

EPISODE 317

The Heart Masterclass: Blood Pressure, Blood Sugar, & 4 Steps to Perfect Heart Health

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.

This is an episode from the heart. It's obviously one of the most important organs in our bodies, but the degree to which we understand the human heart, and all the things that it's connected to, is still covered in a lot of mystery, and it's also something that's wildly misunderstood.

Now we have a couple of big problems with this because my very first episode of *The Model Health Show*, show number one, this was over five years ago, I dedicated to heart health; high blood pressure, hypertension, all of those things.

And here we are five years later, and we've barely made a dent. I have to change this, alright? Literally thousands of people each month go back and listen to those earlier episodes, including that first episode.

And a big shout-out to you guys, but I wanted to re-visit this with some updated information, and now that the show is as big and as powerful as it is, I'm really hoping that this information today can really help to change and transform our relationship, and our understanding of what it takes to have great heart health.

And again, this is very important because this is still the leading cause of death in our society today. So let me give you a couple of statistics right off the bat.

Number one, about 630,000 Americans die from heart disease each and every year. That's one out of every four deaths is due to heart disease.

Coronary heart disease is actually the most common type of heart disease, which kills about 366,000 people every single year.

Now in coronary heart disease, the arteries carrying blood to the heart become lined with plaque, and this plaque causes the arteries to narrow so that less oxygen is actually able to reach the heart, and so the heart begins to malfunction.

And when the heart doesn't receive enough oxygen, chest pain can result, also known as angina, or a heart attack can occur.

So a couple of other different types of heart disease are congestive heart failure, and this occurs when the heart is not able to pump sufficient oxygen rich blood to meet the needs of the rest of the body.

Now this can be due to a lack of force of the heart being able to pump, or it can be a result of the heart not being able to fill with enough blood.

And we're going to go through all of these different things to really understand how the heart actually works, and the jobs that it's doing as we get into the episode today, but I just wanted to give you a little head's up.

And so some people actually have both of those problems. Another heart disease can be heart muscle disease, or cardiomyopathy, and this causes the heart to be less able to pump blood throughout the body, and often results in heart failure.

So in the US alone, someone has a heart attack every forty seconds. So just since the beginning of this episode, more than a dozen people have had heart attacks here in the US.

And each minute here in the US, more than one person dies from a heart disease related event.

Now heart disease, again, is the leading cause of death, but also for most racial ethnic groups in the United States including Hispanics, African Americans, and Caucasians as well.

Heart disease costs the United States about \$200 billion each year, and this includes the total cost of the healthcare services, medications, and loss of productivity.

So it's a big issue, it's big for us personally, big for our families, big for our communities, and big for our economy as well.

And so I also have a very personal connection to this particular topic because I lost my grandfather to this condition. He had multiple open heart surgeries, and he passed away way too young.

And so this is something I definitely want to help to enlighten us and the culture about so that we can put an end to this. This no longer needs to be the leading cause of death in our culture.

And it's just about getting educated and becoming empowered and understanding first of all, how does this stuff work? To demystify it, and also what are some very practical things that we can do to maintain a healthy heart?

So we're going to get into that today because listen, it's called heart disease, but that's a huge umbrella statement that encompasses many different facets of the human body as you'll understand today.

So to start my day, because I knew I was going to be talking about the heart, I went and looked at a study.

This study found that coffee- drinking coffee was associated with a reduced risk for heart failure, stroke, and coronary heart disease.

For coffee drinkers, every eight ounce cup per day reduced risk by 7%, 8% for the second cup, and then it drops down to 5% respectively compared to people who don't drink coffee. Alright?

So I want to make this clear. The first two cups, you get benefit from the first cup, you get benefit from the second cup, 1% increase, then the benefits drop after that.

So that tells you one to two cups a day is that sweet spot for drinking el coffeito. I don't even know if that's how you say it.

So listen, for me, this is something that I swore off since childhood. I was like, "I'll never- I'm never going to drink coffee."

And it was a little over a year ago that my wife kept raving about the Four Sigmatic coffee, and I got on board. Alright?

So today I had my organic Four Sigmatic coffee, because with this said, we get these benefits, but also there could be some downside when we're not doing these things the right way.

So we want to avoid pesticides, herbicides, fungicides, rodenticides - all these different things that are sprayed on these popular crops like coffee beans - because these are neurogenic or estrogenic compounds that inherently affect our endocrine system, our nervous system, and our heart. Alright? So it's no bueno, no good, alright?

Now that's the number one reason that I use Four Sigmatic, plus the next thing is it's combined with other things that are great for your heart.

The 'Journal of Ethnopharmacology' published fascinating research showing that the medicinal mushroom chaga significantly decreases the expression of a protein complex, NFkB, that activates inflammation in the body.

And as you're going to discover today, inflammation is a huge component contributing to heart disease, alright?

So it's got chaga in my coffee with the coffee in the coffee. Put those together, magic happens. Alright? That's why I love, love, love my Four Sigmatic, and that's what I had today.

I had the lion's mane blend with chaga and lion's mane, and chaga is actually prescribed as a treatment for cardiovascular disease in several other countries.

And our modern science here and various studies are just beginning, the last couple of decades, to push more data out to the culture at large.

And you can go to Dr. Google and look at this stuff, it's so fascinating, in talking about the benefits of something that you don't need a prescription. Alright?

This is something that comes right from nature, and the reason that I use Four Sigmatic mushroom coffee is that they do a dual extract.

So they're doing a hot water extract and an alcohol extract to actually get all the good stuff that you want from the medicinal mushroom and delivering it to you.

Super easy instant packs, you just open it up, pour it in your cup, hot water, hot almond milk, whatever you're into. Alright?

I like a little MCT oil in there, and maybe a couple- if you want to get fancy, a couple drops of Stevia. Maybe English Toffee? Chocolate? Right? You can get fancy.

Cinnamon? I had some cinnamon today as well, and enjoy the process of getting well. Right? All of this heart healthy goodness in my cup to start my day, alright?

So definitely check them out, www.FourSigmatic.com/model. You get 15% off everything; their medicinal mushroom coffees, elixirs, hot cocoas. So good, alright?

That's www.FourSigmatic.com/model for 15% off everything that they carry all the time, alright? So definitely, pop over and check them out, www.FourSigmatic.com/model, and now let's get to the iTunes review of the week.

Shawn Stevenson: Another five-star review titled, 'Don't judge a podcast by its cover,' by RachelAbigail.

"You don't have to have six-pack abs to listen to this podcast. I've been listening to Shawn for two years, and have learned so much, not only about physical health, but emotional health as well.

Shawn is a wealth of knowledge, a great teacher, and keeps it fun and entertaining to listen to. I feel so grateful that he cares enough to get these messages out, and is committed to having only the best guests on his show.

Because of his show, and a handful of the guests he has had on, I am on a path to living my best life. Thank you."

Shawn Stevenson: Wow, Rachel, that's so awesome. Thank you so much for sharing that and taking the time to leave that review over in Apple Podcasts. That means everything. I appreciate it so very much.

And everybody, please, if you've yet to do so, pop over to Apple Podcasts and leave a review for the show, or whatever platform you're listening on whether it's Stitcher, SoundCloud, wherever you can leave a review for the show, please do so.

Or if you're watching the video, you're hanging out in the studio with me, leave a comment below and let everybody know what you think of the show.

And on that note, let's get to our topic of the day. This episode, we're diving in and looking at how we can heal America's heart problems - really the world at large.

And this is such a pervasive issue, but getting rid of the mystery behind it, and understanding this incredible organ that's right now beating inside of your body, providing you with life and really understanding it.

I think it's one of the most important things that we can do, and also looking at the science in some of these risk factors and revealing what control them, whether or not they're even an issue in the first place - things like blood pressure and cholesterol - and so we can really become empowered about understanding our own heart health and be able to live a long and healthy and prosperous life, because that's really what it's all about.

So with that said, let's look at some of the science of our heart.

So first of all, how big is the heart? How big is the heart? Your heart is going to be just about the size of a fist, alright? Just about the size of your fist, unless you have little baby hands, then it might be a little bit bigger than that.

Alright? So that's about the size of the heart. Now it weighs on average less than about ten ounces. That's nuts. Something that has so much influence on our health and our well-being, less than ten ounces.

Also it possesses a certain level of intelligence. Your heart has a certain level of intelligence that we're only beginning to understand, and we're going to dive more into that in a moment.

But first, let's look at what is the heart made of? Your heart is muscle, alright? It's made of muscle. It's a certain type of muscle tissue called cardiac muscle, also known as myocardium, myodenoting muscle, is one of three types of vertebrae muscles.

So the other two are skeletal muscle and smooth muscles. Now this type of muscle, this cardiac muscle, it's involuntary. So this is beating whether you want it to or not, it's just doing its thing, and it's also striated muscle that constitutes the main tissue walls of your heart.

So it's got those striations, alright? So you want to get that ripped heart. No, you don't. That's different.

So your heart, you want to make sure that you're understanding, number one, this is cardiac muscle, it's slightly different from our skeletal muscle and smooth muscle.

It's unique to our hearts, the striated muscle, and it's involuntary muscle. Whereas like your bicep, you can voluntary activate your bis, right?

Now what does your heart actually do? Alright? We know that it's a muscle, what does it do? I liken our hearts to being sort of like- one of the big components of the heart is being like a double pump.

Alright? It's a double pump. It's not just pumping and doing one thing, it's doing two different things back to back. Right? It's really, really fascinating.

So I want you to picture your heart. Alright? I want you to picture your heart as being like a four-family flat. Alright? This is a four-family flat. There's four apartment units; two on top, two on the bottom.

The top units are called the atriums, alright? These are the atriums. The bottom units are the ventricles. Alright?

So if you're looking down at your heart, the top apartment, the top atrium on the left side, that is the left atrium. And your heart sends oxygenated blood from the lungs into the left atrium, and out of the left ventricle. So that's that downstairs apartment.

And then from there, it's distributed throughout the rest of the body. Super important stuff, getting that oxygenated blood throughout your entire body.

Now deoxygenated blood enters the heart through the right atrium, and then flows to the right ventricle where it gets pumped into the lungs to be oxygenated again, and going through that same process.

Now all this happens within a single pump. Alright? A single pump. This is the real little pump right here, alright? And this is happening at an average of seventy-two beats per minute.

Each minute, your heart pumps 1.5 gallons of blood. This little organ, this power house organ, does all that work. Now this equates to a couple billion beats in the average person's lifetime.

Your heart is beating a couple billion times. Absolutely incredible.

Now again, remember, this is muscle tissue, so it's contracting. Right? It's doing this- it's literally pumping, right? But it's involuntary.

So I just wanted to throw in here really quickly a fun fact that I came across in the research, and I really actually just never thought about this.

We've heard of various types- now heart disease being the leading killer in our culture right now, cancer is second. Have you ever heard of heart cancer?

Why do we not hear about heart cancer very much, if at all? And this is because your heart cells stop dividing pretty early in our lifetime. It's really interesting, isn't it?

So just a little fun fact there. The heart is incredibly complex and a hyper intelligent organ, and we're going to look at some of the components that we usually tie to heart health and potential heart disease, and one of those things being blood pressure.

Right? I've got high blood pressure. This is one of those things that it's correlated with heart problems. So when you think about blood pressure, you probably think about your heart.

But it's not our heart that's actually controlling our blood pressure. To a large degree, it's actually controlled- our blood pressure is controlled by our brain and our kidneys. Alright? Our brain and our kidneys.

There's a hormone called anti-diuretic hormone that's made by your hypothalamus, which is really known as the governor of your endocrine system which is in your brain, and then it's stored in your posterior pituitary gland.

Now this hormone constantly regulates and balances the amount of water that's in your blood. So obviously water is a huge component of your blood, and its thickness, thinness, the viscosity; it's super important in having a healthy blood pressure.

So high water concentrations increase the volume and pressure of your blood, right? Which can be a good thing because we don't want our blood pressure to be too low either, right? We need to get it moving to and from the heart in a good flow so it's a balance, right?

So we need the right amount of hydration. Now anti-diuretic hormone essentially causes the epithelial cells that line your kidneys to move water in and out, back and forth from your bloodstream, or passing it out via urine.

So if you're dehydrated, your cells can actually- these aquaporins, these kind of protein channels can migrate- basically hydration in your body that's going to end up being pee, it can migrate that back into your system.

So it's kind of like pre-pee, alright? So it can take some pre-pee, which is kind of gross, and if you're dehydrated, push that back into your system to try to keep your blood pressure elevated.

Why would we do this to ourselves? I don't want pre-pee circulating in me. Alright? Make sure we're getting hydrated. Super easy.

We're wondering why we have blood pressure problems. Drink water. Right? But on the other side obviously is when the blood pressure is too high, and when this happens, the kidneys respond by extracting water and salt into the urine causing the blood volume, and hence your blood pressure, to fall.

So this is one thing. Now there's another issue with being dehydrated. It can lower blood pressure too much, but it also can elevate it depending on the person and the situation, because of these kind of total dissolved solids.

Things can start to get backed up in the bloodstream causing the blood pressure to elevate because of the stress hormones that get released when dehydration is signaling and reacting in your body.

So I hope that makes sense. So there's going to be a stress component when you're dehydrated that can actually increase your blood pressure.

So a lot of people, myself included, just coming up living my life when I was going through school in middle school, high school, and it wasn't until I got towards the end of college that I understood that blood pressure isn't controlled by the heart.

It's actually your brain and your kidneys are constantly analyzing and monitoring the blood pressure, the constitution of your blood, and sending resulting signals to help to balance things out continuously.

So with that said, being that it's governed by your brain, your blood pressure can be shifted or changed based on perceptions, based on stress.

Stress is a huge influence on the function of your hypothalamus. It's not just responsible for fluid intake or signals, it's also hunger signals, it's also hot and cold, it's also responding to perceived stress, and all these different things that can literally change your blood pressure.

Your blood pressure, as you're going to learn today, can be changed based on what you're thinking and your literal- your state and how you're showing up in the world.

You can change your blood pressure within seconds. Now we know this as kind of anecdotally that somebody's blood pressure can get elevated when they're mad. Right?

You're upset. My blood pressure is boiling, alright? My blood is boiling.

On the other side, when we can relax, we literally see this shift from the sympathetic fight or flight to the parasympathetic kind of rest and digest system that often is correlated with a decrease in our blood pressure. Alright?

Super fascinating stuff. Super fascinating, and understanding that it's not just our food, it's not just our water, it's not exercise, but literally stress can be something that is a deterrent of your blood pressure.

Now we're going to continue to unpack this and make more sense of all this stuff, but first I want to talk about another thing that often isn't talked about in the same sentence, or even in the same idea complex, which is your blood sugar.

We talk about blood pressure, we don't talk about blood sugar, and these things inherently influence each other. Why are these things not considered together in our minds?

So what I want you to do is write this down, alright? I want you to write this down.

Blood pressure rises in response to elevated insulin levels. Alright? Blood pressure rises in response to elevated insulin levels.

This is a direct translation to how your diet influences your blood pressure. And this is immediate, right? And we know that insulin is activated when we're consuming carbohydrates. Primarily carbohydrates.

Protein can do it too, but it's primarily through carbohydrate consumption. And so a heavy carbohydrate- especially processed carbohydrates- especially liquid carbohydrates can significantly elevate our blood pressure and cause some severe problems.

Now we've talked about this many times on the show, and we'll put a couple of episodes in the show notes where we covered in depth the topic of diabetes, and natural solutions for insulin resistance in diabetic conditions. Alright?

So we'll put that in the show notes, but one of the big things to understand is that insulin is one of the most important hormones for the functioning of the human body.

It's how your cells are actually able to kind of store energy. It's super important, but when it's abnormally produced, there can be major problems. Major, major problems

because without insulin, our cells can't get energy, and insulin becomes resistant over time when your blood is constantly bombarded with high levels of glucose.

And so this glucose is this conversion over into our bloodstream from the carbohydrates that we're consuming- primarily from carbohydrates.

And so what happens is over time high blood glucose, seen in conditions like diabetes or that we can do with a super big gulp of Mountain Dew - Do the Dew - that we can do, like you can literally do this to yourself right now, over time can damage the blood glucose.

So hear this, this is how it's related to heart disease. High blood glucose can damage your blood vessels and the nerves that control your heart. Okay? I'm going to say that again.

High blood glucose can damage your blood vessels and the nerves that control your heart. In adults with diabetes, the most common causes of death are heart disease and stroke.

Right? We know that diabetes is a huge issue, it's way up there, it's like number four or five on the causes of death. It's usually connected back to heart disease. Alright?

And this just has to stop. It has to stop. I didn't say that eating avocados, I didn't say that that's a big issue. I'm talking about processed carbohydrates, and a carb heavy diet in general is going to wreak havoc on our blood sugar, and thus our blood pressure as well.

So we're going to dive in a little bit deeper here. We're going to talk about the connection with heart disease and this dirty C word. Alright? I know what you're thinking, it's not- cholesterol, okay? Cholesterol.

You know who you are, alright? Dirty mind.

This dirty C word has just been so much propaganda about how cholesterol is like literally the causative factor for heart disease. This is like the biggest risk factor according to conventional medicine still.

It's changing now. It's changing so much versus when I talked about this five years ago, huge, huge strides have been made. We need to put this issue to bed really.

And so here's the big deal when it comes to cholesterol. The thing that just literally pulls it off the table is the fact that about 50% of the people who have high blood pressure, heart disease, hypertension, about 50% of the people who have these conditions don't have high cholesterol.

Alright? If cholesterol is the causative factor, how do 50% of people who have the issue, they don't have it? It makes zero sense because this is not the causative factor. Alright?

Cholesterol tends to be around where things are broken, like we talked about damaging blood vessels. Cholesterol is a reparative compound, it's super important.

Now it's kind of like- it's there doing its job, and since it's found there at the spot, it's blamed. That's like if there's a fire at a home, and there are firemen there putting out the fire, working on- but the firemen are present, so they must have caused the fire.

That's the same kind of belief system that people are carrying in conventional medicine, believing that cholesterol is the issue, when in fact here are some of the benefits in essential nature of cholesterol.

Number one, cholesterol is like the seed or the pre-cursor for building all of your sex hormones. Alright? So testosterone, estrogen, estradiol, all that stuff. You're not making it without cholesterol.

You have to have it. It's super important, but guess what? Still, millions of people are on statins right now. Now again, this is taken a big shift since some of this data has come out, but I want you to be educated and also the people that you might be working with, people in your family, just to understand the truth about what's going on with cholesterol.

Not saying that it cannot be problematic, alright? Because it can, but in a natural context, and some of the things we're talking about today, cholesterol is getting blamed for something that it's just not responsible for.

So number one, it's the seed, it's the pre-cursor to building all of your sex hormones.

Number two, it plays a critical role in forming and maintaining your cell membranes, alright? So literally keeping your cells together, maintaining the proper structure.

You have upwards of a hundred trillion cells. Cholesterol is kind of important. And the cell membrane is the part of the cell that is communicating with other cells. Right?

It's able to send and receive signals. If there is a lack or if there is malfunction or deficiency with cholesterol being able to do its job, your cells can't communicate properly. So again, pretty important.

Also, cholesterol is used by your nerve cells for insulation. So this is something that's critical to insulate all of your nerve cells.

If your nerve cells are not insulated, you become hyper sensitive. You can be- literally just your skin would be on fire from just the air hitting it. Kind of important, right?

So these are just a couple of things. Also building vitamin D. We all know now how important vitamin D is. Right? It's this really, really critical- it's really a hormone, by the way, that plays many, many roles in human health. You need cholesterol to make it. Alright?

So with that said, pretty important, just taking a drug because we have high cholesterol is a haphazard way to handle it, truly, and we have to take a better look at this because if somebody is in a state where they have high cholesterol, maybe their cholesterol ratio is a little bit off, it's not an indication that they're deficient in a statin. Right?

"Oh you got your hormone panel back. You're deficient in statins." That's not how it works, but that's what we've reverted to, and now we need to take a more holistic approach in our understanding. Right?

Take the whole thing into consideration. And so with that said, I want to take you through to actually understand the role. Because again, cholesterol can be a problem, but we're going to talk about how that actually takes place.

So we know that there are different types of these cholesterol compounds that we talk about. Now, one of them is HDL. Right?

It's high-density lipoprotein. HDL, high-density lipoprotein. Then we have LDL, low-density lipoprotein. Now when I said both of those words, or both of those structures, or series of words, did I say cholesterol?

High-density lipoprotein, low-density lipoprotein. I didn't say the C word, alright? I didn't say 'cholesterol' because that's not cholesterol. Alright? It's not cholesterol.

Those are carrier molecules, okay? Cholesterol is something that's packaged with those things, alright? So even our understanding in how we're judging these things is a little bit off.

So these carrier molecules however- so we have the high-density lipoproteins. These are kind of like efficient, they don't tend to have issues getting caught up or causing issues where blood vessels might be damaged, anything like that.

The low-density lipoproteins have a little bit more, because of their density, chance of having issues where they're getting caught up or stuck somewhere in our cardiovascular system.

So with that said, this ratio is really the thing we want to be looking at, and also triglycerides, but it's okay. Some people just genetically have higher levels of cholesterol, and the cholesterol markers are based on a population generally, the average that are recommended for unhealthy people generally that are considered healthy but they're oftentimes eating the standard American healthy diet, which is high in grains and carbohydrates, the things that actually contribute to issues with our blood vessels.

So now I'm going to take you through- and I want you to go with me on this journey to understand how it's not the consumption of cholesterol, because right now in your body, about 90% of the cholesterol in your body is made by your liver, not from the food that you eat, not from eating cholesterol in food.

That can be somewhere around 10% of the cholesterol in your body is directly from eating foods that have cholesterol. So I want you to keep that in mind.

Your liver is producing cholesterol. How does it go about this and how does it become abnormal in producing too much of the wrong kind? This is how it happens.

So we're consuming carbohydrates. We'll just say we're knocking down- we'll go back to the Dew. Right? We're doing the Dew, we're drinking a beverage, a super big gulp.

When I was a kid, my mom would have me go to the 7-Eleven, cross the street, huge- this was a major street. I didn't even go to the street light.

Just run across, it's like six lanes, 7-Eleven. Alright? 7-Eleven, I was like in third grade, I was like seven myself, right? And I would go in there, and I would buy her a Super Big Gulp, or at this time they had the Double Big Gulp, the Super Double Big Gulp, where the container for the soda was so big, you had to fold it yourself.

Alright? They're just sitting there like little boxes, and you've got to- and again, I'm a kid. I'm like, "I didn't know I was going to do arts and crafts. I didn't come to 7-Eleven for that.

So I've got to put it together, fill it with soda, to go back and then let my mom poison herself. Right? But while I'm going and walking out, of course I get her a pack of cigarettes as well. Okay?

Yeah, this used to be real. Okay? Kids could just buy cigarettes. I didn't get any questions, he didn't ask me for no ID, right? I mean, what kind of ID would I have anyways? And this was just the nature of the game.

And so consuming a dense amount of carbohydrates, maybe you have a couple of donuts, maybe you have a big sandwich. Right? I did the submarine sandwich, right? With the fancy bread, you know? Have one of those.

Even some high concentrated fruits- fructose, right? So this fruit sugar, and other types of sugar as well, and just a lot of it, and we're putting that into our bloodstream.

And what happens first is obviously we have the blood glucose, the conversion that takes place. So the sugar is rolling around in our blood, and it can fill up our muscle glycogen.

You know, maybe if we're active, we're doing some- a little bit of exercise, whatever the case might be. We fill up the muscle glycogen first, insulin is going to get activated to help to push that into the cells for reserve.

But here's the thing, oftentimes insulin can't catch up to the massive amount of sugar that the average person takes in.

And so what happens is your body's infinite wisdom is trying to protect us, so it cannot allow those molecules of glucose to just be swimming around in the bloodstream, because again, it can tear up your blood vessels.

This is why folks with diabetes, when they have high blood glucose, tend to have loss of function and circulation to their extremities. Right?

Amputations often take place because it's not getting out there to the rest of the body. Okay? Because it's getting damaged.

And so in your body's infinite wisdom to try to prevent that from happening, what it does after filling up your cells, your muscle glycogen, now it ships the rest of this glucose to your liver to fill up the liver glycogen. Alright?

So it's filling up your liver glycogen. Now here's where it gets really interesting. This is where it really takes place with cholesterol.

Once the liver glycogen is filled- and by the way, you can do this pretty easily. Again, we never had this kind of access to all of this abnormal sugar in our history, but today we do.

And so what happens when the liver glycogen gets filled, your body, again in its infinite wisdom, cannot put that glucose back into your bloodstream and just blatantly take you out.

So what it does now is your liver is able to convert the glucose over into something called palmitic acid, right? So it can actually convert the glucose into something else, and package it with cholesterol and other compounds.

It's a process called lipogenesis; creation of fat that your liver can do, and these molecules that get created by your liver are now called VLDL.

So it's not just low-density lipoprotein. Now it's very low dense lipoprotein that got created by doing the Dew. That's how it works, alright?

So now we have even more dangerous- potentially dangerous molecules flowing around, getting shipped to various places in the body.

And I want us to be more educated on this, because it's not eating cholesterol in food, it's not an egg that's taking people out. It's not eggs, it's Lucky Charms, it's donuts, it's green smoothies without the green.

"I threw a piece of kale in there with two bananas." Congratulations, you played yourself and you just produced far more VLDL. Alright?

So with that said- and no disrespect to green smoothies, by the way. Doing it the right way, it's awesome, but we just want to keep in context sugar is the causative factor with our cholesterol being out of whack.

And so I want you to think about it like this. Think about your circulatory system, and we're talking about the human heart today, and how it all is influenced and connected, like roads, highways.

We'll keep it on a highway term right now, and we've got all of these vehicles on the road, right? High-density vehicles, low-density vehicles, some are like little smart cars, right? They're energy efficient.

Have you seen these little cars? Have you ever just thought about like kicking one over like, "I can definitely kick that car over." People just scooting along, doing their thing, saving the planet. Alright? Respect.

And they can get in and out, pass by blockages, and things that are in the way pretty easy. Right? So it's not just about whether it's HDL or LDL, it's also the particle size, and that's something that you need to get tested.

If you're concerned about having high cholesterol, make sure that your physician- you're getting a test done for the particle size. And if your physician says that they're not going to do that, get a new one. Alright?

Because again, just passing out a statin because of your cholesterol numbers being- considered to be abnormal, is dangerous, and here's why. Check this out.

I mentioned how important cholesterol is to all these different functions in the body. What if we're taking a drug that suppresses the creation or the utilization of cholesterol?

Here's what can happen. One of the world's most respected medical journals, it's the 'BMJ,' formerly known as the 'British Medical Journal,' published comprehensive data showing that long-term statin use increases your risk of getting diabetes over 30%.

For certain groups of at-risk people, statins increase the development of diabetes over 50%. What are we doing? Alright?

So again, this is about getting educated, becoming empowered. We've got to know this data, alright? Some of these things, I've been talking about for years now, but I really want to have this comprehensive understanding of what's going on behind the scenes, and that that is not a solution.

Everything has its place. In the right instance, statins can be a life saver for somebody, but in general we're going to look at what's going on creating the conditions in the first place, eliminate the root cause, so we're not treating a symptom that's creating even more symptoms, if that makes sense.

So this analogy with the cars on the freeway, cholesterol is the cars on the freeway. Vehicles, motorcycles, right? Whatever.

It's a potential issue, but the real issue is inflammation, alright? This is abnormal blood glucose damaging blood vessels, and the resulting inflammation that comes along with that and other lifestyle factors.

The systemic inflammation causes issue for cholesterol getting through and doing its job, and also getting in a place where it's holding up shop to try to repair the damage done, like a clean-up crew.

So systemic inflammation, if you're thinking about this highway analogy, this is like trash, people throwing trash out the window, right? Police officers, they've got like there's a one-car accident over here, but they're blocking off like five lanes for it.

And the person, they're okay, and no disrespect to the situation, but do you need to block five lanes? Right? In LA? Right?

And so that can have a situation going on, inflammation. It could be people getting out of their cars doing the *In My Feelings* challenge, whatever.

All of these crazy things are like inflammation. And so what does this translate to in terms of our biology? Abnormal molecules in the blood from deranged abnormal fats, which we're going to talk about. This can create that inflammation.

Abnormal stress hormones. We talked earlier about how stress hormones can increase our blood pressure, right?

These are some of the core components that's actually causing the issue. The issue is not cholesterol, it's inflammation. Alright? That's really lighting the match and causing the damage. Alright? And we're going to, again, circle back to this.

So with all of this, I want you to let all of this process, and digest, and metabolize some of these key insights about what's really going on behind the scenes with blood pressure, hypertension, and blood sugar, and cholesterol.

This is a huge component of taking ownership over our incredible heart, alright? Over our incredible heart health, and all the things that it's connected to.

Now this is something that's pointing to the fact that the heart is not just some random, simple pump that's just pumping blood in and out, and that's just all it's doing.

No, no, no. The heart is in fact a highly complex, self-organized information processing center with, in many ways, its own functional brain in a sense.

We have neurotransmitters, we have neurons in your heart tissue. Right? Things that we delegate and just believe that this has to do with the brain only, actually resides in the human heart.

And we've got some fascinating data to talk about in regard to that, so your heart is far, far more than just a simple pump.

In fact, according to researchers at HeartMath Institute, 'The heart generates the largest electromagnetic field in the body, sixty times greater in amplitude than your brainwaves when recorded using an electroencephalogram, or an EEG.'

So that's number one, sixty times greater electrical field as measured by an actual instrument, alright? Your heart has this electrical power greater than your brain.

The bio-magnetic field of the human heart is 5,000 times stronger and larger than the brain. So we've talked about this on some past episodes, and being able to measure now- we can use instruments that measure the kind of electromagnetic field that's radiating from the human heart.

And it's super fascinating stuff because in some instances, it can expand out even eight feet from your body, creating what's called this tube torus. So just keep that in your back pocket for a moment.

So let's go back and talk about the heart having its own brain in a sense, because there are again additional functions that your heart is doing because your heart- we'll call it the heart brain. Alright?

Your heart brain is composed of about 40,000 neurons that can sense, feel, learn, and remember data. Memories can be stored in your heart. You have that kind of neuro-tissue in your heart.

Super, super fascinating. And now the heart brain sends messages to the head brain on how the body feels. Right?

We know- this is something we anecdotally experience. We have these feelings in our heart, we feel in our heart, not in our head, but we just kind of ignore it. Right?

And have you ever just really thought about that? Like is there an actual intelligence to the human heart?

So up until the 1990's, scientists assumed that most of us- and also we were taught that it was only the brain that sent information and issued commands to the heart, but now we know that it works both ways.

In fact, the heart's complex intrinsic nervous system, the heart brain - which we've been talking about - is an intricate network of several types of neurons, neurotransmitters, proteins, and support cells, and research has shown that the heart communicates to the brain in several major ways and acts independently of the brain in many major ways as well.

So this leaves me to be talking about something that might seem on the surface not very scientific, but it's something that's a part of our culture, and that we talk about and experience on a regular basis, in talking about having heart. Right?

If there's a football player, or somebody on the team, they might not be the best player, but they have a lot of heart. Right? They really show up, they really bring their best, they really play with a lot of passion. Right?

That's having heart, and our connection as humans, and this tube torus that gets created, this bio-magnetic field that gets created by the human heart, again being 5,000 times stronger than that of the brain, we see now there's research indicating that our fields that get created by our heart influence each other when we're in the presence of other people.

These interact, and so negative feelings can influence the individual themselves, and also potentially the other person. But positive feelings, positive emotions are even more effective, stronger at changing the energy or the energy field.

We literally can measure this now - HeartMath Institute has done several studies - can change that magnetic field and have a different constitution of what the field is made of. Right?

Super fascinating stuff, so understand, and I want you to take this with you today, is that you bring it to it. You bring the energy to the situation.

If there needs to be a change in energy when you walk into a room, bring your best into the room. Bring a sense of certainty, of confidence, of humor, of love, of compassion, whatever it is.

Bring it to the situation. You're going to influence the people that are around you, alright? This is super subtle, right?

Now I'm not talking about something that is just like statistically we know so much about this. We're just beginning to understand, but we know in our hearts that this is the case.

Like we know, we've had experiences of feeling like bad vibes and good vibes from people, right? But I want you to understand that you especially with positive emotions, positive feelings, can influence and help uplift other people.

And this is why it's so important to have good people in the community and our lives, because sometimes other people need to pour into us as well when we're struggling, alright?

So I just wanted to share that with you, and to get a greater understanding of what the heart is doing and what it's capable of.

It's not just a pump. We do need that action, we do need the little pump, but it's also a little power house as well. Alright? For energy, for emotion, for transmitting data throughout your body, for literally storing memories in your heart. Alright?

It's not just a pump, it's so much more.

And so with that said, I want to get into some action steps. I want to get into some things- now that we have a better understanding of what is influencing our heart health, understanding that the heart is a muscle, and it's striated. It's getting those striations, right?

It's something that pumps involuntary, but it is having this pumping action because it is a muscle, and it's doing this with ease and grace billions of times in our lifetime.

And there are certain things in our blood that can potentially damage this function. Right? Because it's really this kind of super highway, our circulatory system, and your heart is a big hub for all of this.

And also that your heart is not just that, it's also something that connects us, alright? So keep that in mind.

So let's get into some action steps and look at some of the things that can help to prevent some of these problems, and also add some insurance against many of these problems.

And let's start with action step number one, is eating for your heart health. Right? Eat for heart health. And with that said, I'm going to start with- before we get to foods, let's get to some key nutrients, and there's none bigger than magnesium. Check this out.

Research published in the 'American Heart Journal' states that, 'Magnesium is important as a co-factor in several enzymatic reactions contributing to stable cardiovascular hemodynamics and electrophysiologic functioning. Its deficiency is common and can be associated with risk factors and complications of heart failure.'

This common deficiency is a big risk factor for heart failure. Something we should be getting on a regular basis.

Also recently in a conversation that I had with Dr. Oz, he shared with me that this is something that they bring into the surgery room, as a heart surgeon, how important magnesium is. Check this out.

Dr. Oz: Well magnesium, just to finish on that, we actually give magnesium to patients on the table during open heart surgery.

Shawn Stevenson: Wow.

Dr. Oz: We use magnesium for a bunch of reasons. It's a stabilizer of membrane of cells so it allows us to predict how the heart's going to function better.

We use it to reduce arrhythmias, irregular heartbeats. That's one of the first things I give people when they start having palpitations.

So there's many- again you say, "Oh it's magnesium, who cares?" I'm telling you, it's a drug. We use it. We give big doses of it, and it is a co-factor of a lot of other metabolic processes. So please don't under-estimate the importance of some of this stuff.

Shawn Stevenson: There you have it. So when it comes to meeting your body's magnesium needs, obviously food is super important. That's what we're going to look at, food first.

So what are some foods that are rich in magnesium? That are rich in this super heart healthy, heart necessity compound? Number one category, green leafy vegetables.

It's an indication- this green color is an indication that it's a rich source of magnesium. So kale, collard, mustard greens, bok choy.

There are so many different ones to choose from, having some variety, and having some consistency in this is obviously of great importance for us living a healthy life overall, but it's super important for maintaining heart health.

So are you doing this? Are you getting the recommended two cups a day of green leafy vegetables? Again, kale, spinach, collard, so many. So many to choose from.

Two cups a day is your goal. Alright? Make sure no matter what, I don't care what else you eat, get those two cups in. Alright?

I'm not taking anything away. Even if you were like- when I was talking about the Mountain Dew earlier, you were like, "I do the Dew."

Do your Dew, just get these two cups in. Alright? I'm not taking away the Dew, I'm not taking that away. I want you to add these in. We're not dieting, we're not doing that, we're adding in. Alright?

And so get your two cups a day to ensure a healthier heart. Alright? And just health overall. Now another great source of magnesium, chocolate. I'm just going to throw this out there. Alright? Check this out.

Federation of American Societies for Experimental Biology published research showing that dark chocolate seems to prevent one of the mechanisms implicated in atherosclerosis, which is white blood cell adhesion. Right?

So this is where we've got some damage to the blood vessel, now we've got this inflammation. That's what these white blood cells are showing up, and this adhesion is taking place, and this is when white blood cells stick to the walls of your blood vessels.

Dark chocolate can help to prevent this. How? Isn't that pretty miraculous for chocolate to do something like that? It said dark chocolate, first of all, so we're not talking all the sugar that comes in the chocolate.

Let's get some high quality good chocolate, right? Like 80% cacao ideally is the place to target. And maybe a little natural cane sugar in there, but no processed crazy stuff outside of that, alright?

And just a little bit a day has got a lot of bang for the buck. And chocolate has just been associated with heart and love like for a long time in human culture. It's very romantic.

Have you ever thought about where that came from? Why is that so associated with love? It's good for your heart, it just so happens to be.

So definitely check that out. Chocolate, green leafy vegetables, nuts and seeds. Hemp seeds are a great source of magnesium, and the list goes on and on.

This is super easy to understand, but here's the issue. Magnesium is such an important mineral for the human heart, it might be the most concentrated place in the body for magnesium.

But magnesium is an anti-stress mineral, it deals with a lot of stressors that we're exposed to, and so it gets zapped from your body really quickly, this is why it's the number one mineral deficiency.

This is why also when patients were coming into my clinic, I would- if anything that I was recommending as far as supplementation, I really wanted to go food first, but magnesium was usually the first thing that I'd recommend if I was recommending supplements for people I was working with.

And this is because you need a lot, because we live in a hyper stressed state today. We're exposed to so much stress, you need magnesium there to help to balance it out.

So with supplementation, I want you to be clear, you've got to get this. Alright? Taking oral magnesium, if you take even a little bit too much, it hits what's called a bowel tolerance. Alright?

So if you have more than your body needs, or that your bowels can tolerate, it will call what we call clinically, 'disaster pants.' You can have the accident take place. You get diarrhea, alright?

So you've got to be careful taking oral supplements of magnesium, okay? You cannot get your levels up to the place that they need to be for a lot of people taking them orally.

This is why I love topical applications of magnesium. I literally last night- I do this 365 days a year, at least 300 days out of the year, I'm rubbing Ease Magnesium into my skin, and I've been doing it for years, at least like half a decade now because it works. Alright?

So Ease Magnesium, this is a super critical extract derived from the very best sources, and it makes it over 99% absorbable.

Company X magnesium lotion or spray, whatever, and it flakes up on your skin. That's not the stuff right there. That's not the stuff. This is the good stuff, and I've had more people come up to me at events, and just sending me messages about anything I've ever talked about, which I only talk about things that I love personally that I use.

More people have told me their stories about using Ease Magnesium than anything else, whether it's improving their sleep, whether it's improving their energy, whether it's getting rid of pain they've been dealing with.

It's crazy. It's absolutely amazing, but it only makes sense because magnesium is responsible for over 325 biochemical processes in the human body that we know about.

That's a lot. That means if you're deficient in magnesium, there's over 325 things your body cannot do, or cannot do properly. This is why this is so powerful.

So definitely, if you're not using Ease Magnesium, I highly recommend it. And again, you just spray it onto your skin, rub it in.

Go to www.EaseMagnesium.com/model. That's www.EaseMagnesium.com/model and you get 15% Ease Magnesium, and also they have the Deep Soak that you add to your bath water. Oh my goodness. It is just the best.

If my body is disorganized, you'd best believe I'm doing the Deep Soak. It's just amazing. It's amazing. So pop over, check them out. Again that's www.EaseMagnesium.com/model for 15% off.

And so also, with this magnesium- and those are just a couple of foods, by the way, and doing the supplementation, possibly a little bit orally, but mainly topically.

Some other foods for heart health, there are so many, but let's just drop in one or two more.

Research conducted at Oklahoma State University and published in 'Nutrition Reviews' found that the anti-oxidant polyphenols have a significant impact on cardiovascular health that reduces the risk of heart disease. Berries. Alright?

All berries are good for you. Strawberries, blackberries, Halle Berries. Wait a minute. Real talk, berries are amazing. Blueberries- blueberries are kind of like the queen of the whole situation. They're the best, alright?

So make sure each day, get a serving, just one serving of berries in. So much benefit. Again, there are so many heart healthy foods, and I'll put in the show notes a link to a list of some heart healthy foods that has maybe some data to affirm a couple of links to some studies that talk about the benefits.

Alright? So let's move on, let's talk a little bit about some things to avoid, foods that break the heart. Alright? Foods that break your heart.

Sugar, we talked about this. We've got to keep our blood sugar in check. This is a huge- dietarily, this is the biggest issue, is just managing the sugar intake.

This does not mean you can't have cheesecake, alright? This does not mean we can't have sweet good things in our life, but if this is the dominant thing in your diet, and you don't have a well-balanced macronutrient and micronutrient intake for yourself, all the stuff we talk about here on *The Model Health Show*, we're setting ourselves up for heart problems.

It's the number one killer and we don't have to have this like this right now. So it's managing our blood sugar, so if at all possible, avoiding processed sugar. Right?

Just if at all possible. On a daily basis, we don't need to be taking that in. On an occasion here and there, that's alright. Again, we're not taking that from you, but if you really want to protect your heart, sugar breaks your heart. Alright?

"Don't go breaking my heart." Avoid it, alright? It's bad stuff. Alright? Sugar. It looks like a drug, right? It's a perfectly legal drug that we give to kids and to ourselves, and it just has to stop. It's bananas in pajamas, alright?

Speaking of which, that's probably bad for you too. Anyways, alright so let's move on.

Hydrogenated oils, we've talked about this a lot on the show. A 1993 Harvard study strongly suggests that the intake of partially hydrogenated vegetable oils contributes to the risk of having a heart attack.

Why? Just don't. This has been literally moving out of more and more foods now because this evidence, this data is out there, this partially hydrogenated oils.

The hydrogenated process, taking these PUFAs, these polyunsaturated fatty acids, and exposing them to hydrogen, it creates a molecule that's very similar to plastic.

It's like a shelf stabilizer for these crappy oils that just go rancid. Okay? So keep this in mind, these so-called 'vegetable oils,' it's not kale. It's not from kale. They didn't squeeze the oil out of kale.

It's not kale oil, it's not broccoli oil, it's just soybean, corn oil, canola oil. It's not even what it's marketed as. It sounds healthy, 'vegetable oil.' Deadly stuff.

When we cook with it, it creates all these free radicals, bad for your heart. Hydrogenate the oils to make them more shelf stable for crackers, and peanut butters, and things like that. Bad for your heart.

My grandfather, such a model of what a good man and a good father is in my life. Not perfect- not perfect, but this was one of his things.

He'd get his Wonderbread, you know, his white bread. This was his thing, this is real talk. He'd get the syrup. I don't know if he was into Aunt Jemima, or like Mrs.

Butterworth's. Mrs. Butterworth was kind of thick, so I don't know, maybe that was the one.

So he would take the butter and then the syrup with of course high fructose corn syrup in it. Right? And he would mix that on a plate with the peanut butter; the Peter Pan, the Jif.

Hydrogenated oils, like it would say fully hydrogenated oils on it. Mix that together. That was his jam, like this was his treat, and he did this a lot.

And then he'd put the white bread down on top of the mixture of that, and I had it a couple times. It was like even as a kid, I was like, "This is too sweet for my blood." Alright? I'm eating candy and I'm like, "Wow, this is like-"

It wasn't just sweet, it was also sweet and like Grandpa-ish. You know what I'm saying? It just like immediately put hair on my young chest. I didn't want it, right?

And so he's just consuming this stuff because this was the eighties, this is stuff that we think is healthy, right? This is stuff that we think is okay to eat, but it's not. Alright? So avoid that stuff.

Let's move on, let's talk a little bit about dehydration in the context of our nutrition. Dehydration can cause high blood pressure and low blood pressure.

And we talked about this already, but check this out. Vanderbilt University Medical Center, researchers found that when we consume water, it increases sympathetic nervous system activity and constricts our blood vessels, which prevents pooling of blood in our extremities.

So this helps our blood vessels to pump, right? Our heart isn't pumping blood to your toes. Like our blood vessels- arteries also have a pumping action, too. It's so silly. So silly, the things we don't think about, right?

So there's this beautiful symphony happening in our bodies, it's so amazing, and water is critical to this process, and these findings prompted the American Red Cross to conduct a study of water drinking as a method of reducing fainting responses. Right?

So they've got people like, "I'm going to give blood. Let's go, let's give blood," and then they faint. Right?

And they found that drinking just sixteen ounces of water before blood donation reduced the fainting response by 20%. Water, blood. Water, blood. Drink water.

What's the marker? About half your body weight in ounces is the marker. So if you're a 150-pound person, about seventy-five ounces of water is the target. Right?

Take that number, divide it in half, that number you get when you divide your weight in half, that's then number of ounces I want you to target as a minimum.

And that can kind of capsize or max out at 200. Right? If you're 200 pounds or over, 100 ounces. Alright? We'll just cap it there.

But a person if they're more active, if it's hot and you're sweating, that kind of thing, probably a little bit more. Alright? But that's the bar, and I know you can do that.

Keep the bottle with you, right? That's one of the big tricks, tactics; keep the bottle with you. If you don't have a bottle and you get thirsty, what are you going to do?

Keep it moving, right? Keep the bottle with you. If you've got a bottle with you, a bottle for water with you all the time, you're a gangster in my mind. I'm not messing with you. Alright?

So keep that in mind, this is what it's really about it. Keep the bottle with you, keep it filled up with that good stuff. Alright? That's the secret.

So now let's move on to some other action steps in associated with improving and protecting our heart health, and the second one is an action step- or a few action steps related to exercise and movement. Alright?

Again, having biomarkers for disease - high blood pressure, abnormal stress hormones, abnormal cholesterol levels - again it's not an indication that you're deficient on a drug.

Oftentimes we're deficient on the things that give us life. We're deficient on the things that literally control our genetic expression, like one of these for heart health, the very best exercise, the very best form of medicine is walking.

Harvard researchers compiled data showing that walking reduced the risk of dramatic cardiovascular events by 31% and cut the risk of dying by 32%.

These benefits were equally robust in men and women, and the protection was evident, even at distances of just five and a half miles per week, and at a pace of as casual a stroll as just two miles per hour. Two miles per hour so everybody sees you, right?

So please understand it doesn't take a lot. It doesn't take a lot at all, you know? We're talking twenty minutes a day of walking, you get all this cardiovascular protection.

Your heart needs it, it loves it, alright? Do your heart good. It's doing so much good for you. This is why we walk. It's not to get a six-pack, right?

You're not doing the exercise so you're shredded. You're doing the exercise so that you can actually live. That's the thing, and you just so happen to have side effects of a better body when you do this.

Also, doing too much of the wrong exercise can be an issue. Just getting out there pounding the pavement. We're told this conventional exercise approach of we need all of these minutes of conventional cardio.

We've done episodes talking about this, so we'll put these in the show notes. Craig Ballantyne, 'The Cardio Myth,' and it's fascinating to understand that we see a U-shaped curve when it comes to conventional jogging, and cycling, things like that, with the benefit.

So if we're doing a little teeny little bit, we get some benefit, but then most of us are doing the kind of average. Like we're doing three to four times a week because that's what we think we're supposed to do.

Then we've got the other end where it goes up again, the benefit, when people are like- they're athletes, they're training for this stuff, they're doing it all the time.

But in the middle, just doing this little bit of this thirty minutes of jogging three or four times a week, it's actually not that good for us.

And so what we want to target is the exercise that actually holds up weight under scientific scrutiny.

Now pretty much all exercise is good exercise in some capacity, we just don't want to over-stress our hearts. Right? Especially if our hearts are not conditioned to do the kind of stuff that we do.

And so the very best form of exercise is walking and also high intensity interval training. Funny enough, which might seem like, "Oh if I have heart issues or I'm at risk, this might not be good for my heart."

But in fact, it's very good for your heart. And this is something that Dr. Martin Gibala, who literally he's the guy in the lab doing the tests on high intensity interval training versus conventional cardiovascular training.

And we had him on the show, taking the muscle biopsies, and all this stuff, and it's just really fascinating to see how much benefit we can get from doing short bursts of exercise, and actually in such a small amount of time.

Maybe ten minutes of exercise total versus 120 minutes of conventional cardio that we believe we're supposed to do. Check out what he had to say.

Dr. Martin Gibala: We demonstrated in the lab scientifically our interval protocol now, and where the title of the book comes from, 'The One-Minute Workout.'

It's a bit of a teaser headline, but it really relates to the fact that the hard work is three twenty-second all-out efforts.

So we would have people do a short warmup, a twenty-second all-out sprint, recover for two minutes, a second twenty-second sprint, another two minute recovery, and then that third and final twenty-second sprint, and a short cool down.

So the sprint group was doing ten minutes of total time commitment three times a week, and we compared that to a group that was doing basically what you'd see in the public health guidelines, so 150 minutes per week of continuous traditional steady-state cardio.

So big differences between the two groups, thirty minutes involving only one minute of high intensity exercise, versus 150 minutes a week of traditional cardio.

Shawn Stevenson: Wow.

Dr. Martin Gibala: And over twelve weeks, so three months of training, the improvement that we saw in fitness- so their measured VO2 max, which is a really important measure for health. It links to your risk of dying from all causes.

The increase in fitness was the same in the two groups. We measured that mitochondrial content that we were talking about earlier, same increase in mitochondrial content.

Shawn Stevenson: Unbelievable.

Dr. Martin Gibala: And we also measured something called insulin sensitivity. I know you're familiar with that term, but it's basically a measure of how the body processes and handles blood sugar.

It's important for your risk for diabetes, and we found that the increase in insulin sensitivity, again on average, was the same in the two groups.

So just a dramatic illustration I think of the potency of this type of training.

Shawn Stevenson: And so for our heart health, walking every day, this is one thing, and this is medicine. This is something that your genes expect you to do daily.

And then high intensity interval training a few times a week. That's the heart insurance right there.

So let's move on. Another action step for protecting our heart health, our cardiovascular health, is to sleep smarter.

Our sleep has a huge impact on the functioning of our heart, alright? Sleep deprivation inherently comes with a cocktail of stress-related hormones, and neurotransmitters, and inflammatory compounds associated with heart problems.

Now check this out. I'm going to read you directly, this is from my book, 'Sleep Smarter.'

"Other studies show that sleep deprivation encourages cancer, Alzheimer's, depression, and even heart disease. One such study, cited in the journal 'Sleep,' followed 98,000 people for fourteen years, and discovered that women who got fewer than four hours of sleep per night were twice as likely to die prematurely from heart disease.

Now in no way does this mean that the fellows are off the hook. Men are more likely to die from heart disease as it is, but add sleep deprivation to the mix, and you have a real recipe for trouble.

A study reported by the World Health Organization tracked the results of 657 men over a fourteen year period. They found that men with poor sleep quality were also twice as likely to have a heart attack, and up to four times more likely to have a stroke during the study period.

Heart disease is one of the biggest killers in the world today. Pulling back the veil and uncovering how sleep deprivation is a part of many of our health problems is one of the biggest steps in finding a solution."

And so there you have it. Definitely abide by these principles in 'Sleep Smarter.' There's twenty-one clinically proven strategies. Again, if somebody is going in and they're having issues with their blood pressure, they're having issues with hypertension, they're having issues just overall with their heart health, they need to be coached and instructed on how to improve their sleep quality.

Oftentimes this is a big causative factor that's just not being discussed enough yet. It's changing. Again, that's the good news, we've done a lot of work to make this change happen.

But it's still not done, we've still got work to do, alright? So getting people this information is super important.

And by the way, if you haven't read 'Sleep Smarter,' if you don't have a copy yet, what? What? Go get your copy, alright? Amazon, Barnes and Noble, all that good stuff, and of course it's on Audible and it's still- still a nationwide bestseller. It's an international bestseller as well.

I think we've got like twenty different countries, we just published the translation in Russia recently, and just so awesome. Very, very happy to see that, that this conversation is changing. Alright?

So follow those instructions in 'Sleep Smarter,' and improve your sleep quality to protect your heart.

And finally, the action step we're going to look at has to do with stress. Right? We talked a little bit earlier how we know that emotions, and things like anger, and frustration, and worry, and anxiety; these can all lead to issues with our blood pressure, hypertension, and overall impact our heart health.

So what do we need to do about this? What are the real solutions here in relationship to managing stress? What are some action steps?

Number one, a big part of our stress comes from our relationships, so having the audacity and having the heart to invest in good relationships, making it a mandate, making it a standard that you have people in your life that pour into you, that you interact with that help to elevate you and lift you up, and you do the same for them.

It's one of the most important things in our reality, alright? So that's number one, invest in good relationships.

Number two, do more things that make your heart feel good. Alright? You have to give yourself permission to do things that make your heart feel good, whether it's time out playing sports with your friends, playing pick-up games of basketball, getting out and playing some golf, painting, roller skating, whatever it is.

Whatever makes you feel good, you have to allot time, schedule time every week for you to do things that make your heart feel good. You have to give yourself permission to do that.

Also, another action step here is to have a practice in your life to help to down-regulate, alright? To relax, to help to shut things down, because that stress can just be chronic.

That's where the real issue is and that creates inflammation in the body. So a meditation practice, that really jumps to mind, and check this out.

So this is from 'Sleep Smarter' as well, and this is chapter sixteen, 'Calm Your Inner Chatter.'

"Research at the Medical College of Georgia in Augusta found that meditation lowered blood pressure and reduced the risk of heart disease and stroke.

Numerous studies also demonstrate that meditation can reduce chronic pain and associated inflammatory biomarkers."

There you have it again. We've got clinical data showing that a meditation practice is something that can really help to manage blood pressure. Not a drug, this is free, it's just having the practice or having that skill.

Alright, so there's a lot of data in today's episode, and I hope you got some huge insights and a lot of value from it. And if you did, if you know somebody who is concerned about heart health, that this can be helpful for.

If you just want to share some insights and some insurance for your friends and family to really be educated about their heart health, please share this out.

You can send via email, share on social media, Instagram, Twitter, Facebook, all that good stuff, and of course you can tag me and let me know that you're out there, and you're enjoying the show. Alright? I appreciate it so much.

So make sure that we're taking these action steps; eating heart healthy food, avoiding the foods that break our heart, engaging in heart healthy exercise, being able to have a practice to down-regulate, and making sure of course that we're sleeping smarter.

These are obvious simple things that the human body needs in order to really thrive, alright? These are things that control our genetic expression, and if we're not abiding by these things, we shouldn't even be having a conversation about drugs yet.

We need to handle these core things that our DNA, that our genes truly expect us to do. And again, our heart is not just a simple pump.

The heart is a highly complex self-organized information center, and this heart brain has immense power to affect change for us and also the people around us. Alright?

We've got some incredible shows and great guests coming up very soon, so make sure to stay tuned. I appreciate you so very much. Take care, have an amazing day, and I'll talk with you soon.

And for more after the show, make sure to head over to www.TheModelHealthShow.com. That's where you can find all of the show notes, you can find transcriptions, videos for each episode, and if you've got a comment you can leave me a comment there as well.

And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome, and I appreciate that so much.

And take care, I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.