Keto But Make It Plant-Based: The New Metabolic Hack Transcript

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Introduction to the summit and plant-based keto

Hello. Hello. Hello. Hello, everybody. It is reversing heart disease. Naturally. Summit. We're looking for interesting strategies you can use to promote heart health for your whole life.

And with me is co-host actor Rita Murray. All the way from Austin, Texas. Yeah. How y'all doing? I'm good. No cowboy hat, no cowboy boots. But I'm from Austin. We're living in Austin.

Yeah, I spent three years in Dallas long ago doing cardiology training. Texas is quite the state, so thanks for taking time and sharing so much knowledge.

But you know, this constant nutrition war fight which usually pits somebody vegan if it's an actual debate. And I've often participated in those with usually somebody ketogenic diet or carnivore diet makes it seem like there's no way that a whole food plant based diet could ever be a keto ish diet.

And you've taught, and I think the audience really would like to hear that. Some of them may want to embrace a plant based am using your term keto ish diet.

And I think it's a great, great term. And, so maybe not everything about ketosis is bad, and I think the medical world would actually say that. So where in your career did you start to experiment with yourself and maybe some of your patients and, a version of a whole food plant based diet a little different than maybe what some of the giants on this summit are teaching.

Awesome, awesome. So, you know, the way I got into this health field was by being in ketosis for about 25 days, and that was because I did an extended water fest.

So when we talk about the dangers of ketosis, we're forgetting about all the research that supports fast time as an amazing healing tool to get the body self-regulating, to get the body self-healing, kick started, to get all the things in balance.

And so that's I just want to say that fasting puts you in ketosis that's, you know, not considered in our modern world and even in the plant based community, there's a lot of plant based doctors, people you're interviewing here who promote fasting and who lead fasting.

So fasting is a keto type of diet. There's just there's no food in it. Okay. So that's where that comes from. So when did I discover that this keto ish thing, I want to go back to what you said, like the diet wars, because I watch those and I watch you and the carnivores and the keto people and they they think that we're on opposite ends of the spectrum because when a carnivore or keto person talks about plant based, they're thinking about, you know, breads and pastas and, you know, all the typical, not necessarily whole foods plant based, but those can be considered whole foods.

So they're looking at high carb versions of a plant based diet, which can work for a lot of people, but it doesn't work for everyone. So what I discovered was, after having been on a Whole Foods plant based diet, mostly raw foods, for 20 something years, and I started to teach people about, getting their insulin resistance, reverse getting their blood sugar under control, metabolic health.

Discovering ketosis through fasting and blood sugar testing

This was back, I don't know, 2011 a long time ago, like almost 54, 14 years ago. And I started to test my own blood sugar and recognize that a lot of the foods that I had been eating for all that time were spiking my blood sugar.

And you would think, well, but you were healthy, and I was, I feel great. I felt awesome all the time, but my blood sugar was going up. And I know the connection between cardiovascular disease, sudden death from cardiovascular disease that comes without a warning and the blood sugar and the insulin levels.

I know that because both of my parents died suddenly without a warning, without any kind of of of tests that indicated that they were at risk. And I didn't want to go there. Right.

I didn't want to go there I was how old was I? I was in my 50s and I was like, no, I'm not. I'm going to take all the care out of this. So I started to test and I started to work with people, and I put them on a specific diet for their insulin resistance, glucose.

I have a 250 page recipe guide that I put together to help people get under control. Back then, we were doing finger pricking for the glucose testing because CGM hadn't yet come available publicly to the public, and I discovered that I had this insulin resistance condition in spite of the fact that I meditate.

Well, I hadn't read it. I wasn't meditating then, but I was taking heart math breaks and trying to get my stress under control. I was exercise ING, I was eating really well, but I wasn't sleeping right because I thought, I do all this other stuff.

Why do I need sleep right? I was sleeping three, 4 or 5 hours a night and I was also eating too late at night. So I was doing some things that I was teaching people they shouldn't do, and I was eating this great food.

So I started to test to see what was going on, and I discovered that my sugars were off the charts. And then I discovered the people who I put on a diet that got their sugars under control actually seemed to be keto ish.

So what did I do? I got a keto meter, and I started testing my ketones, and I realized that when my blood sugar was going high, my ketones were going very low, and when my blood sugar was in the stable place, my ketones went a little bit high.

We call it mild nutritional ketosis. And I discovered that when I did these programs, some people would respond really quickly and their belly fat would just melt away and they would feel great.

Their blood pressure would go down. Other people took a longer time. So I realized that I had to start incorporating ketone testing into it to see where people were at.

So when I looked at ketosis and I looked at ketogenic diet, I realized, you know, none of the books out there, we're talking about plants and getting into ketosis and like, but you can write.

You just have to stay away from those foods that are raising the blood sugar. Now, I can say, I can't say this is a plant based keto diet across the board because there's no one size fits all.

But Doctor Joe's plant based keto diet may look different than mine, may look different than somebody who has type two diabetes, and it has to do with how how carefully we control the carbohydrates.

So a lot of people, there's people who eat mostly fruit. I would encourage them to get their hemoglobin A1, see insulin and postprandial glucose tested.

They may be doing great on that. They may not be doing great on that. And that may be causing the hidden damages, the glycation, the stiffening of the artery walls, the inflammation that comes from high levels of insulin.

So they're not they're totally they come together in the middle. Right. You don't have to do the opposite extremes. And all these people who are going completely carnivore to try to save themselves and get their glucose and ketones under control, are risking other things that we don't even know about because there's no long term data.

Okay. So you, have shared a brilliant interview about continuous glucose monitors that you're wearing your skin.

But for everybody listening there now, scratching their head, now we're going to monitor ketones.

But there is no patch that monitors ketones right now. Yeah. No not yet I think they're working on it. But nobody's come up with one yet. So we have to get an audience willing to break their finger, get a little drop of blood.

And I think I've heard you talk about something called the keto Mojo device that does both your blood sugar and ketones. It does both. Yeah. It's two separate pricks, two separate strips.

But you can get one drop of blood. You can monitor the ketones. You take that strip out, you put the other one in. And minutes long as you got a big enough drop of blood, you don't have to prick again.

So here's the thing.

How a plant-based keto approach works

People who are willing to to do the, the inconvenience, let's just say, of monitoring their body. You either pay it now or you pay it later. So if you're not willing to do the inconvenience of monitoring things and changing your diet, then later on you pay the price, usually, right?

Whether it be a debilitating heart to heart attack or stroke or, peripheral neuropathy, retinopathy, there are things that happen and to me, a mild inconvenience of pricking my finger.

And it's a mild thing, is much less invasive than having my chest cracked open and having open heart surgery. Everybody would agree with that statement.

You got to pay it forward. So we have had the opportunity to talk to Doctor Allen Gold Hammer about water fasting. And you mentioned water fasting. Yes.

We'd expect to go into a ketosis where we use ketone bodies less than glucose to fuel the body. We're going to be talking to doctor or Longo, and we're going to be talking about the prolonged five day fasting mimicking diet.

And you can go into a gentle ketosis by day three or 4 or 5. Yeah, but you're suggesting we can eat a variation of a whole food plant based diet. Are we eating three meals a day?

Two meals a day? Are we restricting it to a certain number of hours a day? How are we eating every other day? So maybe walk us through, you know, what does it look like to attempt to use a plant based ketogenic diet?

That's a those are great questions and it varies from person to person. So I love the the the fasting mimicking diet concept. And I've even created a whole foods plant based version of that to people who don't want to use the powders and the potions or, can do that.

So but here's the thing. It varies. Right? So the hours that people, eat during let's start with that one. There's a lot of intermittent fasting and people saying going 18 hours, 20 hours between meals, you find what works for you.

And I have people tested start with 12 hours because ideally you finish eating dinner. You spend 2 or 3 hours relaxing and not eating, and then you go to bed, and then you wake up the next morning.

And whether you eat right away or wait a little while to eat at least 12 hours really helps the body to go into that really healing fasting state every single day for a while.

And then you play with that. If some people don't want to do three meals a day, they want to do two meals a day. That's great. I always have an experiment with that.

Do you want to do a second and third meal a day, like, you know, a noon and a and a early dinner meal or a later dinner or whatever? Or do you want to do a breakfast and then a later lunch, whatever works for the person.

Because we're not we're not shoes, you know, we are shoes. We're like shoes. There's no one size fits all. There's no one diet, and there's so many people out there saying, follow my diet.

It's the perfect diet. Follow your diet. I'm saying that a variation of a high, a plant based whole foods works for majority of people if they balance the timing and the macros, and they're eating lots and lots of high, nutrition foods.

So not filling themselves up on breads and pastas, because technically you can eat bagels for breakfast and you can eat bread for lunch and pasta, and then you can eat more pasta and rice and whatever for dinner.

And that's a whole foods plant based diet. But what's missing there is the phytochemical rich vegetables and fruits and whatever fruits work for a person to keep them into the, optimal blood sugar range, just like we talked about in that other video.

Like 1 million questions. So some listening says this sounds intriguing. I haven't heard about plant based ketosis diets before, and I want to do this in April 2025.

Are we going to talk about doing it for five days a week, two weeks, a month or longer? What would you start with? A client of yours? I usually start with five days and a great start is what I call my fasting.

While feasting type of a diet, it's plant whole foods, plant based and it's it's really intended as a jump start, kind of like the prolonged, fasting mimicking.

It's intended as a jumpstart. And we do measures before and after. We tend to measure the glucose, the fasting glucose, the postprandial glucose, and we measure the ketones.

And they don't have to measure all this. But I think it's ideal to really know your body and know your numbers. And then you decide if you're going to do that version of it.

It's like like the fasting, mimicking the research. I'm not going to argue with the research. Valter Longo did amazing research and said that do that every month for five days.

But what are you going to eat in between? If what you're eating in between is a crap, you know, standard American diet or a whole foods plant based diet with very high carb and not a lot of vegetables, then you're going to kind of lose some of the benefits every time.

So it's what you eat in between that matters. So how long do people have to eat this way? It depends. Right? It depends on their numbers. It depends on their genes.

It depends on how much abuse their bodies had in the past, how long they have to do it. And we measure and we figure it out. If somebody starts to eat rice and lentils every night and they start to see their numbers go way up, then they have to balance those that rice and lentils with lots of veggies, or reduce the amounts of that.

Someone else might do perfectly fine on that, right?

Sample menus, results, and safety considerations

We all. I just think we're all unique and I believe in empowering each individual to take charge and to know what their best foods are. Okay? And somebody listening says, okay, five days, I can do it.

And I still want to ask you a sample menu, but what's the end point? At the end of five days, doctor Reed and Marie, I noticed my continuous glucose monitors spikes were less, or my fasting sugars in the morning were lower, or I lost 5 pounds around the waistline.

Or what are some of those end points that you tell a client, you know, this has been a successful experiment? Yeah, all of the above. Right. So not everybody measures during this period when I take them through it.

Some of them just go through the process and follow the menus. Right. So and by the end most of them have lost 5 pounds is about average. Some of them 8 or 9. Some of them 3 or 4.

Most of them who do test their glucose find their fasting glucose has come down tremendously. Even folks who have already been diagnosed with type two diabetes, some of the type two diabetics that have done this by day 3 or 4, their doctors have reduced their medications or eliminated some of their medications.

So it's pretty powerful and it varies from person to person. So all of those things can be expected energies. And another one like, oh my God, I don't have those energy slumps at three in the afternoon. I feel really good all day long.

I'm clear, my mental state is clear. My brain fog is gone. Excellent. Now somebody goes to your website to look at some sample menus. Is that correct?

I need to engage with your team. Yeah. We have a program called the. And we've done it 3 or 4 times as a free five day challenge. It's going to become an ongoing course where people can get it.

Probably already is by now. It's an ongoing course that people can do. Very inexpensive. You sign up for it, you get on the menu plans, you get the, the, the, support and you go for it from there.

Okay. And just give me an example. Breakfast is going to look like what on a plant based keto diet. It could be a green smoothie with, some coconut or cashew yogurt on the side.

Maybe a little handful of blueberries. Just a few. It could be a salad. It could be leftovers from dinner the night before. Like a soup. A very veggie rich soup.

So there's a lot of veggies on this meal. One of the one of the breakfasts I have a make a plant based, low glycemic granola, grain free granola which has a bunch of different nuts and seeds and chia seeds and flax seeds and hemp seeds and walnuts and other kinds of high omega three type foods.

And they make them and they can put them in the oven or put them in the dehydrator. And then most of them make them into little cookies. And you can have a few of those cinnamon and vanilla and all that in there.

Lunch might be a big salad and, with all kinds of good stuff in it. Tahini dressing, perhaps a dinner might be a soup. We have various soup recipes in there.

Veggie soup, a Thai curry soup. Any number of things we had at the. We have one day where there's a zucchini noodles. And then there is a sauce, a tomato sauce, like a marinara sauce and a cashew, or some sort of nut paste cheese on top of it.

And the favorite meal of everybody on there is the walnut taco day. And so they're basically using as a taco shell, either, Savoy cabbage leaf or romaine lettuce leaf.

And they're filling it up with this walnut taco meat and lots of veggies and sprouts and like, a cashew type cheese or a some sort of nut based cheese.

And people love that meal. The calorie counts are, are based on what Valter Longo found in his research for that. And most people say those meals are too filling.

Do I have to eat the whole meal and I'm okay? Yeah. No, you don't have to. You just don't eat more than that. Okay? And I'm sure the listeners are wondering, because I am too.

I've read your book.

Galectin-3 and modified citrus pectin

You're not a fan of processed oils, so we're not just dumping a lot of extra virgin olive oil on this beautiful salad to, you know, raise the fat content of the diet, which is a traditional way to go into ketosis.

We're going with Whole Foods, not see us. And yeah, right. Right, right. Wonderful. Anybody you wouldn't recommend this to? It sounds delicious. If you're on diabetic medication, check in with your doctor before you do it very closely because it will change your medication needs.

If you're on blood pressure medication, make sure your doctor is aware that you're checking in and that you're aware of the signs of your blood pressure going too low.

I would say, children, you don't want to restrict calories when you're eating with children unless it's a very supervised approach to an obese child. Pregnancy.

You just proceed with caution. Please. Baby needs a little bit more calories than this. And you don't want to go into a cleansing detox kind of mode with that.

And we have all of that listed when we when we offer the program, we always say that what to watch out for. Yeah. Hey. Well, this is fascinating. And if a viewer right now says that sounds like a plan I want to do, they reach out via your website.

They can go to the website or they can go to fasting while feasting. Dot com. And that's a great way to get started. Okay. We say your website is Doctor Rena marie.com.

Right. But the other name is actually new to me. What is it. Yeah, it's actually a page for that program fasting while feasting.com. Oh that's a great name.

Fasting while feast income. Yeah but it just has to spell that right. That's right. You have to spell it right. We'll put it on them. You should put it on the website too.

Yeah. You know it'll be in the description of this, really fascinating opportunity to talk to you about something that's unique to the, a lot of the listeners, a lot of the viewers that we've been told all fats are bad by some people.

And legitimately, there still is a little room, for debate there and not wanting to offend any offend any of the other, people that we interview. But this approach is really exciting.

I think a lot of people are looking for that next step. Could somebody do this five day program once a month for three or 4 or 5 months, knowing, like you said, the other 25 days have to be a healthy diet.

To your diet? Absolutely. I have people do that all the time. And they're they're just gradually their weight is chipping away and their glucose numbers and their A1 C numbers and their insulin numbers are going down and they find it.

It's easy to do something for five days versus every day of your life. So it's a good way to do it. And and then in between they're eating good healthy whole foods, lots of salads and veggies and good stuff.

All right. Well this has been great. Thank you for your time. Thank you for all your years and years. The one thing you said during our conversation, you were referencing when I was in my early 50s, and you were talking like it was a long time ago, and I think us listeners are saying that can't be a long time ago decorated where it looks like she's in her early 50s.

So, just giving you a shout out, you just confuse a lot of people who, don't recognize the power of all this lifestyle you've been doing for years. It's kept you young in spirit, but pretty young in your, physical appearance.

So, without crossing the line. I just wanted to say good job. Thank you, I appreciate that. All right. Thank you. Well. Hello, everybody. And another fantastic episode of Reversing Heart Disease Summit.

And I get to do this one with my joyful and wonderful co-host, Doctor Rita Murray. Good day, doctor Rita Murray. Good day. It's always a good day when we get to talk about fun stuff.

I agree and it turns out we learn that we share a lot in common in our practices. Although you're in Texas, but you reach all over the world and I'm in Detroit and Florida and I reach all over the world, but we find out that we both are fans of a, knowledge base called galectin three and an approach called modified, such as pectin or packed salt.

And it's probably a topic everybody listening right now should know more about. So let's dive into it. And, I'm going to talk a little bit about why, as a cardiologist, galectin three came on my radar screen.

And then we can talk about, using practice all in your practice. And I think everybody will be richer and smarter for it. So, galectin, galectin three does suggest there's more than one galectin, but galectin three is by far the most powerful molecule, and it is actually electing Natchez, which is why it is spelled and pronounced the way it is.

Some lectins are harmful. Galectin three may be harmful, as we'll talk about. Some lectins are actually beneficial. Mistletoe. The wonderful Christmas green is used in cancer therapy.

It's also elect. And so we have to be specific. But galectin three a word that most people haven't heard a lot or at all, is a very powerful inflammatory regulatory molecule.

Some people call it the can doctor of inflammation. And again, inflammation is not a bad word. You cut your, knee, you get a bug bite, gets red again swollen, it gets hot.

And a couple days later it's nearly all gone. Are gone. That's inflammation helping us. But Doctor Murray and I both focus on chronic inflammation where it's turned on and not turned off, usually driven by lifestyle, and things like, poor quality diet or obesity or sleep apnea or dental health or, chronic inflammation, chronic infections, Lyme mold.

So chronic inflammation is not good. And galectin three is this conductor that sort of orchestrates the whole cascade that ends up in harmful, final events.

And what are some of those harmful final events? Well, they include both the damage and inflammation can cause in blood vessels and tissues in the heart muscle itself.

But the most scary one is actually the term fibrosis. Fibrosis is scar tissue. And, you know, if you've ever skinned your knee bad, that, you know, in 25, 45 years later, you can still see a scar.

I got one right there. I think I was about five years old. Scar tissue is permanent, and if you're getting fibrosis in the muscle of your heart or other important organs like the kidneys, it's permanent.

And that's what galectin three really drives. So we do not want galectin three to be, abundant and access it does some other things due to the heart system.

It can increase the thickness of blood vessels, particularly the aorta. And thick blood vessels are stiff blood vessels and stiff blood vessels don't respond youthfully, and they drive blood pressure up and they drive more organ damage.

And I think people will be interested. And a couple other things that we've learned in the science of galectin three that, it's terrible, but it actually increases fat storage, galectin three.

So it promotes obesity. And we know how much that is a enormous problem in both our practices and across the Western world. It promotes fatty liver disease.

And lots and lots of people have heard the term nano. They call it fatty liver disease or hepatic ptosis. But with people getting CT scans and ultrasounds, they so commonly say nowadays, fatty liver disease is, recognized.

And the imaging or blood testing galectin three fuels insulin resistance and insulin resistance, certainly creates, blood vessel pathology and heart pathology.

And finally, and certainly very importantly, chronic kidney disease. Galectin three can scar the kidneys. So I think everybody by now, after just a short introduction, will say, how do we know if we have a high galectin three in our blood, in our tissues, and what do we do about it?

And there has been a blood test for at least a decade, or targeting Quest Lab, LabCorp, which can measure your blood level of galectin three. I've ordered it thousands of times at my clinic, and the way I get the results back, it's marked in a normal range and an intermediate range, or in a markedly elevated range.

And where it really is most markedly elevated is people with congestive heart failure. Very serious cardiac problem, where fibrosis, may be the reason we have a weak heart and we can't return that heart to normal strength in all cases.

In some cases we can using integrative approaches, but not in everybody. So, in heart patients drawing galectin three as a blood test, a relatively inexpensive blood test in a widely available blood test may be very important.

And then to shift gears and get it over to my, wonderful co-host, Zachary Murray, a very, very bright scientist physician named Doctor Isaac has has been working for decades and identifying if there's a natural inhibitor of galectin three, how good that would be to find something that prevents all of this list and cascade this orchestration of chronic inflammation and fibrosis.

And turns out, when you throw your orange peel away or you throw your grapefruit peel away, the inside has that white puffy material, and that's called citrus pectin.

And not too many people eat it, but it turns out it's rich in chemicals. And one of the chemicals is called, packed us all as it's commercially known.

But if you just were to say I'm going to start scraping the inside of my grapefruit and get that white stuff out and throw it in my smoothie, and I'll block my galectin three fibrosis pathway, it doesn't work because, citrus pectin is actually a large molecule that does not get absorbed from the GI tract with any success.

So Doctor Labs and others, and now a company called Echo and Eugenics have for years been taking that pectin, but they modify it and they modify it in a way that makes it smaller and absorbable.

So instead of being 100 to 300 kilo, Dalton sets a number. It's less than 15 kilo Dalton. So bottom line is it's a powder or a capsule that has the inside of those citrus pectin, but it's modified for absorb ability.

It's a complex fiber. It's a low molecular weight citrus pectin, and it's easily absorbed by the GI tract. And it is a galectin blocker. So if your galectin wants to attach to a cell, well, there would be a fat cell or a hard sell or a cancer cell because this pathway is very active in cancer.

And you want to block it, you can block it with modified citrus pectin, MCP it's often abbreviated. And you can start to drive inflammation down and you can drive.

Many people have heard the term cytokine storm, which we heard a lot of during the peak of Covid down. And you can drive the development of biofilms, which trap bacteria and hide them down, and you have an impact in sepsis, in fibrosis, in cancer and in heart disease, even in an auto immune disease.

And I'll just say one last thing. And then hand it over to the clinical aspects. There's that uniquely modified citrus pectin available as pect us all from echo eugenics likes to trap heavy metals.

It likes to trap arsenic, it likes to trap led, it likes to trap cadmium, and it traps it and it removes it from the body. So there is a chelating aspect to, taking pect us all, and we know we're all exposed to mercury, lead, arsenic,

cadmium, and the whole range mercury and the rest.

And they're toxic, and they cause their own set of diseases and inflammation and brain and may promote to, serious cardiovascular disease. So that's a little background I heard about packed us all and modified citrus pectin probably about a dozen years ago.

I have it available in my clinic. I have recommended it to patients, particularly those that have that high galectin three blood level. But others have taken that just for wellness.

Understanding how important a molecule this is. And that's, you know, kind of, leading up to Doctor Rena Murray. When did you first hear of practice? All as an option.

Modified citrus pectin as a supplement that is widely available and can be used in your clinic. Absolutely. So, probably my guess, probably around 12 years ago.

And I first heard of it through Doctor Eliza Diaz, and, it was for heavy metals because we feel like a lot of people with heavy metal build up and a lot of people with the mouths full of mercury and eating commercial foods and eating a lot of meat, animal products, when where the lead accumulates in the bones.

And then they're making bone broth, which is a popular thing these days. But a lot of bone broth is contaminated with lead because the lead accumulates in the bones and it's extracted.

There have been numerous studies that show that, so I started using it for that. But before I get into how I clinically use it, I would love to ask you a question.

Can I ask you a question? Why not? We're here to have a conversation. Okay, good. How does the galectin build up? Like we know when people have elevated LPA, right, that there's a genetic component and it's not as much controlled by lifestyle.

Whereas we know that when people have high oxidized LDL or LDL or other inflammatory markers, CRP, homocysteine, that there are dietary and lifestyle factors that contribute to that.

So how does is it just random? Is it genetic, or are there particular lifestyle factors that can lead to the buildup of galectin three? Yeah. Well, as far as I have read, in the past, galectin does have a gene that allows it to be produced.

And, you know, we'd rather the gene be relatively inactive. It's the classic epigenetics, the environment that that gene is exposed to, oral health, weight, infection, particularly the most severe form of infection called sepsis, male, arteries that are on fire because of advanced atherosclerosis.

And I'll, if I remember, I think it's chromosome 14 that has it, but it's there to be made, you know, and it's that process. It's in our DNA and then has to be transcribed by the messenger RNA, then go over through the cell, since it's a protein to be made, in the endoplasmic reticulum.

I feel proud of my medical school education coming up this pathway, but it's just a matter of, what might be signaling that for it to be made in cells and, you know, we know that it's a biomarker.

It's a cardiac biomarker. A lot of people have heard of high sensitivity C-reactive protein, as a, important cardiac biomarker of inflammation. But people need to hear about and ask, ask your cardiologist or figure out how to order it on your own through some of the online labs.

Yeah, I get a galectin three level and it can be made in tissues throughout the body. I would predict that probably the liver is one of the more important, since the liver makes so many of the other inflammatory biomarkers the high sensitivity C-reactive protein, the IL six.

But exactly how that gene can attack sepsis can detect, you know, the, inflammation of obesity, is amazing. So we're not actually shutting off the production of galectin three at this point.

We're blocking its activity, you know? So further, I'm sure a lot of research down the road. There are other actually ways that are being created to filter galectin three out of the body with, almost dialysis, like a protein.

But for now, we know we can block it from acting. If cholesterol were in your blood or lipoprotein anywhere in your blood. But it never connected to the cell wall to create a plaque.

It wouldn't be much of a problem. And, us all or modified citrus pectin has that ability to block, you know, the galectin three from attaching to so many different, compounds in the body to cause harm and particularly scarring.

Great. Well, thank you. I didn't know if there was a particular food or nutrient deficiency or anything that have been studied yet, because that's always a great place to start.

Right? But that's always going to be a shout out to a cheeseburger, fries and a malt that I resist, though I don't know that for sure. Right? Right. To blame that for everything.

So in terms of how so? I first heard about it then, and I was seeing people with, with, heavy metals. And the problem is that a lot of the, the mechanisms for removing heavy metals from the body are either very invasive, very expensive, and create a lot of side, side effects, so to speak, that I didn't like.

So, so we have chelation, you know, people go in evacuation is super expensive, super time consuming. Not doesn't always work. Is what I've seen. And then the other piece was the, like the oral, EDTA and, rectal.

And I was finding that when people do that, they go into horrible detox mode when they're trying to remove things and just very specific protocols for using those, because it also yanks out along with the heavy metals.

It'll yank out good metals like zinc and magnesium, etc.. So I was looking for something. And what I find with the modified citrus pectin, it will take a little longer to go down the heavy metal things.

If we go back and retest the hair, retest the blood, retest the urine. The main mechanisms for testing for heavy metals that took a little longer, but it was much more gentle, right?

And people could use it and then gradually ramp up to full dose. Use it over the course of six months, go back and retest and see where they're at, and then continue or, you know, continue on a maintenance level, because most people aren't not exposed anymore.

Right? If you're no longer exposed to the offending substance, you just yank it out and then you're done. Right? But in the case of heavy metals, we don't just yank it out and then we're done.

So there's, there's a use for an ongoing use, not necessarily the same strategy. So that's basically how I use it in practice. It's also good for yanking out toxins.

Right. So it's a good key later as you said. And it will latch on to the heavy metals and pull them out of the system. But it also does that with some of the toxins.

So if people are exposed, I've worked with people who had worked in various chemical factory type situations, build up a lot of toxins in their system, and it helps to bring those out of the system.

It needs to be taken on an empty stomach in order to do that, because otherwise it will latch on to whatever you're taking. So if you pop in a whole bunch of supplements and take zinc and magnesium and all these other things and take your modified citrus pectin along with it, you're basically flushing out your good metals that you're trying to build up.

So I have them take it, usually have it people take it at bedtime. I tend to like the powdered form just so people don't have to take a handful of pills.

But some people don't like taking powders, so they take the pills. It's innocuous. It doesn't taste bad, by any stretch of the imagination. So it's easy to mix in water and take it.

Don't. If you're taking it at bedtime and you take magnesium at bedtime, don't take it with the magnesium. Leave a good half hour to an hour in between those things, and preferably get the magnesium in, and then take the pack to sub or pack to Sol, and then take the magnesium an hour later.

Those are, you know, great, great reminders. I remembered an article that I read a couple of years ago was called, from A to Z, the role of galectin three.

And just to give people an idea, I found it. It's a published medical research article, but it literally goes A to Z. There's a chart a being asthma, atherosclerosis.

These are diseases where, and galectin three is causing, potentially, you know, fibrosis and damage in targets for modified citrus pectin. So a was asthma, atherosclerosis and atopic dermatitis B was that its blood test C was cancer and COPD D was W is diabetes can be an inflammatory disease.

He was endometriosis F was fibrosis. It causes G was gastritis, H was heart disease I was interstitial lung disease a bad condition. Juvenile arthritis, K was kidney diseases, L was liver fibrosis and was mortality that people that are predicted to die have a higher galectin three level and was nonalcoholic fatty liver.

Oh was obesity, P was pneumonia, and psoriasis. There you go. Psoriasis patients perked up just now. Q was an unusual one called Q fever. I was rheumatoid arthritis.

S was sepsis a very, very serious condition? T was it's a targeted therapy in so many areas. You as urinary tract infections were abundant. And galectin three V was venous thrombosis, W was wound healing X was what's called the X syndrome of the heart.

Kind of microvascular angina, Y was yeast infections and Z was zoster pain. So I tell you, with everybody listening to this summit, somebody has one of those eight through Z conditions most likely, and everybody should be worried about, you know, atherosclerosis.

And so there are some trials, you know, to go beyond your and my clinical experience that this stuff works. But most of the clinical trials so far are still in the animal model world.

There are data that if you, create a situation of congestive heart failure in animal models, and you throw in modified citrus pectin into the child is a rat, you actually inhibit the damage.

You inhibit the fibrosis. Because that's how it works. It's, great to know that. And, the growing role in stroke, the growing role in actually atherosclerosis, that, there is an animal model showing that you can prevent, you know, this number one killer of men and women by blocking the action of, galectin three, even in obesity, there are rat data that adding, practice of modified introspect into the chow of rats promotes better, weight control, which, you know, we're going to our moon gyros and arrows.

Zenpix. But maybe we had a first consider this pathway. So it just goes on and on and on. And I think I heard you say, do you prefer the powder over the capsules?

I yes, I do. I think that, I work with a lot of people who have digestive impairment and so they don't always break down the capsules and they end up in the toilet.

So I like to get people to do powders and whatever nutrients I can. Plus, with the dose of the, pec dissolve, it's usually the, the high dose or the full dose is about six capsules and people just like another six capsules to

swallow.

So put the put it in water, stir it up. Drink it down. It's easy. Yeah. One scoop is kind of the basic, wellness, dosing and the basic and not very sick person dosing, although sometimes it's a scoop twice a day if you're dealing with an adult and there even is a higher, scoop and a half twice a day if you're really dealing with this serious condition, congestive heart failure, I think might be one of them.

Or you're really working hard to make improvements. And of course, like you say, you can add back this all on to any other natural or prescription therapy.

Just separate the timing. By taking practice. I'll take it 30 minutes before breakfast, take an hour and a half after dinner and take it separate from some of the supplements that you're using.

So I think, I think we've done a lot. And, you know, the last part of it is just this toxic life we have that, persistent organic pollutants, DDT, dioxin, microplastics, pesticides, you know, the heavy metals we talked about the BPA, all of these are damaging tissues.

And the fact that and all of them can stimulate galectin three. So since galectin three is that final conductor of this pathway of inflammation and scarring that's gone wild, that's gone in excess, that's gone overboard, you know, the argument to be made to put a scoop of, practice all in your daily program for pretty much everybody can be made without too much hesitation.

Yeah. Yeah. And you know, the thing about it is that and my bottom line takeaway from this talk that we're having here is we need to be testing galectin three.

Most doctors are not testing galectin three. And it's an easy test. You know, it's not very expensive. And all the labs, all the blood labs will do it.

So if your doctor won't do it, find one of the direct access labs. There's plenty of them now in your area. The less you live in New York, and then you're out of luck and have to go to Connecticut.

But unless you know somebody in New York. But New York is a tough state. Unless it's prescribed by your physician. Any lab testing. But other than that, most people can easily get the test done.

And once you do, there's a solution here, either in addition to all the other solutions we've been presenting throughout this summit, right? The diet, the sleep, the stress management, the environmental pollution avoidance, all of that stuff.

But this little simple addition can be very helpful. Yeah. I think that's, an information. And frankly, I did not know that about New York. Unfortunately.

So too bad for people there. And as you say, they might just have to travel to get it. So, yeah, I do find these, self ordered lab panels are identifying lots of pathology in people and sort of bypassing the standard medical system.

And, you know, I think it's going to challenge the primary care docs what to do with 105 tests that their patients bring to them. I think they're going to shrug their shoulders, but I hope that they take the opposite path and say, I'm just going to have to learn this stuff and. Exactly.

Dig in and find what is galectin three and what is lipoprotein now? What can we do about it? So, well, I want to thank you for taking time, my dear colleagues, and, bringing up to date everybody on an important topic and cardiovascular health.

And when we're talking about reversing heart disease, we are really talking about blocking and reversing the impact that galectin three and so many different syndromes.

High blood pressure syndrome. Oh, important important topic. Thank you so much. Activator Mary. Thank you. For.