Introduction to Dr. Michael Twyman

Hello everyone. Welcome back to another fantastic episode inside of the Heart Attack and Stroke Prevention Summit. And I've got a fellow cardiologist here with me today.

His name is Michael. Twyman. He's a medical doctor out of the Saint Louis area, and he's a cardiologist. He's a heart attack prevention expert and the founder of Apollo Cardiology is his company.

He's also a decorated veteran. He served, as a medical corps physician in the Navy and was appointed department head of internal medicine at, Naval Hospital Beaufort, while simultaneously earning his MBA.

Pretty impressive in both those things. Following his military career, he continued on a path in cardiovascular medicine, which led him back to his hometown of Saint Louis.

And so he well, like me, he worked in the hospitals, you know, for for several years. And then eventually he would start his own integrative, cardiovascular medicine practice, conventional and functional medicine to get to the root cause of cardiovascular issues.

You will see that he is wearing blue blocker glasses on his interview today. So we'll dive into that as well. And then doctor Tom is appeared on National Stages podcasts, and on some pretty big, interviews as well.

So again, Doctor Michael Twyman, welcome to the Heart Attack and Stroke Prevention Summit. Thank you for having me here today. There's gonna be a lot of fun.

All right. Sounds good. So, listen, if I, tell me tell me where the medical community are. Our brothers and sisters in the conventional cardiology realm, where are they going wrong with heart attack and stroke prevention?

Or is it just not their area of focus? I mean, you were in the cath lab and you know that, you know, you're there to kind of pick up the Humpty Dumpty, sir, completely broken.

And it's very rewarding to save people's lives, but unfortunately, don't get to save them all.

Endothelium, Glycocalyx, and Vascular Protection

And I think, as you understand, like you have to reverse engineer, like, how do you get this far down the pathway? You got to go way upstream and trail like, well, how do you stop it?

And that's where we start getting the ideas of, well, how healthy is the endothelium? Like like okay. And things that we were never taught in our fellowship.

And most our colleagues still don't even know about those topics. So you mentioned a couple things. You mentioned the endothelium and the glycol calyx.

So let's talk about some. We can talk about them together since they are obviously attached and intimately intertwined. So what is the endothelium. What is the glycol calyx and why are these areas so important as it relates to heart attack and stroke prevention.

As a combination? I call them kind of the force field for your vascular system. You have reportedly nearly 60,000 miles of blood vessels lining the arteries.

There's something called the entity ilium, and it's one cell thick. I've been told that if you took out all your

endothelium, it would be the surface area of six tennis courts.

It's one of your largest organs that you don't know that you have. I think I first learned about this back in like 2013, 2014, but in the past few years, it was understood that there's a layer that sits above the endothelium called the endothelial.

Like, okay, lacks. And I tell my patients, think of like a fish coming out of water and it's got slime on it. That's essentially what the glycol calyx says, that the gel code that lines your endothelial lining and there's hundreds of things get damage this Djoko you know, oxidative stress, inflammation, heavy metals, infections, eye glucose, many, many things.

But once the glycol calyx gets disrupted, then that underlying endothelium, if it starts getting impaired, we may be off to the races developing vascular disease.

So I love that analogy is like the outside of the fish. And because I tell people that, you know, nothing sticks to the outside of a fish. So if you make the inside of your blood vessels like the outside of a fish, you're going to prevent a lot of heart attacks and strokes.

Most, most certainly. So the endothelium, you said, is that one cell layer thick that lines all of the blood vessels. And obviously it is is very voluminous is as far as what the reach of that is.

The endothelium. What are the strategies to make the endothelium and that like, okay, let's let's dive into one of the most important foods you think that would really help in that area?

Well, the name of the game is optimizing your nitric oxide for that, structure. So nitric oxide is a, you know, sure that gas that dilates the arteries, but also it helps prevent things from sticking to the arteries to begin with.

And endothelium, you know, releases the nitric oxide. There's other pathways, but this is the main pathway most people have up. And about the age of 40.

And, you know, the first kind of rule is like always trying to find the insults that are breaking those pathways and try to remove those first out. The person smoking, obviously stop smoking if they have in some resistance, attack that first.

But if you're done the kind of the low hanging fruit and they're still having issues with their nitric oxide pathways, there's various lozenges and capsules that can boost nitric oxide and then there's products that help support the glycol calyx as well.

And what do you think about things like, beetroot powder, for example? That would be kind of the classic example of, of a food based, nitrate. Maybe some of the other green leafy vegetables.

Do you find that to be effective? And then if you find it to be effective, how do you measure the level of success? Is it with blood pressure or are you using other tests?

Yeah. The the general rule for most people is your blood pressure is greater than 120 over 80 at home. Start looking for why you might not have optimal nitric oxide levels.

And as you mentioned, yellow beads, green leafy vegetables that wriggle out of the spinach, the kale, they all have nitrates in them. And if you have a healthy oral microbiome, the microbiome may make those nitrate sound compounds that eventually become nitric oxide in your stomach.

But many people have poor oral health, or they're just not getting a nitrate rich diet. And I think a lot of people are on a carnivore diet or keto diet, and they're just not eating those food stuffs.

Nitric Oxide, Diet, and Testing

But the other challenges that, you know, what is the soil quality that these foods are grown in? And most people want to, you know, eat organic to avoid, you know, glyphosate and other things you don't want to get in, you know, conventionally grown foods.

But the, organic foods have less nitrates in them because they can't add nitrogen fertilizer to the soil. So sometimes it's very hard to get enough nitrate rich food if you're eating an organic diet.

Well, you're not going to get me out of eating or an organic diet. So we're loading up a synthetic, nitrogen, sources. I know you're not, proposing that either.

Obviously. As it relates to, you know, you mentioned carnivore, and I know you've been interviewed and been, you know, around, you know, people like Paul Saladino, maybe Sean Baker, some of these famous carnivore people.

And, you know, Saladino has kind of gone off carnivore. He's kind of he'll call himself animal based. Me personally, I'm a paleo guy. That is my book. Right?

You know, so it's like we are hunter foragers. We eat the animal products, we eat the seafood, but we also, you know, forage, you know, for vegetables and fruits.

And that is the optimal strategy. But I think the corner where people would probably say that, well, they're getting in lots of amino acids, right. LR genes, that would lead to conversion through nitric oxide synthase to open up those blood vessels as well, and therefore as a vasodilator by producing nitric oxide through that sister, pathway.

And I think it really highlights how important, nitric oxide is. Right. Because nature gives us so many different ways to make it exactly right. And, you know, yeah, I tell patients, yeah, I'm not going to judge them based off of their dietary patterns.

But you have to assess what's going on with the vascular system. So, you know, I've seen some patients do very well in carnivore diets. I've seen people have very severe vascular disease on.

And I'm like you, you're gonna stay on that pattern. You know, you're going to have to, you know, optimize things that use nitric oxide or you have to consider pharmaceutical evidence at times if you really aren't going to change your diet.

So really, tests don't get like, anything, right? It's like, it's again, you know, all of us can all talk about what we believe are the best strategies, but you got to get objective about it.

You got to look at the nitric oxide testing. Are you a fan of the nitric oxide salivary test strips? Yes. And there's a couple different vendors that make them, I usually have kind of a bias of that.

Like if you've done them and you get the kind of the bright red, you know, colors on the celery test strip and kind of like it's like litmus paper puts live on.

If it's white, you don't make good nitric oxide from that pathway. If it's bright red, you're doing a good job. But I have seen a few people who've never had a positive, and they have good other markers in nitric oxide and or Pad scans, vascular activity testing blood pressure is normal, but that salary pathway is always low.

And I think it's probably just your microbiome isn't optimized yet and companies are coming out with, different type of probiotic gums and such that might help improve that pathway eventually.

So I think it's really useful for people who've had normal levels and they see it go low. Often. That's something that, you know, they're not getting enough nitrates into their diet or they've done something to disrupt their microbiome.

They're getting a lot of fluoride in the water. They're, you know, using Listerine scope, something that disrupts it. Those people are useful, but if they're always low, I don't get too concerned.

Of all the other kind of metrics are normal. Okay. So we talked about a couple different ways we can boost nitric oxide, with the idea of opening up blood vessels.

As you mentioned, decreased clotting. And when you open up blood vessels decrease clotting, you're likely to have less heart attacks and strokes, which is the objective that we're talking about here.

But when you look at, you know, the this third way that I love to talk about increasing nitric oxide levels and that is with sunshine exposure on your skin, on your solar panel.

We'll talk about that a little bit. So that's honestly where I end up starting with most patients. Yeah. They're coming to me because I have high cholesterol.

They have a family history of wanting to get screened. Like we're going to do that, but we're gonna talk about skin biology and that your body is solar powered.

You know, just because you think you can live inside under technologies rules doesn't mean your biology is designed for that. And so yeah, I love that you're starting with that.

So UVA spectrum of light, which is generally present in your atmosphere when the sun is about ten degrees in the horizon. It's also kind of like when your skin starts feeling warm and the sun setting it.

That wavelength of light interacts with your skin and liberates nitric oxide from the dermal pools. So people who avoid the sun tend to have higher blood pressures because they like nitric oxide. Through that pathway.

And the the conversion in and I was I guess at this point we can also talk about because I love this thing where, you know, elevated cholesterol is a sunshine deficiency in the sense that, well, the, you know, the sunlight UVB hits, cholesterol coursing through the skin, turns it into vitamin D.

Everyone knows vitamin D's. Good vitamin D levels go up. Total cholesterol levels go down, which I think is very exciting. In that, area. Listen, you went through a lot of medical training.

You went through the same cardiology training that I did. How often did in your training did they talk about the benefits of sunlight as it relates to cardiovascular disease?

I think never I don't think I ever sees the sunlight. Let me ask you this. Well, not only do we never see the sunlight, that's for sure, especially for makers.

You know, because I train in Chicago and, you know, for sure, I never did, what would happen to guys like us, or other cardiology fellows who would, attempt to talk about nutrition and lifestyle?

How do you think? How do you think our colleagues would have handled that conversation? Say, if you're lucky, they just ignored you. Otherwise you got ridiculed.

You know, you weren't a part of the herd and they would try to ostracize you. Yeah. I mean, you're you're, you know, a military guy. And I mean, I'll just kind of say it.

It's almost like I can remember back when I was a member of the fraternity house, you know, in undergrad at University of Illinois. You know, it's almost like you get hazed.

Sunlight, Circadian Rhythm, and Sleep

If you talked about something, that was not related to pharma or some kind of procedure, really, it just happens to be where the excitement was at the time.

And that's really obviously a condemnation of of what we were doing there. Talk about, talk about light. And as it

relates to the endothelium, the glycol calyx and, maybe touch on the exclusion zone, you and I have not talked about an exclusion zone before, but obviously, you know, Jack Kruse, I think I first heard about it through Jack.

As it relates to, you know, you know, the work of, you know, Gerald Pollack in the fourth phase of water and stuff like that. But and again, I mean, you and I are just diving into the stuff.

It's really just common sense things, right? I mean, we're just talking about, well, good sunshine. Well, that makes common sense. You know, all of our ancestors around the sun. So, maybe talk about that area, you know, more about, like, okay, let's and really dive into the, exclusion zone and what it means to, to get light and how that helps prevent heart attacks and strokes.

So the glycol calyx is, you know, heavily fold this easy water or coherent domains is the other synonym for. And again, think of it like a, you know, outside of a fish.

It's a slime gel layer. If that gel layer gets damaged, then things are going to start sticking to the glycol calyx, which is heavily negatively charged.

That's part of what happens with the coherent domains. Is the electrons and protons separate in the presence of infrared light. So the sun from sunup to sundown, there's infrared light.

That's when your skin is feeling warm. UV light also basically expands the, coherent domains. And so think of water as a battery in your system. That's potential energy.

If it's charged up by the right wavelengths of light, if your glycol calyx is charged up, it's going to repel the lipoproteins from sticking to the ridge.

It's going to repel the white blood cell from sticking to the arteries. And so I tell patients, like, think of it like a maglev train. If your glycol calyx is super healthy, everything going by to slides on by.

But if a glycol calyx is dehydrated, then in more protons or, you know, basically exposed, that's kind of like Velcro and things are attracted to that.

And then you start getting things where start sticking to the endothelium, getting retained and underlying intima and then inflammation and the plaques start to build.

So the health of a glycol calyx and underlying anything is paramount to vascular health. And what do you think about sleep, sleep, as you know, because we talked about, you know, some of the best foods we talked, they were actually before we hit that.

Is there are there any other sulfur rich foods? We know that the glycol calyx, the energy helium, it's a very sulfur rich. A lot of sulfates that are there.

Heparin sulfate, glucosamine sulfate, things like that, that are very beneficial in that area. What other sulfur foods do you recommend? And then we can maybe talk about sleep.

It's kind of like this third major factor. I mean, Garlic's one of the main ones I would think about, you know, I suspect that's the main way that, caloric garlic help stabilize plaques is it's donating these sulfur units to that, you know, coherent domains.

So always those things are that. Yeah. Yeah, there's the broccolis and other things that are high in sulfur. It's always a good kind of starting point for some people.

And what about, eggs and of course, eggs. You know, the eggs smell. It is. But didn't they tell us, eggs are bad? Yeah, yeah. Dietary cholesterol has very little to do with the the cholesterol that you see in your serum.

So, yeah, I personally have, like, five eggs almost every single day. So I'm not too concerned about it. I'm a huge eggs and as well most certainly, asleep, you know, because I know your big circadian rhythm guys.

So, I mean, obviously people are going very wrong here. They're going to sleep way too late. They're in the artificial light. And, it's, it's a it's a lot that we have to discuss with people, but it really is common sense things.

Our ancestors went to sleep, when it got dark, and they woke up right before the, you know, before the light came up. And that simplicity, although it's, it's simple in theory, it may be difficult in the 21st century, you know, in your home, you know, your home town, you know, the, you know, Saint Louis and and me, you know, coming from, you know, Chicago, we personally we are as we speak right now.

I am, essentially outdoors with all windows open in the mountains of Costa Rica, trying to live that appropriate lifestyle, which which is definitely the healthiest.

But, what role is sleep play? Let's just say what role to sleep play in in heart attack and stroke prevention. I think it's a very, you know, large pillar of health.

I mean, most people are going to focus on their nutrition and exercise and they're important. But if you neglect the sleep, it's almost like it doesn't matter how much you exercise or which nutrition is, you know, yeah, you throw the back to you like, how much do they talk about sleep during your cardiovascular training or how much sleep did you get when you're doing Q3?

Call in the hospital very little. So like you have to lead by example eventually. And that's kind of what happened to myself. Like I didn't purposely, you know, sleep poorly for years, but you know, you're put in those situations.

But eventually when you realize how important light is to your overall biology, your sleep is one of the things you can start to prioritize. And so if you get your light right, almost all this other stuff goes right.

And so I tell patients because like you days, like it's easy to talk about it. It may be hard in your life, but the sicker you are, the more you have to get this right.

Yeah. When you sleep, your mitochondria, which patients now think of like engines. If you don't sleep well, it's like you've never tuned up your engine and then you're going to go out the next day and put in this premium gas.

You're eating perfect organic food. You don't, you know, cheat. Your engines can't burn that fuel as effectively because you've never changed the spark plugs you have to think about.

Sleep is basically almost like when you start your day. So some people, it might benefit them to basically set a reverse alarm, like set an alarm like I'm going to bed at nine.

So like I have a time to get seven hours of sleep, you know? And if you get your life right, you're almost never going to, you know, stay up to midnight. That's almost impossible.

You're going to be tired by that point. So that's the reason that I wear these glasses when I'm ever on a computer, is because I don't want my brain to think that it's the wrong time of day.

The sunlight always tells your body what time of day it is, but when you come inside under artificial light, your body basically gets a signal that it's always noon time.

You're gonna pop a lot of cortisol then to stay alert and go forage and hunt for food, you really need that darkness cycle so that melatonin that's been produced during the day starts to get released and helps you sleep.

And melatonin is basically the fuel that repairs the mitochondrial damage that happen during the day. Oh for sure. Melatonin is such a critical critical hormone, but we want our bodies to make it naturally right and not necessarily take it exogenous.

Like, you know, funny story you get a kick out of I was talking to a patient at some time ago, and he was telling me he doesn't go to sleep until 11:00.

I said, why aren't you going to sleep? Like, what are you doing? Like, I know you've got a business. You're very successful. You know, presumably your business day ends at like 5 or 6.

He's like, well, you know, you know, then I eat dinner and then I'm in the sauna, and then I'm in the red light bed, and then I'm meditating like he's doing all these biohacking things, but because of it, he's not getting adequate sleep.

But I said, you're you're you're missing it here. I said, I love all the biohacking stuff. But you got to get that into into the normal, you know, part of the day, to the best of your ability, physical acts, physical activity, nitric oxide production, blood vessel health, heart attack, stroke prevention.

Exercise, Stress, and Natural Support Strategies

Where are you with? With this kind of physical activity? Movement otherwise known by most people as exercise. So four pillars of health him exercise, nutrition, stress management and sleep.

And you got to get them all right to have optimal health. You usually have three out of four. But yeah most people it's rare that they have all four 4000 all the same time.

So exercise is one of the best anti-aging drugs that's out there. And I in my office, I have a device called the endo pad, which test how much nitric oxide your arteries make when there's a vascular stressor.

But I tell patients, this is what happens when you exercise the blood is going to rush down. You're like, okay, legs. The body gets a signal, hey, here's a lot of blood.

We got to open up the arteries to get this blood into the muscle so we can get away from the threat. Or, you know, today the treadmill or whatever type of exercise you're doing.

So exercise is one of the best things to stimulate nitric oxide release. Excellent. And what about other things like parasympathetic maneuvers? You get into some of the stuff too, where people talk about, you know, gargle saying, hum, that kind of activity which boosts nitric oxide levels.

Yes, I know that's the theoretical. I don't know how well I could have measured in my office. Yeah, I think it's something to add in there. Yeah. If it's definitely relaxing, do the person do it particularly like the humming exercises?

Yeah, I'm a big fan of biofeedback. They're using hard math. So people got like actual instant feedback that, hey, they're nervous systems out of balance are, hey, things are going pretty well.

But, you know, we all face stressors. That's not the problem is that the people kind of get stuck in that fight or flight response and don't understand how to get back into that rest and relaxation response when they need to.

Yeah. And, you know, I don't have any data that would necessarily, you know, directly support this, but, you know, chiropractic care of the chiropractic adjustment, influencing the autonomic nervous system through the chiropractic adjustment, I think is another great way to boost up nitric oxide levels.

Again, I don't have any definitive evidence to say that I can kind of string it along indirectly, but, maybe someday somebody will come up with a study that would show, the value there.

And I think also in kind of like one of our pillars that we often talk about is that area of holistic dentistry. And like you said, that teeth and that oral microbiome as it leads to the conversion of nitrate into nitrite, and then eventually through the acidic stomach, which.

Right, most people are missing the acidic stomach. Are you convert that nitrate into nitric oxide. What? Back to the back to the, garlic. Okay. Looks there are some supplements that supports the the glycol calyx and then glycol calyx.

I like to think of as like this almost like seaweed like layer on the inside of the blood vessels that's kind of swishing along. And it's actually protecting, you know, the inside of the blood vessel, you know, here and kind of like, so things are bouncing off.

So it's like the seaweed, like projection. And it's interesting that the, product that both you and I use very often is from a unique form of seaweed.

So, tell us about your thoughts about the product we're mentioning here called Arcturus. IL. Correct. And so, you know, one of their things is that it has prominent sulfate in it.

And we talked about earlier that the glycol here has heparin sulfate and conjugated sulfate. And so it's basically donating that sulfate to that like okay like and trying to regrow it.

So I love your analogy. The seaweed kind of the flower bed I often talk about think about like, you know, an infection is like a lawnmower that just buzzes it down and all of a sudden the like really is gone.

The products like our self help regrow those kind of seaweed strands, and then things start sliding across it again. So I love our Terrace Hill in that sense of helping to repair that.

Like, okay, Alex, to, almost like this, you know, artificial hose data on blood pressure reduction. They also have data on plaque reduction, which is pretty cool, specifically in the carotid arteries.

And presumably, if it's affecting the carotid in a positive fashion, it's affecting the coronary arteries in a positive, fashion. Have you seen much in the way of, changes clinically in people?

I think blood pressure is an easier measurement, but maybe in the form of simple or other kind of, plaque assessments. Correct. And that's one of the reasons I really do use a lot of this product is because they have such robust data behind it, and then they talk about what I call toys, but their medical devices that they're using these trials, and I have many of them in my office so I can test patients when something's abnormal.

So let's do a round of something that there's nitric oxide in sports like like okay. Like so here's arterial. So and then a few weeks later repeat certain part of the test.

Usually blood pressure starting improve. But one of the quick ones you'll see is the the pulse rate velocity. You know, a car device. We have the max pulse, but there's other vendors that make them.

Now, you might be able to track it like an aura rings. They have that arterial age, which is basically pulse rate velocity. So if your arteries are more elastic you're presumably be making more nitric oxide at that point.

So I like seeing that. And yes, for sure we you know, we assess carotid and medial thickness scans or centers on almost every patient yearly. And generally we see things at least stopping it stops going forward.

And oftentimes you start seeing things where graphs are shrink back. Excellent, excellent. And then as far as like, maybe like a natural blood thinner, supplement, protocol.

What are your would you include arteries still in that? Maybe even, I don't know, let's say it's a patient with atrial fibrillation who maybe you think doesn't qualify for, anticoagulation.

Warfarin or one of the newer agents. You know, where would you fit arteries? So maybe some other stuff in for, like, this natural blood thinner protocol, if you will.

I wouldn't think of arteries as much as a natural blood thinner is that, except that it does kind of like, support the gut. Okay. Like, so you don't activate the, you know, the, the clotting cascade.

So in that way, maybe it's sort of that, but I would think of more in some like narrow kinase, you know, helping with breaking down fibrinogen, in fibrin.

And then this we didn't talk about that. Yeah. I was just grounding. When you're outside and you're connected to Earth, you know, you're absorbing those electrons.

That is going to prevent the red blood cells from clumping together. Yeah. Excellent stuff. What what are some other strategies you're utilizing over there, as it relates to heart attack and stroke prevention or, or even, you know, maybe, you know, whether it's strategies for that.

And, you know what? What are the other kind of blood tests that you're focusing on? So I start with, you know, optimizing people's circadian rhythms and sleep.

And once that's all, then, then we go down the testing pathways. And I would say there's a combination of biochemical. So like what's flowing through your blood right now and then the biophysical like what are the arteries actually doing.

And I think sometimes criminal cardiology just gets too locked in to just one lab value. And it's more complex, like what is going on with the arteries.

And there's numerous tests that can look at your nitric oxide pathways. We talked about some of them. So you can start with this Salisbury nitric oxide test strips that's available to the general public. They can have those at home.

You can assess your blood pressure you know without being on medicines. Your blood pressure really should be less than 120 over 80. If it's not, then you got to go looking to why not?

And then and the office, there's the mindset to look at the elasticity or the stiffness of the artery. They're devices that measure something called pulse away velocity.

So how fast is the blood expanding an artery and snapping it back? There's a device called the Ender Pad, which is basically like a stress test for your arteries.

It tells you how much nitric oxide doctors can release when there's a stressor. We mentioned the CMT, so now we're starting to look at actual damage to the artery.

So the safety measures two big piece of information is how thick is the intima dentin as the layer underneath the endothelium. And it should be very thin normally.

But if it starts thickening that's often a mark. And there's a lot of inflammation in that layer. So think of it as lipoproteins are getting retained in there.

White blood cells are gobbling it up. It's kind of like having a splinter in that area. And it starts to swell as the inflammation cascade kicks off. So that's the part of the test that gives you vascular age.

And you want to be about your vascular age and your biological age, or ideally younger than your vascular age. You can also see if there's plaque in the carotid artery, because often if there's black in the carotid artery, that's about an 80% correlation.

What's going on in the coronaries. And then there's a couple tests that we like to look at. The coronary artery noninvasively I think I know your views on stress tests.

They're not that useful unless you're actually having symptoms. But the test that I tend to recommend people and I

used to have a soft kind of a 40, but I seen some very interesting calcium scores at 36 years old.

So maybe 35 is my new cutoff, but a calcium score just looks for hard calcified plaques in the coronary arteries. It's a very low dose CT scan, radiation CT scan, and you have hard blocking arteries.

You definitely have soft plaque as well. So not everybody loves the calcium score test. But it's a good tiebreaker for some people if they're very on the fence of how aggressive to be with lipoproteins or blood pressure like you're already developing significant plaque, you might want to do something about that.

Got it, got it, got it, got it. I mean, I think we certainly covered a lot. There anything else that you can think of that we would have missed? You know, I did actually hear something recently about how if you improve your spinal health and I'll, of course, default to chiropractic, I'll give all credit to chiropractors, including my wife, who told me from the medical matrix, but that actually, if you increase this kind of spinal mobility through exercise and this may be where yoga comes in.

Yoga. Taichi, really just any kind of movement that by increasing spinal mobility, you actually improve arterial health. And you do lower some of those markers that would lead to, you know, abnormalities in pulse wave velocity and therefore actually, you know, lower your vascular age just by improving on these movements, and therapies. What do you think about that?

I think it's probably a combination of that. It, you know, is increasing blood flow. As with the exercise, I think it's also, yeah, decreasing by sympathetic drive.

Ultimately, once you finish the exercise the parasympathetic stimulating. And then also more kind of the quantum reasons that when you exercise you're creating infrared light.

You're creating heat with that exercise. And that heat is helping probably structure the exclusion zones of the coherent domains in the glycol calyx. I love that answer.

Excellent. Brilliant brilliant brilliant. All right everyone. Fantastic. Thank you so much, Doctor Michael Twyman, for being on this episode of the Heart Attack and Stroke Prevention Summits.

Check out all Doctor Twyman stuff. Michael, where can people find you? The best? I'm, located Saint Louis, Missouri. My practice is a cardiology. My website is Doctor Time.com.

And if you're looking for me on social media, I'm mostly on Instagram. At Doctor Twyman. Well, there you go. Thank you so much, Michael Twyman. We'll see you with another excellent episode coming up next.