Eric McDonald - Activate Telomerase to Stop Telomere Loss, Studies and Data Transcript

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Introduction to Telomerase Activation

Hello is Doctor Kenton Holter with another episode of the Peptide Summit, the stellar 2.0. And today I'll be interviewing Eric McDonald of Ta Sciences.

We're talking about activation of telomerase. To stop telomere loss. Thank you so much, Eric, for for being on and telomeres are really in the, really hot in terms of regenerative medicine.

But you guys have been at this for quite a while. Yes. And, and normally everyone's, you know, on the cutting edge, but you were cutting edge, cutting edge, a long time ago.

Yeah. Tell me a little history. How did you get into this? How? I got into it. I started the company seven years, you know, seven years ago. I started with them and, the company itself was incorporated in 2002.

It was founded by Noel Patton, who's our founder and chairman. And he acquired the molecule from a biotech company in California called Geron. And Geron is still in existence in this day.

But, they were looking to try to produce a molecule as a drug. So they were looking for it to be a pharmaceutical agent. And when they realized that the FDA was not, you know, ready for, anti-aging product, they they did they did a stage left with this thing.

They did a ton of studies in the 90s on this product. They knew they had something that was good. It's just that, you know, it would never get approved at that time.

And still, here we are, 2021 and the FDA is still talking, you know, aging products. So, yeah, I mean, it's a great Molly took over and, you know, as as a supplement rather than as a drug because, yeah, God forbid you do something to prevent aging.

You know, it's like they're not cure cancer. We're just too many people lose their livelihoods. That's true. So from 2002 to 2007, we did additional testing on the product, and then we eventually market had the product and launched it in 2007.

So you've heard the phrase timing is everything. Two years later, you know, we got a really strong foothold into the tumor biology, you know, world. When the Nobel Prize in Medicine was awarded to, Elizabeth Blackburn, Carol Greider and Jack Szostak, for identifying this enzyme telomerase, that actually, actually once activated, you know, that it adds these nucleotide bases to the telomere.

So we were at the right place at the right time. And I mean, the curves on the product sales was just I mean, because I imagine you trying to explain it to someone, you know, this is what it does.

And they're like, you know, like three heads, like, why do I want that?

Company History and Early Research

True. And then it becomes common knowledge, you know? Yeah. I it's taken a while, but, you know, I was really quite surprised at how the, the layperson, you know, knew about telomeres.

So it got a lot of press. It was on 60 minutes, you know, like a thing in 2010. And, then we just took off, and then we had two other studies that were, published in rejuvenation research in 2011 and 2013, and that, again, just added

fuel to the fire.

And, we, we just took off exponentially. And so here we are, 2021, and we still are the only clinically proven telomerase activating product on the market.

I was going to say, I don't know of any other studies that help people say, oh, this may do it. This may do it theoretically. So that happens. You'll get a lot of companies that will have, you know, these little knock off companies or physicians that come up with some formulation and they'll say clinically proven to activate telomerase.

And it's because they have like a astragalus as an active ingredient. They don't do any of those studies. They basically cite all of our studies. And it's it's not the same because we extract a single molecule out of the root.

I mean, you start with the stragglers, but this is a given species of Astragalus. And then we extract the molecule out of that. So it's now we have a patent because a lot of people, they don't do it because you do a patent, you kind of give away the secret sauce.

Right? We have a patent on the extraction process because you can't have a patent on a naturally occurring substance. And, and so but it's it's sophisticated.

So someone can do it. They do do it. You can then you can go after them if you had to go after anyone. And several occasions. Yes. And it's, it just gets to the point where, you know, are probably sometimes just negative things and, you know, you're threatening, or, you know, you're going back and forth.

They don't have the studies. They claim they can do this. And there's only so much you can do. You know, and it's if you're going to waste your money in court, you know, to do what I mean, they have to prove that their product works.

They have to have the studies. And, you know, studies for a very small company are very expensive. I mean, yeah. And it's interesting, our patent defense, since, one of our patients had a patent on all mobile searches.

So he's trying to sue Google, and, it was just, of course, did not go well, you know, I can't imagine. Yeah. And, so, yeah, that that's that's tough because studies are very expensive.

That's why you don't typically see them with, with supplements, you know, and they seem to be getting more and more expensive. You know, as time goes on to do a decent study, you guys have, what, ten.

We have ten peer reviewed trials to date. Yes. Wow. Well, we've been spending a little bit more than $1 million per year on clinical trials, and we've been going since, like, 2005.

With with studies. And then we found that, you know, I came in, I came from the pharmaceutical industry. I launched Lipitor and Cognex, the first drug that people use.

Yeah. So, you know, I when I came into this field, it was like, you know, you better. Yeah. But, that was selling citing time in my life. And I worked for Parke Davis and we, we had a product called Low Bid, which was lipid, a lipid regulator.

And his claim to fame was HDL increasing. And doctors would be like, well, what's HDL? So there's a real kind of interesting bookends to my career, starting off with low bid in like the early 80s and now here where you got two products that are basically ahead of their time.

Yeah, nice. Nice. I remember what happened to that. I went generic Jim Fibrosol is the generic name. And, Pfizer acquired, Parke Davis, which was the division of Warner Lambert back in 2001.

And, I was on last this whole week. Conversations with the whole Covid thing and what's true, what's not. And you

know how some of these huge pharma companies have so much money, you know, they can predetermine their studies by manipulating just the way that, you know, data's done.

But, That's awesome. Yeah. Well, there's 2 to 2 major studies that were published here in the last couple of months. We had, Maria Blasco went to Spain.

She's a big tumor biology cancer expert. She heads up the cancer institute at a Madrid, and, she's been a telomere person for probably as long as Elizabeth Blackburn.

And when she heard that the initial problems, that people were seeing with Covid 19 that were lung related, you know, like pulmonary fibrosis, she said, you know what?

And it's infecting the elderly. She's like, what? What happens to the elderly? Their telomeres are shorter. And what happens in people with pulmonary fibrosis at any age, their telomeres are shorter and even like diabetics and hypertension.

Yeah. You can look at any study where you have twin studies. They did the astronauts of the, you know, the one that went up and it was up in space and, you know, the International Space Station for like up to a year.

And he came back. His telomeres were drastically shorter than his brother. But that was just going up and coming down. They did a baseline and it came back.

But after about 6 to 9 months, his telomeres bounced back. And they were the same as this. Yeah. Well they should be a few seconds younger. But you would think.

Clinical Trials and Scientific Validation

Yeah because of you know going the speed of light unless you know that but I was watching a thing like if you have a baby on the space shuttle like that, the kid is going to be so different.

Like one, you can't even get pregnant. You know, the the sperm even know where to go and, and basically have no bones and, like, you know, we'd be aliens if we basically had generations in space, we would come back as aliens.

How about that, And come back. You couldn't walk. You couldn't, you know. So all the all those, you know, sci fi movies are real and it is. You can make green a little head.

Awesome. But, Yeah, I love that you guys. But, I mean, the companies don't do that. I mean, they just typically don't put so much money back into research.

And, you know, just what's what's fascinating, though, is that all the studies that we've done, it's kind of like this, this molecule has like a midas touch.

It's always showing some result that is generally favorable. And if you think about it, you get a product. It's impacting the DNA. You know, the end caps of the DNA of the telomeres.

And we're lengthening telomeres. So in essence we're making this cell, you know, act like a younger cell. It can replicate more I mean the Hayflick limit is basically 50 replications.

And it goes through either apoptosis or becomes senescent. We put in the Petri dish and beta I have been able to have a cell continue to replicate ongoing.

It doesn't it doesn't see a Hayflick limit. And I used to think I'd like to live forever. Now, I don't know, with all this crap going on, I think the most important thing is, hey, like, they live healthy.

I live very, very sick. And I certainly don't want to live. No, whether or not, you know. So this. That's what prevents

that. Well, that's Davidson Davidson clear out of Harvard.

He's the one that is basically he said, hey, you know, I don't think in my lifetime. And I think right now he's like about 50 years old. He said, I don't think in my lifetime I'm going to be able to, take the mean age and have people live longer in his lifetime, he said.

But I know for a fact I'm going to be able to make those last two decades of your life a much healthier two decades of your life. And, you know, we do.

We do have it so backwards, you know, we really do. I mean, you work all your life, so you retire at 65 and you live to 85. Those are your two worst decades of your life.

From a health point of view. Oh, yeah. Oh, you're live your nursing home. Oh, yeah. You had a stroke. You got heart failure, diabetes, you got. And if you look at all the money put in as well to keep someone alive for a year, it's just the resources, you know?

Yeah. And I don't want to live in a wheelchair and, you know, basically without my mental capacity and. Right. I'm kind of living like that now, but, the, Yeah, it's it's a different live better longer, you know.

Right. And then let me go, you know, but yeah, it is interesting saying, well, but, you know, grandma in the home and we'll visit her for 20 years, like who?

Who wants that? My next door neighbor, my next door neighbor is 72 years old. His mother is still alive. She's 104. And when I first moved here, like 13 years ago, she would come and visit and she would walk upright and, you know, walk down the street and you're like, she turned like 98.

You know, he goes, yeah. I go, wow, she's got a posture like a 60 year old or a 50 year old. And but she's miserable, especially during this pandemic.

She's 104 years old. And her husband died when he was 98. And she wants no part of being here anymore, which is sad. What's the use? I mean, I stay from that old I love it.

You get the right to say whatever you want. Anyone you want. And I have this theory too. Like in nursing homes, if people all demented mentally lose that frontal lobe and lose that inhibition and whatever their inner person comes out, that's what they really are.

It's kind of like a, you know, me drunk, or you got the guy who's chasing the women, right? Just nice as can be. And, you know, so I think it's interesting, but, yeah, yeah.

Take advantage of golden years and retire, work in and. Yeah. And live. And that's what you guys are, are helping people do. So you asked me about different, you know, criteria that we looked at in our and our studies.

So our most significant study to date was, I call it our Spain trial. It was conducted in Spain. The telomere testing was done by life length with which most people if you're familiar with telomere testing, they're like the gold standard.

They're based, you know. Yeah, we'll have a couple questions regarding that too. And so we did a study, 117 subjects, double blind, placebo controlled.

We had them on, doses of our starting dose, which was 250 units per day. And then we had another arm taking four capsules a day or a thousand, units, of which at that time, we had a number of people, you know, the typical American way, you know, ones, good twos, better mentality.

And when people have deep pockets, they want to they want to. They figured, hey, you know, I'm 78, I want to I want to take more. That might help me. And lo and behold, what we found out is that the the sweet spot in this

particular study, which the inclusion criteria everyone had to be CMV positive.

So cytomegalovirus. Yeah. It's really interesting. You area herpes number five. And the reason why is because the science was already out there. If you're CMV positive, you're, basically a senescent T-cell factory.

Yeah. You have your immune system shot, and and you're probably going to get cancer. You probably feel like crap. And. Yeah, you probably multiple medical problems.

So, ironically, I mean, the sero positivity rate is pretty stunning in the United States at the age of ten, 30% of the population at ten is positive and it goes 1% per year.

So by the age of 30, it's a coin toss as to whether you're CMV positive or not. And it's an asymptomatic condition. Generally. But if they do get symptoms, from what I've been told, it's like lupus, like some symptoms.

Yeah. Yeah, that happens generally later in life. But my word, if you know that you're CMV positive and knock on wood I'm CMV negative. And I mean yes.

So I've had you know you know cold sores, the net, you name it. So I've had a number of the herpes strains, but I'm not CMV positive and I'll kind of slow.

And it's all about the immune system you know. So and I think to younger younger people were finding because of, you know, pesticides, toxins you know roundup like it's like and everything to suppress anyone's immune system.

Yeah. So that when zero it's kind of like when you get the chickenpox and they come over the chickenpox. No not really. It's still there. Sure. It comes back out as shingles with immune system drops.

Yeah. So it shows that all these people are getting low immunity and and getting Susan Emfs like it's a problem. Like I just got my check. I just got my second vaccine on the shingles last Friday.

Don't do it. Okay. Well, yeah, I did, because that's the last thing I want. Yeah, but, now no one should be getting the shingles. They, you know, the the picture the minute.

You know, it didn't need it. You got you got enough. Yeah. My dad had it pretty bad at like age of 75, and he said it was one of the most miserable things he's ever experienced.

And he's done kidney stones and you name it. So yeah. Yeah. No, no, that that is true. And sometimes I had a coworker that had it in his mouth. Yeah. But yeah, more and more people are getting it because their immune system, we become immune modulator, clothing.

Because it's just the cause of all these illnesses, you know? And as you get older and the more sickness you get, the worse immune system. So now you get reactivating infection like shingles, and everything's a vicious cycle, and you fix the immune system and which the immune system replicates fast, and so is the gut with the gut brain active.

So you need to be able to have the cells give up. And that's right. That's right. And so they need to be able to replicate which requires telomere length.

Yeah. And they're also noticing that the T cells in Covid 19 patients are being drastically impacted. The CD4 and CD8 T cells are I mean, you can we we offer a UCLA immunology test that looks at about ten different biomarkers of immunology.

Every clinical study to date. We've used the UCLA test, to identify, you know, how people are reacting. We have a but they call this CD8 to C 28 negative, which is a marker for senescent cells.

So really I want to yeah. I gotta check that out. Because that's you. Because really no. Great. Like the standard test requires lab or like great ways of looking at the immune system or immunologic clinic.

But we gotta make a lot of compromises. Right. So the four biomarkers for biomarkers that UCLA offers in this test are unique and custom. So you're not going to find those at Lab Core or Quest or any other.

Telomeres, Immunity, and CMV

Can you name those again? Because this is for doctors CD8 city. It's kind of like CD8 forward slash Cd28 negative. And then you have one that measures naive T cells.

And of course you want naive as good as young. That's a CD8 CD 95 to both of those positive. Those are two. Those are two biomarkers that are great to know.

You know, you want to make sure that you have a good amount of or optimal amount of CD 90 fives, which are naive T cells because you need some reserve.

Yeah, absolutely. And so does the telomere length correlate with these. CMV correlates with the CD 28 negatives because you'll have a very you can almost look at this UCLA test and be able to identify some others CMV positive.

But you can't definitively say that you're going to do an ECG titer to rule out CMV. But you can look at the numbers and you can say if you're looking up at it and enough of these, Doctor Joseph Rafael has got it all broken down.

You know what's optimal? What's you know, what's you know, okay, what's normal and and how do you find these chains taking the product for our to our two studies that were published in, 11 and 13.

Look, use that test. And there was a statistically significant improvement in senescent T-cell, reduction. Interesting. And, how along will how long of a period does that take?

Well, the study was one year in length. So typically you're going to see immune response, 3 to 6 months. 3 to 6 months. Yep. Okay. And then also you hear, you know, a lot of different telomere tests and you hear, well it's not the average, it's the number percent, the short telomeres.

Can you comment on that. The most important thing is the methodology that's used. So you get a lot of these fingerstick ones that are out there. Those are all PCR.

And PCR is just going to give you a mean or average telomere length. And that is amplified. They're not actually measuring the telomere. So you want to use, you know, what they call si.

It's been a while. I was telling you, but, there's life length, which is out of Spain, and then you got Repeat diagnostics, which is out of Vancouver, Canada.

So a repeat. Repeat. Yep. Repeat diagnostics. And both of those two companies use fluorescent, in situ hybridization. So they're actually fluorescent in the telomere and measuring the individual telomere in the sample.

So it's a more exact measurement of what your telomeres are. And repeat diagnostics looks at granulocytes and lymphocytes. So your granulocytes or what they call your God given telomere length, it's coming out of your bone marrow.

They do not replicate. It's kind of like like an egg. And yeah, they don't because they die in 24 hours. So and they only come out like an ambulance when you really need it.

So they pop up, they do their they do their work. And, you know, it's kind of like, you know, certain insects that come out for, you know, one day and hopefully find their mate and be on their way.

So then you've got the, lymphocytes, which can circulate in your blood for a decade, and they do replicate. So you'll learn that in the decade, right. Yep.

Yep. And you'll find you'll find that, those two cell types are generally a killer base. Different. Yeah. On average. So, say, as a 50 year old man, your, lymphocyte will be 6.5, which is 6500 base pairs.

And then your, granulocytes should be about 7.5. Okay. So basically what it's saying is the best you're going to get at that point in time in your life is 7.5 if you do nothing, because that's what your body is able to produce.

And over time, but over time, yes, it will degradation and you'll lose. Basically a full killer base pair per decade. So if you're starting off at, you probably heard 10,000 base pairs at birth.

And then usually as you get into your 70s and 80s, you're roughly around 3000 base pairs. So now we're talking seven decades of life and you've lost 7000 base pairs.

Now is that we're cells on average or for new self produced. That's just on average on average. Yeah. And so let's say you only want to do this for a while is, you know, do a long GMAT program.

Okay. So we use to 65 we check the telomere length and and then also about what I would do, I would do their CMV status. I think that's very important.

And just you could do, do you think the percent of short telomeres is important measure as well as very is very important. It tells you so if you care like the average would be like saying, all right you took a class in college and you got a 3.0 or you got to be in that class.

Okay. But how did you get that? B were all of your tests? 3.0 or did you have a couple of 2.0, a couple of 4.0 and you average three. Yeah. So that's where that short telomere comes into play.

It kind of tells you really how bad you are or how good you are. So if you have a low percentage of short telomeres, that means that your mean telomere length is pretty rock solid.

Like you got a lot of good grades. Okay. But if you have a high percentage of short telomeres, that means that you're really kind of Di pulled with your telomere length.

You got quite a few that are short, and quite a few of that are long to give you this average. So so when you find someone who, let's say it's kind of like seems like a big spread versus they're more like say, yeah, let's say let's say the same number.

What's the difference between the two people? The difference is, is that the ones that have a higher percentage of short telomeres, it'll end up catching up to them.

So so they got some stress on those particular cell types. Right. And every telomere, I mean, we got 23 pairs of chromosomes okay. So you got four telomeres on every pair.

So you got 92 telomeres in your body. And it only takes one to get critically short in a cell. Stops replicating. And then which then causes all that inflammation energy to die.

The cell becomes senescent and becomes cytokine toxic. I use the analogy like when you have like, a bunch of grapes and you got them sitting out on the table and one starts to frost up, right?

Starts to starts to go bad. Well, what's the next grape to go bad? Is it on the other side of the bunch? No, it's the one that's adjacent to the one that's cytotoxic.

So the same thing happens with senescent cells is that that cell become. It's s rotting and it becomes cytotoxic, and it basically poisons the other cells that are.

So do you want to do like, send a lytic program and get rid of those cells before starting to the 65? Doctor Cleaver is a big advocate of the lytic approach, and I think that it's I think it's ideal for someone that's CMV positive that has

a senescent.

It's it's not hard. I mean, you can do a number of peptides and even, flavonoids, you know, and other thing. So maybe do a couple of weeks or month of that and then start.

And then when would you recheck, telomere status? I would not do it, but annually because the, you know, the accuracy of the test, you know, is one in which if you were to do it like three months from now or, you know, now, yeah, you're going to get as as Joe Raphael says, you got to look at your telomere testing like a 401 K.

You do it every year and you just monitor your portfolio because you're going to they call it the oscillating hypothesis where you'll get this, you know, almost like a sine wave.

It's going down. You, you you draw the line, the number's going down, but you can't get too excited because, you know, maybe your baseline test life was good.

You had no stress. You had nothing happen. And then a year later, you know, you had, you know, the death of a child or something tragic or this pandemic we're living through.

I bet you every at the well, not even in the US. The world population, I bet, has lost telomeres quite a bit. So what do you think is the biggest influence on shortening of our stress?

You name it. Everything we know that's bad for you impacts or dealers smoking, obesity, stress, you know, x rays living in, living in the city versus living in the country.

All right. I'm going to search because then I did I just did a, presentation on Emfs and how peptides protect you from emfs. And I couldn't believe the studies on EMF.

So I'm going to see if they shortened telomeres. I bet you they do possibly. I, I, I don't recall I mean, there was a big study that came out about hyperbaric chambers.

I think it was in London. And they showed lengthening pretty significant lengthening and telomeres. But it's kind of like, Dean Ornish, his Mediterranean diet showing telomere improvement.

It's going to be what I've seen, but it's got to be realistic.

Telomere Testing Methods and Interpretation

For example, this this, hyperbaric chamber, they had to be in it for 90 minutes every day for like three months. Well, I'm sorry, the average American does not have that of Michael Jackson.

Yeah. Yeah. Right. Yeah. So it's great to know, but not necessarily, you know, ideal. And even Dean Ornish is study. I mean, when you really kind of dig into it. Yes.

The Mediterranean diet is favorable, but man, I mean, the way that they had to live on that diet was. Yeah. You know, I always say you don't live longer.

It just feels like it just drags on. But, yeah, that's right. More like have fun and take peptides, you know? But you know what? I, I've seen I want to ask you is, some of these people like elite athletes.

So they're doing triathlons, and they're in the best shape. And you check their telomeres and they're terrible. Yeah. Or do they're like clicking age or their DNA methylation and it's awful.

It's awful. It's oxidative stress. It. Yeah. Like and these guys are the epitome of hell. And and it's like dude sorry. You know, and so that's why I mean, I workout religiously every four months for eight minutes, you know, I don't care.

Rain or shine, I'm doing it. Yeah. So, yeah. But, that that was very interesting when I, when I saw that it's consistent to. But, let's see. Oh, let's talk about your, your cream. Oh.

To 65 for skin. Yes. Yeah, yeah. So I'm, I'm a big fan. The, we have to lock it up at the office because, all the staff takes it. I think eventually I have to hide it from my girlfriend because she tries to bathe in it.

Well, the takeaway is when a lot of people don't realize, like you say, she bathes in it, and, a little bit goes a long way. It really does. The four ounce tube, which I think is more than gracious.

I mean, it's it'll last. It should last at least four months again, unless you're bathing in it. But if you really you I mean, it's an emollient. What I call a tri.

Sara. My base. There's three different ceramides in this vehicle, and it spreads really nicely. And ideally, just especially on your face. Just a thin coat.

Because what you'll find is that if you put too much on, it doesn't absorb, it only absorbs a small amount of it. And then it just sits there. And then you have this kind of like almost like, you know, sticky mess.

If you happen to have a watch, this part of this, there you go. But you know, when stuff works, when you have to lock it up at the office right now, most, most people that use it really do, enjoy it.

And they like it. We get about a, just about a 20% reduction in fine lines and wrinkles of the crow's feet. You got about 10%, pigmentation. You know, like a redness reduction.

The real takeaway is we have an 89% increase in skin firmness. Oh, that's interesting, because most things don't claim that, do that. And any hair growth, we were going to be doing a study, in here, but, you know, like.

Yeah, yeah, yeah. Well, you can tell it's not it's not working for me. But, you know, again, I don't use it every day. I should I get the product. It's like, you know, the cobbler's children, children have no shoes.

It's like. Like I find all this stuff, like, right here, and I don't do it, but I'll go do it when I'm out of state or something. Right, right. Oh. But, Yeah. And then we had, 2 to 3 full reduction and, inflammatory cytokines and proteases.

So like IL six, TNF alpha, MMP. Yeah. So, so what is that mechanism? And and that's another anti-aging. Of course we see that both in the skin cream as well as the oral the skin cream.

You know, if you're measuring, you know, the impact on the skin. Yes. It's the skin cream is got a bigger impact on the skin. But aurally those inflammatory cytokines improvements the oral is probably I always people when people say should I start on the skin, skin product or should I start with the oral?

I say, well, the oral systemic, I mean, if yeah, if you're in LA, you do the skin cream. Yeah. Then the skin cream. Right. Doesn't matter how you feel, how you look.

That's right. But, a lot of people are using the combination of the oral as well as the skin cream. So that's interesting. I was kind of thinking back with the, you know, with the Covid, and when that was our first thought.

And but also, you know, of course, everything is, you know, lower than inflammatory, cytokine storm. With that, have you done any studies or anything with Covid or.

No. And we I know that, our federal government is, you know, got their antenna out there loud and clear. You know, with people that are trying to claim, I know I'm their product.

I didn't say Covid, I said bad, and don't touch it with a ten foot pole. But like I was telling you, I like that Maria Blasco and Doctor vive out of Rutgers.

He did a study and I mean, it makes the the hypothesis makes perfect sense. Okay. Yeah, yeah. It's not impacting younger generation. It's impacting the elderly.

What is calm? What's the difference between those two? Telomere length, you know, and when it's impacting the lungs? Pulmonary fibrosis as I mentioned to you, you do telomere length and pulmonary fibrosis.

And God forbid you have, a husband and wife that both are you know, IPF they, they then generate another type of disease as the name is like this long.

And, those kids don't live to be. But maybe three years old. But you look at their TLM or their test results, they're awful. Awful pulmonary fibrosis.

You're in like the 1% mile for telomere length. Yeah. And nice thing. That's right. You know, with peptides is the TV4 frag. Huge studies on, fibro especially cardiac diabetic nephropathy and fibrosis and breaking down, that fibrotic tissue, is really interesting.

And just another interesting, thing I was reading is that they found a pathologist, found that when he checked the lungs of the code base, they had no thyroid in their lungs.

And so they had it was a, you know, one person trial and one, but was only sick. And they also do gave a big dose of T3, but just totally reversed it.

So, interesting stuff I think when when this virus eventually you know, says by, by and the data that we will be able to acquire, I mean, hopefully we don't have this issue of this magnitude ever again in our lifetime, you know?

But I just find, yeah, when you think about a virus that impacted the whole globe, I mean, if you think about national or natural tragedies and occur hurricanes, volcanoes, it's so defined into the area this is impacting the whole world, especially where you're at right now.

You're a pretty much a hotspot still, right? It's closer to them, but it's like no one should be dying from Covid. I think if someone dies in a hospital, I think it should be a big lawsuit.

There's so many medications. I mean, I gave a talk, peptides and stem cells for Covid 19 Ards, you know, basically a, you know, restaurant value a dramatic improvement, right?

Who's getting that? Just giving by?

Lifestyle Factors, Aging, and COVID Discussion

You know, of course, even that people on respirators giving vitamin D, and 5%, okay, 5% mortality on the vitamin D, 50% when they didn't get it, like, okay, it cost $0.08, right.

You know, and these hospitals are refusing to do it. I think there should be liability there. But it's like, hey, we we need the vaccine. We need the vaccine.

Here's here's something fascinating. African Americans have longer telomeres than Caucasians from Europe. But when you look at Covid, they have a higher death rate to Covid than than Caucasian, European Caucasians.

And it's kind of like, okay, well then maybe it's not a telomere thing. Well, when you think about African Americans in general, you think about hypertension.

Their hypertension numbers are off the chart. So now we're looking at the angiotensin receptor. And and that's basically the pathway for for Covid is you know, they just they used to assume instead of yeah, the bus driver, you know, so it's it's fascinating.

And I think the results that we're going to hear, you know, when they put the data all together hopefully. Yeah. If, if they do it honestly I don't know I, I can't get started.

Let's it's like, oh, I hear you, I hear you. And it's hopeful that the human race will be able to find ways to be able to. Yeah. And dude, I got a funny I got a funny feeling this is going to be like flu vaccine.

You know, the flu we're going to have, you know, it's not just flu anymore. No colds. Yeah. Everyone's Covid and and so me study that masks fell or lockdowns.

Oh yeah. That thought we follow the science. I also I also want to say is the black helicopters are coming down already. But I would also like to see the results of, you know, the rate of typical mortality, like heart attacks, lung cancer, all the things the top, top four did they miraculous thing down.

Yeah. Yes. No one's hit by a bus anymore. It's Covid. Well that's true. Yeah. It's it's crazy. And. Yeah, and it gets so political and, basically. Yeah. People are that's not that's not going away apparently from what we're seeing.

So yeah that's true. But yeah. Back to the good stuff. Yeah. The product, you guys have been around, tried and true and proven and scientifically based and, you know, put your money where your mouth is and, you know, I don't know any supplement that's done ten, you know, well done studies.

Where do people purchase this and, and, and give, advice on how to implement it and to your, to doctors practice. Yeah. We have a whole like, marketing, you know, package that we send to our new physician licensees that join us.

The obligation to sell it in your practice is just to buy a one year supply for one person. We provide you all of the, you know, patient brochures, doctor brochures.

And then I, I even offer my services for, like, open houses that practice is will do where they'll have like a wine and cheese evening. They bring what they feel are the ideal to 65 patients.

And let's face it, we know that from this price point that we have, we'd love to say that everyone can afford it. But, you know, we know that not everyone can.

But at least at least 5 to 10% of an average practice. And in this, in this peptide world, you know, these practices, I would say probably more than 50%, if not more of your practice could be candidates for 65.

Yeah. I think people are finally realizing it's like we have patients that like, oh, I don't want it. And if, my insurance doesn't cover it, I mean, if you want to do insurance, you're going to get the most minimal care, okay?

If you break your arm or something. Great. You know, but anything other than that, you better be an educated health consumer, fine actor. That's that's cutting edge.

And, just a quick story, and I'm terrible. I and I had no immune system. And I had sepsis, and I was in, ICU, and I'm asking the doctors about, you know, I've.

I didn't see anything show and reduce mortality and sepsis in the last 40 years. Right. And they never heard that. And I'm like, what it's been in every journal, let alone every ICU journal.

You know, critical care journal. And then so like the nurses were kind of passive. And then I finally got this one nurse who was fine. She was I'll, I'll tell her, you know, okay.

She comes back big smile and says he's going to do it. He's going to do it. They won't even look at the papers. I printed the papers out for him, and, it's just going to do it.

I'm like, okay, that's good. And then about five hours later, she comes, a big smile, a little cup with 500mg of

vitamin C, I'm like, I go to 7-Eleven.

He gets, you know, 2000. Just give me two oranges for you. Yeah. So, it's scary, but, you know, I used to get really mad at the doctors, but they're also in a system that if they were to say, how would you live?

You might even say the hospital better. Navigator. We don't do that. That's not what we do, you know, and have other instances where about a blown pupil, you know, at dinner and when my girlfriend's kid's like your eyes.

So cool. I'm like, what? What are you talking about? And I go look at the bathroom. Like, that is not good. My whole eyes, the pupil watching their stroke, you know?

Yeah. So I go in and they're like, okay, what's your family history? I'm like, okay, give me any of these peptides, give me progesterone. And they're like, oh, that's interesting.

We'll take the studies and then you'll do it with the studies. Like, well we'll look at the studies I give the studies. They're like, I didn't say we do it.

And so I'm calling people hit down. They're going to save my brain, you know. And and turns out they do MRI CT 2 to 3. Nothing. It was a hoax. I were from Lyme.

And growing up, one pupil was always bigger than the other. So I had my Lyme since I was a kid. But, And we're great. Where'd you grow up? Huntington Beach.

Okay. Yeah. So, well, of course, no Lyme, of course, but, Yeah, I know, but no, I mean, the prevalence rates are pretty low out there, and I find it is.

So, in fact, we had, the person right next to Fountain Valley, a CEO who we diagnosed with Lyme, just very sick. Same guy who had the patent, actually, and doing better.

And then his doctor, he went to the doctor, said, there's no Lyme. This is quackery. And he calls just panic, saying like, there's no way the diagnosis is so wrong.

And try to explain to him. And then, two weeks later, his dog gets totally sick and they bring the dog in, the vet goes, he's dog's got Lyme. Yeah. And, so I'm like, so you started going to the vet?

Yeah. Yeah, I hear like, the Seinfeld Kramer. But, yeah. So I think this is just, you guys have been ahead of your time and, you know, quality evidence based, you know?

Well, it all comes it all comes down to awareness. So when I'm at any given show and I have the opportunity to spend the time, not this much time. But let's just say ten minutes with a physician.

The close rate is astronomical, you know, it's just they hear what I have to share with them and they buy the product.

Skin Cream, Product Use, and Practice Sales

Yeah, I just we have so many people that every year, you know, I'm ready for my year's supply guys specials going on. Well, I found is that also I forget to take it.

And I'm like, damn, I could feel my telomeres shrinking. That's like so, yeah, I mean that's that that's like the number one question that people ask is, you know, you know, to their doctor, what am I going to feel?

And I'm on this project and I, and I kind of say, well, I really wish I knew what it felt like when my telomeres are growing. Yeah. It's people have put it in perspective that that's really what this product does.

It does impact your biomarkers of immunology. And we'll have a 500 patient study published this year. Looking at all of our dosage strengths. So I'm in a bid regimen or versus should we want to find out where the sweet spot is for, you know, we saw that in the spring trial.

We want to see if that replicates in the United States. But we're also not looking at telomeres in this study. We're looking at the biomarkers of immunology.

Oh interesting. And just like yeah, the baby thing to not feeling anything. It's kind of like also you don't feel your your arteries are becoming clogged, right. Like blood pressure medication.

Most people don't know, you know. And they'll just they'll just make a decision to stop taking their blood pressure medication. I think blood pressure medication is one of the lowest compliant drugs that people take.

They fall off because they're like, oh, I work, you know? And lo and behold, you know, they're coming into the doctor with, you know, 180 over 120, you know.

Yeah. And so I mentioned that, cardiovascular disease highly associated with telomere length. Yep. Cardiac tissue. Yeah. And people, people will say, oh, well, I have an average telomere length, but I have severe cardiovascular disease, you know.

Well, what does that mean? So, well, unless we're doing a biopsy of your cardiac tissue, I mean, what that tells me is that if you're average and you have terrible, you know, cardiac tissue, then you have other parts of your body systemically that's doing much better than it normally would.

Yeah. No one's gonna be able to do it as a biopsy. I don't know if you can answer this, but does it selectively increase the, lower telomeres or or let's say when you take it, do you see a change in the percent of short telomeres versus the average burst, or what do you typically see.

Yes, I mean, it's kind of it's it's fascinating how the human body works. When telomerase is introduced to somatic tissue or somatic cells, it goes where it should.

It goes where it should. Yeah. So it's I use the analogy. It's like a mother that has, you know, a single mother has five kids and one of them sick. You know, she's going to tend to that sick child and think of that sick child as being the one with short telomeres.

Yeah, it's fast, but it's I don't know, they give me what I know they're short term or they're not. But I think I think that is awesome. I mean, that right there.

I think that's a great closing, piece of information because that's key. Yes. And and for the making, the longer ones longer, it's making the shorter ones longer. So, and I'll tell you, it's companies like Life Length that were able to identify that for us, you know, because they do measure not only the mean telomere length, but they also do the critically short or the short percentile.

Oh, cool. Life length. And they're out of pain. So you can reach them at life length.com. And so again, because the doctors do they set up an account and then ship it.

Yeah. So they ship them kits you know. And then I'm not sure exactly. Some companies have it to where you pay 10% for the kit, you know, and then you get and then when you send it in, that's when you get charged for it.

Life length. I'm not sure if they're on that, but, you know, because right now, you know, actually what they do is they ship it to a, location just outside of Philadelphia, and then it's, frozen.

And then every like, every Tuesday, they they send the batch to Spain and then they out. And generally you get the results in 2 or 3 weeks. And that particular, bloodwork and the analysis that's done and how they provide you, it's not just like one sheet, this is what your telomere length is. I mean, it's a whole booklet.

And not just to, you know, ways in which to improve, you know, if your results are not that good. I have the test on my in my bathroom, which I'm planning to do along with all these other.

But I will tell you and everyone that's listening, if you're doing telomere tests annually, you do not want to do a telomere test. If something really is tragic going on in your life, you know I'll never be able to do it.

Or if you're sick and right. And now you also want to make sure because your workout schedule is called, hey, I got a do your workout over over exercise.

But again, people, people that do strenuous exercise, they need to take a day off and then take their then do their telomere test a day. See if you can do it day one as well.

You know, do better. Hey. Well, I'd also like to, you know, offer anyone that's listening to this that wants to purchase the product. They can call our main office, and the office number is 212885 5508.

And they can put the passcode summit and we'll, we'll provide them a special discount for being listeners of this program. If anyone has any questions or wants information, you can either go to info at TI sciences.com, or they can come and email me directly.

And my name is Eric Eric at Ta sciences.com. And we'll, we'll try to get that up and writing. Perfect. And so at the summit discount was at 80% off I think.

It would typically be our conference specials that we, that we give to, physicians that come to our, you know, conferences, which unfortunately has been kind of dry this last year.

It's just been tough. But that's I'm take advantage of you guys at the conferences. So, well, awesome. Hey, it was fun, educational. Impressive. So thank you so much.

And you are one of our, wonderful sponsors. And, I suggest you, you know, the website and take advantage of all the information and do something I think is great for your patients.

So thank you very much. So great. Thanks.