Peptides Cut Mortality In HALF! Why Doctors Are Hiding This Longevity Secret I Ep #394 Transcript

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Introduction and episode overview

Hi, I'm Natalie Nidam, your host. Today I am joined once again by Dr. Bill Lawrence, a longevity researcher whose past episodes are still some of the most downloaded on this show.

And that's because so many of us are united in our fascination with his main topic, which are bioregulator peptides. Now, Bill trained directly with Professor Cavinson, the Russian scientist who discovered and researched bioregulator peptides and ran extensive human clinical trials in Russia where certain peptide cut mortality almost in half, actually in some studies, more than half.

Now in this episode, bill finally shares the long-awaited data from his eight-year telomere study and five- year epigenetic age study. We talk about what actually happened to real people's biological age, organ level aging, and why the pineal and thymus peptides seem to punch so far above their weight.

This episode is brought to you by the Kinion Move Plus red light and infrared light device, Beam Minerals and NutriPept from Level Up Health, all with special offers just for you.

Just go to the show notes below for details. Now enjoy the Dr. Bill Lawrence, we are finally back again. This is an interview that I've been looking forward to for a very long time.

Thank you so much for taking time out of your schedule for this. It's my pleasure always, Nathalie. Well, we have a bit of a history together. Guys, in the show notes, you will find links to the first three episodes that we recorded together, I think those first two episodes we were recorded today together to this day are probably the most downloaded episodes, that I've ever recorded on this podcast.

So you get to you hold the prize for the episodes the blew people's minds the Most. And there's a lot of mind blowing stuff on the podcast I just want to say.

So thank you for the work that you do. I mean, obviously what we're talking about today is bioregulator peptides and so much of what gets discussed in bi oregulators.

is, you know, there's a lot of theory out there. Too often, and I find this even in the medical field, people disregard a lots of the foundational research that was done on the bioregulators.

And so, maybe just to set the stage for what we're going to present today, which is really for people who've been following bi regulators, this is the moment we've kind of all been waiting for, right?

This is a culmination of eight years of kind of field clinical research that you've been conducting in this space. Can we just set the stage a little bit for people in terms of the bioregulators and your interactions with Dr.

Cavinson, who really is the man that kind started this whole thing. He's the papa in the world of bi oregulator peptides who we all look up to or did.

Yeah, I think I can give you a real quick summary of both the history of it and then my involvement and my relationship with Professor Cavinson. Where this all started was during the Cold War.

The Russians became aware that the American military was developing certain weapons that would have the ability to damage vision, hearing, and so forth.

and I'm sure the Soviet Union, you know, was working on similar kinds of things. And the other thing that was happening was that the, they were, the Navy was noticing that sending out these submarines with young submariners, I guess they call them, sitting in a submarine that was built in the late 50s and early 60s with a nuclear reactor that top rate protection, radiation protection.

They would come back after being on these voyages with all sorts of medical issues, primarily thymus destruction issues and so forth. The immune system was just a mess and they realized they couldn't have the situation developing.

Origins of bioregulator peptides

They took a group of military doctors and scientists, of which Professor Cavison was both, he has an MD and a PhD, and said, you've got to solve this problem.

We've, we've to have protection on the battlefield if these lasers that the Americans are working on come to be, The submarines, you know, come back with healthy sailors and so forth.

And we're also concerned about our cosmonaut program. What's going to happen when they come? Cosmona program is their term for the astronaut program, so according to Professor Cavinson.

the Soviet Union just threw enormous amounts of money. It was basically a blank check, which in the world of science is just a wonderful situation to be in.

And they went back and did research, starting with Ivan Pavlov back in early 1900s, And they realized that when food breaks down into amino acids, it passes through the digestive system and so forth.

But if you can break down, into what we call peptides, rather than the proteins that most of it ends up being, that you could find yourself in a a whole different world using peptides as substances that had dramatic regeneration properties.

And what they discovered was that if you create very short little amino acids, peptides, little strings of two, three, and four and so forth primarily, that the amino acid or the peptide passed through membranes, the arterial system, even the blood-brain barrier and what was mostly interesting is that where you sourced the peptides from, which in this case were animals, they were pigs and cows, that when you took a portion of that animal and you selected a specific organ, like you've selected the heart or the liver, kidney, and so forth, you broke it down into these short chain amino acids that, when a human being had that introduced into the body, The liver peptides or the kidney peptide, they didn't just float around generally.

They went to the liver, to kidney, brain, and so forth. And they were organ specific. There were receptors on those organs that recognized these short chain amino acids.

And so when they started using them very quickly, the submarine issues went away. They administered the peptides to the Submarine people before they were going out on these trainings and so forth.

And they gave them to them also when the came back, they give them the cosmonauts and And so that's where this started. And they only had two peptides to start with.

They had a pineal gland peptide and they had an thymus peptid. But just using those two, they were able to get protective through regeneration. they're able get into a protective situation with the sailors and so forth, the cosmonauts, and then they used them for the Olympic teams for recovery and And then as they realized how potent those two peptides were, they started to expand and they took different organs out of these animals and ended up with basically 21 or 22, depending on how you count one of the peptide.

They now have 21-22 of what we call natural extract peptides, all of them organ specific. So they have, you know, pepkide for the pancreas, peptide restoration of cartilage and so forth and forth.

And so what Professor Cavinson did was he started doing longevity studies or at least mortality reduction studies in the late 1990s. And we're going to show some of those in the slides here in a moment, and I'll talk more specific about them.

But what they found was that not only could they do organ regeneration, but they could actually reduce mortality by huge, huge percentages. And I will go into the slide.

So that's sort of the background. Professor Cavinson has extremely well known in Europe. Everybody in your knows him. He's been the head of this and that, you know, society and institutes and so forth.

His biography is crazy. Yeah. I think the last count that I was aware of, he had over 700 articles and clinical studies published. Anyway, I got involved because at some point in my life I decided to stop making money so much and focus on staying alive.

Without going into the history, my family, for the men, doesn't have a very good longevity history and my father had died early. And I thought, I better do something, take a different direction.

And so I went to school, got the PhD. I had a law degree and a master's and bunch of other stuff. Got the Ph. D. and decided to focus on longevity for obvious, very selfish reasons.

And I ran across, when Google Translator became available, I started looking at studies that came from all over the world, because up to that time, you could only really look at the studies from the United States, Britain, Israel, and so forth.

Very restrictive, but now the whole world opened up. And I came across a published study that I'm going to show you the results of in a few moments, where Professor Cavinson was able to reduce mortality over periods of 6, 8, 10, 12 years by 60, 70 percent.

I mean, it was just astounding. It was so astounded. I thought, this can't be for real. But I dug into the data and so forth and realized it was forreal.

And unlike America, where you have to be very careful when you're looking at a pharmaceutical clinical study, there's a lot of manipulation of the date.

In fact, when I got my PhD the first five years, I basically was a consultant to medical clinics. to analyze the pharmaceutical clinical studies and tell them the reality of those studies rather than the pharmaceutical sort of advertising that they do.

Anyway, so I read these studies, and contacted the Institute in St. Petersburg and said, I want to come over there and see what you guys are doing. And to my surprise, they said yes, you know, we'd be happy to have you.

So Vess and I, this is like, 12 years ago or something like that. We went to Russia, to St. Petersburg. And I think that Professor Cabinson and the staff there, I mean, they were gracious as could be.

I Think they we're so surprised and literally stunned. Then you got on a plane. You know, that I wouldn't consider myself a scientist at that point, but certainly I was a researcher would be so interested in their work.

So they literally took us in and that was 10 or 12 I'd worked with them for a couple of years and understood the peptides and so forth. Kevinson and I talked about, let's do an American study.

We have all these studies here in Russia. Let's a study in America and duplicate some, I call it a confirming study, duplicate what you've done here and let's do it as a longevity study because I'm not a doctor so I can't be repairing kidneys and livers and so forth even though the peptides would actually do that and indirectly we actually sort of do put together this clinical study.

And what I'm going to talk about today and show in the slides is the results of eight years of that study for telomeres and about five years for epigenetics.

Those two biomarkers are primary biological age markers. So people sometimes I think they get confused. It's not possible to have an accurate biological edge for a human being.

The system is too complex. I mean, human systems are so complex that you cannot have one number that represents. What's interesting is that we've gone, and I'll talk about this with some of the slides, we have gone from having just a one-number where we're now able to break down different systems and organs and determine a, I don't like the term biological age, but it's something people can understand.

We can determine the biological ages of about 19 different organs as well as the overall system. So we started our study using telomeres, which I'll explain briefly when we get to a slide, and then after that epigenetics which is about gene modification.

And we've gotten outstanding results and I'm going to share with everybody those results today. Hey folks, I just wanted to take a quick minute to tell you about something that I've created just for you guys, my listeners.

I created an amazing holiday gift guide for listeners so that you can get the best Black Friday deals on biohacking tools, supplements, and so much more.

They are gifts in different price ranges and once a year price drops on your dream health tech.

How peptides target organs and repair DNA

And no one said you can't shop for yourself. So you get the stuff for friends and family or for. All you've got to do is go to natnidam.com forward slash gift guide for the list of Black Friday deals that you just can.

That's a beautiful summary of really what, what those first couple of episodes were about. So if people are interested in getting into the details on some of that stuff, then definitely go back to those episodes and come back.

To, you know, if you don't want to read the end of the book before the beginning of a book, go Because this isn't the end of the book, but this is definitely the next level, right?

We've all been waiting for these results with bated breath. And as you mentioned, this building on a lot of clinical studies that Professor Kavansson did run in Russia.

You know, I always laugh when I use these terms because these are straight off the paper. The old people study, the elderly people's study. There's the Gazprom study which was conducted in a factory in Siberia.

And what's notable about all of those studies, which you've replicated in your work, is that people were not asked to change anything else. They were asked not to their diet, they were to changed their lifestyle, whether they did on their own or they didn't.

is not even the point. The point really was to identify what impact could these tiny proteins called bioregulator peptides have on a person's mortality rate.

I think you made this point also earlier was that people live too long to do a longevity study. Can we prevent people from dying sooner? Bottom line is kind of what it boils down to.

One of the things that I found really interesting when I was reading a lot of earlier work was When he was talking about food, and please correct me if I'm wrong here, but I think one of the things he described is that these sequences of peptides, these little bioregulator peptide, they're embedded in the proteins in food and they have cleavage sites that are very specific that allow them to remain intact so that when they get transported out of gut into the body, you have this little peptide that's kind of going to find its way to the target organ.

Is that about right? Because that was one of the things that were so fascinating to me is that they exist in food. Yeah, that is absolutely correct. I sometimes will use the metaphor of, because I lived in Alaska for a long time, the salmon.

The salmon will depart from where they were basically hatched and so forth, and they'll spend four or five years in the oceans and then thousands of creeks and rivers and to choose from, they all go back to where conceived, you might say, and so forth.

We call them cleavage sites. I sometimes refer to them as docking sites, that is, the amino acids will swim through the arterial system, pass through them membranes, they're looking for the liver and they are looking the receptacles on the livers.

That's what allows these peptide bioregulators, literally at the cellular level, People talk about cellular reprogramming, there's a lot of information thrown around, unfortunately not very much proof yet, but that's the concept is that these amino acids are cellular programming substances that then result in tissue rejuvenation and then finally organ regeneration.

Oh yeah, you've got it down. And I think I got this from you. I will refer to bioregulators often as the ultimate epigenetic switches because they are actually able to influence the way that our DNA expresses.

You had said in our last interview together that your hypothesis, which may still be a hypothesis or you may have proved it since then, is that what they're actually doing is correcting the expression of the DNA or resetting it.

back to a more youthful setting so that, you know, just as we used to heal on the go as young children, as age, we lose that capacity and maybe it's restoring at least some of that back.

Without going into the weeds and so forth, what's going on is that The peptide bioregulators are the only substance that I'm aware of that can fix what we call the DNA repair system.

The DNA system is built into our cells. It's sort of like you might have an assembly line where they're putting together some highly technical kinds of things.

On the assembly lines, there are checkpoints to make sure that all the parts are being put in. You'd see this on an automobile line and so forth. And what happens is that when we were first conceived, this DNA repair system is operating at an optimal level.

And that's why, you know, 99.9999999% of cell regulation occurs and cell duplication replication occurs, and everything runs smoothly. As we age though, this DNA repair system basically starts to kind of deteriorate just for a lot of reasons.

Part of it is that the mutations that occur from the environment, from poor food choices and so forth, they damage the assembly line or the DNA repair system.

So what the peptides do, and there's a couple of clinical studies that Cavinson did, published that prove this, is they go in and they fix the DNA Repair System.

They return the D&A Repairs System back to something close to what it was when you were conceived and when were born. And as a result, when have a DNA repairs system that's functioning as it should, there is a huge cleanup that takes place at the cellular level.

So we could spend an hour just talking about that, but that's sort of what we've discovered. So I have another question for you. For the pineal gland bioregulator, which just for the audience, the Pineal Gland Bioreglator has several different names, depending on which form you're talking.

About so as a whole, The Pineel Glan Bioresulator has an impact on, seems to have a positive impact, on the

immune system. Of its laundry list of benefits that are often cited is that it may upregulate the activity of telomerase, which is the enzyme that preserves telomeres, you're going to talk about it in a little while.

It also helps to restore melatonin and it restores melatonin to optimal levels rather than boosting it or depressing it, it's looking to normalize. It has a positive impact on the circadian rhythm.

There are some studies that Professor Cavinson did that shows that it may have some benefits in the case of cancer, which the study I'm most familiar with is a mouse study, but there may be others that I don't know as well.

And then also talks about being beneficial for cellular oxidative stress. When we talk about the bioregulator kind of homing in on its home tissue, being the pineal gland, are all of those impacts being, to your knowledge, and I don't know if you know the answer to this question, but this is one of the burning questions I've always had in my head, is all this happening from the penile gland acting on those systems?

Oh, also it helps to balance the endocrine system. It has a balancing effect on hormones. Or do you think that there's receptors for that penial gland bi oregulator in other systems, I always think of it as kind of the master bioregulator, but do you have any insight in that or is that still a little bit of one of those things that's still needs some clarification and elucidation?

The latter, it needs clarification. We don't really know. But it's interesting that when I put together a protocol and We're focused on the two tests that we use as bio…

In fact, let me step back for a minute. Since it's difficult to make an assessment of overall biological age, what we have to use is biomarkers. There are many biomARKers for reflection of biological ages, but the 2 that are pretty much predominant are telomeres and epigenetically or DNA methylation.

We know those are very much reflective of a person's biological status. But there's many other things as well.

Testing methods and protocol design

These are the two that are primary and most importantly, these are two we can actually do testing on, or four you might say. Going back to the question about the pineal gland and so forth, we don't know to any depth, how on multiple levels things like the pineal gland peptide, how it does what it, does how, it knows where to go in terms of docking or claving and so forth.

But what we do know based on Professor Cavinson's studies, extensive studies is, and I'll have to kind of preface this, while we're focused on telomeres and DNA methylation or epigenetics, If a person in the clinical study has some other organ related issues, you know, they've got some heart history, arterial problems, kidney, even stage three kidney.

And by the way, when we first set up the studies, we would accept anyone into the study pretty much unless they had active cancer. But then several years ago, as the studies were growing larger and larger, we restricted the admission pretty much to physicians.

And so at that point, the physicians would use the peptides to deal with various health issues, et cetera, like a kidney problem, heart problems. So when I would put together a protocol focus primarily on longevity.

I look at the telomere situation. We test people for their telomer length. Then the epigenetics, we test them for DNA methylation status. But then we would profile what health issues are they concerned about.

And we then add appropriate peptides, because we have, say, 21 of those. So we add relevant peptide. Back to your pineal gland, There is never ever a protocol that we've created that does not include emphasis on the pineal gland.

And yet we don't understand exactly how it does all these amazing things, you know, in the endocrine system and

so forth. But it is at the prime, I would say it's the single most important of the peptides followed only by the thymus peptide.

Yeah, that I call those my desert island peptids. Yep. Although you could argue that if you were on a desert island, maybe you wouldn't even need peptides because you would have all the horrible things that we're exposed to in the modern world.

But a little help never, never hurts. Before we launch into the presentation, people are going to want to know what are you using to test? I know that you've kind of changed testing companies.

We don't need to name names necessarily, but people would love to now probably which tests are currently using, to assess people's telomere length and biological age.

DNA methylation, sorry. The tests are the same. It's just that like anything in the technology world, they are enhanced over a period of time. And some labs are more enhanced than others.

There are some that are doing telomere testing that don't kind of move along with the science as it has progressed. And so for telomeres, we use a couple of labs that measure the telomerase on the end of our chromosomes, and I'll show some slides that demonstrate that.

We've been using a lab since 2012. But we're doing beta testing with another lab because we see that their results seem to be much more accurate. Again, some of these businesses or labs, they start doing things in a certain way and it's very difficult for them to change to something else.

That's the telomeres. For the DNA methylation, we've used, and by the way, for the Telomers, seven, eight years ago longer than that. I beta tested probably six or seven different telomere testing labs, including those in Europe and so forth.

And when I say beta testing, I would have the blood samples from the same person sent in over a period of two or three weeks, so there would be two of three samples for the same person.

And I would then look at the results to make sure that they were consistent and the ones that had a large variance, of course, were dismissed and so forth.

Anyway, for DNA methylation, same kind of story. With the DNA methylation, when it first became commercially available about 2020, 2019, there were a couple of labs that were doing the testing.

But the state of the science at that point was that they could only give you what we call a DNA age. They could measure the dna methylation and figure out which genes related to longevity were turned on and turned off and give that one number.

Then about a year later or so, one of the labs, again, very progressive people, they were able to divide that up and give us a separate DNA methylation age, you might say, or gene-related status of immune system separately from an overall biological age.

And then a couple of years later, about a year later or so, that particular lab partnered with Harvard and Yale and so forth. And they started using very large data banks of information and using algorithms.

And they then moved on to where they could give us their predictions of 11 different organ systems and so forth. So we could get an overall age, biological age.

You could call it epigenetic age and then we can get a predicted age of things like the brain, the pancreas, heart, liver, and so forth. As is true with all technology, it develops, gets better and better.

Right now, we're beta testing a new company that's giving us the biological age or epigenetic age of 19 of the

systems and organs. What we are very interested in is that prior to this, they were pretty much just giving us predictions.

That is the lab that was doing this before. was able to use the large data banks and the algorithms used to predict what people's epigenetic age might be for the heart, the liver, and so forth.

This new lab actually doesn't do predictions. It actually does actual measurements, which is phenomenal. And so I can get a very accurate within probably about a two-year time span, I couldn't get an accurate age for someone's heart.

In addition, the information also gives me the pace of aging of that heart. In other words, is that hurt aging faster than the overall body or slower?

And so when we create the protocols for these people. We look at all these and wherever we see accelerated aging pace, then we use more. So if it's, say that's a heart that got accelerated ageing, it aging say 10% a year faster than your calendar age, than we used more heart peptides.

Yeah, no, that makes total sense. That's really fascinating. The new lab, are they doing telomere testing as well or you use a different methodology for that?

Say that again, Natalie. The new lab, are they doing telomere testing as well or are you using a different lab for that? We're just literally in the process.

When I say beta testing, whenever I engage a new Lab, then it takes months to get the test kits, get them out to various people where we're sending multiple kits to the same person, as I mentioned earlier, As well as on myself and so forth.

So it's a process of several months, and we are in the midst of doing beta testing with a new telomere lab. I'm liking what I am seeing. And we've moved on to this company, I can use the name Generation Labs, which is certainly the leader in for epigenetic assessment of the overall system as well as those 19 different…

Okay, so DNA methylation is generation labs and you're not ready to share the telomere test yet just because you are still assessing it? Yeah, until I'm convinced that it is more accurate.

But also let me put this in some perspective. As when we get into the slides, we're going to show some slides pertaining to reflecting clinical studies where there's significant, in fact, just like amazing reductions in mortality.

And I'll be showing what those numbers are and so forth. And what we're trying to do overall with people is basically a makeover, you could call it, of the most significant systems, the epigenetic system, telomere system in the body.

And while I pay attention to these tests, they're not the more important thing. The most important things is what were doing is matching what Professor Cavinson was able to do in his multiple year clinical studies.

Clinical study results on mortality and organ repair

And so even if we didn't do any testing, I'll explain that in a moment, if someone just took these peptides for a period of three or four years Professor Cavinson's research, my experience is they're going to get all of these benefits.

We primarily use the testing because people like to see results. They like the results that they can actually see on a lab report to show progress. And so I have to caution people oftentimes that, yes, the lab results are significant, we establish baselines, and then we also establish goals.

for the telomeres and so on. But really, the program here is to get 21 peptide bioregulators out of the boxes and

into your body for the next three or four years.

And we know the answer is that based on Cavinson's work, we that that's going to extend your lifespan really significantly and it's gong to regenerate organs.

I have a couple of slides that show that it is going regenerating organs, so sometimes I'll say it like an automobile. You've got this 57 Chevy that I had when I was a kid.

and it's got tires that have to be renewed periodically. The engine, you know, and the transmission and all that stuff will run a long time, but at some point it all wears out.

And what the bioregulators do is with the telomeres, it's like putting on a new set of tires. And I'll explain that with a slide. What the rest of the by regulators do, is they go through and they restore everything in the automobile, the engine, and the transmission, that computer system and so forth, so that you can drive that car another 50 to 100,000 miles.

And, you know, it's difficult to test each of those stages in terms of, where the automobile is in term of its assessment, call it age. So I don't want to spend a lot of time on it, but the tests are helpful.

But really the goal is get a bunch of these peptides into your system over the next three or four years and then go live a long life. In Professor Kevenson's reports, in those two studies I mentioned earlier, the elderly people study and the old people's study, some of the metrics he reports on is better quality of life, better immune system.

They just were healthier in general, they slept better, their bone density was better. He wasn't looking at, is your pineal gland healthier? It was like, what are the downstream effects?

How is this expressing in the person's health? And I know that certainly, you know, in my communities where I've sometimes worked with people with bioregulators, we sometimes see liver enzymes improve where they were out of balance or how people feel and how they're, sometimes we see better blood sugar regulation.

They're still doing all the other things, but the bi oregulator seems to add another piece to the puzzle as it were. And the last thing I wanted to invite you to talk about a little bit before we get into the slides is this idea of a bioregulator normalizing function versus boosting function or suppressing function.

and this, which is part of the reason I think why they're so incredible. And it speaks to what they are actually doing. Because if you're restoring the body's tissues and organs ability to function properly, you are not boosting the immune system, boosting your thyroid, suppressing anything, basically laying the work so that the thyroid goes back to working the way it was supposed to.

or the immune system is working the way it was supposed to. I should be interviewing you. No, this is all stuff I learned from you, are you kidding? Well, but you just answered the question that you were sort of getting close to asking, yes.

But you're the guy who worked with Professor Cavinson. You're the guy who's done the eight-year study. I'm just dabbling and I've compared to you. So what I am looking for is, is this what you've observed as well?

Oh, absolutely. Yeah. And we can measure a good amount of that, particularly now with the new DNA methylation stuff. What the bioregulators are doing Unlike, let's say, the synthetic peptides, which I think are wonderful, actually.

The synthetic are giving a quick boost to whatever the system is or whatever organ issue is and so forth. And so they go in and it's like the fire department's showing up, you know, and they're putting out the fires and stuff.

Yeah. Okay? The peptide's act differently. They're not going to do anything quickly to start with, okay? What we know is with exception of some things like kidney restoration and thyroid restoration.

So you're not going to feel any or even lab test any real significant changes for about a year. It's a slow process, of course, to rebuild at the cellular level these organs in these systems.

For instance, with the telomere testing, I tell people don't expect to see anything of significance for at least 12 months. with the DNA methylation, I tell them two years.

And that's why we ask people to stay in the clinical studies. You know, it's not a contract, but we give them some information and ask them to sign that they've read the information.

We tell people, stay on this thing for three to four years, because that how long it takes to sort of do this regeneration. It's a not fast process. So, should we go to the slides?

Let's do it. So for those of you who are listening to this podcast, this would be the part where you might want to hit pause, head on over to your computer, turn on YouTube, and go to somewhere around minute 38 or so, maybe minute 42. And that's where we're you're going to see the slide presentation.

We'll do our best to explain it to you if you don't have the option to do that. But this is going Okay, so here we are. We have the infamous slide presentation up.

Let's fire away. This is one of the reasons I went to Russia. I read this study that was published about roughly about 2000 and so forth. And of course, the title caught my attention, you know, The Mechanisms of Peptide Regulation of Aging.

Those words regulation of aging just jumped out at me. And so I started reading everything that I could get my hands on or everything I can translate and so forth.

And I realized that this was for real. I mean, at that point, this had 40 years or more of science behind it. Of course, I did background on Cavinson and learned that he's just as bonafide as you can possibly be, as I said earlier, well-known in Europe, and pretty much the rest of the world, but not here in the US, so forth.

This is what got me over there. What Cavinson and I did was, this would be about 2010 or 2012 or something in there, was I told him, you've done this amazing work, all of it science-based and so forth.

Everybody knows who you are in Europe and you're unknown in America and unfortunately in america they only pay attention primarily to studies that are based in american or maybe britain, sometimes israel, and let's basically do what i call confirming studies in use your published studies where you've shown tremendous mortality reduction, where your proven organ regeneration.

Let's add to that biological age reversal because Cavinson wasn't interested in, you know, what we call anti-aging at this point. He wasn't focused on it at all.

What he was passionate about was developing new peptides that could be used for mortality reduction and organ regeneration. In fact, he told me he thought that it was kind of odd the focus that Americans have on anti aging.

And he says, because you can't have anti ageing. He says, you can improve at the cellular level. He would give me the scientific part of it. Yeah. Well, he's kind of getting into semantics.

Like you cannot de-age. You can age well, but you don't deage, But we have several discussions. If you do not convince people like Cavinson of anything, if you give them data, give him information and they'll let them decide.

I have said several times that he's the most brilliant person, scientist I've ever encountered. I put him literally in categories with Einstein and some of the other greats.

when you see the results that he has produced and so forth, it is mind boggling. Anyway, so gradually he came around to and he said to me, Bill, if you want to do a confirming study in terms of biological age interventions, then

sure, let's go ahead and do that.

And then we'll publish those studies in America and also here in Europe. So that's sort of how this got started in 2017. You know, how do we measure biological age and changes in biological aging?

And as we talked about earlier, the two most trackable interventions would be telomeres activation or telomer lengthening and DNA methylation. And so we use that as our framework to prove that the peptide bioregulators could have a positive impact on biological aged.

And so this study was the one that I ran across that was just incredible because what we have going here is in an elderly groups of people, we had a significant reduction over a period of years in longevity.

And as you mentioned earlier when we were talking, it's hard to do longevity trials and so forth because people have to live a long time for where you can determine if the intervention has been helpful and, so, forth.

But what Cavinson did was over a period of two to six years and then the test or the process continued on for as long as 12 years. He was able to show very significant reduction in mortality and that's what the abstract is showing us.

So I took the Abstract and I basically then created some graphs that would make it easier to understand. And so what we have is there's two groups of people here, the elderly people, as they were called in the study, and they are the people from 60 to 74 years of age.

And then the older people down below, Russians are not the most diplomatic, calling them old people. That's now the group I'm in. I'll be 79 in two months, I guess.

So in the group of 60 to 74-year-olds, the control where it says polyvitam is there in yellow, are the people not on the peptides. And if we look at mortality rate in different time frames, and mortality rates in eight years and then drop down where is says 12 years, we'll focus on 12-years.

So it was a 12 year study. The control group, 44% of those people died, okay? And that would be normal for that age group over that period of time. using, and you and I were just talking about the pineal gland and how extensive the impact of the Pineal Gland and the peptides have on the whole body.

Notice that in the Peptide group, using just that one peptide, the mortality rate over 12 years dropped in half. It went from 44 percent to 22 percent.

I mean, that's unheard of. There's nothing else out there that I've come across, and I have been at this 30 years now, with just one peptide. So we then moved on to the older group.

75 to 89. And in the control group, the non-peptide group the mortality rate was basically 82%. You know, that age group that part of the world, this by the way was Russia and Ukraine.

But using again the pineal gland peptide, it dropped the mortality rate down to 46%, 45.8. Look what happens when a second peptid, thymus peptides was added.

it drops to the mortality rate from 82% mortality to 33%. I mean, that's just mind-boggling. And the interesting thing about this, and I know you know enough of the history and so forth and you've read enough for the studies, in this the old people, one, they only used peptides for three years.

Yeah, that's shocking on the one hand, and on other hand it makes total sense. Yes, it does. Right? But I think one thing that I would like to point out to the audience is that the form of the peptides that they were using here is different than the form that we currently can access in North America.

So the pineal gland peptide was epithelium and the thymus was thiamin, and these are actual extracts of those

organs of animals that have been prepared for an intramuscular injection, which is why the polyvitamins is relevant here, because everybody was getting an injection of something, but nobody knew what they were getting as an Yes, that is correct.

But in the clinical study, we're not using intermuscular. Oh, I get it. I'm just saying in these studies that's what they were using. And I just think these study sometimes get misquoted quite often because You know, I think what's interesting about the work that you've done now is you shown that the oral bio-regulators, the natural bio regulators can very effectively in many ways reproduce, at least get us in there.

You haven't done the 12 year study, that same study that he did, but at the same time, what you're showing is that those oral bioregulators the national bi regulators very much produce very powerful results.

Yes, they are the natural extracts in capsule form, and that concerned me a long time ago when we were talking about this. And so what Cavinson did was gave me some telomere studies that he had run using the injectables, using, you know, the and or I'm sorry using the synthetics because he had synthetix for epithelon and for the thymus and then using oral capsules, the extracts that I am using and so over a period of time looking at the telomere results using those different methodologies.

Telomere study results and stress effects

The difference between the oral natural extracts that we're using and the injectables or the synthetics over a period of several years, a 10% difference.

In other words, the oil capsules were 90% as effective in lengthening telomeres as the injections or synthetics. That's amazing. So the synthetics matched up with the oral, or did the synthetic match up the injectable natural?

As I recall, about halfway in between. Somewhere in-between. Then the ones that move the needle the most are the natural injectible form, which is the epithalamin and the thymalin.

The next in line is oral natural, that is, the endolutin. No, no. Oral synthetic. Yeah, there's about six or eight. Cavinson has about 6 or 8 of the peptide regulators as synthetics.

We don't use them. They're not used outside of Russia. But the synthetic group in the middle was less effective than the endermuscular, but more effective then the natural extracts.

Okay, and what about the synthetic, like epitalon, the one, these synthetic ones that are available? outside of Russia. Have those been studied at all or not so much?

Slightly. They're faster acting as any synthetic will be. That's why the synthetic peptides, you know, that are used like BPC and all the rest of those are very quickly used.

But if you're looking at long term, which is what the longevity studies are focused on, if You don't want the intermuscular, you don' want to six or eight different synthetic bioregulators.

They're good. What you want is to run the race to the end of three or four years. You want oil capsules in natural extracts. Okay. Great. All right. Okay, moving on.

So yeah, what this was showing was that previous slide where Kevin said, I showed that what his work has been all about is mortality reduction. The next part of this is going to be a short one on organ regeneration, and then we're going get to the biological age part.

Perfect. Here's the organ regeneration and in other slideshows I have many of these kinds of things, but no pun intended. But if we're using vision and retina issues, you can kind of see the difference between before after and after treatment.

And so, in all of these retinal conditions, diabetic retinopathy, age-related macular degeneration, and my favorite, rhodonitis pigmentosa, when we're looking at these fetal division on the left, where I know that people listening can't see it, but there's a definite amount of what we call yellow and black occlusions, networks where people don't have almost any eyesight, Shown as red and black and so forth were shown as green as the vision they have remaining In each of these there is a you know significant amount of red black, and yellow which is impairing people's vision On several of the is on the retinitis pigmentosa.

It's almost all black. Yeah, it's incredible Yeah and what people tell me is is that if you're going to have any of these retina diseases, you don't want retinitis pigmentosa.

No. It just closes down. There's nothing that can be done about it. Actually, it's truthful, there's really nothing in the Western world that could be about any retinal conditions.

They're some drops that the ophthalmologists use, but basically it is non-reversible in US, progressive and so forth. So when we look at the screening field of vision on the right-hand side in each of these categories, the amount of green, which is vision restoration, is dramatic.

I mean, if we looked at diabetic retinopathy, I would say there's been a 70% to 80% increase in the green, and a huge decrease. In each one of these situations, the macular degeneration, that retinitis pigmentosa, there's enough improvement that a person, I would say on the whole, it's a generalization, but on whole the person can have a pretty natural life.

I mean, if you look at the diabetic retina pathy, That person probably cannot drive safely a car On the other hand, after treatment, and the treatment usually lasted two or three years, on the hand after two, three, years of treatment they're whizzing around in their car.

Yeah. 100%. And also with the macular degeneration, not only are you seeing a reversal of the loss of vision, but that means it's a double win because you stop the degeneration and you've reversed back to a better state of Absolutely.

I mean, it would be enough of an achievement if you could just stop the progression of these diseases. Because now with the testing, you know, being able to identify these conditions early on, if could stop progression, I think that's amazing.

But this situation, isn't just stopping the progressions, its reversing it. Yeah, it's incredible. And then the retinitis pigmentosa, I mean, that is a sentence to blindness.

This person still has impaired vision, but the increase in the green area is dramatic. The problem, the issue with retinnitus pigmentosus is that it tends to manifest itself in much younger people.

It's an inheritable disease. Typically, it kind of skips a generation and so forth. But many, many people are diagnosed in their 20s and 30s. I mentioned before, and I'll do it just real quickly, I had two brothers in a family where there was a history of retinitis pigmentosa who were diagnosed the same year.

in their teens. I think the younger boy was 13 and the older boy with 16. Both of them were diagnosed with retinitis pigmentosa, and that's very, very common that it's diagnosed at an early age.

Typically, it depends on each individual case, but as an example, over about a 10-year period of time from diagnosis, they go completely blind. Everything is black.

Well, through a friend who you know, knew me and knew the family and so forth. Long and short is that we put these boys, this would be 2012, we'd put the boys on the vision peptides and a couple others.

We always use a multiple of peptide to never just one. We put them on the peptides within six months, their night vision, which is impaired first before other things started improving.

10 years, 12 years later, they have perfect vision. That's incredible. They drive cars, have careers. Whereas 10 year later without the peptides they probably would be in utter blackness.

Yeah. So are you able to share the family of peptides that are used in these? Because it's not just the retina peptide. I think that the blood vessel peptid usually plays a role here, and our infamous pineal peptida also seems to play a roll in this stack.

Am I right about that? for a condition. Now, let's go back to what I was saying earlier that the goal is longevity, organ regeneration and so forth. But we don't ignore conditions that people have.

And if the individual, primarily about 80% of the people in the clinical study, I think there's about 140 people on the Clinical Studies. 80 percent of them are doctors.

So I have kind of a free hand to be able to create protocols for different medical conditions. And where a person in the clinical study is not a doctor, we then work through their doctor in putting these together.

The norm would be for a condition, a minimum of three different peptides, typically oftentimes five different peptides. So someone with retinitis pigmentosa or any retinal disease would have the vision peptide.

The arterial peptide, the thymus peptides, pineal gland peptid, always in those. Those would be probably the four that we would use for vision issues.

Thymous, pineapple, vision, arteriole. Yeah, those would the be the 4 that would have. Because we're doing longevity for these people, the average person on a monthly basis is taking, I would say, five or six.

A few people are taking seven different peptides during the course of a month because we are focused on telomeres and epigenetics. But they're only taking…

Except in a rare case, well, go back to red nidus pigmentosa, we would put someone on protocol for probably about three months, and a high dose protocol would be maybe two capsules a day of each one of those peptides, sometimes three capsuls a date for two or three month, s and then we'd start graduating down to a lesser program.

For the people who are just looking at longevity, telomeres DNA, The norm that's used in almost 90% of the cases is say they're on five different peptides, two capsules a day for 10 days only.

So a total of 10, you know, say 10 10-days only and then off for 20 days. That's the normal process. They're not on unlike American pharmaceutical drugs and so forth where once you go on a drug you're probably on it for the rest of your life.

And then the whole period is basically about a three to four year timeframe. And, then we're done at that point. Back off. Yeah. Do you think you might, over time, do you, think, you may revisit like a maintenance protocol?

Well, that's the problem. After a few years break? Like, would you talk about that? That's the problem. That sounds, theoretically, that sounds like a smart thing.

And that's what Kevinson and I thought would happen. We figured that at about the three or four year period, when we get real close to the goals that we set for these people, we would say goodbye to them.

The problem is nobody wants to leave. Yeah, literally. So we had to develop a maintenance program. I think one person maybe in all these years left, I can't remember why, but not disgruntled, oh no, yeah, he said he'd check back in five years.

We put them on a maintain program, maybe two different peptides a month rotating through all of those peptide during the year and then we change it for the next year.

Yeah. Cool. Okay, so let's move on from, this is the organ regeneration. So this is just a summary here. We had 124 participants in this leg or track of the clinical study on different dosages, low, medium, high.

And as you noted, I think earlier, there were no other lifestyle changes or interventions. we didn't tell people to change anything else. We never inquired basically about other things that they were doing, other treatments, lifestyle, changes, diet.

None of that. The only thing we wanted to do was add the peptides. This is just a listing of the ones that we use the most of. They're in capsule form.

As I say, the normal dosage is two caps a day for 10 days out of a month. We get to biological reversal, which is the goal that I was focused in in terms of doing these studies.

And we started with telomeres because there was testing for telomerase easily available as blood tests 10 or 12 years ago when we've started. And I won't spend much time on the science of telameres, but basically telomares are little end caps on end of our chromosomes, and they're vital for allowing cell replication to occur.

Last time I checked, there were 2,500 PubMed studies and so forth related to telomeres. And what we know is that every time we have a cell replication, we lose just a little bit of that end cap.

And while that in cap is intact when we're young, cells replicate, you know, as they should, the replication goes smoothly and so forth. But as we age and as those end caps deteriorate, then you start having problems with the quality of the replication and it leads to aging acceleration, mortality increases, as well as chronic disease.

Bill Anders is a well-known scientist here in America and there's a quote here where he says, every time our cells divide, our telomeres get a little shorter and every they shorten, ourselves age.

Elizabeth Blackburn was one of three people, American scientists, who received the Nobel in 2009. And she says in this quote that, "'Tilamere slows the rate at which telomeres degrade and research indicates people with longer telomeres have less risk of developing the common illnesses of aging.'" So that's what telomares are all about.

So the idea was, Could we re-lengthen, could we slow the process of telomere loss and in fact could be re lengthen them? And so on the screen right now is a study from Professor Cabinson in 2003 where he shows that the pineal gland peptide induces telomerous activity, we won't go into the mechanics of that, basically resulting in teloner lengthening.

And that was remarkable because slowing the loss of telomeres and lengthening them is one of the holy grails in all of science. And to my knowledge, while there are some claims out there, there is no one that can on a consistent basis lengthen telomerase except the Russians and now, of course, our clinical study.

So what I'm showing next is my results over a period of time. I mean, a good scientist, I think, experiments on himself, much like this parachute is famous for doing and so forth.

And then you start testing on all of your loved ones and your friends and you hope that they continue to be your So, in 2014, this is before I met Professor Kevenson.

It's before anything about peptides. I was 68 at that time, and my first telomere test showed that my telomeres were equivalent to someone of a 75-year-old.

In other words, when they measure the end of my chromosomes and look at the telomeres, they can sort of equate that to a biological or to chronological age.

So my telomer age, as we called it, was 75. Or in other word, my telemers had accelerated loss and I was seven years younger, or you might say older than my chronology age not a good situation for a 68 year old that accelerated aging.

No. Two years later I was retested and at that point I had been on the peptides for about a year, had met Professor Cavinson, so forth. I'm now 70 and, at this point, my telomeres are equivalent to a 68-year-old.

So I've gone from seven years older telomer-wise to two years younger. Two more years later, 2018, I'm 72. My telomere age is 44. I've been on the peptides, you know, for about three years plus.

Epigenetic age, pace of aging, and organ-specific data

2019, i'm 73 chronologically. my telomer age was down to 35. And then the most recent test. Holy cow, look at you. Yeah. No wonder you look younger. I was 76 at this point, and my telomere age, as we call it, was equivalent to a 23-year-old male.

Amazing. That's really impressive. Yeah. So I decided to to decrease the attention on the telomeres because I was concerned that Vess, my wife, who you know, was going to leave me for a mature older man.

But you could always claim immaturity when you do something that annoys her. You could also always say, look, I mean, the equivalent of a 23-year-old, we know that the adult male really doesn't mature till, what, 26 is the current number?

I thought it was forever. Well, possibly. No, Vess wouldn't buy that anyway. No. I know she wouldn. She doesn't by that nonsense. In any event, this is very impressive.

So that was in 20. Have you tested since 2023 or are you just riding? I'm in the process of retesting beta testing with this new company right now. Oh, wow.

Okay. Well, that'll be interesting. When do you expect to get results from that? Four weeks. All right. We'll have to check in with you in September. Yeah.

These lab tests are not like, you know, running down to the local lab where they do a lipid test and so forth, and you get the results two days later.

Yeah. They're much more complicated. There's some work to be done. It wasn't just me. This is a photo of Tora Bright. Tore Bright was a three-time Olympic gold and silver competitor and was an Olympic Gold and Silver winner in snowboarding, skiing, And of course, the Olympic doctors, I guess they do extensive testing.

I was stunned to find out that they'd do telomere testing, but then I understood why, because we won't spend the time on it today. But what we know is that the number one situation that causes accelerated telomere loss is stress of all things.

And of course, these athletes, Tora had been, you know, skiing since she was about five or six years of age and she is now chronologically 32. Her doctor, Olympic doctor tested her for telomerase and her telameres were equivalent to a 56-year-old woman.

I was going to ask you about the stress anyway because that came up earlier in our earlier interviews. I just want to say to the audience, because we're going go long on this podcast, that if you take nothing else away from this episode, It's the massive impact, the chronic stress that is not dealt with properly will have on your aging, really, on accelerating your ageing, at least from a telomere perspective.

Yes. In fact, Elizabeth Blacksburg, who I mentioned earlier, Nobel Prize and so forth, professor at UC San Francisco, she's done extensive studies on stress and telomeres.

And what they've discovered is that if a woman is pregnant, and she's not happy about being pregnant or there are financial issues. She's a single mother.

There's death of loved ones in the family, you know, just a very difficult pregnancy. she will give birth to a newborn

on average with 15 to 20 percent shorter telomeres at birth than a a woman giving birth where she was happy about having the child, money wasn't an issue, she's got a supporting spouse, you know, all these kinds of things.

It's that powerful, it can be passed down to an unborn child. Yeah. Well, I mean, there's a lot of talk about generational stress being passed down to a child and that may be part of it.

We put Tora on about an 18-month program of telomere bioregulators and two years later, we retested her. Now she's two-years-old at this point, but her telomares were equivalent to 31-year-olds.

TORA wins for the win again. Yeah. So we had about 120 some odd people, and I know that your viewers can't see this, but this is one of many, many pages of spreadsheets where we track all of this information on the 124 people.

So what this spreadsheet is showing a baseline telomere test, both in terms of length and age equivalency. And then a couple of years later, after we've had the people on a peptide program for a while, we do our secondary testing, that's the yellow line here, and that shows on the whole, you know, significant telomere lengthening and improvement.

And then over on far right, the green actually shows the number of years of telomer age that we were able to reduce. So we're looking at numbers of 31 years, 18 years 19 years reduction or lengthening you might say of telomeres, 14, 11, 12. But it's interesting because of about 5% or so of the people only get one or two or three years worth of telomere lengthening over multiple year protocol.

And we believe, because I knew a lot of these people in the beginning, it has to do with stress in their life. Typically the busy business people and so forth or people with stressful lives ended up receiving less telomer lengthen.

The interesting thing is that Every year, we lose a little bit of telomeres, but nobody lost a single year in the clinical study, even though they were two or three years older.

Yeah. It's dramatic. What's interesting is one of the interventions, certainly before I heard of bioregulators, one the few interventions that people believe could help to restore telomer length is meditation.

like real meditation. Being a meditator and a skilled medutator would be one of those strategies that could help you to manage your stress levels. Absolutely.

And I would think, I've never really looked at the studies, as I'm aware of them, and I think that it would be a significant, not only for telomeres, but for so many things, everything.

So the average decrease in what we call cellular or biological age was over a three-year period of time was basically almost 22 years, 21.62 years. Or in other words, for every 12 months on the program, people were able to lengthen their telomeres and reduce their Telomere age by about seven years.

That's amazing. Per year. Beautiful. Okay. Then we went on to the epigenetic methylation study. It became possible to measure using epi-genetic technology.

And I'll explain in a moment briefly what epigeneetics are all about, but it became possibly commercially about 2020. So that's when we added this study, And without going into all the details, it's all about genes that are related to longevity being turned on or turned off.

And what we find is that the gene status of genes that are turned on that were related to, helpful with longevity, reflects itself in a younger biological age for people.

And we know that what affects the genetics of those genes are things like diet, stress, exercise, their sleeping pattern, climate, literally, nutraceuticals, peptides, et cetera.

In other words, everything that we do affects what we call the epigenetics of gene expression. One person said to

me, it's sort of like that the genes are like our computer hard drive and the epigenetics of this is the software and software can be changed.

So that's a short course in epigeneetics. The key here is that if you have a younger epi-genetic age, in other words, more genes that are related to longevity turned on than off, you basically that will translate into a young biological age.

This just shows how we do the measurement and so forth. We'll just kind of skip through this. It's based on DNA methylation patterns that we can actually measure at this point.

And what's interesting here is that if you have a situation where you're call it your biological age based on epigenetics. If your epigene age is older than your chronological age, Dr.

Stephen Horvath at UCLA and other scientists, we're able to figure out and report with numerous clinical studies that if your epigenetic age is older than your chronological age, you're in trouble.

You've got significant mortality risk over time. And so these are a couple of charts that show the increase in mortality risks based on having an older epigene age than a younger.

The converse of that is that, if you have a genetic age as measured, is less than your chronological age, you have a decreased mortality risk. And without going into all the detail in these slides, I show if you're seven years above your Chronological Age, You have an 82% increased mortality.

Risk compared to your same age peers. On the other hand, if your seven Years below your, uh, chronologically, do you Have a 50% decreased Mortality risk?

So the goal in the clinical study was to make an assessment of people's epigenetic age, and then use the peptides at different dosages to reduce their epigene age.

I know that people can't see the colors and so forth until they get to YouTube, but the chart that is sort of red raspberry and is the increased mortality risk, the other one that's kind of green and the decrease, our goal is to get all the people out of the red into the green.

So some test results. These are mine again. But I had been on the peptides for about four or five years before this testing became available. And it was September of 2020. I was 73 years of age at that point, but again, I had been on the peptides for four or five years.

This lab called it true age. Basically, my epigenetic age was 69 or four years less than my chronological. That translates into about a 28% to 30% reduced risk of all-cause mortality.

Great place to be on baseline, but again, I'd been on the peptides. Most people, particularly Americans that we test as bait lice, are three to five years older than their chronological age, which puts them in an increased mortality risk.

So a couple years later, two years, later I retested and I was at that point 75. And my epigenetic age was 65, so I was now 10 years less with a significant reduced.

And I think my last test, I don't think I have it in this set. I'm 21 years younger than my chronological age epigenerically. That is remarkable. And once again, I'm going to point you guys, the listeners back to one of the earlier episodes where you talk about one the drivers to you doing this work right at the very beginning.

You mentioned it very briefly at beginning of this podcast is that longevity was not a quality in your lineage. your family lineage and so people will then understand never mind how impressive these I mean your results are impressive regardless but they become even more impressive when we understand the backdrop of your Family history.

Yes unfortunately all the men going back a long long time because we have we do a lot of research and so forth, genealogical research. They all died in their 50s and 60s, all of them.

My father had his first heart attack and they all die from heart disease. He had this first attack at 57 and died of heart diseases at 64. And I'm now coming up on 79. You're doing all right.

Yep. I am grateful every morning when I just wake up and I realize, ah, I'm breathing again. And I get another day. Amazing. We have someone here who saw some really impressive results.

Yeah. What we have here is, this is Mark, one of the participants, and it's just a sample. You know, didn't take the best and so forth, but on his baseline, His chronological age was basically 63. And this is very typical.

His intrinsic age, as this lab called it, which is his age epigenetically was, basically, 70. So he was seven years older, Which translates to about an 80% increased risk.

Two years later, after being on the program, he's age now is 64 and a half, but his epigenetic age has been reduced to 48 years. He's 16 years younger than his chronological age.

Do you know Mark well? Like does he feel better? People will want to know, like the test is all fine and dandy, but does, is this showing up at all in his life?

Do know or is that not data that you were necessarily collecting? I talk to these people a lot of emails and text messages and so forth. It's such a subjective thing.

I can say this, is that people's labs, because again, they're mostly doctors and they share their labs. Their labs are enhanced significantly and when I ask them how they are doing, some of these have now been on the study for seven, eight years.

They say, I've never felt better. But again, it's a subjective thing. But what I do hear is that they don't have anywhere near, you know, most of these people are, a great deal of them are 60 to 80 years old.

I don' hear about any real medical problems. Once in a while something will come up where, kidney labs will have gotten deteriorated a little bit, but we get quickly in with the kidney peptides and fix that.

These people, the healthiest group of people that I've ever come across. Even, they went through COVID and I think probably five percent of the people even just came down with COVID.

Nobody died, nobody had any serious. And there were even four or five of individuals, doctors who had to get vaccinations in order to be able to practice medicine and so forth.

So everybody came through the whole COVID thing intact as far as I know. Amazing. Great. Yeah, so this next slide here is, as i said earlier, the technology improves and we now contract, you know, we contract the immune system independently and overall epigenetic age But we also can figure out now what we call a pace of aging.

In other words, we can compare a person's biological aging to a standard calendar year aging, and so we determine if you're in a situation where your epigenetic age is accelerating and you are aging biologically faster than your calendar aging This is my results.

Again, people can't see this, but in 2020, again, I'd been on the peptides for four or five years. My pace of aging was 0.92. In other words, i was aging each year 8% slower than my calendar aging.

in 2021, it improved a little bit and I was, aging 9% lower. 2022, ageing 11% Slower. And my last test, the latter part of this last year, 2024, I was aging at 0.79, which is 21% slower than my calendar aging.

And that's because of the peptides. Yeah, exactly. I mean, that is notable. And this one is a kind of a before and

after. Again, like Mark, this is someone else in the program where at their baseline testing, he was aging 12% faster than his calendar age.

And then about two years later, and he is aging 10% slower. So significant turnaround. And I won't go into this one, Matthew, it's a lot of detail that shows basically over a period of a year, huge improvement in this person's…

Huge wins. Huge, big wins here. I mean, this is a person who started off at a DNA methylation age, nine years older than their chronological and after one year.

They were now only three years older than their chronological age. So is that the right person? Am I looking at the thing? Yeah, no, you're looking correctly.

Look at what we call the immune age, that's that secondary test that they were able to do. The DNA extrinsic, yeah. He had a really good epigenetic immune, 10 years less than his age but then look a year later, he was now 18 years Wow.

And his pace of aging went from 12% faster to 10% slower. That's a massive delta. Yeah, and I would say this is pretty typical. I'm going to show you in a moment a slide that has the results for the whole 124, but this, you know, not cherry-picked, this pretty much what we saw.

This is what we call symphony age. This particular lab, again, technology advances and so forth. So what this lab was doing was they were able to then take 11 of the organs and systems and determine an epigenetic age for each one of those 11 systems, and chart them.

And so the person's current age was 63, but they identified that there were one, two, three, four, five, six of these organs, including his lungs, musculoskeletal, inflammation, kidney, and hormone age that were a number of years older than his chronological age.

And he had a couple of them that we're much younger, like his liver was four years younger than And so we're able to break it down at this point and this is incredibly helpful to me because when I'm putting together the protocol based on telomeres and epigenetics, I can target then for this individual I would be using more of the lung peptide, musculoskeletal, inflammation, so forth, kidney and so on.

The metabolic, even like the pancreas, the liver, yeah.

Practical use, maintenance, and future expansion

Yeah, so it gives me some tools that I can be very specific when I'm creating these protocols. Although just one thing that's really interesting to me is that his liver age is four years younger, but his metabolic age, it's six years higher.

Significantly, yeah. Yeah. Interesting. So, but now what's again, you know, technology advances. And so a lab called Generation Lab where I'm actually doing the beta testing now.

They've, they have a 25 page clinical study peer reviewed and so forth. Wow. But I don't take that by itself. I've got to do my own testing. But they're giving you a pace of aging by system.

That's pretty dramatic. This is the last test that was giving a global pace in aging, which is also very helpful. In terms of targeting your attention on different systems, this would definitely give you some insight.

It does, and again, it gets incorporated into the protocols that I put together. Outside of the peptides, of course, people having this information can do other interventions and be focused elsewhere in terms of what they can, in those that are elevated or faster aging.

I know that your audience can't see all this, but there are 19 different systems and organs that they've been able to

determine an epigenetic age of and mark those that are aging at a faster speed than those who are younger.

This person was 44, I think, as I recall. I was his chronological age. Is this a man? So then why would they get a reproductive system age on ovaries and uterus?

Let me take a look and make sure it's a man. Just a second. No, it has to be a woman. Because he's a pretty remarkable guy. Yeah, he is. I just grabbed one of what we call the system age breakdown sheets.

Actually, we threw this in this morning as a matter of fact. Well, I'd be curious. On the reproductive system, what what they would say on a post menopausal woman versus a pre menapausa woman because postmenopause, I don't know how much attention, you know, i don' know.

How meaningful it would be that your system age is older. You would think that it woul be just by virtue of the fact that It's pretty much, You know out of its prime years.

Yeah, I'm going to connect you up. I think you're going find this fascinating. But this is just how, as we all know, this how technology works. It just gets more specific and broader, more detailed, and more accurate and so forth.

So we're beta testing this one. And if the beta tests turn out the way I they will, then we'll be switching our whole system over to them. So the epigenetic study, 124 participants, the average decrease for the whole group in epi-genetic age was 4.67 years.

Now, that doesn't sound very impressive when we're looking at telomeres, you know, where you get 20, and so forth, but if you're getting a 4,67 we would say epigenetic age benefit based on harvest work and so forth, that can turn into a 50 or 60%. I think this one turns into 56% decrease in all cause mortality risk.

I'm not aware of anything out there that actually can match that. Yeah, no, it's pretty dramatic. And you know, obviously it depends. If the person was showing up 10 years older and now they're only five years old, Obviously, you're going to be better off if you are below the line, if your younger than your chronological age, but it still represents a massive decrease in risk and hopefully gives you the impetus to kind of keep moving so that you can get below that line.

Yeah, absolutely. And notice, because this was a more recent clinical study, we did the cutoff at two years. If a person's on it for four years, what's their result going to be?

The people who are at risk are those who have an older epigenetic age than their chronological. And to it be able to reduce that by more than 50% is just really remarkable.

So the review of both the telomere and the DNA methylation or the epigenetic age is that in the Telomeres, over a three-year period of time, we were able to lengthen people's telomeres by almost 22 years.

And epogenetically over two-years period time we we're able reduce their epigene age significantly, but more importantly, reduce the all-cause mortality risk by 56%. It's pretty sweet.

So this slide just shows the kind of what we call current aging expectations. This is how people view aging. They start off as an infinite young person, middle-aged, and then they start declining and they're frail and so forth.

Cavinsen and I don't believe that this is everyone's fate. We think that with the bioregulators, and also when I say the bio regulators, you still have to do a lot of other things to be healthy, as you and have talked about.

Thank you. You've got to clean up the diet and so forth. But this how Professor Cavinson and see things where a person hits middle age, they start getting older, They clean up their life with bioregulators and diet and all the other technical things that are becoming available, and they end up having extended life by 10 or 15 or 20 more years.

And healthy years, right? Healthy. Oh, that's the important thing, of course. Yeah, it's not just the number of years…

Yeah. Exactly. So I'm going to stop the sharing here.

And by the way, we haven't touched on it, but the bioregulators have no adverse side effects. They're natural extracts. A hundred percent. I think that that's a very important point to make.

And I the other important to point make on the bioregulators is, and in a lot of the studies that Professor Cavinson did on humans, he was able to show that in the event that people did need medication, the bio-regulators often helped to improve their outcomes, even in combination with conventional medications.

He was not one to throw away the baby with the bathwater. Like he As a researcher, as a scientist, a medical doctor, and all of those things, he still held allopathic medicine with respect.

I just know that I've seen a number of his studies where, I think in particular, there's a COPD one where they had a control group, they have the people getting just the medication, then people who got medication and bioregulators.

And the people who got the medication and the bioregulators actually had a way better outcome than the People who just got them the medications. Absolutely.

As you said, he was first and you know, at all, an MD. That was his training and so forth. At St. Petersburg at the clinic there, they have besides the research part of it, a clinic where they treat people for a variety of diseases.

They do not exclude medicines, you know, mainline conventional medicines when appropriate. Yeah. So yeah, so that's the kind of the coming to the end of clinical studies.

It's been nine, 10 years and so forth. And we're doing now maintenance for the people that are in the clinical But our focus now is elsewhere. We're taking the peptide program, as we call it, versus the Peptide Clinical Study, and taking it internationally.

Recently in Bali, Indonesia, next month we'll be in in Dubai and there are individuals in medical clinics and so forth who want to embrace without the restrictions that we have in this country and other countries in terms of, you know, cutting edge things like stem cells and, so, forth.

So, we're going to be focusing in those markets mostly at the invitation of these clinics Well, that's amazing. That's a beautiful outcome. You mentioned that the lion's share of the 124 people were physicians who took part in the clinical trial.

Have any of those physicians or have all of these physicians essentially integrated the bioregulator peptides into their own protocols with their patients?

Are some of them offering it or do you think you'll ever… they'll be sharing that kind of information with people in case people want to have a physician's guidance in using bioregulator peptides?

Yes. I kind naively thought that many of them, if not most of, them would be using it for the patients. The reality is that because there's a cost to the peptide, they're not excessively expensive, but there is a…

No….cost and so forth. The patients who have medical issues diagnosed by the physician are the ones that the doctors will of course put them on these peptide protocols because every day I write protocols for the doctor's, you know, they'll say I've got a stage three kidney patient and so forth and I'll write them a protocol.

But where it didn't expand is that the average patient wants their medical problem taken care of, but they're not really interested in the longevity. I mean, if you asked them about it, they said, oh yeah, I want to live an old life.

Do they want invest money? Because the cost of these mounts up over three or four years. Very few of those people have said oh my goodness, you know, listen to Lawrence's things, and I've listened to you and so forth, that I wanna live to 100. That happens very rarely once their medical issues are taken care of, they're done at that

point.

I would say that the audience listening to this episode possibly falls outside of that group of people and they'll be clamoring. There's nothing wrong with that.

If we've turned around their liver labs and heart labs, all that stuff, that's wonderful and that may be all they are interested in at this point, What we are seeing though is older wealthy people are getting very focused on and they've realized that they maybe have a lot more money than they have years left.

Mm-hmm. And so those are the people that are seeking us out And I as you know, we don't do any marketing. I don' have a web page I try and make myself kind of difficult to find because I'm trying to impersonate a hermit But also part because i really want to have balance in my life And i don''t want, to be overwhelmed so I would say there's a tickling, maybe one a week comes in as we call them concierge people.

But then I've got this clinic that I mentioned to you in Dubai that's got 30 people lined up for the conciere program next month. All right. So the work continues.

Yeah. Well, Nathalie, it's been a pleasure. It always is fun to talk to you. I had no idea that this was going to last this long, though. We had a couple of little interruptions along the way.

Dr. Lawrence, this is the part where I usually ask my guests how people can get in touch with them. And as you just explained, you're kind of not in that world right now.

So we're just going to thank everybody for listening and keep your eyes and your ears open. I know that there will be doctors out there and practitioners who, and there already are, who are leveraging the bioregulators to help their communities And certainly those who are interested just in longevity and others who were interested in moving the needle on certain health challenges that they have, it's already happening.

And I just think it is just going to keep growing. I think that you're really kind of part of a huge piece of the legacy that Professor Cavinson kind left behind, and I'm sure he's smiling and very proud.

Yeah, I'm proud to have known him all those years. But one last thing I will say is I know you've got several different groups in terms of peptide bioregulators and various things and so forth.

Because you're not a doctor and you don't need to be to suggest to people various peptides that will enhance their health, including their liver. I know that you have enough knowledge, and I think you can provide peptides indirectly to people.

Yeah, no, I have been through my membership community for sure. I run a program there, sure People should just contact you and let you give them some guidance.

You know so much about this that, you could do a wonderful job and very few of them will be interested in probably the longevity kind of part, but they want to be healthier.

So you're the go-to person. Thank you. Well, thank you for that. Here we go. Dr. Lawrence, Thank You so much for being here and your time and generosity.

And why don't you come back into the frame for one more second. Okay, so here we are. Thankyou so muc And I'm looking for all hopefully we'll bump into each other at some point in the not too distant future in real life.