

THE MODEL HEALTH SHOW

EPISODE 492

The Shocking Truth About Cholesterol, Statin Drugs, & Heart Disease

With Guest Dr. Jonny Bowden

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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. In recent decades, there's been one thing depicted as the Grinch who caused heart disease more than any other thing. And it's a dirty C-word. I don't know what C-word you're thinking about in your dirty mind. I'm talking about cholesterol. Cholesterol has been depicted as a major causative agent in heart disease for decades, and it's driven a multi, multi-billion-dollar statin industry that's making on average about \$30 billion a year to try to eliminate this Grinch. And the question is, has it been working? And the question is, is cholesterol really the villain that it's been depicted to be? And right off the bat, there's a major flaw in this theory surrounding cholesterol that needs to be talked about a little bit more. And it's highlighted by researchers at UCLA, and this was all the way back in 2009, we had this information. Looking at the data of over 130,000 patients revealing that nearly 75% of the people hospitalized with a heart attack did not even have high cholesterol. And this thing that's been deemed to be a major causative agent with heart attacks, 75% of the folks hospitalized with a heart attack not even having high cholesterol. What's going on here?

I thought their cholesterol was clogging the arteries and leading to this incident. Now again, there is nuance here, there are some risk factors associated with cholesterol, but the story is so much bigger, so much more expansive, so much more beautiful, and you're going to learn about that today with somebody who's really the leading authority in this subject matter, who actually wrote the book on this subject matter, and I'm really excited about this conversation. I think it's absolutely going to blow you away. And just to give you a little bit about what to look forward to, I am so massively interested in the science surrounding longevity. There's this whole category of science looking at this term anti-aging, but in reality, what we're really looking at is not just extending our lifespan, but extending our health span, and for me, I still want to see things firsthand. The data is incredible. That's one thing, but to see it play out in the real world, we have to see truly who is actually living longer, but not just living longer, but living healthfully. And our guest today is one of those examples.

Now in his mid-70s, today, you're going to experience his energy, experience his insights, his wisdom, the intelligence, all these things, whereas today in his age bracket it's far from the norm, but it gives us massive hope of what is possible for all of us. And so really, really excited about this conversation. And this is one, seriously, it is an instant classic and it's addressing one of the biggest issues in our culture today, the number one killer in our culture today being heart disease. On average, we've got about 630,000 deaths a year in the United States, caused by heart disease. 630,000 a year. This past year, 2020, it's almost 700,000, it jumped up. And it's this thing that again is this massive issue, but it's hardly gotten a headline. Everything else

has been focused on other things. And in reality, again, this thing is just chugging along and taking out so many of our citizens, our friends and family, and we can do something about this.

But we have to expand the conversation. We have to look at what went wrong because this issue affected such a smaller percentage of our citizens just a few decades ago. You know, 50, 60 years ago, we've just seen things continually jump up, but we've seen our lifespan expand. Yes, but our deaths associated with all manner of chronic diseases, diabetes, heart disease, obesity, cancer, these things just have continued to climb, and so the argument is that we're not living longer, we're dying longer, and we're not really addressing the underlying issues, what are causing these epidemics of health issues. Let's talk about these things. Let's address these things that make us more resilient against chronic diseases and infectious diseases. So, again, that's what it's really all about. I'm really, really excited about this conversation today. Now, one of the most simple things that we can do that we understand about human health, if we're talking about building blocks, if we're talking about the things that run processes, these are things that many of us are taught about as basics in school, but we really don't expand that out into our lives in a major way, simply because this is too simple and it often gets looked past.

And what I'm talking about are the compounds from our diet that we need to extract from our diet that enable our cells to talk to each other, that enable this electric currency that the human body is running off of, this conductivity. If we're talking about our brain cells being able to communicate, signal transduction, the list goes on and on, we have to have electrolytes. These are minerals that carry an electric charge and for instance, if you hear somebody like our guest today speaking, and his level of cognition just being so remarkable, you know that it's firing on all cylinders, and it's critical for us to understand that our brain is massively dependant upon electrolytes and these electrical signals to communicate through all of our brain cells. Take sodium, for example, not only does this electrolyte help to maintain proper water balance in our body and our tissues overall, but also in the brain, which is mostly water... Our brain is mostly water, but a study conducted by researchers at McGill University found that sodium functions as a literal "on/off" switch in the brain for specific neurotransmitters that support cognition and optimal cell communication, optimal function.

And these electrolytes are also found, specifically sodium, to help to protect the brain against numerous diseases like epilepsy, like neuropathic pain. Now, sodium is just one electrolyte, and we often attribute sodium and salt, we use them interchangeably, but these are two different things, that's sodium and chloride, if we're talking about common table salt, but there's many different types of salt. There's magnesium salts, as well potassium salts. But we tend to think about sodium as that primary salt, and the majority of sodium that folks are consuming in our culture, I'll presume about 70% to even 80% of the sodium we're taking in is from processed foods, it's from processed foods. So, when we start to move away from that stuff that has all

these other negative health ramifications our sodium intake drops dramatically, and that can actually have some detrimental impacts on our body and on the function of our brain, because we need that sodium, but let's get it from higher quality sources, that's the key.

In fact, a study conducted by researchers at Harvard Medical School, and this was published in The Journal Metabolism, found that low sodium intake directly increases insulin resistance in healthy test subjects. Now, we typically hear just one side, we hear about the potential negative effects of sodium in regards to cardiovascular health. Yet a meta-analysis, and this was publishing in the Cochrane Database of Systematic Reviews uncovered that study participants proactively placed on a low sodium diet did have slightly lower blood pressure in the short-term, this is the key, in the short-term, but found that the restricted sodium also led to elevated triglycerides, elevated stress hormones and accordingly, elevated blood pressure as a side effect. There's nuance here, there's a balance of sodium that is required for optimal function in human health. From our blood to our brain, from our muscular function to the energy production of our cells. The mitochondria require electrolytes, the sodium-potassium pump is required for your mitochondria to work in the first place to create energy for your body.

And also, another one of these electrolytes, magnesium is literally required to make that energy currency from the mitochondria, the ATP, the adenosine triphosphate, the cellular currency that sustains our lives. Magnesium is required because magnesium is used as an enzyme cofactor that enables our mitochondria to make copies of itself, that is so important and so powerful. And yet, this is the number one mineral deficiency in our world today, with about 60% of US citizens being chronically deficient in magnesium and our electrolytes overall are a major, major issue. So, what do we do about this? Well, fortunately, electrolytes are so much easier to procure today, but we want to make sure that it's not coming along with the things that are detrimental to our cognitive performance, that are detrimental to our blood pressure and our blood sugar with these different electrolyte products. We think about these "sports drinks" that again, was part of my culture just growing up, when I was trying to be healthy, instead of getting a soda, I was getting a Powerade or Gatorade, which was having the same amount of sugar as my 100% juice or the soda, and it's because of the marketing, and again, we've got to make a shift and reframe these things and not villainize the things that are really helpful, which these electrolytes are critical.

The electrolytes that I use today is put together in the optimal ratios, if we're talking about the sodium, the potassium, the magnesium, what is the ideal ratio? And this is based off the data of thousands of test subjects to find out what that ratio really is for optimal performance, for our muscular function, for our cognitive function and overall, the communication with all the cells in our bodies. Again, this sodium-potassium pump is a primary activator of cellular processes. The electrolytes that I use without any artificial ingredients, any artificial

sweeteners is from LMNT, that's L-M-N-T, go to drinklmnt.com/model, and you're going to get to try LMNT for free. Right? For free, they're going to actually send you some samples of LMNT to try for free, all you need to do is pay for shipping and they're going to send some right out to you. Alright, so take advantage of this, go to drinklmnt.com/model, ASAP, and take advantage.

It's one of my favorite things right now, I can't tell you all of the incredible stories that have been coming in from folks utilizing this incredible electrolyte product from LMNT. And the wonderful thing about it is... And I couldn't believe that they would actually do this, when I reached out like, 'Hey, I'm really enjoying this, can we do something for my audience, give them some kind of a discount, they said, 'we're going to let folks try for free.' So, take advantage, go to drinklmnt.com/model, take advantage of this free gift they're going to send right out to you. And again, this is just one aspect, building blocks of human health and performance, and there's so much more we're going to expand on that massively today. And again, looking at one of these culprits in human health, but you're going to find out today it doesn't operate in a vacuum, it's affecting so many different things about us that we often overlook, and so before we do that, let's jump into the Apple Podcast review of the week.

ITUNES REVIEW: Another five-star review titled, “Valuable Use of my Time” by camozielke. “I'm a family medicine PA, and I absolutely love this show. I'm so thrilled that Shawn uses viable studies to support his info, it's not light and fluffy, but it's tangible and something I utilize with my patients. Thank you for providing this resource.”

SHAWN STEVENSON: It's truly my honor. Thank you so much for sharing that over on Apple Podcast, it's truly an honor. And listen, if you get to do so, please pop over to Apple Podcast and leave a review for The Model Health Show, I appreciate it immensely. And now let's get to our special guest and topic of the day. Our guest today is Dr. Jonny Bowden, and he's a board-certified nutritionist and author of 15 books, including the best sellers, The 150 Healthiest Foods on Earth, The Great Cholesterol Myth, and the best-selling weight loss program, The Metabolic Factor. And Dr. Bowden has been featured on a myriad of television shows and major media, including The Dr. Oz Show, The Doctors, ABC, CNN, Fox News, NBC. The list goes on and on. He's also an incredible speaker who's featured at conferences all over the world. He's been featured in the New York Times, Forbes, the Daily Beast, Men's Health, Prevention magazine, O magazine, and so much more. Now he's here on the Model Health Show to share his powerful insights on one of the most important topics in health and wellness today, which is the topic of cholesterol. Let's jump into this conversation with the incredible Dr. Jonny Bowden. Welcome to the Model Health Show.

DR. JONNY BOWDEN: Oh, thanks so much for having me. It's a pleasure.

SHAWN STEVENSON: Listen, I've got a ton of questions for you.

DR. JONNY BOWDEN: I can't wait.

SHAWN STEVENSON: First thing I want to talk about, one of the most misunderstood aspects of health and nutrition of the human body is cholesterol.

DR. JONNY BOWDEN: It is. Indeed.

SHAWN STEVENSON: Let's kick things off by talking about the roles that cholesterol plays in the body.

DR. JONNY BOWDEN: Okay, but let's start with the role it doesn't play.

SHAWN STEVENSON: Okay.

DR. JONNY BOWDEN: It doesn't cause heart disease. So, let's be very clear about that before we even talk about all the big statement. It does not cause heart disease, ladies and gentlemen. We've been told a very big myth and I'm sure we're going to get into that. But what it does do, it's a parent molecule for a lot of things we need, including vitamin D by the way, and including the sex hormones. Whenever I tell people about that and the connection to the sex hormones, they always pay particular attention because all of these things are connected. And it isn't, to me, a coincidence that half the men in America are on erectile dysfunction pills and also on statins. They are very connected as we'll see when we talk about statin drugs in general. But cholesterol's this very important molecule that you need for thinking and memory, you need for your immune system, that you need to make your hormones and that you need to make Vitamin D. It's a parent molecule for all those things. When I used to do these things in person and do lectures and stuff, there used to be an old commercial that showed this is your brain on drugs with the... I would go, "This is your brain with cholesterol, looks great like a balloon, and then you prick it. That's what your brain looks like without cholesterol. You're dead."

So, it is a vitally important molecule. How we ever got on this bone headed mission, to reduce it to vanishingly low levels that actually create an entire different class of risk factors, how we ever got there is a very interesting story. It's been told by me. It's told been told by Nina Teicholz and her book, "The Big Fat Lie". The history of how we got into this insane position has been told many times and we can go over it, but it's wrong. It's simply wrong. And we live in LA, and we have seen in real time, in a short period of time, how information has changed on COVID. When it first came out, everybody, we thought it was all the surfaces and everybody wore gloves, and we couldn't touch anything in the grocery store. And then we found that that wasn't right, and we adapted, and nobody wears gloves anymore. This has not happened with

cholesterol. The information has changed. It's there, we show it in our book. We are not the only ones; people have talked about this for... We've been misled that this is... That it should be the target for heart disease prevention, but yet, we're still wearing the gloves. It's as if that never happened, and people are just going on doing it the usual way, measuring cholesterol in an antiquated way, good and bad, it's just 1960s nonsense. And then prescribing very strong drugs based on the results of an ineffective test, looking for a market that really doesn't really cause heart disease in the first place.

SHAWN STEVENSON: This is so good. Listen, we're going to talk about some more updated data that it can give us for sure, because cholesterol is a factor...

DR. JONNY BOWDEN: Absolutely.

SHAWN STEVENSON: But not in the way that we think.

DR. JONNY BOWDEN: That's precisely... You couldn't have said it better.

SHAWN STEVENSON: I've got to ask you about this...

DR. JONNY BOWDEN: It is a factor, not in the way that we think.

SHAWN STEVENSON: I've got to ask you, what is cholesterol? Because when we hear cholesterol, we tend to think of HDL and LDL. But those are not cholesterol. Let's talk about that.

DR. JONNY BOWDEN: Well, that's not all there is to cholesterol. That's one of the reasons that the test is invalid. So, let me give you a little bit of it, just a 15-second elevator speech on how this test became a thing. Back when I was a kid, they had health fairs, and you would go, and you would learn about these different things that could affect your health like alcohol and cholesterol. And there would be somebody in a lab coat and they'd do a little fingerprint. It was a demonstration to educate the public. And they'd do a little fingerprint, they'd put it on a little ink blot and tell Mrs. Jones, "Your cholesterol, 210. Very good. Good job. Next person." And they would do this total cholesterol number. And when I said, by the way, 210, 220 and they'd say, "Good", that's because in those days 240 was good and that was the number. They've been dumbing it down and making it lower and lower and adding 10 million patients for statin drugs every time they lower it but 240 was, in fact, the norm.

And some years later, when they started actually looking at cholesterol in modern technology with microscope they said, "It doesn't go in the bloodstream because it's hydrophobic. It needs to travel in a container or would just dissolve. It just..." And the container is called a lipoprotein,

that's the L in HDL and LDL, the second L stands for lipoprotein, one is high density, one is low density. And those things seem to act differently in the body. I don't know, one of them kind of crowd takes cholesterol away and one takes it to the organ. Let's call one of them the good one and one of them the bad one. It was the roughest, most simplistic kind of distinction. But it recognized that there are different size or different types of lipoproteins in the body, at least two.

SHAWN STEVENSON: Those are the carriers.

DR. JONNY BOWDEN: Those are the carriers.

SHAWN STEVENSON: Cholesterol.

DR. JONNY BOWDEN: Very important that those are the carriers. Those are the boats; cholesterol is the cargo. All of the new information as we're going to talk about has indicated that what we should be looking at are the boats, not what's in them.

SHAWN STEVENSON: So, you can't just put the cargo into the water, basically.

DR. JONNY BOWDEN: You can't put the cargo into the water. Think of it this way, it's a boat and cholesterol are the towels that are in the washroom. Now if you just throw them in the water, they're just going to... They're not going to get where they're supposed to go. But in the container of a boat, they get there very safely because they're protected. But if you're in charge of a marina and you want to prevent accidents, what do you care about? What's being carried in the washroom of the boat or how many boats are in the water? You're a bouncer in a bar you want to know how many people are in there because the more people that are in there, the more likelihood, even if they're all wonderful people, somebody's going to step on somebody's toes, somebody's going to spill a drink and, guess what, a fight's going to break out. Same thing if you're managing a huge crowd at a stadium. So, what we now know is that what's important is not the cargo...

Not the towels in the washroom, but what's in... How many boats are in the water, and that's what modern cholesterol tests tell us. Now, at the time, he said, okay, there's two different sized boats, we'll call one good and one bad, and that was an improvement because if you remember cell phones, there are the pictures, and you can Google this, in the 80s when they first had... There were satellite phones, they were the size of a brick, they were size of a Buick, and you see these shots of businessmen in New York City walking with this status symbol of a brick this big. When they made the flip phone, that was a huge improvement. Would you want to use a flip phone today, in the day of the Galaxy 9 and the iPhone 12 Pro? You have to hit the thing three times to get a digit. That's what we're doing when we're testing good and bad

cholesterol. We now know because we have the ways to measure it, that there's 13 different types of cholesterol. There's not only HDL, there's HDL 2a, 2b, there's 3a, there's LDLa, LDLb, oxidized LDL, there's 13 different sub-fractions. They behave differently. Why we're measuring and prescribing based on this 1963 you know, good and bad is... It would be like giving a medical diagnosis based on short and tall. We have 30,000 genes, we've decoded the genome, and we're going to do short and tall for a medical diagnosis? That's what we're doing with cholesterol.

SHAWN STEVENSON: Wow.

DR. JONNY BOWDEN: And that's why that test is obsolete, and that's why I'm so passionate about getting people to go to your doctor. If you are on a statin drug, most of you are probably being over-prescribed, some of you that aren't on a statin drug, might be being under-prescribed, why because the test doesn't tell you if you need one.

SHAWN STEVENSON: Wow. This is so important, so important. You know, this is a big, big thing right now, still to this day, and I know this is why you're so passionate about it, with understanding what cholesterol is, how to measure it, and just to go back to that analogy, which I love so much, of cholesterol being akin to the towels on the boat, versus the boat being the carriers themselves.

DR. JONNY BOWDEN: Exactly.

SHAWN STEVENSON: And us being more mindful of how many boats are in the water, that being our blood stream, if we're talking about the water.

DR. JONNY BOWDEN: That's right.

SHAWN STEVENSON: And those carrier molecules, so we've got LDL, we've got HDL, and we've just kind of cut it down the line, this is good, this bad.

DR. JONNY BOWDEN: That's it!

SHAWN STEVENSON: When in fact, and let's talk a little bit about that LDL being labeled so simplistically as bad, when LDL is playing a role...

DR. JONNY BOWDEN: Oh yeah.

SHAWN STEVENSON: An important role in the body.

DR. JONNY BOWDEN: They all play a role in the body, there's no question about it, but there are some of those particles, those lipoproteins doctors call them particles, some of them are small.

SHAWN STEVENSON: Right.

DR. JONNY BOWDEN: And they tend to get stuck in places they don't belong, those are kind of the bad guys, some of them are big fluffy things that look like cotton balls, and do no damage, and don't get stuck anywhere, we need to know what kind of LDL. It's not enough to know that you have high LDL. You might be all good LDL, if you will, so we need to know that, and those are all on the new tests. And I want to make sure at least we get this running through line that the irony of all this is the cholesterol isn't really... Even if we measure it correctly, it's one risk factor, it's important, but when we looked, when we revised the great cholesterol myth, and we looked at... We had more time to look at all the evidence, that's been done since the 1970s. It became very clear to us that there's a bigger risk factor for heart disease, that no one's looking at, and that's hiding in plain sight, and that can be turned around with diet and lifestyle. And nobody's paying attention until your cholesterol goes up, or your A1C goes up, and the doctor says, "Hey, you know, you really need to get you on some diabetes medicine." This stuff shows up earlier, it's called Insulin Resistance, just give me time to explain it, because that is what we need to be looking at, not cholesterol. And if we are going to look at cholesterol, let's at least look at it in the right way with the right test.

SHAWN STEVENSON: Yeah, please, we're going to get to that for sure, but I want to... I think it's really important for everybody to understand, because it's so pervasive in our culture that cholesterol is this really big villain causing heart disease.

DR. JONNY BOWDEN: Yeah.

SHAWN STEVENSON: Where did this idea originate? Where did all this come from?

DR. JONNY BOWDEN: So, the history of this is that back in the 50s and 60s, there was a research physiologist named Ancel Keys, and around that time... And the context is important because we had a president at that time, Dwight D Eisenhower, Republican President, who... People who were born like after... You can't even imagine a bipartisan kind of country where everyone loved Eisenhower, he was a beloved guy, he had been a hero as a general, he was a kind man, he was just a good guy and everyone liked him, there was no anti... You know... And he had a heart attack in office. And the country went, what! Heart attacks 1950s, 1960s, the profession of cardiology didn't exist before the early part of the 20th century, it's not like everyone knew about heart disease, and here's this guy he is a general he's... Now, he did smoke. There were other things. We didn't know all about that stuff then. And he has a heart

attack and people were frantic, think the COVID thing, it's like, what do we do? Are people in danger? And all of a sudden there was a lot of emphasis on heart disease, and looking at the statistics, and they're finding out that young men are coming back from the war, and they have plaque in their arteries, we've got an epidemic of heart disease on our hands, ladies and gentlemen. What are we going to do? And the demand for answers, much like with COVID, exceeded the science. We don't have time to figure this out. What do you think we should do?

And into that abyss, walks this guy, Ancel Keys he's a physiologist, he's not an MD, he's not a nutritionist, he's a physiologist, he was very prestigious and very powerful. And he had a theory, and his theory was based on the fact that he and his wife went to Italy, and all these people looked so healthy, and it was the sunshine, he was just completely entranced with this, and thought there was something about the diet of these people that makes them so healthy and lovable, and we're falling apart here in America, and they don't have heart disease... I know these people don't eat any saturated fat. And their cholesterol, that's... He had that theory, he didn't have evidence for it, but he believed it, and as we've all learned, a politician, or a public personality with power, determination and being convinced they're right can influence a lot of things. So Ancel Keys goes to the World Health Organization, he has a chart, and he says, look at this, I've got proof. You look at all these countries, heart disease goes down, the less fat they eat, the less heart disease they have.

Look at Japan, and the more that they eat, look at the United States, the more heart disease. Clearly, it's fat and cholesterol. And the World Health Organization kind of laughed at him because the data was the equivalent of like a check, it was a correlation thing, and he left out all the countries that didn't agree with that hypothesis. So, there were like 22 countries that they had data for as far as how much fat they ate and how much cholesterol, and he just picked the six that showed that straight line. They kind of laughed at him. He was, he didn't take kindly to that. This has all been documented because people were there, and they still were alive. They're in their 90s now but they've all said, "Yeah, Ancel, he didn't like to be criticized, he didn't like to be laughed at." So, he designs a study called 'The Seven Countries Study', that is the basis of our dietary advice for the past 60 years. And 'The Seven Countries Study' was a designed study that looked at seven countries and their dietary patterns and their levels of heart disease. And he was able by convoluting that data and picking just those countries, to show what looked like a fairly clear relationship between how much fat people ate and how much heart disease they actually had. This study has not only been quoted and used more than any other study in nutrition, but it's also been reanalyzed, and I don't even think it could get published today. It's that bad.

One of the samples was done during Lent, when people weren't eating. How is that representative of anything? They did not look at stress, they did not look at patterns of eating, they did not look at micro, didn't know anything about that. It was simply an observational

study, and what he did, and it's been shown a million times is well, how come he left these people out? He left out anything that did not fit the hypothesis, but he had a massive, published study, he was a prestigious researcher and he got this on the basis of this. With a lot of controversy, he got the guidelines that reflected that accepted as the dietary guidelines. So, we should eat less fat because we know it causes heart disease. Again, there were other people saying, "There's no science. And so, you observed a bunch of people and their eating habits. You may have published it and it looks very impressive and you got a lot of people working on it but it's an observational study that you didn't control for 30 different variables." It didn't matter. It got in there and it became the basis of the consensus committee in the 80s and they said, "This is what we're going to recommend. People don't eat saturated fat and they don't eat cholesterol, and everything will be fine." And the research since then has shown that that's the biggest crock of you know what in the world.

SHAWN STEVENSON: This story.

DR. JONNY BOWDEN: And we're still living with this story.

SHAWN STEVENSON: This is so fascinating. There's so much here.

DR. JONNY BOWDEN: We are still living with those recommendations.

SHAWN STEVENSON: We're seeing the same patterns of behavior going on today.

DR. JONNY BOWDEN: Yes.

SHAWN STEVENSON: Very similar.

DR. JONNY BOWDEN: Yeah.

SHAWN STEVENSON: So, first thing, with Ancel Keys doing this work, number 1, we've got to talk about the fact that so much of our nutrition advice is based on observational data. Can you talk a little bit about that?

DR. JONNY BOWDEN: It's my favorite subject. I am actually giving a talk at Whole Foods next week.

SHAWN STEVENSON: Okay.

DR. JONNY BOWDEN: About nutrition mythology, and one of the things I am going to address is, well, you can't believe anything about nutrition research. So, sadly, almost every

recommendation you hear, whether it's the good stuff we agree with, like you should eat a lot of nuts and blueberries. Even stuff like that, or the stuff like green tea causes cancer and... Causes cancer. Whatever ingredient at the moment they think, those are based on what's called observational or epidemiological studies which we call the red-headed stepsister of scientific research. So, an observational study is when you watch it, you don't do anything, you don't intervene, you don't take this group and give them this drug and then this group gets a placebo and then you... It's not that. It's the opposite of that. It's like you go into a community and you ask the people, "What do you guys eat?" And you make a chart, and you compare some things, and you look at the end results and how many of them actually get sick with a given endpoint and you make some hypotheses.

SHAWN STEVENSON: Right.

DR. JONNY BOWDEN: It looks like there's more lung cancer among the people who smoke. Let's investigate that hypothesis. Could be that the people who smoke are also eating some kind of horrible carcinogen and that's what's really causing the cancer. We don't know. We need to do a test, but it sure looks like smoking is related to lung cancer. What we did with this stuff is they observe things, like Ancel Keys did, they didn't test it. They didn't do clinical studies on it. They didn't say, "Let's take one group and feed them saturated fat and one group and feed them vegetable oil, let's see what happens. Let's keep it a controlled... ", nobody did that. All they did was, "It looks to us, it looked to Ancel Keys and Walt Willard from Harvard and the other people who bought into this. It looks likely to change, really." And that's the Mediterranean diet and that's, which is another myth because there's 22 countries in the Mediterranean, folks. They don't all eat the same diet. It's another created myth that we all, they all eat olive oil and no meat, and all that stuff which isn't true. But the point is, it was observational.

SHAWN STEVENSON: Right.

DR. JONNY BOWDEN: And observational studies are meant, like I said, to suggest a hypothesis that sounds reasonable that you can then get funding for and do a clinical test to see if it's true. Nobody did that and in fact, it's come out that there were little pockets where they actually did something like that when they tested the saturated versus the unsat... The people with who ate all the vegetable oil and the margarine actually had higher rates of heart disease. So, any time that they actually tested it, it turned out to be wrong, but the observation was this, and it has served as the guidelines for our agricultural policy, for our dietary policy, in medicine... In medicine...

SHAWN STEVENSON: For all... In healthcare. The whole diet.

DR. JONNY BOWDEN: It's the standard of practice.

SHAWN STEVENSON: That's nuts.

DR. JONNY BOWDEN: It hasn't lowered people's cholesterol.

SHAWN STEVENSON: Johnny, how is this possible? Okay, so.

DR. JONNY BOWDEN: How is this possible

SHAWN STEVENSON: Okay, now...

DR. JONNY BOWDEN: We live in the same country.

SHAWN STEVENSON: Just to be clear, right, right. Just to be clear and what I really love about this is that we both know observational studies can yield some good data. But here's the thing, I remember this from elementary school because what that brings forth is a hypothesis which in elementary school it's an educated guess.

DR. JONNY BOWDEN: An educated guess.

SHAWN STEVENSON: It's an educated guess.

DR. JONNY BOWDEN: And educated guesses are brilliant. I want an educated guess.

SHAWN STEVENSON: Now, but then we take that now and now we study it. Now we do a randomized controlled trial, and we actually see we have a specific implement to measure a specific outcome.

DR. JONNY BOWDEN: Yeah.

SHAWN STEVENSON: And people that have been listening to The Model Health Show for some time now, you can hear it in my voice when you listen to past episodes and when you listen in the future, whenever I talk about a randomized controlled trial, my tone changes. My dictation changes because I know, listen, this is some really good data here versus the observational stuff, which, again, can yield some good data. But when we base our entire system of food, which is what our bodies are made of, off of observational data, with all the scientific application we have possible, it is a huge, huge problem.

DR. JONNY BOWDEN: It is. Let me play devil's advocate against a position we both hold. Science, even randomized control studies, can be subject to confirmation bias, to influences that aren't exactly objective. The drug companies, once they started running with this, had lots of studies showing that statins prevent heart disease, except, they don't. What the studies actually show... And again, it depends, I've seen these re-analyzed, how you... They may say that they were... Well, I'll give you a perfect example, Lipitor. This is the best example, the classic example. It's in the book and it's also something people can Google. So, when Lipitor, which is one of the biggest statin drugs, first came out, and was at one time the biggest selling drug in the world, was, I think, the first statin.

SHAWN STEVENSON: Multibillion dollar.

DR. JONNY BOWDEN: Yeah. Multi. So, when Lipitor first came out, they had an ad. And it was by a famous cardiologist, the guy who had invented the artificial heart or somebody like... Someone with a lot of credibility, saying, "Lipitor prevents one in three heart attacks." 33% reduction in heart attacks. 33 reduction. Think about that. If you are at risk for heart disease, are you not grabbing that drug? Okay. So, here's how those statistics came out. They had... If you take 100 men and you follow them for five years, the statistical average is three of them will get a heart attack in five years. If you do a controlled group of that hundred men who are matched and you give them Lipitor for five years at a cost that we won't even talk about, but nobody cares, because it's paid by insurance, two men will get a heart attack.

DR. JONNY BOWDEN: There is a one-third reduction in heart attacks in that group. Instead of three, it was two. Now does it sound as impressive? And, by the way, we didn't mention the side-effects in the group that took the Lipitor, like elevated blood sugar, higher incidence of diabetes. But one-third less heart attacks, because instead of three heart attacks over the course of five years, there were two. Would you take a drug if it was presented this way, this is going to reduce your risk of heart attacks It's going to give you a likelihood of muscle pain, loss of libido, loss of memory, all of these side-effects are possible, and what you get out of the deal is instead of a one... A three in a hundred chance, you get a two in a hundred chance. It's basically a 1% change.

SHAWN STEVENSON: Right. That's something we've talked about.

DR. JONNY BOWDEN: Would you take that drug? Hell, no.

SHAWN STEVENSON: We've talked about this absolute risk reduction versus relative risk reduction.

DR. JONNY BOWDEN: Exactly. They use...

SHAWN STEVENSON: It's all phrasing... With these different studies, they can structure things and communicate to the public what they want, based on what you just said, a confirmation bias. So, folks that are sharing peer-reviewed evidence, we have to be aware of those things.

DR. JONNY BOWDEN: You have to be aware of that.

SHAWN STEVENSON: And also, we have to be aware of who's funding the study. What's the agenda behind it? There's so much wonderful science that... Scientists are just trying to figure out and get evidence out to people, get the truth out to people about certain things. But more often than not, especially what's published, there's an agenda behind it.

DR. JONNY BOWDEN: There is. And I don't want anyone to get the idea we should never listen to science, we should question all authorities, that there are no such thing as experts. That's not true at all. Winston Churchill said this about democracy, "It's an absolutely horrible system, but it's better than anything else we have." Science, as it's done now and as it's used now for commercial purposes and with lots of corporate interests, and, as you said, the drug companies design studies, there's evidence showing that when you pay for a study, you're five times more likely to get a positive result. So, all of that is true. Doesn't mean that science is no good and that their experts are all lying, but it says that we as consumers need to be aware of these forces that tend to produce results which are then shined up and presented, like one-third reduction in heart attacks when it's actually a 1% reduction in heart attacks, from 3% to 2%.

SHAWN STEVENSON: Yeah. Ah. This is so good. So again, we just did an episode talking about absolute risk reduction...

DR. JONNY BOWDEN: That's we're talking about right now.

SHAWN STEVENSON: And relative risk reduction in regards to recent vaccines. So, we'll put that into the show notes for folks. That's for another day, but...

DR. JONNY BOWDEN: That's for another day, but, wow, a good one, man.

SHAWN STEVENSON: What I want to ask you about is, with that observational data, there was a massive change in the way that the public perceived food, and we went to war with fat. We went to war with dietary fat.

DR. JONNY BOWDEN: We did.

SHAWN STEVENSON: So, can you talk about the implication? What did that lead to? What happened in our society? And also talk about, in your book you mentioned, there's a side bar, which is a great story about the SnackWell phenomenon.

DR. JONNY BOWDEN: Well, anyone who was around for that low fat madness back in the '80s and early '90s, when I started my career as a personal trainer, we were all into low fat. That was the thing. And SnackWell was this horrible junk food cookie that had managed to take all the fat out, and nobody was looking at sugar then. So here you had the poster child, the Wikipedia poster child for low fat crap food that was, nonetheless, it didn't have any fat in it, and that was the standard by which we judged it. So, the SnackWell phenomenon was here as a... Absolute junk food laden with sugar and starch and chemicals, but it meets the standard of not having fat. And that's... And half the foods in the grocery store are like that now.

SHAWN STEVENSON: Yeah. They were throwing that label on there like crazy. This is when marketers and the media jump on things as well, and take science that, again, is a hypothesis, and turned it into apparent truth in the public's eyes.

DR. JONNY BOWDEN: It's absolutely true.

SHAWN STEVENSON: Yeah. So, what happened when we shifted over from removing fat from food and replacing that with what?

DR. JONNY BOWDEN: Well, we've been replacing with sugar and with starch. Food tastes horrible when there's no fat... When there's no fat in it. And the only way they could make it edible was to sweeten it profusely with all kinds of stuff. And we wound up eating very high carb diets, which is what was recommended to us by every food pyramid, even the My plate version to all the same crap. It's always high in carbs, and there's a reason for that too, which I would love to talk that a lot of people don't know, but that's what's been recommended to us. And what happened, you ask? What happened in those 50 years? We got fat, sick, tired and depressed as a nation. And we have a new term called diabesity, which we didn't have before, because diabetes, obesity, actually, as I say in the book, heart disease, Alzheimer's, one long continuum, all came from this insane diet that was never even close to what the human genus was set up to run on.

SHAWN STEVENSON: So, this... I love you, man. This is...

DR. JONNY BOWDEN: I love you too.

SHAWN STEVENSON: This is why, and this is so obvious, again, we made this big shift as a culture, we pulled the fat out, look at the results. Look at what happened. Everything got exponentially worse.

DR. JONNY BOWDEN: And it's not people's fault. If you're a consumer and you don't follow this stuff, and you don't know epidemiological studies from randomized control studies, and you don't know what would... Then how you expect it to... I don't know cars like I know this stuff, so I'm going to go to an expert, and if they tell you that the seatbelt saves lives, I'm going to believe them. And maybe it does. I have no way of knowing, 'cause I'm not expert in that field, and people aren't expert in this, and they turn to experts, and they don't realize to what extent the experts are influenced not just by corporate kind of bribery, I'm not talking about that, but it becomes a zeitgeist. It's like what we saw with vaccines. It becomes a shared cultural belief. And the shared cultural belief, for right or wrong, has become that fat is the enemy, fat makes us fat, fat makes us diabetic. None of this is true, and there's research to show that. And what is true is that the stuff we were told to eat instead of fat, which is sugar and starch in every form you can imagine, from cereal to pasta to bread, all these healthy low-fat foods are actually making us sick, giving us a condition called insulin resistance, and that is what's causing all the problems.

SHAWN STEVENSON: You would think, again, over time, that our beliefs would evolve, and they have more recently. But when I was in college, my very first nutritional science class, I was taught, really watch your fat...

DR. JONNY BOWDEN: So was I, so was I.

SHAWN STEVENSON: Increase your intake of carbohydrates, which again, it's not to vilify carbohydrates, but the ratio and how things change and the exclusion of fat. But also, I want you to talk about this, because there was a different type of fat that was added to increase the shelf life, because just being something that's kind of a stabilizer...

DR. JONNY BOWDEN: Oh, trans fat?

SHAWN STEVENSON: Yeah, let's talk about that, partially hydrogenated oils.

DR. JONNY BOWDEN: Yeah. Which is, by the way, in more foods than you realize, because another example of the lobbying efforts of corporate America. Trans fats, I'll give you the big picture first, is exactly what Shawn said it is, it was an artificially made fat that has a longer shelf life, that doesn't spoil the way real food does, and it can stay there forever. It's trans fats in Twinkies. They're just... And what it is, is partially hydrogenated vegetable oil, usually soybean oil. Trans fats were within everything. When the information started coming out that

they are actually responsible for strokes and heart attacks and probably way worse than saturated fats ever were, which is 100% true, the industry pushed back a lot, and so it's like, all of our products have this in it. What are we supposed to do? Retool every factory? Come on. So, they fought to the nail.

So finally, the law that went through was you have to label this product as zero trans fats. How do we define zero? Now, the lobbying starts. Well, it's not really zero. You're getting a little trace amount. Well, how much is that trace amount? So, they wound up saying, the agreed definition now is you can say zero trans fats if it has less than a half a gram of trans fats. And, boy, that sounds reasonable. That's less than half a gram, right? So less than half a gram per what? Per serving size. Okay. Now you give them something to run with. The serving... Ever see those cookies where it says... You buy a single cookie, and it says the calories, it says, serving size one-third cookie, they started making serving sizes with trans fats with half a square, but these ridiculously small serving sizes. And yes, each one had just under a half a gram. But by the time you ate an actual serving size, you've eaten 2-3 grams of trans fats, and you should be eating zero. So, by very clever labelling, and this is how you get around that, folks, ignore the zero trans fats, look at the ingredients, if it says partially hydrogenated, fill in the oil, soybean oil, canola oil, it's got trans fats. That's the definition of trans fats, whether the labels says zero or not.

SHAWN STEVENSON: I remember being... When I was in college and I was a strength conditioning coach, and again, learning from my professor that we need to eliminate fat and go for the margarine, these kinds of things. And I remember I had to go outside of what I was being... I was paying for that education, and thankfully, I had some different folks that I came across some of their research and just start to study, looking at different articles, and just it really... It was tough for me to accept that this was true, because again, I'm paying for this education that's telling me something opposite. But then I remember this article coming out that they were working to ban trans fats in restaurants in New York City. And this was... I think this was the early 2000s.

DR. JONNY BOWDEN: That sounds right.

SHAWN STEVENSON: And I saw this article, I'm like, Wait, this is mainstream news here. Everybody should know this by now. And for years, nobody knew. I would have...

DR. JONNY BOWDEN: It's a slow-moving dog, man.

SHAWN STEVENSON: Clients coming in. We'd go and sit at my desk, my little station at the gym, and I would show them these articles, I'm like, look, what we've been taught is not

accurate. Look at this. And then I would show them this cereal bar that I had in my book bag for years, still is probably fresh as... Well, un-fresh, I guess. Zombified the day that it was made.

DR. JONNY BOWDEN: Zombified. Zombie foods.

SHAWN STEVENSON: And it's got this partially hydrogenated oil, high fructose corn syrup, all of these things, and... But yet, it says heart healthy, it says low fat, and it seems like it's this really healthy thing, but it's... It was other than.

DR. JONNY BOWDEN: Yeah. Well. That is a huge problem to say the least. It's huge problem to say the least.

SHAWN STEVENSON: So, let's talk about one of these, and this is why I'm so grateful to have you on, it's for this reason right here which is, we made this shift as a country. We wanted to get our citizens healthier, we wanted to be healthier. Nobody's waking up like I hope I could be less healthy today. And so, we're following that guidance. And the shift that we made was pulling out dietary fat, that humans have been existing...

DR. JONNY BOWDEN: Eating as long as there have been humans.

SHAWN STEVENSON: As long we've been here.

DR. JONNY BOWDEN: That's right.

SHAWN STEVENSON: And now suddenly pulling those things out from real whole foods or replacing it with more carbohydrates, more sugar and...

DR. JONNY BOWDEN: Fake fats, fake beef.

SHAWN STEVENSON: We know that cholesterol has also been demonized, but there is another culprit here that you mentioned this term earlier, and I want to dig into this, which is insulin resistance.

DR. JONNY BOWDEN: Oh yes. Please let's talk about that.

SHAWN STEVENSON: So how do these two phenomenons intersect because when heart disease was a concern now it's an epidemic, a massive epidemic. Where do these two things intersect?

DR. JONNY BOWDEN: Very simple. So, if you go back to what you and I were taught as trainers in the very, very beginning, it was all about calories. Calories in, calories out. And if you take in more calories than you burn up, you're going to gain weight. And if you burn up more... All about calories. But calories, as I learned in the '90s, and I'm sure you agree, stimulate hormones. So, food doesn't just have a caloric effect, it has a hormonal effect. And one of the hormones that food impacts the most is one called insulin, and insulin is a fat storage hormone, insulin is a very important hormone. You can't live without... Type 1 diabetics don't make insulin. In the early part of the 20th century, they were dead before they were 20. You have to be able to make insulin. And one of insulin's jobs, one of its main jobs is when your blood sugar goes up, insulin jumps into the fray, it's like a Sherpa and it comes and takes that sugar from the bloodstream, and it delivers it to muscle cells. And that's a very good thing. A, because high blood sugar is very dangerous, for many reasons. And two, because the muscle cells need it because you're hopefully going to go out and do some things that require energy.

What happened when we started eating... Now, different foods have different impacts on both blood sugar and on insulin. Let's look at the three macronutrients, carbohydrates, top of the line. Carbohydrates, you breathe a carbohydrate, up goes blood sugar and insulin. Now some carbohydrates, not as much. Brussels sprouts, not very much, broccoli, not much. But everything in the grocery store that comes in a box, up to the ceiling. I don't care if it's a complex carb, which is another term that's completely outdated, they are fast-burning carbs that drive your blood sugar up. And that's what we've been told to eat. So, what happens now? Now, you eat a normal breakfast Special K and orange juice, a bagel, and no fat. Don't forget that. Your blood sugar is on the roof, insulin is pedaling along, trying to get this sugar back out and get it into the muscles, but the cells don't need... The muscles don't need it because your lifestyle now is that you go to the office, you work behind a mouse, the only exercise you get that you go home and play with the clicker. What are the muscle cells needed for?

So, the cells now become resistant to the effects of insulin. So now you've got high blood sugar and there's nowhere to go. Well, the fat cells say, we'll take it. So now you start putting on fat particularly around the abdominal area, butt, thighs and hips... All the areas. And you're still out of the diabetic range because that insulin is working so hard, it's managing to keep your blood sugar just below the level at which they call it diabetic. After a while, the fat cells say no más. We had enough. Now, you got high insulin, high blood sugar. There's your definition of pre-diabetes, diabetes and as we show in the book, diabetes is pre-heart disease. And insulin resistance is... They now call Alzheimer's type 3 diabetes, 'cause of insulin resistance. Every one of the COVID comorbidities, every one of them, lung, kidney, all of them, insulin resistance is a major factor. This is the metabolic disease of the century. 88% of Americans have some degree of it, and it is making us sick, fat and tired, and we can change it with diet.

SHAWN STEVENSON: Wow.

DR. JONNY BOWDEN: I'm so sorry that I didn't finish this part. So, carbohydrates drive up your blood sugar the most, and with it insulin. Protein can raise blood sugar. There's amino acids that convert to glucose and they will raise blood sugar but nowhere as near as much as carbs. You know what doesn't move the frigging needle? Fat. The one macro nutrient we were told to stay away from doesn't move the needle on blood sugar and insulin, which is what's causing us to be fat in the first place. So that's the irony of recommending a low-fat diet and a high-carb diet, when really, all... Those recommendations guarantee that blood sugar is going to be elevated, insulin is going to go up, you're eventually going to get insulin resistance unless you're exercising like crazy, to use up all that sugar. If you're Michael Phelps, maybe you won't get insulin resistant. You eat our diet, you're going to get insulin resistance, and the proof is Science Daily vet it, check it out, 88% of Americans have it.

SHAWN STEVENSON: Yeah. And we'll put that for everybody in the show notes as well. Yeah. It was deemed that only 12% of Americans are metabolically healthy.

DR. JONNY BOWDEN: 12% of... That's what they're talking about. The other 88% have some degree. It's in degrees, like with blood pressure, goes from just a little bit of it. But if you have a little bit, it's likely to get more as you get older, and the solution is to stop eating the foods that drive it up.

SHAWN STEVENSON: Yeah. At this point, we should be asking what changed when this number used to be flipped, where 12% of Americans were metabolically unhealthy, and now it's the vast majority. But we can do something about this, and I love that you're bringing this point up with... And it's one of the most important things with this conversation of insulin resistance because it's a driver of so many other issues. Heart disease, liver disease...

DR. JONNY BOWDEN: Alzheimer's.

SHAWN STEVENSON: The list goes on and on, Alzheimer's, because we can have insulin resistance take place in the brain...

DR. JONNY BOWDEN: And that's not good situation 'cause your brain needs insulin, and when this it's deprived of insulin, because insulin resistance is body-wide, it's a very bad situation for the brain.

SHAWN STEVENSON: We've got a quick break coming up. We'll be right back.

Researchers at Yale University School of Medicine, the researchers found that one of the biggest culprits behind our obesity epidemic is neuro inflammation. Brain inflammation

increases the propensity of obesity, and obesity increases the propensity, the likelihood of neuro inflammation. They go hand in hand. So, we've got to address this. One other of the things thing that has been that's been proven to help to reduce neuro inflammation is cited in a study published in PLOS One, Public Library Of Science One, revealed that the super green algae spirulina has a potential to; one, improve neurogenesis in the brain, so the creation of new brain cells, specifically the hippocampus is where we get a lot, and the hippocampus is the memory center of the brain, this is kind of important. And two, the study revealed that spirulina is able to directly reduce neuro inflammation. It's incredible, right? And it's helping the structural integrity of this master gland, this master organ controlling everything about us. Right? The most complicated object in the known universe is also one of the most fragile. We've got to protect it. This is why for myself and my family, spirulina, chlorella, ashwagandha, all of these powerful foods that are put together in the incredible blend at Organifi. And this is a regular staple here in my family for a good reason.

Spirulina, it being one of the highlighted ingredients, not only does it have this benefit for neurogenesis and neuro inflammation, but also has rare nutrients like phycocyanin. The same thing with chlorella as well. That phycocyanin is one other of the few things that can trigger stem cell genesis, right? Like the creation of new stem cells, very few things have been found to do that. And then chlorella is in the formula as well, and that growth factor, the chlorella growth factor is just remarkable, and also its benefits in helping your body to metabolize and eliminate heavy metals, and the list goes on and on. It's incredible.

But the bottom line is this: It tastes good. It tastes good. I've experimented for, you know, at least about 15 years with all these different green formulas, different green superfood blends. And many of them is not very good. Okay, many of them, like I'll... They shall remain nameless, but I've tried them, you know, back in the day, before tasting good was an option, it was like just get it in, by any means necessary, if you got to do the whole pinch of up the nose and get it done, that whatever. But now, pleasure leads to longevity. Pleasure leads to taking a practice on it and then imbibing in it and making it part of your routine, your habits, your daily life. So, this is why I appreciate the fact they've created a formula that actually tastes good, all organic, cold processed, so you actually retain and get the nutrients that we're looking for in Organifi. So, pop over there, check it out, it's 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, their red juice formula, and also their gold as well. So, they've got some incredible blends, all done the right way. With integrity, again organic, low temperature processed, and yummy, alright? Organifi, you've got that yummy, yummy. Organifi.com/model, and now back to the show.

So, let's talk about how this directly influences cholesterol, a little bit. Because you know with that blood sugar being what it is, you know getting to that point where we become insulin

resistant. Your body is always trying to figure it out. So, it will ship it over to the liver. And we will fill up that liver glycogen, but eventually that gets filled up. We can't even store that much.

DR. JONNY BOWDEN: Not much.

SHAWN STEVENSON: In the liver, or at the muscles. And now your body is like what, I can't have this blood, this sugar just roaming around in the bloodstream, tearing stuff up. And so, your body in its infinite intelligence can start to package it up and change it, lipogenesis can take place, making fat, making new particles, carriers, VLDL for example.

DR. JONNY BOWDEN: You are 100% right.

SHAWN STEVENSON: Let's talk about that, how that plays a role in cholesterol with insulin resistance being a driving force.

DR. JONNY BOWDEN: Well, the simplest way to explain that is fat doesn't make you fat, it never has, carbohydrates do. Because as we've just seen, carbohydrates are the stimulus for a hormone whose job it is to get that sugar out of the blood stream and store it anyway it can. And if the muscles don't want it, it's going to make you fat. So meanwhile, while we're looking at cholesterol and we're not looking at blood sugar and insulin, and this measurable thing called insulin resistance, we're kind of leaving out the most important risk factor, and we're concentrating on this molecule... I always used to say, when we were attacked in 9/11, we wanted to go after terrorists, we wanted to, right? So, nobody knew exactly where to look.

Somebody had... Someone had a theory, that like, "yeah, we want to go after the terrorists, I think there's a guy in Portugal on his mother's basement, that has a... Would you go after the terrorist in his mother's basement in Portugal, you going to think his country the one to... You got to go after the most important risk factor, the thing that's really going to take you down, and it ain't that guy in Portugal, and in heart disease it's not your HDL and LDL cholesterol, it's what's going on with insulin metabolism, the destruction of that whole pathway, so that insulin just isn't effective anymore, and everything that goes with that, which is an increased risk for every one of the metabolic diseases.

SHAWN STEVENSON: This is so simple. What you just shared really just came to life for me.

DR. JONNY BOWDEN: Really? Thank you.

SHAWN STEVENSON: So, for everybody to understand this, when we're talking about insulin resistance, and we're talking about blood sugar, it's as if psychologically, blood sugar doesn't impact our blood pressure, it doesn't impact our heart health or our cardiovascular health.

DR. JONNY BOWDEN: Damn right. Or our mood, or our energy or anything else like that.

SHAWN STEVENSON: Yeah, and so with that said, having abnormal blood sugar, having the creation of VLDL, very low dense lipoprotein particles, we're creating this situation in our blood stream where it's heightening the risk of events taking place.

DR. JONNY BOWDEN: Without question in measurable ways, and it's all in the literature, and you can go to PubMed, put in insulin resistance, pick your disease, and you'll be reading forever.

SHAWN STEVENSON: Well, what I'm hearing too, is that there's going to be an inherent inflammatory component to this situation.

DR. JONNY BOWDEN: Ohh... Without a doubt. And I mean, these things go hand in hand. First of all, Oh, there's so many things to say about that. I mean, first of all, the very foods that we've been told to eat are very inflammatory, they're pro-inflammatory, and your audience certainly knows this. Inflammation is a silent killer. It got that title on Time Magazine back in the... There was, "Inflammation. The silent killer." Well, it's not so silent anymore, people now know about it, but it is still a killer. And it happens because so many things cause inflammation. Stress, chemicals, recreational drugs, prescribed drugs, the air we breathe, the water we drink, all these things have irritating components to them, and when they get into the gut and you're eating lots of inflammatory things, like for example, gluten that nobody knew about 20 years ago, but they thought, oh well, some people have celiac disease. The rest of us don't have to worry about it. No, it's a very highly inflammatory substance that bothers a lot of people. And if you get that kind of inflammation in the gut, well, everything falls apart, because now you have leaky gut, now it means things get into the blood stream that didn't belong there, the immune system mounts an attack, now this is where autoimmune disease comes in. So, you got to heal that inflammation. And the inflammation is part and parcel of the diet that we're eating and the lifestyle that we live.

SHAWN STEVENSON: You know what? There's so much... I'm so grateful that you're out doing this work. A lot of folks don't know that so much of the data from many health professionals, you've really helped to impress this upon culture. Your book, The Great Cholesterol Myth, this is a newer version. This is revised and expanded.

DR. JONNY BOWDEN: Yes. This is the one to get. Don't get the old one, 'cause this is the one that... Where we found the insulin resistance connection.

SHAWN STEVENSON: And so, you've been talking about this for years and years and years. And it's made its way into more health circles in a major, major way. Of course, you know, and this is why you're so passionate about this, there's still so much work to do.

DR. JONNY BOWDEN: There is.

SHAWN STEVENSON: But I'm so grateful that you're doing this work. But I want to know where did all of this start for you. What is your superhero origin story, Jonny? What got you interested in health and fitness in the first place?

DR. JONNY BOWDEN: Well, I don't know if you know this, I've told this before, but I was a professional musician. Oh, you didn't know that.

SHAWN STEVENSON: Didn't know this.

DR. JONNY BOWDEN: So, I was a professional musician in New York City. I went to Juilliard. I was a sex, drugs and rock and roll person. I was from the... Post the Woodstock generation, and everything that you can imagine a musician did. And I did drugs, I... Coffee and cigarettes were my breakfast. I was fat. But I was good enough to earn a living at it. And I got... I kicked the... My major drugs, which were heroin, cocaine and alcohol in the early '80s, and said goodbye. And I was touring. I was doing a lot of Broadway shows that had pop rock feels like Joseph and the Amazing Technicolor Dreamcoat, Little Shop of Horrors, and we would tour. We'd do these what they call bus and truck tours and national tours, and you'd sit down in a city for a week at a time, and you'd set up and do the sound check, and you had the day's free.

So, there I am in these towns with these actors whose job it is to stay in shape. And I'm bored and I'm newly sober, or more or less off those things, and very interested in... So, I literally, I remember, was in Connecticut, I said to one of the actors who was really into this, "Show me how to do one of these weight liftings. How do you do this? I'd like to have some muscles maybe one day." And, man, that was just the beginning. And I started hanging out with them, I started learning how to do the weights, they started taking me to the gym with them, and I had life-changing... It was like holy. And soon, I knew where every gym was in every town. There weren't big chains. It was Doug's Gym in Dallas, these hole in the wall places. I knew where the health food stores were. This is prior to Whole Foods, and...

SHAWN STEVENSON: This is in New York City.

DR. JONNY BOWDEN: New York and my touring. I lived in New York City. Yeah. But what I decided to do, being a kind of middle class, upper middle class academically inclined New York Jew was, I want to get a degree in this. You got to be able to get a degree in this, because you're

not legit unless you have a degree in something. So, I figured, maybe is there a degree in personal training? And sure enough, there was American Council on Exercise and AFA and ASM. So, I got 'em all. I got every one of 'em. And I think I had six altogether. And Equinox was opening its first club in New York City, 1990 on Amsterdam Avenue, and they had a big sign that says, new gym coming to New York. Hiring trainers. I walk in, I'm still a professional musician, but I know I'm going to be in New York for a while. I don't have to gig. And I said, "I'm a trainer. I have the..." And for reasons beyond me, I connected with that... With the Errico family who owned it and who started it. And we just connected. I was in my '40s, was older than most of the other trainers, but I also had a Master's in Psych and I could speak English. So, they thought, "Oh, we like this guy. We could use him". And they hired me.

And I started on the floor of Equinox in 1990, and I was there for seven years. I became the Dean of the Equinox Fitness Training Institute. And I was a low-fat true believer. I was one of those guys that if you ordered an egg white omelet, the most bone-headed thing I've ever heard of you ordered an egg white omelet, like I did, and it came with a little of the yellow, I'd send it back because I was quite sure I was going to get a heart attack if I ate any of that yellow in the egg. So I was that. And we taught our clients that. We trained them that way. And we believed... mea culpa, I apologize for this, we believed if they weren't losing weight, they were lying, they were cheating. We couldn't believe our own... That our advice was bone-headedly wrong. We couldn't... And there is, by the way, a TED lecture, highly recommend it, Peter Attia, one of the great doctors gave a speech when he was almost in tears talking about the harm he did his diabetic patients, thinking they were lazy and that this was not hormonal, that this didn't have any... That it was just a willpower thing.

So that's what we did, and we thought that they were lying. And in the midst of this, Atkins had published the New Diet Revolution. The Atkins diet was... Third edition came out in 1992. And we had clients who said, Dude, I'm going to try this Atkins thing. I got a golf pro just lost 50 pounds on it, and my hairdresser says it's the greatest thing since sliced... And we would say, you cannot do this high-fat... This guy's a quack. He should lose his medical... He's telling people not to eat complex carbs and to eat bacon. He's out of his mind. You can't do it. You might lose some weight, but you'll get a heart attack. They didn't listen to us. And they would come back, and they were better. Their eyes were brighter, they were losing weight, it was visible. They would come back with blood tests, and I didn't even know how to interpret, but the doctor thought was much better. So now I had this dissonance, here's a guy standing in front of me who just lost 25 pounds and looks perfectly good, and his doctor's report is great, but I've been told the Atkins diet kills you. Something doesn't fit.

And I began teaching my trainers and talking at conferences and saying, there may be some misinformation here about fat, it's not really, been... And immediately they all said, "What does he know? He's not even an MD, he's not even a nutritionist.", now, nobody said this when I was

preaching low fat, and nobody questioned... They went "oh he's the best teacher we've ever seen". Now it's like: "Who's that guy?". So, I was getting stronger and stronger in my convictions, I was not only seeing patients like this, I was reading research and going, "You know what, none of this is born out, this is just not it, this isn't so... It's not true". And the only way I could get anyone to listen to me was to go back to school and get a bunch of letters. So, I did, so I went back, I got, a board-certified nutritionist, now with a PhD in holistic nutrition and my Master's in psych, I'm board certified. And then I said to the same people I had been saying it to: "Guess what, guys? You're full of, this isn't true". And you asked, where did it start? From when I was five, I didn't like bullying. I'm very anti-bully.

SHAWN STEVENSON: Yeah.

DR. JONNY BOWDEN: You want to get me, just out of my mind, show me unfair bullying. And to me, this is bullying by the medical profession, this is bullying by the USDA telling us what to eat, when in fact, these foods are causing us to be sick, fat, tired, and depressed. This is the doctors who tell their patients, and I've had clients who told me this: "I can't treat you if you won't go on a statin drug".

SHAWN STEVENSON: Yeah.

DR. JONNY BOWDEN: Yeah, that's bullying. So that is part of the passion that influenced me, and the fact that we can cure this stuff with diet, is just enough to make me a little crazy.

SHAWN STEVENSON: Your story is so incredible, Jonny, thank you so much for sharing that.

DR. JONNY BOWDEN: Oh, man.

SHAWN STEVENSON: That's an adventure through life, and... The beautiful thing for me is the fact that you being here right now and seeing your energy and seeing you walking the talk and showing us what's possible. You were there at Equinox.

DR. JONNY BOWDEN: I was...

SHAWN STEVENSON: In the early 90's...

DR. JONNY BOWDEN: Great place.

SHAWN STEVENSON: Really working there, what you wanted to do, I'm sure you tapped into that, wanting to serve, but you also had this awareness when something isn't working out to question a little bit, and also when you start to see evidence of the contrary, that takes a lot of

courage. Because as you mentioned, when you were locked step with the popular paradigm, nobody said anything to you...

DR. JONNY BOWDEN: No.

SHAWN STEVENSON: Nobody questioned anything.

DR. JONNY BOWDEN: And it's like that with a lot of things.

SHAWN STEVENSON: It's the same thing, and you highlight that throughout the book as well, and there's many stories throughout history, when things are going along... With science that is outdated, when science that is flat out wrong, but it's accepted in culture. And again, look at our society right now. Have we gotten better? But when you question that and the underlying triggers for those things, and as a matter of fact, when you bring up solid science, it says to the contrary folks are often demonized and vilified for many, many years and sometimes decades, sometimes they pass away before their truth is accepted as a cultural norm, even the Ignaz Semmelweis and hand washing, and just the list goes on and on for many different things, and I want to talk to you about this one specifically. Because I don't think we deeply understand. Many people do, they listen to this show. Just how powerful, when we're talking about changing the paradigm with a drug, for example, the statin. You've got to understand, you highlight this in the book, this is a \$31 billion...

DR. JONNY BOWDEN: \$31 billion.

SHAWN STEVENSON: A year, industry targeting something that is blatantly untrue, and right now we got to understand when you start to dip into their pockets and understanding the motives behind it with statins, again, this might have even started with a good intention, but it's gotten far, far from that.

DR. JONNY BOWDEN: Oh, yeah.

SHAWN STEVENSON: So, I want you to talk about this a little bit. Let's talk about the pharmaceutical industry side of it, when it comes to statins, and again, I've been in my clinical practice talking... I've been in this field for 20 years now almost. And I'm shocked that we're still even talking about this because, and this is what I want you to talk about. So, number one, the industry side, and also what are the ramifications of statins, because we've talked a little bit about that. Is there any tie-in with insulin resistance with being on a statin, is there any tie-in with increased risk of...? You mentioned potentially cognitive issues, erectile dysfunction, that has to do with circulation as well.

DR. JONNY BOWDEN: Those are the main side effects.

SHAWN STEVENSON: So, could this be potentially contributing to the problem. So, let's talk about those things.

DR. JONNY BOWDEN: Sure, I want to just go on record saying I'm not 100% universally demonizing statins for all circumstances... Even my co-author the cardiologist, Stephen Sinatra, rarely uses statins...

SHAWN STEVENSON: But they have their place...

DR. JONNY BOWDEN: Says there are cases in which... And I'm going to give you, here's a really great example, if we can just take off one moment to go on the side bar. Whereas I believe, that since we're using the old test, many people are over-prescribed statins 'cause they have high LDL and they're not looking at what kind. There are people who are being under prescribed and I'm one of them, and I'll explain that I have had wonderfully normal LDL all my adult life. Every doctor looks at it and goes: "Heh, no problem. You're great". When I learned this, I started getting the real test, the NMR particle test, the Lipid Profile, the advanced Lipid... They're called different things. Every lab has a lab core quest, they all have it. They look at the number of particles and stuff, all of a sudden, I come back in the high-risk range, I have way too many particles, they're in the red zone, and they're the wrong size. They're the nasty little BB gun ones and not the big fluffy ones, this is information that matters. So, I am not out of risk because those are risk factors, I do think are important and not the only ones. Lots of other risk factors that are in the bottom, but they are one to be concerned about. And in my case, I was probably being under-treated, I would be...

If I get so nervous about statins, I would probably be a great candidate for one, and you would be missing that if you were only looking at the good and bad cholesterol, as it turned out I changed those numbers, and I did it with a very targeted set of supplements and I was able to avoid the statins, but there are places. It's just that we're diagnosing them based on the wrong tests, so some people get missed and some people are probably walking around, statins that don't need to be. Now you asked what are the side effects. There's a very interesting study, your audience love studies Beatrice Golomb at Stanford, not a bad university, wanted to find out if the side effects on statins were being fairly reported. And so she did a classic study, it's published, just put Golomb statins into PubMed, and she found that 65% weren't reported, and the reason for that across the board, was that the doctors didn't think the side effects or adverse reactions were being caused by the statins, they had been so brilliantly marketed by the representatives of statin drugs, that when the guy comes in and says, "You know, Doc, ever since you put me on Crestor, I'm kind of forgetting my wife's name," "Don't worry. It's a little... Don't worry, Mr. Jones. You're just getting older. It's a little mild cognitive impairment."

Guys I play tennis with, they go in, I've got leg pains, I've got all these crappy things I didn't have before, "don't worry, it's a little arthritis, you're just getting a little old," so they did not believe, because the statin manufacturers had been so good at convincing people, much like the vaxx deniers, they're all "Oh yeah, they're just anti-vaxxers, they don't have any legitimate questions to raise because they're just the nut cases", and that's what the statin manufacturers through the American Heart Association have done. I've seen them go on Good Morning America and say, "Yeah, well, there's a lot of statin deniers. They're just dismissive." Yeah. And so, most doctors don't actually... We put them as adverse effects related to statins, but they are. And Golomb has a whole list of the number and the number the patients have reported and the percentages and all of that stuff, and it's just very clear that most doctors don't believe those side effects have anything to do with statins.

SHAWN STEVENSON: Yeah, I would think, again, just to look at the results, has our mission of targeting cholesterol in this particular way, has it reduced the incidence of heart attacks...

DR. JONNY BOWDEN: And that was a question you'd want to know, right, what they tend to do, 'cause these studies tend to not last very long is they use what's called surrogate measures, they use the measurement of cholesterol as a surrogate for heart disease, it's not. So, what they're able to show is, "Look, we reduce heart disease by whatever percent", but what they did is they reduce cholesterol, and they're assuming that everybody thinks that because they reduce cholesterol, they reduce the risk of heart disease, 'cause that's what we have been drilled into our heads. But in fact, when you look at the actual end result, which is as you said, should be, did this person die or not, did they have a heart attack or not. I don't give a if their cholesterol went down, are they dead? Or are they not dead? In fact, the statins don't save lives.

SHAWN STEVENSON: There it is, there it is. In the book, you also talk about... We've touched on this a little bit, but before... Your co-author on the book, Dr. Steven Sinatra, phenomenal, phenomenal. Great work as well, and he mentioned... I really understood the data and took more notice of it many years ago, maybe he's 10 years ago, hearing from him about Co-Q10.

DR. JONNY BOWDEN: Oh yeah. We love that Co-Q10.

SHAWN STEVENSON: We also have found out now we've got some solid data showing that statins also deplete the body of Co-Q10, increasing potentially the risk of heart disease.

DR. JONNY BOWDEN: Absolutely, and the irony there again, is that Co-Q10 is needed for a healthy heart, it's an energy molecule. It's needed for energy. The heart is one of the organs that needs energy 24/7, it doesn't take a break, it absolutely needs this vital molecule, it's made

in the same pathway, when you block that pathway, guess what... One of the side effects is you don't have any Co-Q10. Merc, one of the big drug, big pharma, has a patent for Statin mixed with a Co-Q10 and they didn't manufacture it 'cause they thought... Nobody even knows about this. So, everybody knows the Co-Q10 is depleted, and if doctors aren't telling you, if you're giving you a statin, they're not telling you to take 200 milligrams a day of Co-Q10, they don't know what they're talking about.

SHAWN STEVENSON: So again, this is just reiterating, everything has its place, but just haphazardly throwing statin to people in the way that we have as a society, number one, it hasn't worked in a significant way, and also the potential downsides... It's as if it doesn't come with its cost, so let's talk about this because I want to dig deeper here. In the book, you talk about the politics of publication, and you mentioned the national cholesterol education program that lowered the "optimal cholesterol" levels...

DR. JONNY BOWDEN: Yeah, they keep doing it.

SHAWN STEVENSON: In 2004, as you mentioned, they keep dropping it down...

DR. JONNY BOWDEN: They keep dropping it. Every time you got 10 million more patients to get reimbursement for statins. Because if now the ideal level is this, and if you're here and that's considered normal, but now we can make that normal, now you have a disease. And we can now...

SHAWN STEVENSON: Right, go from 160 to 150.

DR. JONNY BOWDEN: Yeah. Now, let's be very clear, when you go down in cholesterol, it's called the J-curve is what happens is, the lower you go, the higher the risk for accidents, suicides, death from all causes, all these other things, why accidents... I've always wondered to do this, why accidents and suicides? And the hypothesis that I have untested is the cholesterol needed for your brain to work properly and when it isn't there, there's a lot of stuff goes wrong, but the correlation with higher death rates from all these things, is not arguable. That's in the data.

SHAWN STEVENSON: Cholesterol is so important for your brain; your brain makes it. Your brain really has it on ready to order. So, in this, the National cholesterol education program, you mentioned that eight out of nine of the people on the panel creating this, had financial ties to the pharmaceutical industry.

DR. JONNY BOWDEN: They did. And I think we listed them in there, I think... Thank you, Gary Taubes for that information. He's the guy who keeps track of all that, but yeah, there were nine

people on the panel when this was originally done back in the '80s, and eight of them had ties to the drug industries.

SHAWN STEVENSON: Same old game. Same old game. You mentioned this, this is one of my favorite quotes in the book and this is... It's so powerful. This is from Upton Sinclair. It says, "It is difficult to get a man to understand something when his salary depends on his not understanding it."

DR. JONNY BOWDEN: Can't improve on that. Kind of says... And I want to say again, I'm not a conspiracy theorist. I don't think these doctors are bad people. They have four minutes to read the journal articles. They are not reading nutrition. They've been taught in medical school that nutrition doesn't matter. And they're overworked, they've got seven minutes to see a patient. They've got these people coming into their offices every day who are drug reps, telling them all the wonderful with the color-coded charts, how great their drugs are performing. "Here have some samples, try them out", they are not bad people. It's just the system is set up to not really give us accurate information when commercial interests are as involved as they are in heart disease. So, it doesn't mean we can't get information, we just got to work a little harder, and we can't use CNN headlines as a source.

SHAWN STEVENSON: Well, this leads into finding out and being more empowered to find out what are our risk factors? What tests should we be doing, and you've done a great job of expanding this in the book for folks to... We can't just take this blanket approach to cholesterol anymore. What are some of the more accurate testing methods that we can look at?

DR. JONNY BOWDEN: Well. Again, we're not just talking... I think I want to make a distinction between more accurate testing for cholesterol and more accurate testing for risk factors and disease 'cause insulin resistance doesn't tell you anything about your cholesterol, but it's damn well an important risk factor that we need to be looking at. You had mentioned inflammation, I know that's a big issue for you. There are inflammatory measures that you can test in the body. A CRP, high sensitive CRP gives you a general inflammatory index for your body. The inflammatory cytokines are tests that can be gotten. The two that I like to tell people about that are in the book that you can do at home with no money and no technology... There's four ways to measure insulin resistance and obviously they go up in accuracy, and the lab tests are the best, but here's a nice home version of this. You stand in front of a wall. You face the wall. You walk slowly towards the wall. If your belly hits the wall before your nose, 95% chance, insulin resistance. That's the telltale Apple size belly, because that's where you store that fat when the insulin is going, "Nobody wants it. Nobody..." And the belly says, "I'll take it, I'll take it." So, there's a great low-tech measure.

Here's another terrific measure. Anyone who's ever had a blood test, even if it's the most antiquated blood test ever given, it's going to have your HDL, it's going to have your Triglycerides, they all have HDL, LDL, Triglycerides, and Blood sugar, every basic test in the world has those. You're going to take two numbers from that. You're going to take your triglycerides and your HDL. Usually, triglycerides are the bigger number. So, you do the ratio. If your Triglycerides are 100 and your HDL is 50, which is great, your ratio is two because 50 goes into... Right? And that's how you do ratios. I can't do them in my head much more complicated than that. But it's basically if your Triglycerides are 90 and your HDL is 30, you have a ratio of three. That ratio is more predictive of heart disease and of insulin resistance than any cholesterol test.

SHAWN STEVENSON: Why the triglycerides?

DR. JONNY BOWDEN: That's the... Well, first of all, triglycerides are a big risk factor on their own.

SHAWN STEVENSON: Right, that's what I wanted you to talk about.

DR. JONNY BOWDEN: Yeah, exactly. Triglycerides are a risk factor independently of all this stuff, but that ratio seems to be correlated. When it's a low ratio, say two, which is 100 for triglycerides, most people don't have that and 50 for HDL, I wish I had that. That's a ratio of two, you're not getting a heart attack. And there are some people... I have seen clients where their HDL is actually higher than their triglycerides, like a woman with a 90 of HDL and triglycerides of 80 it's under one the ratio, it's just not going to happen. The research is very clear on the predictive value of the triglycerides to HDL test. And everyone can do that with their own blood test and kind of see. And it's very hard... You may disagree, it's very hard to raise your HDL. Mine has genetically been around 39 for 30 years. Just 39, 40, 38, 41. It just doesn't budge. They tell us, exercise can do it right? There's an easy way to change that ratio because triglycerides can be changed like that, so if you have the same low HDL, like I do 39, and your triglycerides are 150, that ratio is like... You're dead.

SHAWN STEVENSON: What is going to drive those triglycerides up?

DR. JONNY BOWDEN: Carbs. Here's a research finding that goes across the board. I beg you go to Google and check this or just go to PubMed. When you go on a low-carb diet, I don't care whether you lose weight or not, I don't care what else happens, triglycerides drop like a rock. Bam! Every single time. Almost 100% of the time. So, if I've got a ratio of five very bad, I've got my cholesterol, let's say is 30, 3, 6, 9, 12, 15, and I got 150 triglycerides, I have a five, very dangerous. If I can drop those to 90 with a low carb diet, all of a sudden, my ratio went to three.

Now I can drop them even more. They drop like a rock. Very easy to fix your triglycerides, with a low-carb diet high-fat.

SHAWN STEVENSON: Aren't triglycerides traveling around in those carrier molecules?

DR. JONNY BOWDEN: They are. They are in the Lipoproteins. Absolutely, they're part of the... What makes one a high density and one a low density is what combination of cholesterol, triglycerides and protein that they have. Some are heavier than others. Those are the high-density ones, others float to the top. Those are the low-density ones.

SHAWN STEVENSON: So obviously again, this is leaning towards really looking at what's happening with our blood sugar.

DR. JONNY BOWDEN: Blood sugar.

SHAWN STEVENSON: And what about, in particular, looking at cholesterol, expanding that, what about Apo B and particle size for example.

DR. JONNY BOWDEN: So, Apo B is a great mark-up for the number of particles, when you have a doctor who would absolutely says, I don't know what the particle stuff is, this is BS, and is completely out of the loop, you can usually get them to do an Apo B test because that's in the cardiology guidelines. So, an Apo B is just a protein molecule that attaches to every LDL boat. If you won't get them to... They don't measure the total number of boats, which is what I would like to see, 'cause that also looks at the size and all that. An Apo B test is a good surrogate for that because there's basically one Apo B molecule for every LDL. So, it's kind of like a particle test. I'm not sufficiently medically sophisticated to tell you the slight differences in there. I've heard long discussions about them, but it's a very good surrogate for the particle size, and what was the other part that you?

SHAWN STEVENSON: Particle size that was that... Yeah.

DR. JONNY BOWDEN: The particle size is important because again, I used the analogy before. If it's a little golf ball, it's a little small thing, it's usually very oxidized and inflamed, and think if you threw a small little marble that was inflamed with fire, you threw it at a tennis net. It could either get caught in there or set it on fire or do something that'd... But what if the molecule was like a big fat cotton ball? You throw it at the net, nothing happens. So, the size is very indicative of the likelihood of the damage. The smaller ones get caught in parking spaces in the arteries that they don't belong. That causes more inflammation, more oxidation, eventually plaque. All of that stuff happens when they get caught in the wrong place, and the big ones don't get caught there. So that's why we need the size.

SHAWN STEVENSON: This is so important. It's so powerful. So, I want to give folks this take home and I know you've seen this as well, that folks get this education. They look into these things themselves, they want to get to more accurate testing, maybe they're on a statin right now, maybe they're at risk for heart disease from their perspective, and they're wanting to get more accurate testing done, but then there's pushback from their healthcare provider. Can you talk a little bit about that? What do we do in that situation? And also, if you can, I think this is also an issue related to the slow nature of science changing and things being covered with insurance. Let's talk about that.

DR. JONNY BOWDEN: It's a slow boat and it's out of my pay scale. When people ask me, for example, "What is the best doctor to see for Hashimoto's?" or any condition that's complex in my... I can tell them the best doctor; they don't take insurance. I can't solve that problem. That's a systemic problem that just... It breaks my heart, and it saddens me. You and Anne know, we talked about this at dinner that a family member of ours has this awful condition and we cannot get her insurance covered and we'll probably have to do cash pay. It's an awful problem. And the whole system is set up to kind of run business as usual, so it's not really... It doesn't really encourage this kind of innovation, doesn't encourage a doctor to take the extra 15 minutes to read the journal articles and say, "Oh, you know, nobody else told me that, but I'll give that a shot." They just don't. And even when they're well motivated... I had a friend of mine, had to put his cardiologist on the phone with me about this test, and the guy was like, "This sounds great. I don't even know how to order this, but I want to do it." But there's nothing set up for them to do that. And how does that get fixed? Man, I have no idea. My advice is, stay out of the medical system. Now, that's kind of what we do...

SHAWN STEVENSON: To the best of your ability.

DR. JONNY BOWDEN: Is to the best of your ability. When I was at Equinox, a friend of mine brought a very, very famous Broadway composer to see me, and he came in with a list of his medications. And he was six years younger than I am right now. And he walked in hesitantly, he could barely get in. And he gives me this yellow pad with all his. And one's on for depression, and one's for blood pressure, and one's for sleep, and I said, "Did the guy that give you this ever talk to the guy that gave you this?" "No." "Did anyone have a look at how these things interact?" "No." And all I could think is like, "You know what? To the degree you can stay away from that, it's going to be a good thing." Nobody looks at the interaction in these medications, and even if they did, they don't look at it over the course of a lifetime, which is what people are taking. So, the more you stay away from them... And I'm not saying never take medications that can save your life, obviously, but people reach to medicalize things way too early and way too easily. This is not a drug for everything, some things are life issues. You know?

SHAWN STEVENSON: Yeah, that this... We've got about 70% of our citizens on some form of prescription drugs. We've done that thing, and again, things aren't really getting better, but thanks to your work, how we can change this is folks like you, and taken a few arrows over the years, but really coming out. Your arrows, you pull those arrows out, Jonny, and you throw 'em back and you patch yourself up with some gold and sparkles and you're just... You're amazing, man. You're shining and you're such an example, and such an encouragement for me...

DR. JONNY BOWDEN: So, kind of you but let me point out, I don't have a platform if it's not for people like you, if it's not for visionaries like you who say, "This is information I want to..." I don't have an audience other than people like you, and Ivor and the other people who put me on the podcast. So, thank you for that vision and for inviting me this year. This time of the year, it's been fantastic.

SHAWN STEVENSON: It's an honor. It truly is an honor.

DR. JONNY BOWDEN: No, I feel doubly mine.

SHAWN STEVENSON: If you could, for folks to get more information, number one, you've got... Your books are incredible, incredible. And the book that I have right here, The Great Cholesterol Myth, it's a must read, must read. We've got to change this. Enough is enough. And you've got some other books as well. Can you tell folks where they can pick up your books? Just give a quick word about your other books.

DR. JONNY BOWDEN: Amazon.

SHAWN STEVENSON: Alright.

DR. JONNY BOWDEN: Yeah. The ones I like the most are the one that has nothing to do with this, which is The 150 Healthiest Foods on Earth, and... Although, there's some good stuff in there that questions of the demonization of fat, and saturated fat, and things like that. And Living Low Carb, which is my book about low-carb diets in general. It's been updated four times. There's big sections on Keto and Bulletproof and the differences and I interviewed everybody for it, and those are the ones I'm the proudest of.

SHAWN STEVENSON: Awesome. Well, Dr. Bowden, you are...

DR. JONNY BOWDEN: Jonny.

SHAWN STEVENSON: A superhero and...

DR. JONNY BOWDEN: Thank you, man.

SHAWN STEVENSON: I'm just so grateful for you, and thank you for being a leader, and a pioneer, and an inspiration. We appreciate you.

DR. JONNY BOWDEN: Thank you. I appreciate you.

SHAWN STEVENSON: Awesome. Dr. Jonny Bowden, everybody. Thank you so much for tuning into the show today. I hope you got a lot of value out of this. This topic is so important because I think it's another example of how we tend to isolate things and put things into parts in our conventional view about human health. And looking at this one targeted thing, cholesterol as being this massive villain, when in reality, the story is much more nuanced, it's much more complex, and also much more wonderful than what we've been led to believe in. I think the biggest issue today is just the slow turtle-like, sloth-like nature of things changing and being updated in university education, in the education that's been shared with the public, for example, in the education that's sharing with practicing health care providers and practitioners, because this information oftentimes isn't readily available unless you're asking the right questions, unless you're really tapped in to a stream of things that are really cutting edge, which the signs that Dr. Bowden talked about today, is absolutely cutting-edge. The way that we're testing for these things in regard to cholesterol is massively outdated and it has so many people stuck in the same vanilla view of heart disease and cholesterol that it's missing out on what some of the real risk factors are so we can actually do something about it.

And so, I'm really grateful to have this conversation, and this is one to share up. This is how we change things even faster. We have mediums like this today, where folks can get the education, where they can get updated and they don't have to stop their lives to do it. This's the beautiful thing about podcasts; People can listen in their cars and turn it into automobile university, they can listen while they're just hanging out relaxing, they can listen while they're cleaning up the house or out for a walk, whatever the case might be. We don't have to turn our lives upside down to get this education. It's such a beautiful, powerful medium, and again, this episode is one to share to get into the hands of the people that you care about. So, share this out on social media, send it directly from the podcast app, text it to somebody that you care about because trust and believe, right now statins are still one of the primary money makers and drivers for the pharmaceutical industry. And again, there is a place where it's appropriate, but more often than not, it's a very blanket superficial thing that's being done to try to address this heart disease risk and is missing out on the 99% of things that are really driving the issue of heart disease. And so, we've got to get this conversation out there. That's how things change faster, and I appreciate you so much for doing that.

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