The Gut-Heart Connection That Changes the Cholesterol Story Transcript

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Summit Introduction and Guest Background

Hello everyone. Welcome back to the Gut Health and Longevity Summit. I am so glad you're here. And I want you to take a moment and just sit with this.

The same bacteria that are living in your gut right now are quietly shaping your blood pressure and your cholesterol. Whether anyone has told you that or not, and most people have been taught to think of heart disease as a plumbing problem, meaning too much cholesterol is clogging the pipes.

But the real story begins much deeper. This is where inflammation begins, and where the food we eat literally becomes the signal that either protects our blood vessels or damages them.

So today's conversation goes straight to that science. My next guest has spent an entire adult life studying the biochemistry of his own disease. Diagnosed with type one diabetes at 19.

He went on to earn a PhD in nutritional biochemistry from Berkeley, and turned what he learned into that method that has helped thousands of people reverse insulin resistance using food.

Now, he's been living with type one diabetes since 2002. He co-created the Mastering Diabetes method and evidence based approach that has helped thousands of people improve insulin sensitivity through nutrition, movement and lifestyle changes.

He is also the founder of Evolution Health and the co-founder of Amla Green. He has reached over 56,000 people through his email lists and platforms, his New York Times best selling book, and has really made a lot of this information into metabolic health accessible to a global audience seeking to reverse chronic disease through nutrition.

So, Cyrus, welcome. You have lived this science from inside for over two decades, and I know our audience is ready to hear exactly what you've learned.

So let's dive in with my first question. Let's clear up what many people get wrong. We've all been told that eating cholesterol raises our blood cholesterol.

From your biochemistry background. Is that actually true, or is there something else driving the rise in LDL? Great question, by the way. Thank you for the invitation to be here. I'm really excited.

This is one of my favorite topics of all, because the world of cholesterol metabolism has gotten so unbelievably confusing and especially with, you know, multiple different social media platforms, everybody claims they're an expert.

Then you have a bunch of AI generated content, and before you know it, most people are like, I don't know what to believe, right? So in order to answer your question here specifically about cholesterol, we're going to have to go back to like first principles, like the very basics of biochemistry, which is that, yes, when you consume cholesterol from food, which comes from the animal based world, whether you're eating red meat, white meat, chicken, fish, dairy products, eggs, those foods contain a significant amount of cholesterol, and that cholesterol can absolutely cause your blood cholesterol to go up.

How Diet Affects Cholesterol and LDL

However, there's something more important to talk about, which is that cholesterol does raise blood pastoral. But there's two other types of nutrients in the diet that actually are more influential on the increasing your cholesterol.

The first one is called trans fat, and the second one is called saturated fat. So if you look at the research, what you'll find is that there's effectively three different types of dietary fat okay.

The first ones trans fat. The second saturated fat. The third one is unsaturated fat. And trans fat. Of the three of them are without question the most problematic of the three of them.

As far as LDL raising LDL is concerned. The reason is because food manufacturers have actually created a trans fat problem in the United States, as well as around the world.

Now, what trans fats are is they're effectively fats that are created as a result of what's known as a hydrogenation process. So food manufacturers recognize this.

20, 30, 40 years ago, they said, There's many foods that have unsaturated fats, which are basically overly at room temperature because they're liquid.

And in order to preserve those willy fats and actually give them a longer shelf life, they created this process known as hydrogenation, which takes a liquid and turns it into a solid.

And when you do this and you run this like liquid fat through a hydrogenation process, you end up with a solid fat, and that solid fat can sit on a shelf for a longer period of time, which means it's going to make more money.

So food, before you even go on from there, let's give the audience some examples of foods they might be consuming right now that they might not realize unless they look at the back of the label has trans fats in it.

So what would be some prime examples of eating margarine? Cooking sprays. Cakes. Pies. Cookies. Donuts. Biscuits. Ready to use dough that you buy in the grocery store.

Crackers. Chips. Microwavable popcorn. Packaging. Breakfast sandwiches. Cream filled candies. Dairy and nondairy. Coffee creamers. That's where the bulk of them hang out, which is a large collection of foods that, you know, we think are harmless.

Like, oh, how bad can this be? And then before, you know, now you're actually getting transplants. Okay. I think you kind of just made me a little sad, but also made me a little happy because one of the things like, I hope that some hotel or airline or somebody will wake up and stop serving the little.

Like, I don't even know what that is like for the coffee and tea because it's not milk. It's not, you know, it's trans fat. And they should just relabel the sweeteners, the coffee made or whatever that is as trans fat, right?

But that is something I've noticed. A lot of people have a hard time giving up that. So let's get back to your LDL conversation. Let's talk about what happens when you have that every single morning in your coffee.

Plus you add on the pastry. Yeah. Okay. So one thing I'll tell you is that trans fats are so bad for you. They they they promote the process, meaning the hardening of blood vessels.

And they set into motion a federal sclerosis, which, if left uncontrolled, can cause an elevated LDL cholesterol and elevated oxidized LDL cholesterol and set the stage for arterial plaque, which can then set the stage for a heart attack or a cardiac event down the road.

Okay, so if that was gross, is not your friend and trans fats promote a very powerfully, in fact so powerfully that in the. In 2018, the FDA banned trans fats from food.

They said food manufacturers. You no longer allowed to put these into food. And so food manufacturers had no no choice but to abide. Except you just can't remove all trans fats from, you know, manufacturing processes overnight.

So it took a couple of years for food manufacturers to stop manufacturing them and then to sell through all the stuff that was actually on the shelves.

And then in 2020, they extended the ban because some, some transplants, some, you know, food products still had trans fats in them. But the FDA basically through the hammer down at this point they said no more period out of story.

Okay. But there's a labeling issue, which basically means that food manufacturers can still have 0.5g of trans fats per serving, as long as it's less than 0.5g per serving.

Then technically they don't even need to talk about it. They don't need to write about it on the label. They don't even need to declare the trans fats are in the food.

They can label the food as trans fat free and basically say that they're zero, even though they're still some. All right. Now what do these guys do? They harden blood vessels.

They are a major driver of cardiovascular disease. They raise LDL cholesterol. They promote arterial plaque development, and they increase blood pressure.

Triple whammy. Not your friend in any way, shape or form. All right, so there's still some trans fats that are found the majority of trans fats that are found in the human diet right now, or I should say in American diet come from actually red meat, from dairy products and from processed meats, because there's naturally occurring trans fat that somewhere between about 1 to 10% of total fat in these foods.

So you get it from beef, pork, lamb, milk, butter and processed meats. These are meats that are like, you know, cold cuts or smoke meats that you find in the grocery store.

Yeah. So we we started the conversation with that. There is a lot of confusion out there, thanks to, you know, social media. And one of the things I wanted to get into a little bit more, because I feel like this is something that I'm seeing very often, and I wanted to make sure we had clarity around this is that individuals who say it's okay to eat, you know, let's see a steak or chicken or all these kinds of things because they say that there's not that saturated fat is not bad.

It's your liver's own inherent cholesterol production.

Trans Fats, Saturated Fat, and Blood Vessel Damage

So how do we compare the food that we're bringing in versus what our liver does on its own when it comes to cholesterol production? Okay, cool. I know the answer, but I want you to explain it to the audience because they might be like, okay, well, you know, I heard Doctor Jojo, I don't know who that is.

But Doctor Jojo said, well, I eat this every day and my cholesterol is fine, but mind you, I guarantee you it's not just aren't really showing us their real blood work, right?

Correct. But this story. Explain this to people. Okay, so here's the way that I want you to think about it. There are I want you to think about cholesterol metabolisms having two different rounds, two different cycles.

Cycle number one is what happens to lipids when you consume food. All right. So this is called round one of you eat food. Your small intestine absorbs lipids through the walls of your small intestine.

They put the lipids into these little spaceships. Little vesicles known as chilo microns. Kind of microns are basically little particles that are floating in your blood whose responsibility is to absorb both cholesterol plus fatty acids.

Effectively, triglycerides store it in a temporary vesicle and then circulate that vesicle all throughout your blood to distribute both the cholesterol as well as the triglycerides to tissues.

It gives the cholesterol and triglycerides mainly to your adipose tissue, plus your liver, plus your muscle. Those are the three main targets of micron particles.

So it offloads the cholesterol, it offloads the triglycerides, and it eventually turns into what's known as a Kylo Micron remnant when its cargo is significantly smaller.

At that point, the Kylo Micron remnant is then absorbed, or I should say recycled into your liver. Okay, that's the end of round one. All right. Again, dietary absorption, cholesterol and triglyceride distribution via a micron particle.

And then it gets re taken up by your liver. Once your liver takes up that kind of remnant it disassembled the entire particle. It then repackaged the remaining contents which again is some small amounts of triglyceride and cholesterol, what are called cholesterol esters.

It takes those it then repackage them and says, okay, I'm a post office, I'm going to take this stuff. I'm going to take it, I'm going to take it apart.

I'm going to repackage and try and figure out what to do with it. And then it manufactures new particles known as the DL particles, very low density lipoprotein particles.

It then exports the DL particles into the blood. That is the beginning of round two. The DL particle then is circulating through your blood with the exact same intention as the micron, which is to offload cholesterol and offload triglycerides.

The DL turns into what's called an ideal. The ideal then eventually turns into an LDL particle. The LDL particle has the exact same intention, which is to again deliver cholesterol and deliver triglycerides.

It just so turns out that the LDL particle is the stickiest of the particles. It's the most it's the most dangerous of the particles. And the reason is because the LDL can get easily stuck in the walls of blood vessels.

And we can talk about that in a little bit. But the particles against the tried offload get rid of, get rid of, get rid of it. And so still cholesterol.

And listen to data, post tissue to the muscle and try to offload as much as possible. Okay. Now the LDL particle eventually has to go somewhere to die, and it gets recycled back into your liver to end round two.

Go ahead. Yeah. And this is kind of from a pathologic standpoint. What I see a lot of is that nowadays we are having a lot of people with fatty liver disease.

So their livers are literally like if I were to look at it instead of it being filled with hepatocytes, which are your liver cells, it's filled with micro statuses, which is little fat globules of what you're talking about.

Right. So this person, like we used to only see this in people who had like chronic hepatitis infections, you know, like alcoholics. We would not see it in the average everyday person.

Now it's in so many people, and especially a lot of women are like all of a sudden they're like, oh, my doctor just told me I have fatty liver. What does that mean?

And nobody's having this conversation of, oh, okay, there's this circulation going on and what's getting deposited and staying in your liver. So that was a really good description.

So if we kind of think about that now when those particles are going, can your gut influence what's happening with your LDL and your blood pressure? If we think about like, okay, it's circulating, the gut is connected to the liver.

So, you know, it's part of the GI tract. But how is that going to influence their blood pressure? Like, how is this? Can we help people connect their gut to their blood pressure?

Basically, yeah. Okay. Let before we get there, let me connect one other door here, which is that when LDL is in circulation, again, that's the bad guy.

And the LDS is considered the bad cholesterol in particular. You also have an antagonizing particle, which is the good guy, the HDL particle. So the HDL particles job is to basically it gets released by your liver.

And HDL is involved in what's called reverse cultural transport. So a job is literally to go to tissues and say, hey, cholesterol, triglycerides, come back, I want you back.

And it pulls it out of tissues and it returns it to the liver. And as a result of that, it can actually help do it. Can it can help remove cholesterol deposits from, you know, your your adipose tissue as well as your muscle tissue.

So there's this balance between how much LDL is getting deposited, as well as how much LDL is basically trying to remove the cholesterol and the triglycerides together.

Now, the the problem here, let's just go backwards. One step here, which is that saturated fat is really the primary driver of increased LDL concentrations in your blood.

And the main reason for that is because when your saturated fat intake increases, it blocks LDL from getting recycled back into your liver. Okay, I really want people to think that let that sink in when saturated fat increases in your diet, when there's a medium to high amount of such rated fat, then what ends up happening is the LDL particles that are in circulation have a difficult time getting cleared out of your blood and returning to the liver.

So as a result of that, the LDL particles persist in your blood. They have no exit route, they can't go anywhere. And as a result of that, they end up accumulating.

They end up getting stuck to the inside of blood vessels. They end up getting oxidized. They get turned into what are called foam cells, which are extremely inflammatory.

And then they end up creating arterial plaque deposits in the interior of blood vessels. So as that process is unfolding, which is the atherosclerotic process, blood vessels are getting assaulted because they're accumulating this material on the inside, which they never asked for in the first place.

And as the LDL deposits accumulate and as the oxidized LDL and foam cells start to become more problematic over the course of time, the the vessels themselves begin to get harder because this impacts their ability to dilate properly, which is effectively get larger.

And as a result of them not being able to dilate and increase their their cross-sectional diameter, they end up becoming the pressure inside of the vessel ends up being creasing.

Okay, so a healthy sort of normal blood vessel should be able to constrict when the time is right, and then dilate when the time is right. That's a sort of normal process for a blood vessel.

And this process of depositing arterial plaque via LDL ends up making it so that these blood vessels are not as flexible. And when they're not as flexible, the pressure inside the vessel goes up.

So now you have this intricately connected system between the food you're eating, the saturated fat and trans fat content, which then leads to LDL deposition, which then leads to blood pressure rises.

Okay, now it unfolds slightly differently from person to person to person. Not every single person is going to react the exact same way to the exact same amount of saturated fat in your diet, because there's high bio individuality from person to person, and not every single person is going to develop both elevated LDL as well as high blood pressure.

But these are called risk factors, meaning that in a wide swath of the population, general, you know, generally

speaking, higher saturated fat leads to higher LDL, leads to higher blood pressure.

I'll stop Tom. Okay. All right. So for the audience that's either watching or listening, I'm going to give an example of kind of what Josiah said, just so it can be embedded in your head for a second here before we move on.

Foods That Lower LDL Cholesterol

So imagine this straw. This is a glass straw. Right. And what he's saying is that our blood vessel. So this is your blood vessel. Basically it becomes stiff.

So a glass straw, you can imagine a stiff. It's not going to expand and contract. So as we age and we include more of this saturated fat and trans fat and all this, it's basically helping our endothelial cells, which is the lining of these vessels, become more stiff.

Now, if you continue to do that, there will eventually be a little plaque in here that will eventually occlude. And when you when you said that, it kind of reminded me of like in the hospital when I've looked at, you know, people who have carotid and Arctic to me specimens or, you know, basically the dock, the cardiologist goes in and kind of like scoops out and cleans out some of this cholesterol plaques.

They are like little crunchy, like popcorn things like, but this is imagine this. It's like literally blocking blocking this out. Now that is definitely going to make it harder for you to do all the things you want to do, which I know we're going to talk a little bit about movement, but it just I want people to realize that the body is so interconnected, and the vessels we might have in our carotid are about maybe this big, but you have even smaller vessels, like in the end of your fingers and, you know, and your organs and stuff.

So this is not just about one blood vessel. It's like the whole systemic thing. So let's talk about you have a specific list of foods that you will say suppresses LDL cholesterol through real biologic mechanisms, not just correlations.

So walk us through the foods that actually can move the needle for people. Correct. Okay. So this is where the original question, you know, of, you know, your gut metabolism factors in, right.

If you have a, you know, quote unquote normal or I should say healthy gut, which is a very wide term, but let's just say a gut that's not suffering from dysbiosis in some way, shape or form, a gut that doesn't have an impaired barrier function, a gut that actually actually absorb most of the nutrients that come in through your through your mouth into digestive system.

Then you have the opportunity to eat foods that have documented LDL suppressing power. And this stuff is so cool because there's a whole list was about 15 foods, which I can walk you through one level by one, and we can go through each one of them.

That demonstrates that when you put them into your mouth in specific quantities on a regular basis, on a daily basis, you can end up literally interacting with the cholesterol biosynthesis pathways that we talked about earlier, both in round one and round two, to bring your LDL cholesterol values down.

Number one is called bergamot citrus bergamot. It's a compound that's found on the this inside of the skin of the bergamot orange that's grown in Sicily.

It's very obscure. All right. So we're all going. No. Yeah. Perfect excuse. Everyone go to Italy. The private excuse to go to Italy and go on vacation and find it.

But here in the United States, what you actually end up doing is getting it from a supplement. All right. Not all citrus bergamot is created equal, but the citrus extracts that have been used in the research demonstrate, through a meta analysis of 18 randomized controlled trials that bergamot extract, one taken in approximately 1000mg per day, can lead to a 55 point average LDL reduction within six months.

Bonkers. Very, very large reduction in LDL cholesterol. All right. So that's number one okay. I strongly recommend getting that into your diet. That's a heavy hitter.

And it has been proven not in just one study not in one isolated study. There's there's 18 randomized controlled trials that demonstrate this. And the average LDL reduction is 55 points.

How much studies. All right. Number two everyone's favorite which is also present inside of traveler is Indian Gooseberry the bear. Okay. Monisha, you and I have had hundreds of conversations behind the scenes about our fascination and our love for the Indian gooseberry.

It's one of the most powerful foods on the planet. Okay, average LDL reduction with the Indian gooseberry, according to randomized controlled trials, is as little as a quarter teaspoon per day.

Can lower LDL cholesterol by 25 points. Okay, definitely worth integrating into your diet. How many milligrams do you think is a quarter teaspoon? How many milligrams is a quarter teaspoon?

I should know the answer to that. I'm off the top of my head and I'm just wondering what the study said. Did the study say a quarter teaspoon or did they say like some milligrams?

They did say a certain number of milligrams. I've normalized it to teaspoons. I don't know the answer off the top of my head. So I'll have to get back to you on that one for sure.

Well, it's in L. A. And it's also an omelet green. So two two things. Correct. Yeah. Full disclosure, you have a product which is phenomenal with very high attacks on the power.

We also have a brand called Amla Green, which is a funny story. We got we got tested by a third party called blanket on the name of the third party. It's a it's a organization that basically tests supplements off the shelf consumer lab.

And they ended up testing us versus seven other Amla products. They found that we had the number one highest polyphenol content of all the products on the market, which was crazy, right?

We didn't even know that lead to get to it. But that was cool to see. Okay. Third food summer savory. Okay, this is a spice that you can buy in the grocery store.

You can buy it from Amazon. Okay, little is a quarter teaspoon of summer savory leads to a 27 point average LDL reduction. All right. Now here's another one. This one's crazy.

Two apples a day, two fresh apples a day, or 12 dried apple rings. When you consume this over the course of a year, it leads to a 24% reduction in LDL cholesterol.

So other studies demonstrated in terms of the number of points, you know, milligrams per deciliter reduction, this is a 24% reduction. So let's pretend like your LDL cholesterol was 100.

You started eating two apples a day. What the research demonstrates is that you could drop your LDL cholesterol by as much as 24 points off of that 100 baseline, leading to two.

Apples and apples are easy to get like you can easily get apples and organic, of course, everybody, because you know, they are one of the dirty, dirty dozen, if I remember correctly.

We definitely want our organic apples, but two is easy to do in a day, like choosing that as a snack over one of the trans fat LDL, HDL, or saturated fat producing compounds.

Right? So yeah, okay. We've got that. We've got four good ones. Keep going. Keep going in your life. Here's another follow up. Brazil nuts. This is a crazy study okay.

Brazil nuts. You can lead to a 2020 point reduction in LDL cholesterol in as little as 24 hours. Okay, when I first wrote this, how many Brazil nuts? Okay, so here's what you do.

This Doctor Gregor shows this in his book, How Not to Die. Okay, what you do is you take for Brazil approximately for Brazil nuts in one one day of the month.

That's it. Do not eat Brazil nuts every day. Do not eat Brazil nuts every week for Brazil nuts one day out of the month. But the research demonstrates is that within 24 hours, you see both a 20 point reduction in LDL cholesterol at approximately a 20 point increase in HDL cholesterol simultaneously.

All right. You just gave away the trick for when people do their blood work before their next appointment with me, they're all just going to go eat the four Brazil nuts.

And then I'm not going to know about the the birthday parties and the Friday night takeout, because you just gave them the trick. There you go. I didn't even think about that. That's the doctor hack right there.

You want your blood work to look good? But what's nuts is that a lot of these foods, either, you know, can lower your triglycerides or lower your LDL.

But what these Brazil nuts do, according to the research, is they both lower your LDL by approximately 20 points and simultaneously increase your HDL by 20 points.

That's very unique. And so what they do is they do that within approximately a 24 hour period, and then the increase in HDL and decrease in LDL persist for another approximately 30 days before you repeat it again on the next month.

So it's a very simple prescription, and it's a pretty powerful effect. And I'm going to say this. The trick here is you buy a bag of Brazil nuts. Take four out, stick the rest of them in the freezer.

Because if you're not going to touch those Brazil nuts for another month, two you don't want to just be eating them every day, but three, you want to be able to preserve them.

And nuts can really be high and mold if they're left out with like, you know, room temperature and all this kind of stuff. So I like that one. Keep going.

What's number six? Number six. Barberis okay. Barberis are basically these little tiny berry. It's like red. It's it's it's a it's very small and it's very pungent flavor.

It's got a sour flavor, but it's actually tasty. Two tablespoons of dried barters per day can lead to an 18 point reduction in LDL within a six month period.

Now just so it turns out that barberry is the actual compound that comes from them is known as berberine and berberine. You probably seen this has been talked mainly about blood glucose reduction because it's a very powerful blood glucose reducer.

It's thought of as basically being nature's version of metformin. But in addition to that, it also does lead to approximately an 18 point reduction LDL cholesterol within a six month period.

All right. Next one artichoke hearts one half cup of artichoke hearts per day. Every day for a six month period can lead to a 1718 point reduction in okay, preferably zero salt, zero or artichoke.

So you normally get another grocery store that are either, you know, marinated in and or salted. So do your best to try and make sure that neither one of those is present.

Psyllium husk one tablespoon per day 13 to 17 point reduction in LDL cholesterol. Drink that with a plenty of water.

Because if you know you can get GI dysfunction and it's not fun, you get bloating and people complain about it all the time.

Yeah. Next one one tablespoon of black soybeans 14 point reduction in LDL cholesterol. This is cool. And it only takes eight weeks to unfold. That's two months.

That's a short one. It's a quick one. Next one less beans. Tell me what they are okay. So soybeans come in many different shapes and colors and sizes.

Black soybeans have a pigment on the outside, which makes them extremely antioxidant rich, more so than your average soybean that you would just get from the grocery store.

All right, so go to Amazon and purchase organic black soybeans like dry and dried. Exactly right. They come out of package. They're dried okay. Cook them pressure cook them okay.

Do it in your Instant Pot. Do it on the stove top, whatever you want to do. But cook them and make nice and juicy. And once they're done, you're going to freeze.

Just like the Brazil net trick, you can freeze the majority of these black soybeans, because what you're going to do is only take one tablespoon per day.

That's it. All right. So you can basically like put them into an ice cube tray as an example. And then just like defrost one of the ice cubes worth and then eat that on a daily basis.

And if you can get approximately one tablespoon of these cooked black soybeans into your diet, then that can lead to a 14 point reduction. Okay. That's a good one. Yeah.

All right. Here's another one. Lemon balm. Average LDL reduction from three grams of lemon balm powder, which is about one teaspoon per day leads to a 13 point reduction.

Now here's the trick. Don't get lemon balm tea, only get the powdered form. Lemon balm tea does not work. All right, next one. Sumac. You tell me, did you grow up eating sumac?

I did not. Why did not you? You did not. Okay. Yeah, it was in my food on a regular basis, for sure. So this is a spice that's used in a lot of Middle Eastern cooking.

A half a teaspoon per day can lead to a nine point reduction in LDL cholesterol. So this isn't like a game changer, but it's definitely one of these foods that has a measurable, documented effect and is worth integrating, you know, in combination with some of the other foods we talked about.

Nitric Oxide, Nitrates, and Blood Pressure

And then finally, turmeric. Okay. Half a quarter of a teaspoon daily leads to a six point reduction in LDL cholesterol and approximately eight weeks. So my recommendation here is to pick up as many of these foods as you possibly can.

First of all, get your LDL measured. Your goal is to get your LDL cholesterol to the original target 70mg per deciliter. Okay. Now the very last one is a quarter teaspoon per day of turmeric can lead to a six point average LDL reduction over the course of eight weeks.

So again, this was not a game changer. But we all know turmeric is a very powerful antioxidant. It's got a lot of significant anti-inflammatory powers to it.

Why not throw it into your food? Why not get the actual LDL reduction boost from it as well? Okay, so just to re go over the ones that you mentioned and it looks like you mentioned them in the order of the most response and

value.

Okay. So citrus bergamot amla summer savory two apples Brazil nuts. Even if we just stopped with those five, if I look at it we are looking at probably anywhere between 25 to 50 points down.

You got it, you got it. If you just did those five, just those five right there. Just those five. Right. Yep. And then we add in Barberis artichoke psyllium black soybeans which I'm interested in trying that one.

Lemon balm sumac and turmeric. Was there any others that I missed. Yeah. There's one that I want to caution people against. It's red yeast rice okay. A lot of people have been told that red yeast rice is a good one because it lowers LDL cholesterol, and it's true because it contains a compound that is used as a it's basically a contains a static compound inside of it.

It's like nature's natural statin compound okay. It's called lova statin. And this is sold as miva core. All right. Here's the deal. Registries. There have been studies that have tried to determine just how powerful this stuff is.

And it turns out that most of the products that you buy on the in the market today can't either have zero detectable love statin in them, or can be contaminated with a product with a compound known as citrine and situated as a kidney toxin.

You do not want the stuff anybody. All right. So if you take a look, it's very, very, very hard to find a high quality red yeast rice product that actually has the right amount of low Stanton, but doesn't have citron in it.

So my suggestion would be just avoid it altogether. That's interesting that you say that because for my patients they do take red yeast rice, but a very particular one that has been able to drop their cholesterol by anywhere, you know, their LDL.

And depending on how high it was, anywhere from 50 to 25 points, depending on how high it was and their total. So we've done really good with it. But that is not the only thing we are doing with them.

So yeah, it has been helpful, but I do like the idea of adding some of the other few things that you said because, you know, things like amla apples, Brazil nuts, these are easily accessible.

So agree agree. So first of all, show me exactly which product that is. I'm actually glad to hear that you have a safe product. Sounds like. And then secondarily I said my fault.

I said Citrine. It's actually called Citra. Nine is the name of the cockpit that's actually a kidney toxin. So let's avoid that. Yes, definitely. Okay.

So then let's talk a little bit about this pathway. And because since I know you're all into like the biochemistry, let's get a little bit more into the blood pressure side of things and talk about the nitric oxide pathway.

Because I don't think many people have really heard of it. Like what is it? Why is it one of the most powerful levers we have when it comes to lowering blood pressure?

And how do we really tap into using this pathway? Great question. Okay, so we talked earlier about the fact that when the fluorosis process develops, you end up with this sort of sticky material on the inside of blood vessels that makes it harder for them to dilate.

And as a result of that, it can make your blood pressure go up. All right. So the counterargument to that is that there's a gas known as nitric oxide.

A nitric oxide is your friend. And nitric oxide is produced by the endothelial cells lining the inside of all blood vessels. Okay. We're talking about the big aorta, blood vessels, the big vena cava, blood vessels, as well as the tiny microscopic capillary blood vessels in your eyes and in your fingertips and then your toes into your sexual

organs.

All right. So what you want to do is equip blood vessels with the ability to manufacture as much nitric oxide on demand as they need. The way that you can do that is by eating foods that contain compounds known as nitrates.

These nitrate compounds come from beats celery, arugula, spinach, and Swiss chard. Those are the sort of heavy hitters, right? And if you eat those foods on a regular basis, my suggestion would be at least once per day or hopefully twice per day.

And if you can get a good, solid serving of each one of the or sorry of at least one of those per day, then what ends up happening is the nitrates that come in from those vegetables are then reduced, chemically reduced to a covenant as nitrite.

And then the nitrite gets converted into nitric oxide. When nitric oxide is present in blood vessels manufactured on demand, it blood vessels go and they get larger.

As a result of that, they can accommodate more blood flow. As a result of that, they can accommodate more oxygen delivery to tissues. And as a result of that, it ends up what's calling perfused tissues that ends up bringing fresh oxygen to them.

When tissues receive fresh oxygen. They are very happy, especially muscles, especially muscles, because muscles have a very, very high oxygen demand, especially if you're an active exerciser.

And so one of the things that you can do to help stimulate nitric oxide production is you can eat nitrate rich vegetables, and you can do it approximately one hour before you exercise.

And if you can get approximately 400mg of nitrates into your mouth about one hour before exercise, then you go exercise. You can feel the difference that it makes.

It literally makes exercise feel easier. It increases the amount of oxygen that gets inside of that tissue. That tissue becomes much more capable of manufacturing ATP on demand.

And then if you can follow that up with about 400mg of nitrates about one hour after exercise, then that extra nitric oxide production can go and it can help with the muscle recovery process.

We can increase mitochondrial metabolism because nitric oxide can go speak directly to mitochondria and make more of them, which then makes it easier for the next time you exercise.

So it's a very I'm thinking people might have heard the word, but maybe they're not hearing it right. You said dietary nitrates from leafy greens, but what about the the ones that we sometimes see in cured meats.

Like tell us the difference there. Because, you know, they always say don't eat like, you know, bacon and hot dogs and these things that have nitrites, like tell me what is the difference there.

So when a person's going and they hear about this, they're like, oh, well, he told me I could eat this, but it's the plants and not the other stuff. So I just want to make sure we're clear on that, because I don't want people walking out of this conversation going, I can eat this for sure.

Okay, now can you see the picture on my screen right now? Yes, absolutely. Perfect timing. Okay. Beautiful. So there are two main sources of nitrates in the diet.

The first one comes from mainly processed meats. There are plenty of nitrate compounds in these processed meats, but they. But what I want you to pay attention to is what they come prepackaged with.

Okay. What are the supporting cast members in the meat on the left hand side of the screen? The supporting cast

members that come along with the nitrates include amines, which are basically, you know, building blocks of protein.

Then in addition, there's also Mayan as well as high temperatures from cooking. The combination of all of these together create a very acidic environment inside of your stomach, which then gives rise to what are called n nitro, so compounds or nitrosamines.

These have been documented in the research to be very dangerous because they can promote double strand DNA breaks. This is not good for you. When this happens, it can significantly increase your risk for the development of many cancers across many tissues.

All right. So again the package matters. These nitrates that come prepackaged with amines key Meyer and high heat temperatures can lead to n nitro. So compound generation instead.

If you were to get your nitrates from the vegetables that I mentioned earlier.

Type 1 Diabetes, Insulin Sensitivity, and Plant-Based Eating

Again spinach, arugula, beat celery and Swiss chard. Now you're getting nitrates that are prepackaged with different supporting members. You get vitamin C and large quantities.

You get polyphenols and then polyphenols which are basically antioxidants. And then you also get that prepackaged with multiple different types of fiber.

This collection of compounds, when it is processed inside of your stomach, gives rise to nitric oxide production in endothelium, in the endothelial cells, in your blood vessels.

And this nitric oxide leads to what I mentioned earlier vasodilation, which is a blood pressure reduction, as well as improved mitochondrial health in the post exercise state.

So ultimately what we're looking for is yes, the nitrates, but the nitrates that come prepackaged with the supporting cast members that are going to turn them into nitric oxide, including the body, and see those polyphenols plus five.

Does that answer your question? Yes, it does beautifully. Because guess what? Process meat does not have the fiber. It doesn't have the polyphenols. So absolutely I feel like kind of like at a magic show.

And if I ask for something it will just appear. So like I'm like, what should I ask for next? I don't know, I was like, that was a great image. I it's funny because people ask that question all the time.

So I had to go make that image just so that we could fully wrap our head around. Exactly. Yeah, I love it, I love it. Okay, just a couple more questions.

So you have lived with type one diabetes since you were 19 and you built your career studying your own biochemistry. Can you tell us about the moment you realized food and movement could change your own body, specifically your insulin sensitivity?

You know, you don't have to break any privacy things, but whatever you want to share, because I think it's really important for people to understand that when they understand their body, they can make more informed choices, no question.

Okay, so just quick clarification. I was actually diagnosed at the age of 22 in the year 2002, and it kind of shook me because I was diagnosed with three autoimmune conditions, which is Hashimoto's thyroiditis, and then along which is full hair loss.

And then the third one was type one diabetes. So three conditions within, you know, a year. And it kind of made me

stop and pause and say, wait a minute, am I am I doing this to myself or am I the victim of like poor genetics?

So as I was going through that process, I followed the traditional way of eating, which is prescribed to many people living with type one. And truth be told, prediabetes and type two, which is low carbohydrate diet, which is code for eat more fish and chicken and red meat and peanut butter and dairy products and cheese because their low in carbs and carbs are your enemy.

So I did that for a year and my lord, my blood was a disaster and it was very hard for me to control what my blood glucose would do on a daily basis. And my insulin use, even though I was promised that my insulin use would be kept low, eating a low carbohydrate diet, my insulin use was climbing every single month for the first 12 months I started out using, I don't know, maybe about 20 minutes of insulin per day, and before I knew it, sometimes I would use 50 to 55 units of insulin per day with very uncontrolled blood glucose values.

And it was. It is. I can't even tell you how emotionally frustrating it is when you can't control your blood glucose and you get no control over what's actually happening.

So I switched over to eating a plant based diet. Now, to answer your question, your answer was like, well, or your question was what was the moment in which everything changed?

Okay. The moment was that I went to a retreat with a gentleman known as Doctor Doug Graham. He's a doctor of chiropractic, and he basically teaches people how to eat a raw food diet.

And at this point in my career, living with type one diabetes, that was kind of new. And I said, you know what? Cool. I'm in. Let me I'll do whatever.

That doesn't really matter. I just want to feel better. So under his guidance, I switched over from eating this low carbohydrate diet to a diet that had, I kid you not, bananas, dates, papayas and meadows.

Okay, for foods which your average you know your any endocrinologist would tell you you should never go near because they contain too much carbohydrate and they were going to cause my blood levels to go higher.

But when I started eating very large quantities of this and not eating red meat, white meat, chicken, fish, dairy products and eggs. Well, guess what happened?

My blood glucose came down real quickly. Real. And for the audience when he says eating a large amounts of this. If you've ever spent time with Cyrus here, which I have, this guy can literally eat 4 or 5 mangoes at one sitting.

So he's saying large, large amounts. So yeah, you have to imagine this. It's a complete opposite. What of what a endocrinologist would be telling you?

Yes. I'm glad that you've had the first hand experience, because large quantities are not unfamiliar to me. Like you're saying 4 to 5 mangoes at a given meal.

Sometimes, you know, back in that time I would construct a meal that had, like, I don't know, five bananas with maybe, I don't know, 6 to 10 dates on top of it with another one, 1 or 2 of pies, 1 or 2 mangoes on top of it when we're talking like very large portions.

And what was crazy was that I predicted my blood glucose would go very high, because that's what the low carbohydrate world had told me. But the exact opposite happened, which is that my blood glucose came down.

In fact, it came down so quickly that I had to reduce my insulin injection volumes, because if I didn't, then I was going to go more hypoglycemic than I was already becoming.

So within a seven day window, my blood glucose came down so quickly that my average insulin use dropped from about 42 units of insulin per day to about 24 units of insulin in a very short window of time.

But what's crazy is that my carbohydrate intake went from approximately 100g per day in the low carbohydrate world to 700g of carbohydrate per day, and I was doing that using 40% less insulin.

So this was a massive lightbulb moment that went off of my brain saying, I don't think I understand about chemistry very much right now because I'm new to this world.

However, something fascinating is happening behind the scenes because being able to seven x your carbohydrate intake for 40% less insulin meant that my insulin sensitivity was going through the roof.

Now, the final thing I'll say is that I've been in athlete my whole life. I grew up playing soccer and basketball and cross country and baseball all day long, every day for them, you know, as far as I can remember.

So being athletic is not new to me. But what I realized was that there was a combination of things which would really, really drive my insulin use down and keep my block across control, which is a low fat, again, low saturated fat diet that also simultaneously benefits LDL cholesterol, as we've been talking about.

So it lowers LDL cholesterol, lowers blood glucose, and maximizes instant sensitivity. So a low fat, plant based whole food diet, but also a active lifestyle and active lifestyle that combines cardiovascular movements with strength training.

The combination of the two of those types of movements makes it so that you're. My insulin use can go down so low on any given day that sometimes it feels like I don't even have diabetes, which is cool.

But if you look in the research, what you'll find is that combination exercise, which involves both cardiovascular plus resistance training, is the gold standard for improving metabolic health, for increasing insulin sensitivity, and for decreasing blood glucose.

So having lived in that world now for 20, what is it in 24 years? And having lived this lifestyle, I can honestly tell you it's such a powerful, total body metabolic health solution that not only lowers a one C not only lowers fasting blood weakness, not only lowers post-meal blood glucose, but also lowers blood pressure, lowers LDL cholesterol, lowers total cholesterol, lowering triglycerides, and the list goes on.

It's a very powerful solution, and I just wish the more people do about it. Yeah, absolutely. Yeah. So so one thing is Cyrus will wake up at 6:00 to work out.

Okay, this guy is doing both the workouts and eating the big puts of food. I've seen both happen. So? So what he's saying he actually is doing, like, 20 years later.

So. Okay, last question for you, Cyrus. And I want you to be concrete. So somebody is listening and they've just been told that their LDL or their blood pressure is high.

What do you want them to put together for this first week to start improving both at the same time? Like let's be concrete and give them the exact next step we want them to do this week.

Okay, here's what I want you to do next week. I want you to get out your iPhone. I want you to start using a diet logging app.

Practical First Steps for Lowering LDL and Blood Pressure

There's lots of them. You can use my fitness file. You can use chronometer. You can use, you know, fat secret I don't care. Just use some dialog. I want you to start logging every single food that goes into your mouth in the right quantities.

And don't lie to yourself, okay? I want you to love all of the ketchup, all of the mayonnaise, all of the barbecue sauce, all of the microscopic things that you think have no impact.

And I want you to put them into this dialog map. The next thing I want you to do is try and figure out how many gram of saturated fat are going into your mouth.

That's the that's the most important thing that I want you to track for the purposes of this experiment. Okay. My suggestion is to try and get your saturated fat intake to less than five grams per day every single day.

And I know it may sound difficult, but five grams per day is really where there's a lot of magic that can happen behind the scenes. Number two, I want you to track your total fat intake as well.

I want you to know exactly how many total grams of fat are coming into your diet. My suggestion is to get your total found intake to less than approximately 30g per day.

Okay. That's it. I want you to do those two things. Okay. Now, the numbers that you're going to see could be higher than 30g of fat. It could be something like 70g of fat per day. Okay.

Don't judge yourself. Just say okay, that's my starting point. And your total saturated fat intake could be as high as, I don't know, 15, 20, 25g per day. Okay.

But I want you to get total fat down to 30g. And I want you to get fat down to five grams. That's step one okay. Step two is I want you to move your body six days a week.

And when you move your body, I'm not talking about going and gardening. I'm not talking about walking 10,000 steps, okay? Those are forms of movement.

That's fine. But what I want you to do is work. I want you to challenge yourself, okay? Challenging movement is essential for cardiovascular longevity, and it's essential for an impeccable mitochondrial health and impeccable muscle health.

And when you can challenge yourself to get to a point where you are out of breath and it's hard for you to have a conversation with somebody else when exercising, that's a simple way that you know that you're moving at a high enough intensity level that's going to give you some metabolic bang for your buck, okay?

And I want you to do that not just one day out of the week or two days out of the week. I want you to do it six days out of the week. You can give yourself one day of active recovery.

The reason I say this is because movement is a medicine, and most people don't give their body enough volume or intensity to actually make a difference in their long term health.

And I can tell you this when you move your body on a regular basis at a medium to high intensity and you're really challenging yourself, okay, it might not happen on week one, but it might happen over the course of the first two to 3 to 4 months, you get to a point where movement becomes a meditation.

It becomes something that you can use to be told significantly improve your gut health, because it significantly improves gut motility and decreases your blood pressure and decreases your LDL cholesterol, and decreases your blood glucose and lowers your A1, C volume and the list goes on.

Do it on a regular basis and get really accustomed to living a lifestyle where you are active. You do that in combination with a plant strong diet that is low inside fat.

And my friends, the world becomes your story. I really do believe that. Yeah, absolutely. I mean, I think at the end of the day, we all just really want to wake up and feel good in our body and not feel stiff and feel like we can get through the day without being in some kind of pain or discomfort. Right.

So I think you've given us a lot of tools here today to kind of get back on track, you know, really sharing with us the what the real story behind LDL is talking to us about, you know, how we can lower it, how to create more nitric

oxide in our body so we can make more oxygen, you know, so all of this is a message I want everybody to carry with them.

Now Cyrus can be found at Evolution health.co. And I encourage you to look into his method and his work because he's doing it every day and he's also living it every day.

So the key takeaway today is your gut makes a molecule that opens up your blood vessels. And it's up to you to have the food that's either going to help it or work against it.

So anything else you want to add, Cyrus? Are we did we cover it all? Yeah. I mean, there's a there's. How much time you got? Hopefully you got, like, another 27 hours a week and talk about other stuff.

But long story short, I appreciate you so much. I appreciate the fact that you're bringing this idea of or this the true science of plant strong nutrition to the world because, you know, the internet is a confusing place.

It's getting more and more confusing over the course of time. Everybody claims they're an expert on something, and there's so much AI slop that it's really hard.

Even when I go on the internet, sometimes I just like, flat out don't know what I. I don't know what's real. I literally don't know what's real anymore and what I want, you know, people who are listening to this to take away from this is that the science of longevity is a rapidly evolving sites.

But the science of plant based nutrition has been evolving and has been has so much incredible scientific backing that we don't really need more research to prove to us that eating a fiber rich gut microbiome gold mine is really a very, very, very powerful lever that you have for ideal metabolic health.

Yeah, absolutely. It's time to just start doing it and then seeing how things improve. So thank you once again, Cyrus, for being here with us. And for those of you guys listening, don't go anywhere.

Stay tuned because we have another episode coming up right after this. So thank you.