Ep 585: The Nitric Oxide Fix for Vascular & Sexual Vitality With Dr. Nathan Bryan Transcript

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Podcast Introduction and Guest Background

Welcome to the Health Fix Podcast where health junkies get their weekly fix of tips, tools, and techniques to have limitless energy, sharp minds, fit physiques, or life.

Hey, health junkies. On this episode of the Health Fix Podcast, I'm interviewing Dr. Nathan S. Bryan. He is an expert and researcher who's dedicated his life to researching nitric oxide.

So if your energy's dropping, your workouts feel harder, or your recovery just isn't what it used to be from your workout or hikes or bikes, it might be more than aging.

It could be your nitrous oxide levels. Now, nitric oxide is what keeps your blood flowing, your brain sharp, and your cells energized. But by age 40, most of us are making less than half of what we need.

And that decline drives inflammation, fatigue, even sexual health issues. Now I would venture to say it even can drive what's going on with little aches and pains in the body that we kind of brush off and even stuff that has to do with the gut.

So I'm joining Dr. Nathan S. Brine to really break down how to restore this molecule of nitric oxide naturally and what's missing. in that link between circulation, longevity, and vitality that nitric oxide can really fill.

Now he is an international leader in nitrich oxide biochemistry and molecular medicine. He was the first to identify nitrite and nitrate as indispensable nutrients for cardiovascular health and discovered the endocrine function of nitrict oxide.

now he's published numerous articles and he's highly cited in scientific papers. He has six books. We'll talk about those. And he has led multiple clinical trials, including nitric oxide based therapies.

he is also the founder, chairman and CEO of Bryan Therapeutics Incorporated, a biotechnology company that is dedicated to developing nitro oxide drugs.

for heart disease, Alzheimer's, diabetic ulcers, and wound healing. And today we talk a little bit about that FDA process that he's in right now. His consumer nitric oxide products, however, can also be found online.

He has created some lozenges that are quite impressive for helping with vitality and sexual health. And those can be found over at n101.com or no2u. com.

They're also on Amazon. And we'll have all of that in the podcast notes at drjkrausnd. I am excited to talk with Dr. Nathan S. Bryan, and I'm also really excited introduce you to him.

He took some time out of his really busy schedule from filming a documentary called The Health Secrets. So you might hear a little background noise. he was in a hotel for the filming, so there's a noise in the background.

Nitric Oxide, Aging, and Chronic Disease

And I was shown up in my office due to some things I had to do during the recording as well. It's different of a podcast for everyone. Alright, well, let's introduce you to Nathan S.

Bryan. Alright. And we're off. Dr. Nathan Bryan, welcome to the Health Fix Podcast. Thanks. Great to be with you.

Well, I'm glad that you're here, have lots of questions about nitric oxide, and you fit in some time with a documentary that your there to film in Austin area called Health Secrets.

So this is exciting. We're going to have to be on the lookout for that. Will pop that in the podcast notes. Give us a little background in terms of what do you love so much about Nitric Oxide?

If you had to give me like, A two, two second statement, maybe, that's a little short. Let's give you like a quick statement of like, what is your most favorite thing about nitric oxide?

Yeah, so my nitrous oxide are elevator pitch, right? Like it's the most important molecule produced in the human body and the functional loss of nitroxide is the earliest event in onset progression of age-related chronic disease.

If we can figure out how to restore the natural production of nitrogen oxide, we address the onset of chronic diseases. Nice, nice. Well, I always ask that of folks when we're talking about certain molecules, because I think we I want to kick it off right off to see, you know, to kind of set the tone.

And for when were talking chronic disease, we were taking about aging, inflammation. That concept, for a lot of folks, is hot and, let's say, relevant, but I don't think a lotta folks really understand what's happening when we're going into the process of inflammation and how nitric oxide ties in to the whole aging process.

But when you look at age-related chronic disease, there's always four common denominators. There's Always Reduced Blood Flow to The Organ, There is Runaway Inflammation, which we discussed, Oxidative Stress, and there is Immune Dysfunction.

And so what we're finding is that it's the loss of nitric oxide that leads to all of this. So nitrous oxide is a vasodilator. If we lose the ability to produce nitroxide, we get constricted blood vessels, and we have microvascular dysfunction that lead to ischemia and hypoxia.

We get runaway inflammation, which is an upregulation of adhesion molecules and lining of blood vessel. Uh, We have oxidative stress, overproduction of NADPH oxidase.

Electron transport chain becomes uncoupled and produces superoxide, and then we get immune dysfunction. To the contrary, if we can restore the natural production of nitric oxide or give nitroxide, we dilate blood vessels, We inhibit inflammation, inhibit the oxidative stress, And we correct the immune dysfunctions.

So this single molecule addresses the root cause of chronic disease. It makes sense. And of course, being an acupuncturist myself, I've always heard all of my, my docs and training telling me like circulation, circulation and even the Chinese clearly knew there was something to the circulation.

They maybe didn't say nitric oxide as part of it, but they knew that it was to this circulation thing. Well, they call that Qi, right? I mean, it goes back thousands and thousands of years.

There's this gas that animates the human. And I published a paper in 2011 where we described that the chi that's been described by thousands of years is actually nitric oxide gas.

And so that explains it. Things that stand the test of time, like acupuncture, they stand test time because they're very effective. Absolutely, absolutely.

And using acupuncture with nitric oxide, I've seen the benefits. While I don't do any research in my office, i can definitely say that my mind is looking at all the things and putting the components together and going like, yes, this is something we need to keep on board.

Yes, I see better results with that. Do you guys have acupunctures that work with you that do provide feedback that folks could look at?

Acupuncture, HRV, and Clinical Effects

Do have some white papers or articles or whatnot in that case? We don't have any sensory question, yes. We have a number of different healthcare practitioners from acupuncturists, chiropractors, medical doctors, EOs.

I mean, it spans the spectrum of practitioners. And so we've done randomized placebo-controlled clinical trials and looking at clinically relevant endpoints.

But we never have really done a controlled clinical study in acupunture. It's gonna be interesting to see what's irrelevant, and I don' know enough about it to what the relevant endpoint we could capture.

and publish an opinion or even create a white paper. I would wonder if by any chance like going back to the nervous system going, back, to cardiovascular system if if a monitor of HRV in the moment since we can monitor HR V you know watching in like a workout with it with a particular watch I wonder, if, by, any, chance having them with the watch on HR v and then pre and post checks with the nitric oxide on board.

I don't know. We might be creating a research study. No, for sure. Look, we have that. You know, I like that you mentioned that about the HRV in particular because I think it's one of, even though it is not a primary, as you say, like, endpoint, it something that a lot of people are coming to look at and realizing like okay, i need to see the long game on it, what's happening.

Tell us a little more about what you have seen with the use of nitric oxide over time and adjustments with HRB. Well, we know if we deliver nitric oxide, that we can dilate blood vessels, and we could normalize blood pressure in hypertensive patients or patients with an elevation in blood pressures.

If you have normal or low blood, there's no blood-pressure lowering effect, which is very important. We know we reduce inflammation. In fact, I have a number of patents on the method of reducing inflammation We can normalize triglycerides.

Patients have a trigliceride greater than 150. They see about a 27% reduction in 30 days. Again, it's a patent correcting hyperhidemia. What else? We see a mobilization of stem cells.

We've seen an improvement in vascular function, but a 20% improvement of endothelial function within 20 minutes of taking my lozenge. Peripheral neuropathy.

What else? Remediation for kidney disease. We stopped selling protein in the urine. In one clinical pediatric case, we saw a resolution of heart disease within five months.

You see about 11% flag regression in carotid arteries after six months? Wow. That's just a small sample we've been able to demonstrate. Right, right. I mean, I've seen, all kinds of different things and turning around.

And one of our big things here at the practice up in Wisconsin is we work with a lot of Lyme patients and see a lotta neuropathy from Lyne. So I look at it as one our adjunct tools to kinda help along with the process.

What have you seen personally in your research looking at Lymen in particular? Well, it's a complicated disease. A lot of times it is under diagnosed or misdiagnosed.

But with any disease there is always a vascular component. And people who have poor circulation are typically more susceptible to not only Lyme infections but other pathogens.

Because poorly vascarized tissue is more suitable to infections. And part of our innate immune system is going to that side of the infection. Our macrophages, in its fills, produce a lot of microcoxidin.

It's a bacterium. If it binds to the iron-silver centers, the bacteria shuts down the respiration. But if that person has vascular complications or can elicit an immune response, then they become susceptible to those infections.

So that kind of explains the risk of certain patients get Lyme or other infections, but I think the remediation process might be something that can certainly help.

because we're going to fully oxygenate that tissue. We're gonna dilate the blood vessel from the root capillaries. You're gong to activate an immune response and we are going help with the detox, healing the pathogen and eliminating the toxic metabolic byproducts of those infections.

I mean, it makes perfect sense to have it as part of the whole protocol, and this is something that we do look at here as well. Another thing that I kind of gave you a little pre-knowledge on this one that was going to ask this, but you know, I also, in my Washington state practice, see a lot of women for hormone issues.

And one of big things that, of course, we see with circulation of blood flow You know, with men we've got erectile dysfunction. With women, we also do have erectiles dysfunction that we're not really talking about the circulation to the clitoris.

We're talking circulation even to labia. And, you know with the skin care products, like your serums, that you have the nitric oxide. I'm going, why are we not talking this for vaginal tissue?

What's going on here? Well, look, when you reach andropause, whether it's in men or women, we lose the natural production of testosterone in man and estrogen in women.

And that causes a lot of, you know, symptoms, ED in the men and odd flashes and things like that in woman. So what we're finding is it is not just enough to restore the hormones, testosterone or estrogen.

We have to the restore natural product of nitric oxide in order to gain the cardio-protective benefits of hormone replacement therapy. Because if you just give hormone replacement therapy, you don't fix the enzyme in the lining of odd vessels, a lot of times you do not improve sexual dysfunction in men and women.

So in, in man, obviously, we have to dilate the butt vessels of the sex organs. And that dilation comes from the production of nitric oxide.

Lyme, Circulation, and Sexual Health

And then in women, what we look at is not just libido and arousal, but orgasm. When we looked at the hemodynamic effects of orgasms in woman, you mentioned that you have to have an increase in pressure, clitoral pressure and radial pressure.

So that pressure comes from an increasing volume. That volume comes form dilating ligaments. And that dilation comes for the nitric oxide. If you can't make nitricoxides in the vasculitis of the sex organs, women become inorgasmic.

They lose libid. And then, to the contrary, if we can restore the production of nitric oxide, they get better sensation, enhanced libido, better orgasm.

So again, female sexual arousal disorder is a symptom of nitrogen oxide deficiency. Makes sense, makes sense. I tend to look, of course, and a lot of women are going to be like, oh, nitric oxide serums.

And I've seen different iterations over the course of time for different companies and then I have seen them go away. So I'm very curious about with putting nitrous oxide boosting components into a serum, what kind of challenges do you run up to?

How can you maximize increased absorption on the skin? And what kinds of things have you discovered in the research to create your serum products? Well, look, there are a lot of these fly-by-night companies that come and go and try to create nitric oxide products, and they go out of business because their products don't work, because they dont understand the science.

And so, you know, I spent 25 years in academia as a professor of molecular medicine, really understanding how the human body makes nitroxide, what leads to its natural production, so that gives me a unique set of skills to great product technology that stores and re-pitches its nitroc oxide production and signals it.

So our whole goal, going back 25 years ago, was how do we restore the natural production of nitric oxide and give nitrous oxide at doses that are totally loose?

So when we do that, we're basically, there are no challenges because we are mimicking what the body would actually do. So we have an orally disintegrating tablet that produces nitroxide gas in the oral cavity.

And if you mentioned, if we make a dual chamber nitrile oxide theorem, because I think it's important to your listeners. Nitric oxides are gas. It's not a pill you can swallow.

It is not something you just take and hope your body makes it. That's the basis for the deficiencies. So our dual chamber, you have to keep these components separate.

When you mix them together, they come together to generate nitric oxide gas. Then when you apply it to the face or any tissue, it's going to fuse into the tissue.

It's gonna dilate the blood vessels. And you can actually see it working. The skin is gonna turn pink because it is causing a hyperemic response. We're fully oxygenating the tissues, we're dilating blood vessel, restoring normal vasculature.

I think that's really important to explain and cause I kind of jumped past that side of things because unfortunately that sometimes the problem of being a practitioner and thinking, well, doesn't everybody know that?

Um, let's, talk about that for a second because you know, we're told food is medicine and people are, are you, and I've talked to folks about trying to get more beets and trying and get my arugula, trying more spinach, but the amount of that, that we would have to eat to boost, you no nitric oxide production in the body is no one's gonna eat that much.

And so I would love for you to kind of explain the whole detail of how you actually get nitric oxide production from even the beet powders and things of that nature.

Yeah. Well, unfortunately, beets are probably the poorest source of nitroxide. So a lot of times the companies with the most expensive marketing budget have the least efficacious products.

Don't believe the TV commercials that you're seeing because they just simply don't understand the science. But there is a mechanism that consumers and your listeners need to understand that you can get nitric oxide from things like arugula beans from your diet.

But we know that we need at least 300 to 400 milligrams in a single bowl. And in 2015, we published a paper really trying to answer that question. What's arugal or spinach or celery or broccoli that I need eat?

to get that 300, 400 milligrams to produce nitric oxide to normalize your blood pressure or to improve blood flow. And what we revealed was that it depends on where you live and what vegetables you need.

So if you lived in Dallas or Los Angeles, you could eat five stalks of celery, get enough nitrate to lower your pressure. If you've lived New York, then you'd have to eat 30 to 40 stalk of celeries.

So there's regional differences in the nitrate and nutrient density of the foods we're eating. So it's impossible to predict or know. The other major kind of hurdle is that nitrates is inert in humans.

If you're consuming these vegetables and you don't have the right oral bacteria, you just excrete the nitrogen in your urine and your feces and in you sweat.

And so with two out of three Americans using mouthwash, With 9 out of 10, probably 99 out 100 people using fluoride in their toothpaste. And then 73% of the municipalities in the US have fluorite in your drinking water.

They're killing the bacteria. So you're not going to get any clinical benefit from swallowing a nitrate capsule, like many companies are selling, or trying to eat beets or arugula or spinach.

That's number two. Then number three, we need stomach acid in order to finish this process. In 200 million prescriptions for antacids every year, two out of three Americans are using over-the-counter ant acids, and it's completely disrupting mitral box head production.

If you look at the clinical data on PPI use, it comes to a 40% increase in heart attacks, broken heart centers. So the point here is it's very difficult to get nitric oxide from your diet because of the oral hygiene practices, because the pharmacotherapy.

Skin Care, Beets, and Nitric Oxide Supplements

So we're almost forced to supplement with a product that actually produces nitrous oxide for you. That makes sense. That make sense, I would love to hear you kind of explain to folks how a product actually helps you produce the nitric oxide because you know, we can imagine these things, but because of your scientific nature and background and studying this, you're gonna explain it so much better than me.

So I'm really personally gonna probably clip this part so I can repeat it to people because my explanation just always gets in the weeds. Please help us.

Well, look, there's two ways that human body makes nitric oxide. There's an enzyme in the lining of the blood vessel called nitrocoxide synthase. And this enzyme takes L-arginine, which is a semiacetyl amino acid, through a very complex five-electron oxidation reaction, produces nitrile oxide gas.

Then we get L citrate as a byproduct. So the problem is the older we give, the less functional that enzyme becomes. We call that endothelial dysfunction.

We've lost the ability to utilize arginine. But we're never out of argenine, so it makes no sense to take the supplement arganine because that would be like putting gas in a car with a blown engine.

Your problem is not you're out a fuel, you lost ability utilize that. So that's number one. Then number two, we talked about this redundant pathway of using nitrate for the diet, and we've talked the limitations of that.

So all the beet products on the market don't provide any nitric oxide benefit because of the things we discussed. And furthermore, most of these products in the markets dont even have any detectable nitrite or nitride in them.

These are what we call dead beets. We use them as placebo in our clinical trial. And then some people are telling you to take these capsules of beet powder, and they just don't understand the matter.

Because even if you had a concentrated beet power, say, you know, three to five percent concentrated in nitrate, You would have to consume three thousand to 5,000 milligrams, or three or six grams, And yet you only get seven hundred milligrams in a capsule.

So these companies selling you three capsules of this beet powder, I mean, it's ludicrous. And it would be humorous if it wasn't dangerous. Because it is disingenuous, and then they're putting a little bit of beet in a gummy or a chew and telling them it was nitric oxide.

I means, the numbers don't work. These companies don' understand the science. They're out there trying to take advantage of a growing market, expanding market.

They're interested in making money on the cheapest product they can. It doesn't work. And it can't. This is such a

problem in the natural medicine space and and it's one of them that you know it makes It's made me kind of getting frustrated with, what do I recommend?

How do do this? how do we know? You know, and this is when I like to use the podcast to be able to interview folks like you because now I have a face, a name and you know I can troubleshoot better there.

Now in terms of some of the surprising things that you've seen about nitric oxide, I would love to hear like even your own story. Any like wild, like, you're like wow I did not expect it to help with this or that.

Let's talk about those kinds of fun things. Well, I always talk about the study we published in 2011 in a pediatric patient, a 15-year-old kid at Texas Children's Hospital, who was born with a very rare genetic disorder.

And for 10 years, he suffered from severe hypertension, what we call resistant hypertension. He was put on four different medications, and he presented to Texas children's hospital in the pediatric intensive care unit in 2010. His blood pressure was 210 over 115. So this was a critical situation for this kid.

He was at risk for stroking. And so we had understood this when we modeled this in the research lab, that he was in a symptom of nitric oxide deficiency.

So we dosed this kids with our nitroxide releasing loss. Within four hours, his blood pressure came down to 130. And this was remarkable because I had different physicians in the room with me from a geneticist, a pediatric cardiologist, topologist and all these specialists.

And we watched in real time the blood pressure come down. We didn't change this genetic, we still had the inborn-air metabolism. But just giving nitric oxide to dilate the blid-dust normalizes blood-pressure, getting that to the pediatric intensive care unit.

And then furthermore, within five days, his kidney disease resolved. He was no longer spilling protein in the urine. And within 5 months, it completely resolved his heart disease.

This 15-year-old kid had a heart the size of a normal 15 year old. Within five months he had normal heart size and normal heartbeat. In his cognition, he started beating his dad.

We published that in The American Journal of Human Services in 2011. To me, that was the most remarkable really profound impact we had on this kid because the doctors were really out of the box.

They had nothing else to treat him. Wow. So who thought of it? Were you involved in the case in first place? It sounds like you were there. Were, were you?

I was involved. You know, the clinicians at Children's Hospital approached me when I Iwas at UT Medical School in Houston at the Institute of Molecular Medicine.

And really the beauty of Texas Medical Center is you've got clinicians who collaborate with basic scientists to try to understand kind of complex medical cases.

And in this case, they couldn't understand these collateral symptoms based on this diagnosis. So they brought me into the mix to try to help them understand this collateral symptom.

Then, obviously, we figured it out and we published a very important paper in Nature Medicine in 2010 where we solved the riddle of this condition. Once we understood mechanistically what was going on, then and only then did we start to develop rational therapies for them.

It was a team effort. Yeah, yeah, I would love to see this across the board. It would be so fabulous. Now have you heard from this kiddo? Do you know what happened since we're now 10 plus years past that date?

Now I still keep in touch with him and his family. PBS came to the medical center and did a special on us called Healing Quest. You know, we talked about his mother, started crying because it saved her son's life.

It allowed us to go to National Institute of Health and we got billions of dollars in funding to further investigate this rare genetic disorder. But yeah, I still keep in touch with him.

The physicians at Texas Children's Hospital still see him periodically just as pickups. He continues to take our product technology and that's the only thing that is managing his blood pressure and keeping him healthy.

I was going to ask, does he still have to take it? I mean, that's great. Yeah, this is a great segue because yes, I've seen the data where we declined on nitric oxide production and I have seen exponential data like over 40 or whatnot.

But my curiosity is, you know, with supplements in particular, because we're so used to medications, we take a medication for a time frame and then we are off.

Or, do I need this for life? How does it work? Like, what do you personally recommend if someone's just everyday Joe, doesn't have a blood pressure issue, someone who just wants to help optimize?

Yeah, I tell people there's only two people in the world who need nitrogen. There's the sick who want to get well. And then there is the healthy who don't think it's good.

So if you fall within one of those two, it is a good idea to be proactive and take it prophylactically. You know, for me personally, I've been taking, when I first made these discoveries, probably 20 years ago, this nitro toxin.

I take it not because I need it, because i don't want to need. But what we understand about physiology and medicine is that if the food you eat is replete in nutrients, and you're not exposed to the outside toxins, then you give the body what it needs to give itself.

But the problem is, since the 1940s, there have been surveys since then. The food grown in America has 76% less nutrients in 2010 than it did in the 40s.

So the point is the food that we eat is nutrient depleted. And then you've got herbicides, pesticides, you got environmental toxicants. You've 5G that creates a frequency that disrupts a lot of biochemistry and enzymatic reactions, including nitroxide.

And so you almost have to take a daily nitric oxide, just dilate the blood vessels with the inflammation of bay to maintain optimal circulation. It makes sense.

Case Study and Blood Pressure Research

And if you look at the trajectory of aging, and now I've been in the practice long enough where I started to see folks who had normal blood pressure, it starts to go up.

with age. And then we have folks like my dad who's going to be 90, you know, and he's had a quadruple bypass, all these different things. He's asking, what can I do because he doesn't feel great on the blood pressure meds?

And many people will have a cough, many will try multiple and nothing seems to work. This seems like something to logistically think about. Yeah. Look, we know 50% of the patients that are given anti-hypertension medications don't respond with an improvement in blood pressure.

I mean, that's indisputable clinical data. And when we look at the class of medications used to stream hypertension, their ACE inhibitors, it's called angiotensin-converting enzyme inhibitor.

There's ARBs, angiotensins, et cetera, blockers, calcium channel blocker, or really bad docs will give patients beta

block. Sometimes diuretics just unload the volume.

And so what we're finding is that these drugs don't work because their hypertension is not due to renal angiotensin. It's not do to calcite dysregulation.

Its due the nitric oxide deficiency. So if we give nitroxide, we dilate the blood vessels. And what I say is nitroc oxide fixes the physics problem of hypertension.

Because we all have a finite amount of blood pumping through the pipes. And if we lose nitric oxide, we have smaller blood vessels, smaller pipes, increased resistance.

And, if you remember back from your high school physics, pressure equals volume times resistance, so the volume stays the same. Resistance goes up because of constriction.

Pressure goes down. So, now, the Same volume. We decrease resistance by dilating the blood vessel. The pressure comes down, and it's really that simple.

Then you have to ask yourself, or ask the patient, why are you nitro-coxed up? You use fluoride in your toothpick. Are you using mouthwash? Are your taking in acids?

When you address those three things, you bring them back 30 days later, the blood pressure is normal, and now you can wean them off prescription medications.

It makes perfect sense. I'm glad you outlined that of things to look at that helps folks to really kind of nail it down and go, oh, okay. It's been obvious to me for 20 years, but yet most clinicians don't understand this because it's not part of their therapeutic armament.

No, no, it's not. And I don't think that I would have really understood it because I can if I look back at my training, granted, spent a few years since I was in school, but I Don't remember other than in physiology talking about nitric oxide, But not using as much and granted I'm a naturopath.

So we talked about herbs and we talk about boosting circulation. and really drivers, so things like ginkgo and things, like, you know, tonkwai and different herbs.

So I'm like well, I could see how those would be a great adjunct to using nitric oxide supportive therapies. For sure, it's a huge problem. I taught in medical school for a number of years.

And it's not part of the curriculum. You know, I taught a course called the molecular basis of cell signaling, but it was really only the MDP students.

We talked about nitric oxide and signal transduction and activation of second messenger systems. But the general medical school clients doesn't get this education.

And yet, so if they're not taught it, how can they use it in diagnosis and treatment? No, that's, I mean, a lot of what I've had to learn is on my own after school and having the podcast.

I do this, yes guys, just as much for me as for you because it helps me to really understand what's going on here. Now, of course, I get asked a lot back to I mentioned before about skin care.

And, you know, can we kind of ditch the Botox and all the things if we use nitric oxide instead because we've, we're working on our natural abilities to enhance skin?

And then I also will get the question about hyperpigmentation. So all the dark spots, all of like the liver spots. Have you guys done any research on seeing if that'll reduce liver spot production over time in the damaged tissue?

Well, the difference about what we do, whether it's our drug company, we're developing FDA-approved drugs, or our consumer products division, is we put our products through the same rigorous drug treatment.

Most supplement companies and skin care companies don't do this. And why don't they do it? Number one, it's very expensive. And number two, their products typically dont work to meet the need along clinical development.

So I think we have five or six published clinical trials on our skin care product. But what we're finding is that it opens up the blood vessels and improves oxygenation, improves collagen deposition, improved hydration, hyperpigmentation, kills the bacteria in the pustules for patients with acne.

Incredible scar remediation. What else? Mobilizes stem cells. So our whole philosophy is, look, if you give the body what it needs, the human body is regenerative in nature.

Sometimes we just got to get out of the way. But certainly it's a It's a viable and much safer alternative than Botox. I think it's creative how these people who are doing this, they make this acronym, or really an acronym but they shorten the word, but botox is botulism toxin.

It is a toxins. And why anybody in their body can potentially put a toxic, a deadly toxic in there body is beyond my understanding. I agree with you. I even saw in an esthetician's office something like, have you had your toxin today?

And I'm like yeah, probably 80,000 of them are not putting more in. And how do we even turn this into marketing? This just, it's mind blowing. Mind-blowing to me, but it but It's one of those things that I know women are like I won't give up my botox and I'm like alright Well, maybe we we work on some stuff in between because back to the circulation thing I always like this is circulation We you know by no means everyone can see all my marks.

I I love the Sun um But how can we help counter this in a way that we're? Oh Oh, so so comical us ladies were kind of nutty. Well, sometimes I won't put you on the spot there.

I will put on this, but I'm saying it for myself, of course. Now, last but not least, one of the things I want to get because I did go on in my practice some years ago.

I got a hold of some samples of the, the little pads that you test with your tongue for looking to see your nitrates. I think it was. Um, and then you put it to hold it together and you see the levels.

Is this real? Did, did I get hyped? Like, is this a way to actually tell us anything?

Daily Use, Hypertension, and Medical Training

Are we actually able to tell if we've repleted our nitric oxide using this thing to say for taking enough? Let me give you the history and the origin story of those test tubes.

I was the person who developed those tests 15 years ago. When I still at the University of Texas Health Science Center Houston, I filed patents through the university.

And because that's old chemistry, it's probably grease reaction. What we're doing is we put an instantified sulfanilamide on the unit and it reacts with nitride and forms this meso compound.

It turns pink. we thought, at the time, that would give us kind of a dosimeter of nitric oxide. Because when nitroxide is produced, it's oxidized to inorganic nitrates, put in our salivary glands, we have the right bacteria to convert the nitrate to nitrite.

So these are not nitricoxide test tubes. I abandoned the patents back in 2012. So when you abandon the patents, how many companies can manufacture those themselves?

So we're piggybacking on our mixed thoughts and still use them. But I don't use the pre-treatment, and my companies don' t use it anymore. And the reason I dont is because there's too many false positives.

What we are finding is you can light up that test strip if you have an active oral infection. It could be a symptomatic or asymptomatic oral infections.

So, we have the people come in, the 50 year old, overweight, hypertensive patient with diabetes and heart disease. We test him with the test strip and he lights it up like a Christmas tree.

He goes, oh, well, I'm good on nitric oxides. She had all the clinical hallmarks of nitroxide deficiency, but he's lightened up this test. And so then it made me think what's going on.

So we send him to a dentist, do a 3D CT cone vein, and is riddled with infections. And so what's happening is that immune response in the mucoses activating nitric oxide production, we're picking up nitrite in this saliva, but systemically he's completely devoid.

And, so, it's giving people a false sense of security. Really what these test strips are measuring is the presence or absence of these bacteria. So I don't use them anymore in these companies.

There are several companies out there using them. Look, it's a good engagement tool, and that's what we were using it. But again, these are companies who do not understand the science, can't explain to you what you're measuring.

They're calling nitro-cox-sectistrates, but it is not. Yeah, yeah. That's kind of how I played with it at first, because, you know, if you get something free, I mean, why not?

I'm going to play with that. Yeah. And so I decided, well, and it worked great for a minute, but obviously it's something, it was funny. Over the 18 years, that's the things I keep in the practice and the thing that I don't.

It's very telltale. Let's stick with what works, right? Exactly. Try new things. And so looking at what you've got, I'm like, you know, this is something we definitely want to share with, with our clients.

We definitely to want share all of your research because I, when I was looking on your website, and like wow, there's so much here that I could never, even read in a couple of months, i'm going to have to dive in.

So let's share it with folks a little bit more on how to find you a, little more, on, your, research and of course, how, to, find your products. Cause we're going, put that in the podcast notes at drjcrossnd.com.

You know, my objective is education and awareness and to communicate the science that I've spent the past 25 years, you know discovering and the innovations we've brought forward.

So I encourage people to subscribe to my YouTube channel, Dr. Nathan S. Bryant, Microcoxide. I just published my sixth book, it's called The Secret of Micro-coxide, Bring the Science to Life.

It's on Amazon, Barnes & Noble, wherever books are sold. Follow me on Instagram, Dr. Nathan S. Bryan, LinkedIn, I'm on PubMed, published over a hundred peer-reviewed papers and assignments.

And then for those interested in consumer products, it's Emily01.com. That's the letter N, number one, letter O, NumberOne. Well, thank you for putting all that info out.

I mean, the YouTube, yes, I could geek out very, very hard there. Now, of course, have one last question, just kind of for kicks. What does S stand for?

S in my middle name? Yeah. Nathan Scott, three first names. Gotcha. That's right. Hey, you know, some people call that power names. That's good. It's great.

Well, what I found is that people have stolen my identity. And we're using drnathanbryan.com to redirect people searching for me to a competitive website.

So I've made an intention to put the S in there. I own the domain and the URL to discriminate from these people trying to monetize what they've been doing.

Oh, it's so sad. I hear this over and over again for folks, and I'd be lying if I said I didn't want to know your middle name just so that we could differentiate a little bit.

Because at the end of the day, It's all about helping folks sleuth out who's legit, who is not. And this is where I definitely find those things to be important.

There's a lot of companies out there that are deceptive. They don't understand the science. You know, you've got tech CEOs who have no science background and they're talking about nitric oxide.

It's funny. I take it lightly, but it's really serious condition. You hear all the time that people will say, Nathan, when you talk about hydroxide and how important it is, nitroxide doesn't work for me.

And they go, well, tell me, I've been taking this product that I saw advertised on TV and it hasn't helped my blood pressure, it doesn' t help my sexual function.

And so it doesn't work, nitric oxide.

Testing Nitric Oxide and Product Development

That product doesn' work. So that product failed you, that company failed. And that can kill an entire industry because we're developing these technology into prescription drugs through the FDA.

If people and the public get the notion that nitroxide isn't important, it does'nt work it creates an insurmountable hurdle to get safe and effective drugs and product technology approved.

So these companies have to be responsible and stop promoting beads or these bead products as nitric oxide because they're not. They don't work because the can't because these company's don' understand the speed.

And I have heard that I am so glad you mentioned I mean I've heard it over and over again and that's what people think and my husband brought home something he heard on a podcast and was like hey try this bead powder I'm like Save your money.

And it's yet so much money, too, for these things. It does make me cringe. You know why I'm doing this. I want people to hear all of what's legit. Now, in terms of FDA and all that, I know that this process can take a long time.

What do you expect in term of timeline for folks to look at prescription-based items out there? You know, I've been at this for a while. We had a drug in phase three clinical trials for COVID, and we established safety of that oral formulation.

So now we've got a drugs, we're moving into phase 3 clinical trial for patients with ischemic heart disease. And we'll start that drug study probably first quarter of next year, in several months.

And it's a very simple study. It's 30-day study proving we can prolong exercise-induced injury without tolerance. So if things go as we expect, I would expect we would file our drug application end of next year and hopefully have a drug approved on the market by early 2027.

And then we've got a drug for Alzheimer's we're developing, designing the clinical trials now. You know, that's a little bit bigger, more capital-intensive study, but in fact within probably two to three years we'll have that clinical trial finished.

And, then I'm making a topical drug, for diabetic ulcers and non-diabetes. and I think probably within three years we'll have that completed. You know, these are big time projects.

I've been very intentional, I have bootstrapped, funded this myself for the most part, but these drug studies take tens of millions of dollars and many years.

You know, in the process of raising capital, I've turned down money from private equity, from venture capital because I will never abdicate what we're trying to do to an outside firm that we gain control.

I'm not building it to sell it. So I am not interested in private-equity venture-capital money, but I building to it do the right thing and to make sure that everybody around the world has access to safe and effective product technology.

Awesome to hear. That's awesome to here because at this day and age when we're seeing different companies come up, then boom, they're sold within a couple of years after they make some money, boom they go and then things happen or companies supplement companies.

Yeah, and they show the technology. What we do is extremely disruptive. And it's not outside the scope of imagination that a big farm, a billion dollar company would come in, bring me a million dollars and sell the technologies because it is going to disrupt their market.

Yeah. Yeah, but I'm not. Good to know, good to now. That speaks volumes. And definitely in terms of choices that I make, things that recommend to folks, and just definitely how I'm going forward in this, because unfortunately, from where this industry started, even over 20 years ago when I got into the naturopathic medical school till now, it's disgusting what's happened.

Integrity and honesty and trust rules the day. And so I predict as we start to continue to advance the science and start calling out these companies that are putting forth these products that don't work because they can't, they'll go away.

The cream will rise to the top. There'll be a flash in the pan, but it's not sustainable. Because of what we're doing, what you're podcasting, reaching people outside mainstream media, consumers become informed and aware It makes sense.

It make sense now, of course, you kind of drop the bomb on the diabetic ulcer topical and there's one more question I have to ask because I am one of those folks.

I see a lot of folks who are really sensitive to taking things orally. And topical tends to be sometimes more of a preference because nervous system fear, let's just put it that way, of taking things and having reactions.

Can you have a nitric oxide product that you just take topically instead of orally and replete at the same manner? Probably not, because you understand nitro oxides again.

Yeah. There's a limit of diffusion of the nitric oxide that we're applying topically. It's only going to diffuse a couple of millimeters into the tissue.

But the point is, it's not going reach the conduit, the resistance, arterioles and arteries. it'll dilate and recoup capillaries and dilates superficial vessels.

Yet, probably not. Because what we are developing in terms of a topical drug has to have a local effect that only affects where it is applied. So if it's a topical that becomes systemic, then that's different class of therapy.

Yep. Makes sense.

FDA Pipeline, Topicals, and Closing Remarks

So those of you out here who are thinking like you could use this serum for your face, it is not going to get in internally, you've got to use both. That's right.

It's the inside out because we want to dilate the blood vessels internally. And that is the point of the lozenge. We want it to hit topically and superficially.

Makes sense, makes sense. Wow, my mind is blown. I'm gonna get, I know you have six books and definitely folks I will put all of them at drjcrossnd.com I have them listed out so you can see all them because it's just such fascinating information and what I've been able to dive into just blows my Thank you again so much.

Thank You. Well, good luck with that documentary today and we will look forward to putting this podcast out really soon. Okay, thank you. You're welcome.

I'm gonna stop. Hey health junkies, I'm asked all the time what brands I use from supplements to toothpaste and clothing. 90% of the stuff that's sent to me to test out doesn't pass my standards of being owned by the original owner, at least family members, or at friends together, and especially love companies that have.

Hey health junkies, I'm asked all the time about what brands from supplements to toothpaste to clothing that I use. 90% of the items that are sent to me to test out do not pass my standards.

You might be wondering, what are your standards? Well, like companies that small companies, they're still family owned or at least owned by the original owners or someone from that group to maintain the standards, Now I also love a company with a great story of how the business came to be.

I like things that are high quality, non-toxic, as well as transparency. Major big deals. Now, above all, I love things at work. So, Made in the U. S. is definitely a major bonus, but while I have worked with the couple of different clothing companies over the years, These companies sometimes need support in other countries to get off the ground and it's really important about how they treat their companies, sometimes more than being 100% made in the US.

Nevertheless, I'm working on putting together a list of companies that I like their products and what they stand for along with discounts for you to try them out.

Full disclosure, i do make a little commission if you buy any of the items on the page and this money goes back to helping me keep producing this podcast.

If you're curious about a few of my favorite apparel companies for life's adventures, check out the website, thehealthpodcast.codeadx.me. That's the health fix podcast,.codeadx.me, and if you decide to buy anything, tell them I sent you by entering the code healthfix.

All together, one word. All right. Thank you so much for watching the podcast. You have a great day, whatever you're doing. Hey fellow health junkie. Thanks for listening to the Health Fix Podcast.

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