Lyme Disease and Energy Loss: The Mitochondria and Oxidative Stress Connection Transcript

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Podcast Introduction and Episode Focus

One is eating an anti-inflammatory diet is just really important. Yeah, you can cheat every now and then again, with your audience probably having a lot of physiological challenges.

Don't even cheat. Stick hard to that either AIP. I think Dr. Gundry is even a little bit more aggressive than the AIIP autoimmune protocol. So stick with that.

I think that's really valuable. Take creatine every day, I take vitamin D, A, K, and E like the basics. And then of course my product on a regular basis and an exercise, right?

And if it's again, if you don't need to be, you may not need be in a position or be a good position to overstress, but put some stress if its a walk and it may be little bit longer or a little faster.

Like, you need to have motion, that blood flow adds value, allows your body to do it. We were designed to move, we weren't designed do what most of us do these days.

Hi, and welcome to the Lime Bites podcast, where we shine a light on the misunderstood science of Lyme and other vector-borne diseases, as well as the truths that many still miss.

I'm Dr. Mariah Hinchey, naturopathic physician and fellow of the Medical Academy of Pediatric Special Needs. I specialize in treating chronic Lyme disease, as well as other complex inflammatory conditions.

In this podcast, we break down what's working and what not. We share the facts that most people miss, We challenge outdated thinking, and we give both patients and practitioners the tools to heal smarter.

So let's get into it and change the way we heal Lyne. Hi and welcome to another episode. Now, when we're talking about Lyme and other vector borne diseases, we are not just talking infection.

We are talking what those infections do to the body. As you all know, they drive persistent inflammation, generate excessive oxidative stress, and impair mitochondrial function at a cellular level.

Chris Spurs and ESS-60 Background

And when that happens, the body loses its ability to produce energy, regulate the immune system, and ultimately to heal. This episode's conversation is focused on targeting that deeper layer of dysfunction, cooling oxidative stress and restoring mitochondrial function.

And joining us for this conversation, is Chris Spurs, founder and chief scientist at My Vital C. Additionally, Chris is an author, a podcast host, a longevity expert, and he's known for his work with a Nobel Prize recognized molecule designed to support cellular health and longevity.

Welcome, Chris. Thank you so much for joining us. Dr. Moriah, thank you for having me. I'm excited. Glad we got to meet in New York at IHS and then if we ended up putting this together with the amazing Christie.

So thank Thank you again for being here. So let's jump right in. I know we don't have a lot of time, but I want to start with discussing how inflammation, oxidative stress, and mitochondrial dysfunction are responsible for many of the core symptoms and negative effects of a Lyme infection.

Yeah. Well, so I've actually put together a presentation, So I'll hop into that if that makes sense. That would be great. All right, so great. Lime Recovery Blueprint is kind of like a rough title that we have here.

I was always told, well, one, to have some sort of kind design of how much of what we're going to do together. So a little disclaimer, of course, there'll be a bit about me, the downstream effects of say, Lyme disease or vector borne diseases.

The molecule that I've been working with since 1991, a full 34 years, pretty amazing how it works and then kind put all of this together Anything, anytime I'm talking, you know, I'll be talking about this molecule and ultimately this molecules in a product that we have.

The FDA has not evaluated our product. It is not intended to treat, diagnose, cure, or prevent any disease. I like to say I will probably share a couple of anecdotes and I just share, hey, just assume this won't happen for you.

Dig into the research and you'll probably have a link for ya at the end of the presentation if you're interested. Just a little bit about me. As I mentioned, I've been working with this molecule, ESS-60.

You can see this beautiful molecule. There's actually a book called The Most Beautiful Molecule written about this molecular. We'll get into what that is here in a second.

I did write the book, Live Longer and Better. Your journey to living longer and better has never been more achievable than today. the story of this molecule and kind of my journey into the longevity space.

I have a podcast called Live Beyond the Norms. So I'm excited. You're going to be on my podcast soon. And I am putting stuff out on Instagram and YouTube.

It is a lot of work and it's great to kind give that information back to people. I was recently on Dave Astray's podcast, so that was a super exciting experience.

For those of you who don't know, he's considered the father of biohacking, the founder of Bulletproof Coffee and now Danger Coffee. So a pretty spectacular opportunity.

Now, when we think about Lyme disease and vector-borne diseases, they're really kind of three kings. You already touched on these. By the way, I put this presentation together and haven't run it by you, so if there's anything that you need to tweak because you are more of the LyME expert, i'm talking about how ESS-60 might play a role.

We've got chronic inflammation, right? So one of the things these vector-borne diseases are good at is being a master of disguise. Your immune system knows that they're there, but can't really resolve them in a lot of cases.

Like that's where you come into play. And this ultimately ends up in an immune system that's reactive and creating what's called a cytokine storm. This is the thing in the middle of COVID, the cytoking storm was the things that was actually causing the most damage as the body was trying to defend itself.

So that is really kind of this persistent inflammation, joint inflammation and neuro-inflammation, all of the kinds of things you get feedback on on a regular basis.

This kind of ties into this cytokine storm kind also drives oxidative stress, this ongoing oxidate of stress and really starts depleting your glutathione.

So glutothione is a master antioxidant. It's good for detoxing, immune support, cellular repair, otolimidocondrial function. You can see, we'll be talking about that in a second.

And so that is the oxidated stress that we see. And then in terms of mitochondrial dysfunction, the mitochondria is the most sensitive part of your cell.

And when they break the lights go out, right? Like the cells don't operate. You can imagine if you take the engine out of the car, there is no running car.

It's just something that sits there and does nothing. damage through this inflammation, this oxidative stress, but it also takes some of the components that your mitochondria need to generate energy like manganese and lipids.

It has this hunger and is stealing nutrients for them. And we'll be talking about ESS-60. We believe it's involved in membrane stabilization, free radical sponge.

we actually know it can hold up to six negatively charged particles and then really kind of lowering that cytokine storm. I don't know if all this makes sense, all these checks, anything to add to that?

No, it all makes perfect sense. And honestly, Chris, this is what I talk about all the time when I'm presenting to other medical professionals with all of the things that we have to be looking at and the actual changes in the terrain that need to addressed and why we need just stop focusing on killing, killing killing all time.

How ESS-60 Works Against Inflammation and Oxidative Stress

Are you ready to revolutionize your approach to diagnosing and healing complex chronic inflammatory illnesses in both adults and children? The Lime Bites Symposium is your gateway to cutting-edge education, groundbreaking research, and innovative therapeutic solutions.

Join us at LIME BITES SYMPOSIUM. at the Fort Lauderdale Marriott, Pompano Beach Resort and Spa. Lion Bites is the premier functional medicine conference on complex, chronic, infection-driven inflammatory illnesses.

This year's meeting is jam-packed with leading industry experts discussing lung COVID, mycotoxin illness, PANS Pandas, as well as Lyme and other vector-borne diseases.

This conference will arm you with the knowledge, clinical pearls, and practical solutions that you can implement immediately into your practice Monday morning that will literally change your patient's lives and get them on their path to true healing.

So join us at Pompano Beach or virtually from anywhere. Register now at limebites.com. That's L-Y-M-E-B- Y-T-S dot com. It's got to be support, because there are so many things that are going wrong.

So this, of course, begs the question, what is this ESS-60 molecule? Again, I've been working with it since 1991. The molecule was discovered in 1985 at Rice University here in Houston.

That's where our lab is based. And the three scientists who discovered the molecule, Dr. Smalley, Doctor Curl, and Doctor Croto, went on to win the Nobel Prize for the discovery in 1996. And you'll notice here that my lab actually started producing it in 1991, a full five years before the Nobel Prize was awarded.

I am not a very braggadocious person. So this is the biggest bragger you're gonna hear from me. It is not unreasonable to suggest that because we were delivering commercial quantities of this carbon nanomaterial, ESS-60, to research institutions around the world, scientists actually had the material, could actually run studies and tests and experiments and could understand how valuable the materials was, and that led to them getting the Nobel Prize.

So that's as kind of braggadocious as I'll get. Now, this molecule is amazing. The way I describe it is it performs as well or better than the current best material in almost every application.

It makes better inks, better batteries, This is often where people get nervous. It's like, wait a second. Did I just like switch, switch interviews? Nobody who's reached out to you and is, you know, struggling with Lyme or some other vector borne bacteria is like hey, I wonder what part of my car battery I should be taking on a daily basis for my health.

Right. So, and I'll be honest, the story gets a little worse first. This shape right here, front and center is the same shape as benzene. it's not the chemical formula, but the shape.

And in fact, you can see it occurs a lot of times in this photo. That's seven times. It actually occurs 20 times and this full cage, the soccer ball like cage and benzene is ubiquitous in our society and necessary for modern society.

And if you have any doubts, just kind of glance around you and think of anything that's plastic or notice anything as plastic gone because the benzine ring is the foundational molecule.

Many medications have the benzing ring as a foundational molecular, including aspirin. So we don't have modern society without it. It's everywhere. And that's great, except when benzene is on its own, it's known to be toxic and known be carcinogenic.

So this shape occurs 20 times on the exterior of this ESS-60 molecule. They thought it would be TOXIC. and they put it in a toxicity study. This is, I promise, that is the worst.

Now the story starts getting a lot better. Um, it actually starts getting a whole lot better. Three pieces came out of this toxicity study. First off, the test subjects that they gave it to, in this case, Wistar rats lived 90% longer than the control group.

So the single longest longevity experimental results on mammals in history, peer-reviewed published research is because of. This ESS 60 molecule dissolved in olive oil.

And I'm very proud to share my lab provided the material and my lap is mentioned in that original study, That's amazing. Let me interrupt you. I have one question.

Whatever made someone think, here's something that appears almost to be a toxin, right? Like benzene is a very significant carcinogenic toxins. What would ever make you think to give it to an animal, like to a mammal, to rat, anything living?

So because it's great in inks, batteries, tires, and photocells, right? They thought we might be, we as a man might working with it on a regular basis.

I would love kind of a nickname of this is a bucky ball. It would be very cool to have a Bucky battery. That just sounds really cool. So they thought man would working it with on regular bases.

And if you think you're gonna be working on it regular base and you suspect that it might toxic, you need to understand is it toxic? So remember, this study was a toxicity study.

That I missed. They were convinced these rats were gonna die, right? And then they were going to write a report. Actually, it's a great time to interject.

I love to give credit to these researchers because, yeah, let me skip ahead to this charge. So we'll do this because this is a Three groups of rats, right?

One group was given water, a control group. Another group is given olive oil, semi-control group, and then another group given the ESS-60 molecule with olive.

And that's the group that lived out 90% longer. Remember, this is supposed to be a toxicity study, so If anything is ever true, especially about a toxicity study, when all of your water control rats are dead and all your, quote unquote, toxic rats, are alive, the molecule is not toxic, right?

There's zero doubts at that point. So instead of ending the test here right at about the 32 month mark, that's an average, so there's a little bell curve around it.

They kept doing the animal husbandry for about two and a half more years to keep these rats alive, right? They were like, when are they going to die? In reality, they were down to two more rats.

One of them died. They euthanized the last one so they could finally publish their results, so it's pretty fantastic. Another thing I like to point out, right?

Olive oil is kind of all the rage. You've got Dr. Steven Gundry talking about olive oil. you got Brian Johnson selling an olive. Well, in fact, I love what Dr Gundrey says.

He says the purpose of food is to get more olive into your mouth. Right? Isn't that great? So here's an 18% extension of life and Wistar rats because of olive oil.

I would agree. The purpose of food is to get more olive into your mouth. Now this is already a fantastic result. We're the, the other piece that's really pretty amazing is a typical Wister rat lives out to 32 months, right?

And has a known amount of tumor mass in its body. And here you can see in this graph, the tumor mass is growing as time goes on. Even though the ESS-60 rats lived out to 62 months, none of them had any tumors, right?

So if you were to project this graphic, like there should have been a mass of tumors in these rats and there was zero mass. None of the had tumors. Now, I've told that story and people said, oh, cure for cancer.

And my immediate response is no. And then I follow that with another no. There's a big difference between dealing with the cancer that has metastasized and potentially being like this suggests a cancer preventative.

We know things as simple as good exercise, good nutrition, and good sleep are cancer-preventatives. This piece of the study just throws this ESS-60 molecule into that arena.

I will add, it is a petri dish study that I'm going to talk about. Petri-dish studies are the lowest possible study, right? But it is relevant, I think.

So, in a petri dish, they have cancer cells and healthy cells, and they introduce an anti-cancer agent, which is a poison, right? You're hoping to poison the cancer before the healthy cell.

In the presence of the ESS-60 molecule, there's increased efficacy against the cells. And protective effect for the health cells So what that means is in the present of ES-S60, more cancer cell die, less healthy die.

And we have a kind of a rough idea of why that might be going on. And it's related to the mitochondria and what we believe the ESS-60 molecule is doing in the Mitochondria.

So pretty profound results so far. I want to talk a little bit about this kind cool transition. That study came out in 2012. Mid-2013, we start getting phone calls from this crazy, wacky group of people called biohackers.

and I can say that affectionately now because I am a bio hacker. And they were like, hey, how much of this should I take? And my business partner and I were conservative carbon nanomaterial scientists.

And what we heard is, Chris, How much that stuff that you sell to research institutions around the world to put into inks, batteries, tires, and photocells, And we thought the answer was zero.

Longevity Study Results and Safety Story

We actually added not-for-human consumption to our labeling in mid-2013. So think about that. From 1991 all the way to mid 2013, we don't have to have not for human consumption on the labeling.

Now we add it. This created a very unique situation where we were getting two to three phone calls a week that sounded kind of like this. Hey, Chris, my knee pain is gone.

And I'm like, Joe, you mean the knee-pain of your rat? Because it literally says not for human consumption on the labeling. Joe was like yeah, hey, if my rat weighs 275 pounds and does HIIT training on Wednesdays and Fridays, should my rats take more on a Wednesday and Friday?

So we knew what was going on. And the reason we allowed it is because it was clear in the literature that this material is safe, including this very particular study, toxicity study quote unquote, where the rats live 90% longer than the control group.

Quarter after quarter, my business partner and I are getting together. Do we want to get into the supplement industry? A, I think generously describe the Supplement Industry as challenged, right?

Like you're in the space, so challenged might be generous. And so quarter after a quarter we're like, we don't want get in to this space. And in fact, it wasn't until 2017, and I'll talk about this kind of YouTuber that changed everything, but in that interim period, I found a peer-reviewed published research paper that showed that 50% of the supplements that were on the market, this research group purchased, didn't have in them what they said they had in, right?

That challenged, again, as being generous. So we're used to delivering commercial quantities of carbon nanomaterials to research institutions around the world, highest level, right?

They have the equipment to test it. They know we shipped, you know, how to tests what we ship them and confirm that what promised is what shipped. And so we just kept saying no quarter after quarter.

And then finally in 2017, a guy with a big YouTube follower following. He was actually in the Bitcoin space, but he started talking about all the benefits he was getting taking it on a daily basis.

And our phone went from those two to three calls a week to 10 calls. So now we look back at that quarterly meeting and we looked back that research paper where 50% of the supplements didn't have in them what they said they had in.

We knew that was gonna happen in this space. Were the oldest and longest manufacturer of this molecule on the planet. we have the lab, we've been delivering lab quality materials.

So we decided, well, We asked ourselves two questions before we decide to get into the industry. The first one is a moral question. Are we comfortable selling it?

I take it, my wife takes it. Everybody on our team here takes. By the way, not a requirement. Like you don't, you know, clock in and take your shot of my vital C.

It enhances your work production, right? It actually, it actually does. I'm about to share a testimonial video, video from a Dr. Young. Where he says they believe the product should just be in their break room for their employees.

Like that's how important it is to them. So, so yeah, I'm comfortable selling it. And then the next is the legal, the FDA and the FTC. You got to cross the T's, you got about the eyes and you'll hear me crossing and dotting eyes throughout this presentation.

Cause we have to be really careful. Then we did bring this to market. Now I do have this. Dr. Lane Young. at our booth at A4M, which is in Las Vegas. A 4 M stands for the American Academy of Anti-Aging.

Unfortunately, I can't set it up so that you can hear it, but here's what he said. And obviously I've listened to this video a number of times. In fact, he told me this and then I was like, Dr.

Young, have to record this. Chris, I don't care if you're male, female, pre-surgery, post- surgery, cardiovascular disease, or otherwise healthy. Your product is reducing elevated HSCRP numbers.

That stands for high sensitivity C-reactive protein. I'm sure you deal with that regularly. He not in this video of subsequent conversations said from nine, an HSCRP of nine down to 0.9, which is in normal ranges in four to eight weeks.

He also says that they're seeing improvements between 20 and 60% and HRV. So heart rate variability and sleep, all of these incredibly important. And as I mentioned already, he said, we believe it should just be something that we keep in the break room for employees.

Now, HSCRP often associated with cardiovascular disease. I had a conversation with an oncologist after kind of this happened and he shared that if you have an HS CRP of nine, we assume you of cancer until we prove otherwise.

Is that a marker that you track and is elevated? Are you suffering from Lyme disease or another complex chronic illness and aren't sure who to trust when it comes to herbal supplements?

Hi. I'm Dr. Mariah Hinchey, founder of Lime Core Botanicals. As a naturopathic physician specializing in complex, chronic, infection-driven illnesses like Lyme disease, I needed herbal medicine I could truly trust.

That's why I formulated LIME Core botanicles. where our herbal tinctures are handcrafted in small batches right here in Connecticut. We use the whole herb, never isolates, to preserve the full spectrum of medicinal compounds.

Every single step from sourcing to extraction is done with precision to ensure maximum purity, potency, and consistency. These are the same herbal formulas I used to heal myself and have used for years to help my patients and family members heal too.

And now I'm making them available to practitioners and patients everywhere. Lymecore Botanicals, herbal medicine you can trust from a doctor who lives this work.

Learn more at LymencoreBotanicles.com Yeah, absolutely. And we see it elevated in a lot of patients that have vector-borne disease because of the significant inflammatory nature of these diseases.

If you get it done somewhere like Quest, you'll see under the description of what the numbers mean, if it's greater than 10, it actually says that this number could suggest a chronic infection or an active infection, I should say.

Yeah. Yeah, so we're, in fact, I'll talk a little bit about this later, but we are working on doing a clinical trial on HSCRP. Not only do we have Dr.

Young's testimonial, there is in-fact peer-reviewed published research showing reductions in HS CRP in beagles, right? So a pretty large mammal, you know, compared to a rat.

So like, this is, we were excited to be going down that path. I will share kind of one other testimonial. Gwen is our largest distributor in Houston. She originally purchased the product for her dog with no intention of taking it.

Notice such a profound difference in her dogs that she decided to start taking. And I like to point out, like this is new. This is, I know this, probably the second time you're Dr.

Moriah hearing about this. You should have like, oh, wonder what part of this placebo because the reality is placebo affects everything. It affects the medications that your doctor prescribes.

Do you believe in them? That makes a difference. The supplements, your workout routines, you whatever daily routine, all of it matters. And we're subject to the principle, but dogs aren't.

Right?

From Research Material to Supplement Market

Ironically, they're not smart enough to have this placebo of I got my dropper, so I should have more energy today. And I shouldn't be, you know, feisty or whatever.

They just act the way they feel. So Gwen starts taking the product and, and I'm going to share, this is probably the worst testimonial about a supplement you're ever going hear.

But she, but she said, I did a video with her and she shared that at the three month mark, she didn't really notice anything until she stopped and kind of took stock of her life.

and just like, well, I am working later, I'm waking up earlier, and I was never a morning person. And here's the worst testimonial about a supplement ever.

I cleaned my garage. So we don't use that in any marketing literature, but it means something like cleaning your garage is potentially hot and sweaty, or you're in Connecticut right now, cold and miserable.

Like it is a big deal. One last, I'll blow through this one. Kyle Zagradsky, he's a owner of Osteostrom, which is a global franchise that helps women with osteopenia and osteoporosis.

So build bone density. His son brought home a dog. You can kind of see here, they took it to the bed. It was showing the signs of retention on the surface of its brain.

Its balance was off. it was dizzy. Could barely eat. Three days after he got the dog, He got our product. He was giving the dog two to three doses per day.

And at the time that he wrote this, it was 80% better. Really, the vet was like, It seems like a miracle. The other quote that I like kind of similar to Dr.

Young's, we just believe we should provide it to our employees. Kyle shared that He will never not take our product, right? So he's in the health space.

So I think that that is important. Now, How might this be working? I don't know if I've mentioned, but our most consistent testimonial is people take the product in the morning, report mental focus and energy during the day, and then better sleep that night.

We all know that sleep is good for your mental, physical and emotional wellbeing. So that was as I'm stepping into this role, this new role of being the chief scientist of a health and wellness company.

That was the first place I landed. The next, I was trying to figure out why might these rats have lived longer. So let's look at the medical community and let us look what they think about aging.

And they do not all agree, but they tend to think of it as an oxidation and an inflammation process. oxidation and inflammation, two of the three key things that we're seeing as outcomes of these vector-borne diseases.

So in terms of antioxidant, there's an ad hoc study showing our product to be 172 times more powerful than vitamin C, and there is peer-reviewed published research showing it to 125 times powerful that vitamin c.

I'm in Texas, we put a big old check mark on antioxidants. In terms inflammation Here's some of the crossing the T's and dotting the I's. We have to be really careful when we talk about inflammation because the FDA equates conversations of inflammation with the diseases of information, which are also the disease of aging.

So like arthritis, Alzheimer's, cardiovascular disease, cancer. If I come here and say we address inflammation, the FTA hears me claiming, weak your cancer, we cure cardiovascular diseases.

we are not claiming that. There is so much research that would need to go into that and frankly, really expensive research in order for us to claim that.

The FDA does allow us say that we address exercise-induced inflammation. So we've all had a tough workout or maybe just walked farther than normal and woken up that next day and felt that sense of inflammation in our body.

the FDA allows us that say we addressed that type of information. And then we finally landed and this is gonna pull all things together. on the BOSS theory.

So buffering oxidative stress system. Let me change slides here. Buffering, oxidate of stress. Here's what drives it. We know from peer-reviewed published research that this ESS 60 molecule gets into the mitochondria.

we also know, from way back in the 90s, that it can hold up to six negatively charged particles on, the exterior of this cage and what that looks like.

Right. I know you know this the mitochondria is the powerhouse of every cell. There's between 50 and 5,000 mitochondrion every sell in our body. Except for our blood cells which have zero and our brain and neurons which half 2 million I it's fascinating how much energy are nervous system uses relative to our other systems now.

like any energy source, powerhouse of every cell, like energy sources, there is a negative byproduct. You think about a car going down the road, it's got exhaust, you think of a power plant, its got a smoke stack.

In the case of mitochondria, is reactive oxygen species. Now, the way I picture these, they're like little bumper cars, and if they are left to their own devices, their running around the body and everything they smack into, that cause oxidative stress, oxidate of damage, ultimately inflammation, right?

Which sounds horrible, and it is. And like so many biological systems, mitochondria has a way to manage this. That is with the antioxidants glutathione and melatonin.

These are key antioxidants inside the mitochondrion. I like to pause here because melotonin is the sleep hormone. Remember, one of our most consistent testimonials involves sleep.

There's some nice parallels here. So in a healthy mitochondria that's not overproducing, you can see that these reactive oxygen species, there's this beautiful, tranquil blue color, because they're bonded with glutathione or melatonin.

So they can't run around and do any damage. But what happens when you stress a mitochondrion? We don't need to be, first off, how do you stretch the mitochondry?

You don' have to belabor it with your audience, right? What they are dealing with is stressing their mitochondrial, but even if you're not dealing a vector-borne disease, it's smoking, drinking, pollution, it's EMF exposure, if you live in modern society of stress mitochondria.

And at that point, the mitochondrion starts producing more reactive oxygen species than can be managed internally. So you see here that there are some that are this blue color that is being managed by the glutathione and melatonin, but it is just producing them more than it can manage.

have the opportunity to run around and cause oxidative stress, oxidate of damage. And that's where the ESS-60 molecule comes in. We know from peer-reviewed published research, it's in there.

Testimonials, Biomarkers, and Early Clinical Research

Then we believe it is holding on to up to six of these negatively charged particles so they can't run-around on their own and do damage and then when that mitochondria replenishes the glutathione, replenish the melatonin, then it can manage those reactive oxygen species appropriately.

Um, and that's why we say that this molecule is the boss buffering oxidative stress system. And the summary is we believe we're reducing the negative impact of stress mitochondria.

and if you reduce the impact stress, mitochondrion, you should have systemic benefits and you have what we have, which are head to toe testimonials. I've been talking a lot, I have a fun analogy of this to maybe break it down, but it would not surprise me if he had any questions or something to interject here.

No, I really don't. It makes perfect sense. I think maybe using your analogy might be helpful for our listeners to understand it a little bit better. So I have to ask you this.

I think that all biological analogies should start with Mardi Gras. What do you think? I'll go with it. A lot of biology happens at Mardigras. So it's the end of Marde Grasse and you have these drunk reactive oxygen species running around on Bourbon Street, right?

Causing this rust, spray paint in the walls, smashing windows. And you've the New Orleans police department, the glutathione and the melatonin coming on to Bourben Street.

handcuffing themselves to those reactive oxygen species and getting them off of Bourbon Street. But what does the New Orleans Police Department do when they get overwhelmed?

They take those Reactive Oxygen Species and they put them in a paddy wagon. They attach them to the exterior of the ESS-60 molecule, so they can't run around and do any damage.

And then when the new Orleans police department replenishes the glutathione, replenish the melatonin, then they could handcuffed themselves, to these ReactivOxygen species, and get them of of bourbon street.

And again, that's why we say the ESS-60 molecule is the boss, a buffering oxidative stress system. It's a great analogy. So I do have a couple examples that are kind of in the realm of inflammation, really related to my biological age.

So there's a lot of biological-age tests. I took one called ESR, which stands for Eurythrocyte Sedimentation Rate. It is the rate at which to basically take a drop of blood into a capillary tube.

You hold it vertically, so gravity acts on it. And the rates that the plasma separates from the blood cells is an indication of your inflammatory status, right?

Your overall inflammatory. When I took this study, it had me at 20 plus years younger than my chronological age. I'm happy about that, all right. The next one is glycan age, you may have heard this.

It's based on glycans. Glycanes are sugar molecules and they attach to molecules in your body a very specific way and a map as you age in a specific direction.

And this is really an indicator of inflammation Also, when I took this test, I was 34 years younger biologically than I, was chronologically at the time I as 21. I kind of joke like if you're younger, biologically than 21, can you still drink?

Like, we shouldn't be drinking, but you know, it's nice to have the opportunity, right? Um, and then this last test I got to be honest, not still not happy with the numbers, But I am happy With the direction.

So this is DN age. Um, it's looking at methylation. And when I first took this test, It had me, I was, uh, 51. It has me at 59. So I very like not happy about this, right?

I'm doing lots of stuff. I've taken my product, but I took the test three years later. So in the course of three chronological years, I reverted one biological year.

And so a pretty fantastic result. I want to talk a little bit about some of the testing that we're doing. Of course, we provided the material in that original Bhatti study where the rats live 90% longer than the control group.

It's called the Bhatti study because the grad student who did all the work was Bhati, but the research professor was

Dr. Fatih Musa. We've published with him in 2024, 2025. Uh, we will be publishing with them in 2026. And I, and I do want to point out we're a very weird supplement company.

Most supplement companies don't do research, and even fewer publish that research or continuing to do that stuff, including what's about to happen. A sleep study, we did do an ad hoc sleep, study.

I've got a graph of that here. This was a crossover study So we were asking the survey questions were things like rate your sleep. How easy was it to fall asleep?

How restless was your. We asked those questions for 10 days prior to them taking the product 10, days while they were on the. 10 Days back off the and then 10 back on.

You can see, and this is the aggregate of the data that everybody reported improvements in sleep when they. Not only is that true of the aggregate of data, it's actually true on the individual basis.

Everyone reported improvements in sleep when they were on product. Which again is not surprising given our most consistent testimonial. Take it in the morning, mental focus and energy during the day, and then better sleep that night.

So this is, we're actually going to do clinical trials. We should start these four clinical trial before the end of year. One of them is on, so it's on sleep, you know, it on headaches, frequent headaches.

And the reason is because we have just testimonials, including my own. I won't get into it, but I did used to track my migraines back to 2014. When I started taking this, I went, and I was getting four to five a year.

But when I starting taking the product, 18 months without a single migraine. Wow. I joined our sleep study. So I went off the product and that's when I got my first migraine in over 18 months.

Wow. I was actually going to ask you, so what year did you start taking this product? And you had said it was 2014. Well, no, that's when I started my migraine, my my grain, like I was getting migraines and I'm trying to figure out what caused them.

I really started taking this earnestly in 2018. So, so that when started. And, and so we're doing that study and in fact, this is kind of a screenshot of the study.

Then we're doing an HSCRP study. So high sensitivity C reactive protein, a more rigorous study, right? So our study this one is kind of an ad hoc study with a small cohort.

We're working to do a much bigger one. And then we do have a cosmetic product. Again, if you're improving mitochondria, everything should be improving.

so we are going to start a wrinkle and age spot study moving forward. That's great. And then to kind of tie, remember we saw this in the beginning. I kind wanted to go in and tie these things together.

So chronic inflammation, that's that false alarm. We do believe that ESS-60 has the ability to dampen that down. If you think about what it's doing, I mean, really this false, alarm is probably all driven by the mitochondria and mitochondrial dysfunction.

You're probably talking about that on a regular basis. And again, we have to be careful about talking about chronic inflammation. So we are not making any claims about Chronic inflammation, oxidative stress.

We talked about what it's doing actually in the mitochondria, which is incredibly powerful. You want to suppress that oxidate of stress, you know, prevent those reactive oxygen species from running around like little bumper cars and causing and wreaking all sorts of havoc.

And then in them, mitochondrion. Um, you know, the advantage that we saw in the boss theory is dampening that reactive oxygen species. And again, I like to describe it as reducing the negative impact of stress mitochondria and, and that's the overall benefit.

Now, one last slide. Before I share, if anybody wants to connect, people ask, what does it look like to take the product? We think of it in terms of a three month timeline.

And it has parallels with our most consistent testimonial, take product in the morning, report mental focus and energy during the day, and then better sleep that night.

So month one, we're looking at focus on energy. The testimonials that I lean on here, or I will share here. is we got some product to an influencer, she took it, She recorded her video that night, and she pointed out that she didn't finish her cup of coffee.

Now, I don't know if you're a coffee drinker, but if You are a Coffee Drinker. Not finishing it is a big deal noticing that you fit didn t finish it as a potentially even a bigger deal.

And I will share I used to be a two to three cup Of coffee per day person. I'm now more like a one maybe even half. It's about the ritual for me, right?

I come to work, I make my cup of coffee. By the way, a little bit apprehensive of even dropping the habit, because that's actually when I take my product.

When I didn't have it as part of my routine, i could get to two or three in the afternoon. I could be, oh, do I need a nap? Do I, need another cup a coffee?

And I can look back and I hadn't taken the product that morning. So that I'm down to half, we'll say half a cup coffee, there are some potential weight loss benefits.

It's well documented that if you reduce saturated fats, if your replace saturated fat with an oil like olive oil, then there are weight loss benefits.

The next is month two, and we lean on it for deeper sleep. I think the improvements in sleep are happening sooner, but everybody gets a little bit more or less sleep every night, right?

Mitochondria, the BOSS Theory, and the Mardi Gras Analogy

Nobody's like Brian Johnson getting the exact same amount of sleep, every single night. And so it can be hard to pinpoint, Oh, I started taking my vital C.

Now I noticed that I'm getting that better sleep. And what I lean on here is my business coach. He shares that for 50 years, he needed an alarm clock to wake up.

When he started taken the product, He wakes up before the alarm. I like to point out he's a business. Right? So he has got late night mixers, late-night dinners.

None of that matters unless he goes without the products for about 10 days. and then he starts to need. the alarm clock again to wake up. So that's sleep.

And then finally on month three, we're, talking about reducing the negative impact of stress mitochondria, which should have systemic benefits. And frankly, we have a lot of testimonials and I'm sure you'll appreciate this, that we just can't share.

The FDA wants us to do a whole lot more research and, I've kind of mentioned, expensive research in order to be able to share those testimonial. I will share, my father-in-law was walking with a cane at about the three month

mark.

He started walking without the cane and therefore started walk more, right? No brainer here. And of course, when you're walking more you are losing weight, so it had this kind systemic benefit.

And that's the testimonial that I can share kind of on month three. That's great. And I don't know if you have any questions or anything. Well, I was just going to say, and I mean, if I remember what you told me in New York when we met is that this is really, you're taking this just once a day, right?

It's not like we're taken multiple doses all day long. It is like that dose that you are taking in the morning is increasing energy focus and enhancing sleep, but you've only taken that once-a-day dose.

It's really profound to take something in the morning and positively impact sleep at night. I mean, that's one of the biggest kind of pieces of evidence that the BOSS theory is right, right?

Because the boss theory's working at the level of mitochondria. Think about 2 million mitochondrion in every brain cell, every neuron, well, you should have an outsized impact.

And I'm sharing our most consistent testimonial are all brain related focus and energy and then better sleep that night. So yeah, it's, absolutely profound that it has the impact on sleep from something that you take in the morning.

I will also point out. Remember in the, the testimonial from Kyle where he was giving, because the dog was in such bad shape. He was given three servings to the.

And I'll share this. So we've got a two time us ultra running champion who loves our product and my conversations with him were pretty, pretty awesome.

The first one was, Hey Chris, I was taking one serving of your product. I didn't really notice anything. and then I joke like all good biohackers, he tripled the serving.

And by the way, there are some things you should definitely not triple. So like, be careful, but ours is okay. And he said, when he tripled the serving, he was blown away.

He said. Wow. I think your product could be the difference between somebody having Robin running as a hobby and running. He went on to say, I don't believe that your product speeds up exercise recovery.

I believe it prevents damage in the first place. And the reason he said it was because on the last five miles of a 50 mile run, which is a phrase you will probably never hear again anywhere.

But on the last five miles of a 50 mile run where strength and stability used to be a problem, they're no longer a. And if you think about this, yes, a 60 molecule holding on to the oxidative stress that this ultra runner is clearly doing to his body, and then giving the body the time, the space, that bandwidth to do what it's supposed to.

That makes perfect sense. So yeah. Yeah, I was going to ask you, is there any dose-dependent study that you've done where you really didn't see any more benefit doing a higher dose?

That's a great question. We do have people who will take our recommended serving as one teaspoon or five mils in the morning. There are people. Who take a tablespoon as an example, Anthony Kunkel, who's the two-time U S ultra running champion.

He actually starts, we have an MCT product and he starts the MC T cause there's some weight loss benefits for MC or hunger management. And you know, he's running.

for a long time, 50 miles. So he needs every ounce of anything that he can not have on his body. Like that's a goal.

And so we'll start with that, but our MCT has a lower concentration of the ESS-60 molecule.

As he's getting closer to competition, he ramps up into the olive oil and he literally just like drinks it out of a bottle. The target may be three servings, it's more.

A more accurate answer. We haven't done dose specific, right? We're working on, really I'm working, on how do I get this into more people's hands because of the testimonials that we get on a regular basis.

And from there, we're doing this research. So this will allow me to talk about things that really are impactful to people. If you start thinking about frequent headaches, you started thinking HSC or P actual sleep, like so a clinical quality trial on sleep and of course wrinkle.

an age spot, when we can more concretely, crossing the T's and dotting the I's, talk about those, then we start investing in the next level of research, which I'd be very interested.

What is the dose dependence on it? To hear all of the research that you're doing. Everything that we're talking about applies so much to our complex chronic illness audience.

Yeah. So I have made a special link for your complex illness audience. so it's myvitalc.com forward slash healing lime. And so they can go there a couple of things.

I'll share like the plan of action when you go. There. I got to interview like Dave Asprey, Ben Greenfield, Dr. Steven Gundry, many, others. And I asked all of them, like, what are two to three habits or shortcuts that you would share for longevity?

And, I compiled those down into 18 biohacking tips. So, you can go to that link and you get those 18 Biohackin tips for free. It's a, give you the email and your name and we'll get the bio hacking tips to you.

I have a special offer for your audience, as much as a 40% discount for you audience. I really want people to try this. If they scroll down on that page, they'll see an offer, for two, three or six bottles.

And the six, the concept, that's where the biggest discount is, a forty percent discount. The concept is hey, it's a three month kind of trial, right?

That's what I mapped out. Maybe keep three bottles for yourself, give three bottle to somebody who might need them, or you might be selfish like I would and just keep all six for yourselves.

On each of these, there is an additional discount on subscription. Go ahead and take, even if you just want to order one batch or whatever, take advantage of that subscription, our customer service team has a thousand five-star reviews on Google.

They are not trained to talk you out of canceling your subscription they're trained, to help you and they do do an amazing job.

Testing, Sleep, and Future Studies

It just seems most people don't cancel their subscription There is a coupon code on that page. I'm not gonna give it to you here. You gotta go to that to get the coupon for $30 off.

That $ 30 off does apply to just those deals on the page, I gonna mention one other thing, we didn't talk much about it. So this is our four ounce bottle.

This is what's called our redo set. We actually get more amazing testimonials about this. It's a cosmetic. Basically in the taller bottle is peptide we called UTH 29, which stands for youth 29 kind of cool.

And then my director of research said, Hey, I found this peptide. It's got 30 years of skin and hair improvement. I looked at it. And I was like, we need to have this product with ours, but our ESS 60 molecule is oil soluble.

The peptides is water soluable. We could have shoved these together with an emulsifier. So we wanted as few as those as possible. You do one squirt of UTH 29 activator in your palm.

Uh, and then for every squurt, you do two drops of the ESS 60 activater. So you ate Uth 29 lotion and ES 60. Activator you activate it right in hand and apply it to everything that might show aging.

And yeah, we're, that's the one that we'll do a study on that is a little bit farther down the page. You can get the inside outset and I have one last thing that I want to talk about.

I'm so proud of it. My book, uh, live longer and better is available on Amazon 1999. It's available. On this landing page, same price for 10 extra dollars.

I will autograph that book for you. 100% of that $10 goes to operation underground railroad. You may remember a movie called the sound of freedom, right?

An amazing movie about a horrible topic, which is child, child exploitation operation under grass. The movie is about operation, underground, railroad, And they're doing a great job of getting that off of our planet.

So a hundred percent of that signature fee goes to Operation Underground Railroad. That is awesome, Chris. Thank you. Cool. And that's my presentation.

I thank you for bringing me on. thank You for exposing this molecule to your audience. If you've got any questions, I'm still here. I don't think I have any questions.

I'm excited about all of this. I did grab a sample from you at IHS and I did take it and, you know, I swear I didn't feel different on it. And I felt better, I felt clearer throughout the day.

Those were really long days and late nights and um, i swear i felt a difference. i am definitely going to take advantage here of some of these links that you have, and I'm going to give it a good three month try and see how it goes.

I am one of those people where even though I don't really have any issues, it's like, I think we could all feel better. Yeah. Yeah, we could all be a little bit better for sure.

And I want to prevent I don't want To try to treat I wanna prevent everything in my life. If we're doing the right things, We should be stressing our body.

The reality of stress is right. Like you should have tough workouts, right? You should maybe do a Little intermittent fasting here. Again, your audience is probably has enough kind of physiological stress as it is.

So don't push yourself, but yeah, it's, good to have something that can really sop up those and hold onto, right? Cause remember we're not replacing glutathione.

We're now replacing the body's natural processes. we are just giving it some buffer so that it can do its job. Right. You know, I think a good ending note might be, obviously, this isn't the only thing, but I it's a key piece to the puzzle.

What are your, let's say, top three favorite things to use conjunctively with this?

How to Use the Product and Final Recommendations

Yeah. Well, so I'll share things that I'm on. One is eating an anti-inflammatory diet is just really important. Yeah, you

can cheat every now and then.

Again, with your audience probably having a lot of physiological challenges, don't even cheat. Stick hard to that either AIP, I think Dr. Gundry is even a little bit more aggressive than the AIO protocol.

So, so, stick with that. I think that's really valuable. Take creatine every day, I take vitamin D, A, K and E, like the basics. And then of course, my product on a regular basis and an exercise, right?

And if it's again, if you don't need to be, you may not need be in a position or be a good position to overstress, but put some stress if its a walk and it may be longer or a little bit faster.

Like you need to have motion that blood flow adds value, allows your body to, we were designed to move. We weren't designed do what most of us do these days.

Like as enjoyable as this has been, right, to be on this podcast with you, you aren't helping our health other than by getting good information in our head.

Movement is so important. And our listeners, we talk about this. We talk a lot of lifestyle things. So, you know, circulating the lymph and the blood and, just oiling the joints.

All of those things are so, so. Important. Oiling the joint. That reminds me, my dentist, the way he described taking this product, right? Cause he's been over patients all day, whatever.

He goes, I feel like the Tin Man. after he's been oiled, right, because of our product. So it's funny that you mentioned that. Yeah, no, and a lot of listeners are dealing with significant chronic pain, stiffness, et cetera.

I would challenge all of you listening to try it. Try it and give it a 90-day try and see if you feel better. Because it is not just a Band-Aid. It's not something that's just managing.

it actually getting to the heart of the issue. and helping your body to repair on a cellular level, which is literally what we've been talking about for a lot of the summit.

So thank you, Chris, for being here with us. Thank you for sharing all of this with. And to the listeners at home, if this was helpful, please share it with someone that you think it can help as well, because together we all heal stronger.

We'll see you next time. Bye bye. If this episode gave you an answer, brought you new insight, or made you think differently, subscribe to the Lime Bites podcast and share with someone who's ready to take control of their healing journey.

And if you can, please leave a review. It helps others to find the show. Thanks for listening and we'll see you next time.