebody, especially who has a high risk of having problems from this, so if you're an elderly person, if you have pre-existing diseases, you don't want to go and inoculate yourself with this bug that might push you over the edge. That's a bad plan.

So that's why there's a conversation about not going out into big public places and wearing masks and the like. But the other critical and hugely missed part of the conversation is why are we so vulnerable to this bug? What can we do to improve our resilience? And that's where all of these things that you've been talking about for so many years come into play.

People don't want to talk about that. It's not fun. People want a quick fix, whatever that might be. And vaccination conversations are interesting, I think that is an important part of the conversation, but it doesn't help us when we get the next version of this bug, it doesn't help us when we have a different infection. The question is, why are we so vulnerable to this bug?

And that's I think a function of the fact that we have pre-existing poor health because of the poor decisions that we've been making as Americans and as a planet really, over the last 100 or so years. And the connection that I think people need to understand here is, if you have heart disease or you have diabetes, or you have cognitive issues, even if you have depression, that is telling you about your immune function. Again, heart disease, diabetes, cognitive decline, depression, those reflect underlying immune dysfunction.

So now again, we come back to this conversation about all these people in United States who have blood pressure issues or blood sugar issues, or weight issues, or mood issues, these are telling us that there are changes in our immune system, and those are the exact changes that may predispose us to be at higher risk of complications for COVID.

So, it's a question then of what can we do to improve our immune function? Not just our immune function as it relates to defending us against bugs like coronavirus, but our immune function as it relates to protecting us and defending against chronic diseases, it's a much bigger conversation, I think, so much more empowering, because now we have all of these things, we can be doing instead of just trying to prevent ourselves from breathing in this virus to increase our immune resilience.

The science tells us there's so much more to this, and like I said before, we know that your immune function, that your immune system helps to determine the way that you experience life, your mood, whether you're depressed or happy, whether you're healthy or unhealthy. That if you are to say that you're angry, that you can now say, well, there are parts of the brain that are going to be activated if you're angry, and not only can you see those on a scan, but you can change how those are activated when you, for example, try mindfulness. Or even when you try eating different foods.

So, I think that this awareness that we can dissect some of these problems and then make changes to the things that cause those problems is something that should open a lot of eyes and ears, I hope. Because it means that you're not just done if you're stressed, you're not done if you're anxious, you're not boxed in with depression, that there's so much more that you can develop as far as your understanding when you look at some of the science.

So, as it relates to what a person can do, I think the science in this space comes in three main flavors. Because I look at, what are the inputs that are going into the body that are changing

the way that we experience our lives, that are changing our brains? And the major inputs are going to be through the nervous system, so things like your senses, if you touch something, smell something, see something, through your gut, because so much of the information that goes into our bodies goes in through the gut and other surfaces like lungs and skin, but really the gut because of the food and the microbes that are living down there.

And then the major one I think that has been hugely undervalued is the immune system, because the immune system is really like a language that translates information from the outside of the body to the brain, to the inside of the body, that it takes the data from your food and from your gut microbes, and it converts it into signals that either race up the vagus nerve or go through your bloodstream, go through the blood-brain barrier and then influence your brain.

And so, there's fascinating information that isn't all that new but has been more recently explored, that your brain has its own immune system, that there are immune cells in the brain. And depending on the patterns of activations of those immune cells, that may predispose us to poor choices, to depression, to things like Alzheimer's disease, things like Parkinson's disease.

That these cells are also involved in things like neurotransmitters, so things like serotonin, and that they're involved in things like neuroplasticity, which is kind of a buzzword in certain circles. But it really gets to this fundamental mechanism, which is that if you want to change your life, you have to do it by changing your brain. That if you can change your brain, then all of a sudden doors are going to open for you.

And so, that's kind of a lot of different steps through this process, but what I want people to understand is if there's something going on in their lives that they're not enjoying, not appreciating. You have the opportunity to just stay in it for however long you want and just not enjoy the experience, or you have the opportunity to change something. And that's something that you can change, I think is best when it goes through the brain because that's the best investment you can make.

When you change your brain, it's going to kind of downstream, affect every part of your life. So, through things like dietary interventions, things including gut support for the microbiome and for the gut cells, and more recently through targeted immune interventions. And I'm not talking about things like getting an injection of this, that, or the other.

I'm talking about not just supporting the immune system but getting to the core of changing the way that your immune system functions, by nutrition, by exercise, by lifestyle, by targeting not just this narrative that's been put out, which is, "You need to boost your immune system."

That's not really so helpful, because what if your immune system is already unhealthy? What if you already have a ton of inflammation? You're basically throwing gas on the fire.

So, what we're talking about here is getting to the cellular mechanisms that direct these parts of the body, looking at how we can modify these molecules that really define our health, that define our emotional state, that define these parts of who we are as a person, that we can change that.

We have the power through tailored nutritional exercise and lifestyle modifications, to regenerate ourselves from the ground up. By changing the personalities of ourselves, changing the personalities of our immune cells, and subsequently rewiring our brains and our bodies for better health.

SHAWN STEVENSON: Alright. We're at our final segment in this compilation looking at the underlying susceptibility to COVID-19, and what are some of the things that we can proactively do right now when our world really needs a big change. And next up, we've got the incredible Mike Mutzel. He's just one of the smartest people that I have personally ever met. He has a master's degree in Nutrition, but more so his continued study and teaching and really working in this field, and providing some really, really important insights.

Particularly in this segment, we're going to be talking about some important insights about the connection between COVID-19 and obesity, and also how a greater focus on community wellness is the way forward. So, let's check out this clip from the incredible Mike Mutzel.

MIKE MUTZEL: There's now and I'm sure you've worn one or know of them, the continuous glucose monitors. We now have data people that wore those during lockdown and quarantine, their blood sugar control dramatically worsened. So not only have we created this unsustainable mitigation strategy that we cannot continue to do because we can't make people unemployed and all that forever, but we've made the people that were vulnerable more vulnerable.

So, I think it goes back to this concept where we're talking about the innate immune system and the adaptive immune system. And so, when we, say, cut our finger or get exposed to a virus, what should happen is our innate immune system should mount a response, and then slowly over time, the adaptive immune system should come in.

But in people that are overweight or pre-diabetic, that communication is lost, so the virus tends to sort of replicate without any restrictions, because there's dysfunction there, because of chronic inflammation and poor diet and glycemic variability. And so not only that but this receptor that the virus utilizes to enter into ourselves, people have heard about this, the ACE2

receptor, it's normally found sort of in the lung tissue and the cardiovascular system, it's found on fat cells or adipocytes.

So, the more body fat you have, the more sort of repositories you have to enable this virus to get into your tissues. And so, you have these overweight people who are, the viral load is a key problem. You and I are healthy, if you give us enough viral, we can overwhelm our immune system and probably die. Whereas if we just caught this naturally, we'd probably be just fine. So viral load is an aspect that sort of facilitates the trajectory of disease.

And so yeah, the data shows in more and more research, and this was actually from April of last year, one of the first papers in the Journal of Circulation showed that obese people not only have a higher viral load, they carry more virus and they shed more virus too. We need to focus on quality-adjusted life years. This is what epidemiologists talk about.

So how can we maximize the quality-adjusted life years, and what is the potential of your quality-adjusted life-years if you don't have disease? If you're free of hypertension, you're not overweight, you're not diabetic, your risk of actually dying is really, really small.

So, I just think that should be the message and you can reduce that probability by making healthy living like your part-time job. Walking to work, going out, spending time with your kids, there's multiple facets of that. And then should we address communities that are more susceptible, let's put community gardens in there, let's get the Jack in the Box and all the subsidized cheap food out of there, 'cause obviously that's exacerbating the problem.

But then the other argument is people will say, "Well, you don't want to get this virus at all because of the chronic long-term effects and all that," and I can understand that, but those chronic lingering long-hauling effects really are people that have health issues going into it, that already have autoimmunity, that could be improved by their diet and lifestyle.

So, I think, either way, you could have an argument with the most vaccinated mask proponent and still both agree that healthy living should be the path forward. It's sustainable, it's accessible to most people, and we should be allocating those funds like you talked about, to these communities that don't have access to real food and exercise or a sauna. What can we do to help them instead of just saying, "Shots, shots, shots, more shots." Because...

SHAWN STEVENSON: You sound like Lil Jon.

MIKE MUTZEL: Yeah. So, I don't know the answers to all these public health issues, but I think we also need to look at what's sustainable. Just the other day, I think it was Tuesday of this week, British Medical Journal looked at 48,000 individuals in Southern California here, from

Kaiser, and found that people that exercise, they have a less... I'm sorry, people that don't exercise compared to people that do regularly exercise leading up in the six-month window prior to the outbreak...

So, this was in 2019, have a 2.7 or 2.9 times less likelihood of dying from COVID-19. I feel like that should be the message. How many more masks and how much more hand sanitizer can we put on? So, to answer your question with that sort of backstory, it's just, what we have, and you talk about this in your book and have talked about this a lot, is chronic low-grade inflammation, just is sort of like bandwidth, our immune system.

That renders our immune system less responsive to deal with acute insults. Whether that acute insult is a laceration or a trauma or a burn. Studies over the years have shown that overweight people, they don't recover from surgical procedures as well. If they need an orthopedic hip replacement or knee replacement, if they get an infection, whether it's influenza or SARS-CoV-2, they just don't do as well because their immune system...

We can dive into the nuances, I know you want to get there, the innate and adaptive immune systems are sort of automatic, there's no memory in our innate immune system, it's just like, it sees pathogens, antigen, it goes. There's this communication, the innate immune system needs to tell your memory side of your immune system, the adaptive immunity, that, "There's a problem, there's a virus, you need to ramp up antibody production or T-Cell immunity. That communication becomes...

It's just like if we have too many programs open on our computer, our computer starts to run sluggish. So, if people are hitting up McDonalds, if they're going to Dunkin' Donuts in the morning, if they chronically have a smoldering low-grade inflammation, there's this aberration in their immune system's ability to mount an appropriate response.

And I think ultimately, that's part of the problem, and then you see this viral load and the endothelial dysfunction that you talked about with William Lee and other people, is the pre-existing cardiometabolic risk factors. A lot of people have thick hypercoagulable blood, and so then you add it on this insult and it's just the straw that breaks the camel's back.

So yeah, I mean, you and I have been sharing this message, people think it's controversial, but if we want to sustainably get out of this... Because all of these solutions ultimately right now, for the most part, are unsustainable. We get booster shots, more vaccines. I'm not anti-vaccine but it's like, we have 330 million people. To manufacture that many doses and then new doses, under a good quality control, just, that's a logistical hurdle.

We have kids that are out of school, they're on Zoom, they're getting more overweight, they're learning bad habits, they're spending time on screens. These things have unintended harms. And so, my message and your message has just been like, "Hey, look. Just like we look at health and nutrition, let's look at the root cause of what's making people sick, and what can we do to sustainably make them more resilient."

SHAWN STEVENSON: Thank you so much for tuning in to the show today, I hope you got a lot of value out of this episode. And if you did, please share it out with the people that you care about. Share it out on social media, you can tag me, I'm @shawnmodel on Instagram and Twitter, and I'm at the Model Health Show on Facebook.

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