NAD vs NR vs NMN: What Actually Works? | Dr. Halland Chen | Detox, Brain Power & Healthspan | Ep. 82 Transcript

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Introduction to NAD and Longevity Medicine

A lot of times people who are opiates or alcohol, a lot your receptors are down regularly because you're just dependent on this drug and medication. So one of the way I describe NAD is it's basically like a power wash for your cells and organs.

That's why a lotta people feel like as a zombie. You have to actually clean the cells so the brain can function properly. I don't know whether it is true or not true.

Meet Dr. Halen Chen, a double board certified physician known as the Longevity Doctor and featured in Forbes, HBO and Elle. As a leader in regenerative medicine and NAD plus innovation, he's shaping the future of human performance and healthy aging.

what else are you treating with nad the reason why we age is due to inflammation nad is fundamental for just decreasing inflammation in the body so when we think about how nad works in a body it's really about what is it that nad's doing in that body that's making people sharp as a tack people who are depleted of energy they probably have that fog lift when the nad gets into their brain from a cognitive standpoint nadh is more effective for clearing out that fogginess and giving people that mental sharpness Why are people going to Mexico to go get these stem cell procedures?

There's many reasons. One, it might be cost. The FDA radiates the stem cells like a drug. If the cell can heal your torn meniscus, that's a therapeutic benefit.

Second aspect is when you think about it. Is there any patient that shouldn't get NAD? I think that is a tough question. Welcome to another episode of a Healthy Point of View podcast.

I'm your host, Sam Sahada. And as usual, we're bringing experts from all over the world to talk about health, wellness, beauty, and mindset. Today's guest, this guy, you guys have seen him, HBO, Forbes, on all of the main stages in the longevity space.

He's an expert, a guru behind NAD. he talks about NR and he also is on the research side with a lot of this stem cell products that are out there. We're gonna get into a lotta that, you know, here in Florida.

July 1st, some new things just happen when it comes to stem cell. And we're gonna talk a little bit about that so you guys can kind of understand what's happening in the world of regenerative medicine.

Today, we have Dr. Holland Chan. All right. Pleasure to have you here on a healthy point of view podcast. Thank you for having me, Sam. Much appreciated.

Absolutely. You know, we have known you For quite a long time. Love the liquid Vita brand and the things that you guys do. And it's just so great to see what you're doing and grow as as basically people are more into functional medicine.

And I think what you guys do is great on the functional medicine cornerstone. So really nice to be here. Thank you, man. It's amazing how, you know, with the power of social media, we have the ability to follow each other's journeys right throughout this longevity space.

You know I'm doing one thing, and you're doing another thing. We bump into each at some of these longevity events and meet a bunch of other great people that are out there.

So, you know, I want to take a few minutes here for the listeners and viewers to understand who Dr.

Dr. Holland Chenu2019s Background and Functional Medicine Approach

Holland truly is and how the heck did you get into the longevity space? Sure. So my background is I went to medical school, traditionally trained, did my original residency in PM&R, so stands for Physical Medicine Rehab.

We deal with all kind of pretty complex stuff, spinal cord injury, traumatic brain injury stroke. I then did a fellowship in an intervention in interventional spine in New York City.

And so that brought me into the more complex world of pain management, where we doing intrathecal pumps spinal cord stimulators, and then typical things like epidurals.

At the end of all that, I realized I don't think we're actually healing anybody was kind of putting a bandaid on the solution. Back then, that's quite a number of years ago, I was like, there's got to be a way to actually heal the body.

So that was kind of when a larger part of my research was more into the regenerative medicine side. This is back in 2010. 15 years, talking about stem cells was not even very popular.

Even nowadays, some people think stem cell are like maybe Stem cells from a fetus or embryo. That's very, very old school. I mean, I think a large enough group now know that that's really kind of out of favor.

And most of the stem cells that people think about are, you know, umbilical cord or mesenchymal derived. We can get into that later. But, a big part of my philosophy is like, how do I help the body heal?

How do I help people naturally progress in ways to stay younger or reduce inflammation in their body? And so I've been doing that journey since basically the last 15 years.

And then now we're doing a lot of research in the NAD world. N. A. D. has always been a very popular thing recently. We've. Been really heavy in. The N A.

D. Space for about the. Last 10 years or so since 2015. And now if we really focus on metabolism, how does NAD promote your health? How does it help with anti-aging, longevity?

So it's a pretty big topic that still has a lot to be elucidated, which is why we're really hard in the space. Absolutely. So you're talking about how you were doing all these other procedures, but you felt like you really weren't healing the patient per se.

How frustrating was that? You know, I think it's kind of one of those things where you, it a little bit of an insurance game, unfortunately. You now, some patients might need a procedure, but they can't.

It gets denied. Some people might not need this, they didn't want, that's what the protocol is. So, kind there's a discrepancy of what you learn in med school and then what happens on a procedural perspective, right?

And sometimes, you know look, the insurance companies are there for a reason and it not like all insurance is bad, But there is often, there a bit a gap between what's needed and what actually happens in real life.

And so it is a lot of administrative, and paperwork. So it was quite frustrating. You know, I think medicine in general is a very frustrating experience, especially when you're very sick.

People feel like the system doesn't work. They feel that maybe their health care provider is not in touch with their needs. The way things are driven now, it's always about speed and quantity versus depth and quality.

But I just the way we structured our practice, we're pretty fortunate we can do more of a boutique concierge medicine. And so we really kind of focus on particularly Specific stuff right a lot of that could be very much peak

performance and then every now and Then we have some very complicated cases that we know how to solve as well Yeah, absolutely.

So, you know, we a lotta physicians that tune in We have a network of over 4,000 doctors that buy our liquid Vita products and one of the things that I try to put a Lot of emphasis on is that learning never stops and it seems like I Learning doesn't stop for you.

No, I were always I think you're always a student of life. Right. But I. Think part of my personality is always to like ask questions and wonder why. So I always like to say I'm on the client side, meaning like if you are thinking, and I am probably thinking it too.

And so especially with some of the newer stuff that we're doing, they're like, have you ever tried that? Or they are asking about it. It's like I probably tried it on my own body.

because i already have a pretty high resilience so i can do high doses on myself try new things and see if it works and so I'm always basically I am always patient first.

I think that's what they really want especially when you're dealing with complicated cases because a lot of the again like I say the system or however you want to call it isn't always proactive in finding solutions so I think that's also that natural curiosity is one.

One of the reasons why I went back to more of a university setting where we're going to be doing some pretty incredible studies, university based collaborations with companies who can then also do research at the university.

So I. Think that was one of. The biggest drives of what really brought me back. To Miami, other than the fact that I trained here and went to school here as well.

Right. That's the Miller School of Medicine, right? Yeah. University of Miami School. Of Medicine. you're obviously really big into data. You're wearing the Oura Ring, right?

And you physically fit, you take care of yourself. So how important are those things when it comes to overall health? Because it seems like you are making that a priority.

Yeah, I think it's really hard to have some sort of measurable outcome without tracking it, so I wear Ouraring as a sleep tracker. I've done all the different other wearables too, like Whoop and Fitbit.

Sometimes it's a little overwhelming because you have so much data to manage. So I try to keep it a bit more simple. I think the biggest thing is like even with lab testing too, right?

Like you can have your typical labs, which you might get your primary care doctor, but there's lot more advanced labs now. And I would say with the advent of Chachi BT and AI, people are getting so Insight into what could be tested testing their microbiome or testing?

Their hormones because not everything that you might do at your endocrinologist might cover some of the symptoms you have right, right? And so we've seen a lot of that So I think number one like data first right or at least data centric or least something based around that something that's measurable and or even if it's just symptom tracking.

Right. That's still data. Because we may not have a quote unquote longevity test. You may have markers towards it. But if you're overall feeling better, more energetic, feeling more positive than negative on days like these are all things that kind of build that whole picture.

Tracking Health Data and Avoiding Over-Optimization

And I think that's where the longevity space will go is that as a field, you know, one day I hope it becomes like a

formal training program from medical school or residency is what we call it. And i think it is going to be very heavily data driven because The aspect of longevity is the absence of disease.

But medicine, ironically, is a study of the disease, so you're really in a field. You know, a lot of myself and functional medicine people, we're in the space that's the absense of a disease so we are really talking about what is presence of health.

And so the only way to understand presence health is actually having data or some sort of signaling that gives us this information. Right, right. I agree with that, Ben.

At the same time, Some people will go a little bit too crazy with it, where all of a sudden you start to become stressful from just following your health process.

Where it's just like you're looking at the data way too much. You're wearing like five different wearables. Your doing blood work a bit way to frequently.

So what's your recommendation for the person who's like going a little bit more than above and beyond. I think it's really about what suits your lifestyle, right?

Because even for us with clients we work, I say first things first, there's no judgment. Everyone has their things that they like to do and some of these habits may help their longevity, some may hurt.

Being in Miami, a lot of people are night owls, right? But technically getting a good amount of sleep is something that you want to put value on for longevity.

Some people like to drink a line, so I don't have a judgment against it. I'm sort of like, okay, if you do this, we're going to undo it with this. If you are a heavy drinker or stay late at night, You can do NAD.

IV NDS help reset that circadian rhythm. They help detox the liver, things like that. And so I think for people who kind of overdo it, they have to kind come with like one or two simple goals that they want to optimize.

Once that becomes this muscle memory thing, or you're in a steady state, then tackle number three and four. A lot of people get into this whole wellness kick and they try to do 20 things and They they can only eat at certain times and you don't want to stay up past late, you know There's a there's that whole effect where it's actually also unhealthy because you're not really living your life Sounds like that.

Don't die guy. Yeah You know who we're talking about Mr. Brian Johnson, he said, you know, I love following his journey. I won't do what he's doing me personally.

But, um, it's interesting what's going on. It's an interesting case study, right? Yeah. Because in his protocols, there's a lot of interesting things in it.

There may be takeaways, is what I say for some people. You can take away this, you can just take the best parts that work for you. Because again, the idea is not to have this consume your life.

The idea's like, okay, let me make this better. And so typically when we work with people also, we say there's one thing that most people want to focus and work on.

So pick that one. It's kind of like setting a goal. Let's say most for New Year's, they want lose weight, do this. Pick one or two. And the same thing for your health.

You know, if your heath is like, I'm sedentary, well, then start walking more. But then people are like why want to be like competition fitness level?

That's just not as practical. Yeah, right. So yeah, and I think it comes down to like really getting clear with your

goals and focus, which is a lot of life, but applying that into your your healthy life as well.

I agree. Agree. You're the expert in the field of NAD. Like anyone I talk to, they bring up your name, right? Why did you go to become such a guru behind the N. A. D.

medication or drug or whatever we want to call it? It's that interesting realm. It is like, is it a nutraceutical? Is it drug? I mean, it's basically a coenzyme just as a pure definition of what the molecule is.

I got really into the NAD space because, ironically, through my stem cell work, I was like, okay, what can give the body more energy for the cells than it was NED?

So it actually came more of a byproduct as we were studying stem cells. And, you know, we've been in the stem-cell space since 2010. So studying how hematopoietic stem from bone marrow work.

How do stem cells derive from adipose tissue? What were exosomes? So we were very early in this space and ironically now it's, fast forward 15 years later, maybe we're lucky.

I happened to choose a field that I thought had a lot of potential. You know, I didn't think it would grow so much as what we are now. We're doing studies that have FDA protocol.

A lot of our research is, so we're very compliant, right? It's very important to do things in compliance with what the FDA wants when you're doing things that are pretty cutting edge.

Number two, and when do it that way, you can then scale it and these can actually be treatments that hopefully one day, yes, do get covered by insurance.

Or at least can be offered by people who are just wanting to learn how to it. And so I think the field of medicine will change drastically in five years.

Definitely in 10 years, in ten years I thing a lot things being done now might be considered like old, old school. But in terms of the NAD question, you know, it really became a metabolism thing for me, right?

And N. A. D. being a very hard molecule to study or even characterize, when you get into this space, there's a lot of people who are like, well, N-A-D is the powerhouse of this cell, your mitochondria relies on it.

That's kind of like what we learned in biology 101. But the complexities of N, A, D., whether you give it IV, whether give orally, do it sub-Q, or do a supplement, they all work together right and there's not one answer over another so i think when you see a lot of the people talking about oh i would only do oral over ivy iv makes me feel upset like my stomach upset that's kind of just coming from a place because they probably don't treat patients right i When you're actually in the clinical space, it's a lot different, right?

It's, a, lot easy to talk about, you know, what you read on Google or what chat GPT gives you as an answer, or maybe you might see on YouTube, TikTok, Instagram, but then it is different when you are like treating hundreds and hundreds of patients and this is the pattern.

And so a large part of what we do in NED world now is formalizing the science, doing university-based studies, do metabolism studies. Finding out where does it go?

And then finding a space where like is one thing better for another, IV, NAD, we already know IV NED is amazing for detox. I mean, one of the people who I learned under was that they were hard in the detox space.

So meaning they did alcohol abuse, people hooked on opiates, you know, things like benzos, any IV incredible molecule to detox, right? That's actually the first time I got exposed to it.

What was it about? Like the brain reblew or anything? It was specifically for that. And there were aggressive

dosages that it would go up to. What is that NAD doing for the patients that are detoxing off of some of these drugs?

I think it's kind of two-fold, right? And it kind ties into why is oral N. A. D. important? And so when you kind of look at how the NAD space worked, right, a lot of times people who are in opiates or alcohol, all of your receptors are down regulated because you're just kind dependent on this drug and medication, and it wasn't even on purpose.

Nobody wants to be hooked on opiate and on these high doses where you then need to switch on to methadone or suboxone. And so one of the way I describe NAD is it's basically like a power wash for your cells and organs.

It power washes the liver, the kidneys, clears up the receptors because all these down-regulated receptors, that's why a lot of people feel like zombie, right?

When they're kind of like considered like an alcoholic or you're addicted to opiates. you have to actually clean the cells so the brain can function properly.

And so that's kind of how IV NAD works. It does a lot more complicated things because when you're thinking about how NED in the body is, it's a fundamental molecule that goes into every cell or is utilized by every sell like the mitochondria.

You know, and there's this whole debate about extracellular NAD, intracella NED, which we can touch upon later. But, you know IV-NAD is extracelular, but there are interesting lines of research where they say it gets metabolized and goes intracellularly.

Now, when we think about intricellular NID, that's when you do the precursors like NR. Something like TruNiogen, they have an amazing NR product. You have NMN which is the more common one that people also know about.

NNM is also a precursor and can go into the cell. And so these precursors are very well known because they can raise intracellular NAD levels, right? And these are things that you can measure.

And one will say, well, what's better? I want the one that raises my levels. But then I wanted one like that might power wash my body.

How NAD Works for Detox, Energy, and Cognitive Health

I think you need both. Because you can't detox somebody off of alcohol and opiates just off a precursor supplement. It's not the same thing. But then when you're giving someone IV NAD and someone can literally get off something like Suboxone, which is pretty much impossible by most traditional cases, so it must be doing something.

And so that's a large area of our research is that how does this metabolism work? And so part one is to measure the metabolites and see what functions improve in the body.

And then part of it's actually just figuring out what's the therapeutic protocol. Right. So we're literally that. It's like any of these been around in this space for a long time, but it still not a lot of human studies.

There are a. Lot of animal models and sometimes, you know, in in vitro models. But my particular focus is on human clinical trials because I'm a clinician, I see patients.

I've been doing that my entire medical career. And so I've always had a bit of a hybrid of like, well, now we're on the research side, we are on research and develop innovation side looking for new molecules, new things that can help the body, and then now in the clinical side.

So that's a little bit why, you know, in practice we were focusing more on boutique concierge medicine, because most of my bandwidth is now really trying to help teach and educate others and focusing on their research.

Right, right. So when it comes to, let's say, cognitive health, and you're talking about the precursors, like NR, NMN, versus the NAD that's done, either subcutaneous or IM or IV, how would that all come together?

Would you utilize all three of those as well? I think this is gonna be the realm of personalized medicine. Maybe some people might respond better, to an IV NAD like tons of people when they take IV and get clarity.

But then I have people who tell me, you know what, it's not as convenient, I feel a little bit nauseous and sick, and they prefer oral. Some people are more into the peptide space, so they're used to injectables, they do an injectable, right?

And so I think it really comes down to what's best for the patient. And then it will also come down too, is that we're gonna probably start figuring out what protocols work better for certain people.

I thing very clearly, IV NAD is a very good detox molecule. It's a good molecule for also reducing inflammation and circadian rhythm. there's a new version called IV NR, which is made by TrueNiogen also.

Right. So the Niogen guys have an NR IV, and that's pretty incredible because instead of doing a three hour NAD drip, you're going to get a drip in the same dose in 45 minutes.

That's going have some profound effects too, we're gonna start finding out because that is pretty new in this space. Niagen IV as NR is a pretty brand new, so we are going see some huge therapeutic windows and things that are probably great for brain health, longevity, functional medicine, all that type of stuff.

They're actually speaking at our Vibe Conference, our vitamin infusion business expo. And there's a big push behind the NR product. So all right. Now that you brought that up, how does that compare regular NAD versus NR?

Because you're talking about two whole different molecules, right? Yeah. I think what we're going to see is that whole debate of extracellular NED versus intraceller.

because nr was always considered an oral precursor right you take it as an oil supplement nmn was the other popular one and then we knew it went into the cell whereas ivy nad typically didn't get into cell large molecule positively charged right that's why it's often referred to as nad plus right right so when we talk about nad casually most people referring to nad But there's other forms of any D, right?

There's any DH hydrogen ion that's been studied, you know, quite a long time ago. It's not as popular now. But any H is very interesting to to trend and watch because any dh is known to improve cognitive levels as well.

Yeah. So I'm smiling because when I first got into the functional medicine space, this is, I've been almost two decades into it. We used to do an injection that had AMP and NADH.

Oh, wow. And it was like the energy shot is what they would call it. I wish they still. It's very hard to find NEDH as injectable. Really hard. This was a central drugs back in the day.

Yeah, that's what I'm saying. 20 years ago sounds about the right time frame because I really did a lot of research. Even flying to different parts of the country, not even this country around the world.

Finding out where was the origin of NADH and who was doing some of the early clinical work? so it's a lot of our research is going to come into the mainstream pretty soon because Nad plus N adh IV nr Which is a big I think revolution that you can take it now by IV so I'm good I Think we're going see different metabolic profiles based on this and that's why the sensitivity and Specificity of what we are testing what were measuring is gonna be very important Nice, nice.

So, you know, I'm really big into cognitive health and I do all kinds of different things myself. I'd do everything from Dave Asprey's Brain Octane Oil that he came out with with Bulletproof.

Um, i do a nasal spray. i'm not sure if you've heard of it. It's called a Synapsence Nasal Spray and it has the RG3, the methyl B12, and then it What do you think is happening in my brain when I take that synapsis nasal spray that has the NR in it, but also the RG3 and methyl B12?

Yeah, it's probably like what people simply would say it is fuel for your brain. And so by doing it as a spray, you're kind of hitting that what we call cripoform plate.

Right? That cribriform plate is that very thin piece of, you know, that bony area that has a thin mucus. And so because it's so thin, people will actually administer medications there in hopes to get in your brain.

So a lot of people who have traveled to other countries and they wanted to do quote unquote, like a stem cell therapy for the brain, they're injecting it up the nose with the hopes that it is going against this cribiriforme plate and absorbing it.

That's probably the mechanism of why it going there. Whether or not it might be easier just to do an ivy and then the iv gets to your you know To your brain directly that would be interesting too, right?

Yeah, I mean every everything like when I do it every morning Everything's like in high definition. I hear better see see better speak better. Everything is just like on point.

Yeah. No, i believe that Yeah I, mean look it's kind of kind, of like that limitless pill right in a spray, all right so so um with nad You know, people tend to get this certain lush feeling.

What is that that they're experiencing? And I'll tell you, like when I do my NAD subcube, I typically do like 100. I use sub cube, 100 milligrams. When I feel that flush.

even though it's not really comfortable, I'm like, man, it working. So I am happy that I feel it. I don't know if that's a good thing or bad thing. You know, people want to know that it is working, right?

I think the other big thing is it a function of speed and dose. So a lot of times when people are like, oh, I don't like NAD. I feel very uncomfortable.

It's kind of naturally going to make you uncomfortable if it goes too fast. Most people will feel heart palpitations. Some people feel their stomach have this pro-kinetic meaning like this moving.

But that would make sense, right? So when you actually detox somebody who's been on opiates for a long time, one of the biggest symptoms or side effects of opiate is constipation.

Guess what, when you start detoxing and several days in, their bowel function removes and gets restored. And so they're no longer constipated. So I think it's a combination of things that are happening.

Typically, it is one of the things we've really also brought to market that I don't see a lot of people do, or at least very rarely, IV NAD on a pump.

the second you can actually pump it and titrate it to a very slow rate, you're not gonna feel it. And so while people will say, I can do NAD in two hours or less or et cetera, um, i don't think it's the speed that's like, meaning like it is not about how fast you get it in.

It's how comfortably you do it, right? And, so if you were to take something that takes you two and just double it do a four hour drip, it not going to affect you as much.

Cause one of the reasons why people like to do IV and D like they don' want to be at the doctor office for four hours. Yeah. very inconvenient, right?

But if you have a pump, you know, this is obviously more like concierge style. But look, if someone were to have an

IVNUD pump and they have it at their office, they could just do their normal work day.

Yeah, it's a five hour drip. It's got to be like one of those things that like I think we are in an era of very concierge medicine, that all came after COVID.

The idea of house calls and that kind of restored a little bit of this more No one's going to the office as much. People want the services coming to their home.

I think when you can do NAD IV would be a really nice use case scenario of doing a pump for four or five hours. But if you cannot do that, I Don't have five hours, don't, you know, this whole idea of someone coming to your office is impractical, or, it's cost prohibitive, many reasons, right?

Okay, IVNR, yet a lot of the benefits, does it work exactly like IVND? We're gonna find out, I think that's kind of part of also the research we're going to do.

Let's explore, because everyone also might not need to detox of opiates or alcohol or etc. And then look, I use the detox as just an easy thing. NAD plus IV NED does way more than just that.

It's a very big metabolic regulator. And so you think about your metabolism. glucose, energy, sleep, you know, even maybe testosterone production, right?

Because if you're having better sleep you have better testosterone, production. You know endocrine disruption, we have so many things where I think NAD is really cross disciplinary.

So I I once people kind of understand the dose and sort of the delivery mechanisms, then it will make a lot more sense. Is it true that the NRIV will boost your NAD levels more than NED itself?

You know, I don't know whether it's true or not true. I think it is more, can they synergize? I thing they are probably attacking the problem or let's say low energy from different ends of the spectrum, right?

Because IVNR is going into the cell. IV-NAD is going, is outside the cell, right? High extracellular plasma concentrations, but it's doing all these other chemical reactions.

And so I kind of compare it to as a power, if we take your home, you kind power wash the driveway, You wouldn't do that inside the house, But inside house you would actually clean it and be more delicate.

So I think they work hand in hand, in terms of how to optimize the body and the cells. Yeah, I like that analogy, by the way. That's a good one. I'm gonna use it.

Steal it from you. Yeah. Give you credit. Don't worry. So with NAD, what else are you treating with an ad? You know, we talk about opiate detoxification.

We're talking about cognitive health. What else? Are people utilizing any? I think any of these fundamental for just decreasing inflammation in the body.

Right. And it's very funny. Like if someone's new to N. A. D., meaning they haven't had it before, call it my truth serum. So you give someone any D, and they're like, Oh, you know, my jaw hurts.

I have this pain around my abdomen. Like, oh, do you ever have dental surgery? Or is there ever something you have going on with your ovaries or uterus?

Almost instantly like Oh yeah, I had surgery there. Or yes, they have like tooth that needs to get drilled. So it's very interesting. And like and then this is obviously anecdotal, but it is not uncommon for me to kind of see what I call it does unmasking.

So a lot of times if someone has something that they really hadn't thought about as a priority, it kind of localizes the area. So that's kind. Of why I always feel like it was a little bit of an inflammation marker.

Again, no clinical study on this. This is what I've just seen over the last. What is it that you see? They typically have like a. Little irritation. There's little irritation in the.

NAD Delivery Methods, Dosing, and Personalization

Area. You know, so like I had one person who said there's throatless tingling. I said that. That's a very unusual symptom. And I. Said anything happened like, oh, yeah, history of cancer in.

The area? and you know we had the cancer removed everything's done but there's like some scar tissue like okay so like but he wouldn't have known right and i didn't know he had anything with his throat until he mentioned it so again that's very anecdotal but i think the reason why i bring it up is that it's really about inflammation so i Think when you take nad you, know the, reason, why, we age is due to inflammation right so one we probably decrease cellular aging through NAD, right?

Increasing the body's capacity to have more energy, ATP. There's all these other enzymes that are also good for the bodies, which are, you know, sirtuins and PARPs, all of these things help regulate DNA repair.

So when we think about how NED works in the Body, it's really about does this repair DNA? Does this decrease inflammation? Are my cells more optimized?

Do they have energy? And are all the things that in my body toxic helping getting removed, I mean, anecdotally, again, some people say they report weight loss, right?

And so that's interesting. Why are you getting weight lost? Well, if the body's more optimized with energy or has more energy, because maybe the person's not eating enough, you can technically produce any D from having a whole balance diet and things like that.

But it's hard. not everyone can cook their own meals and we travel a lot or you're eating late at night and you might have gluten and all these other things that doesn't, that's not conducive to NAD production.

So I think a really big interesting space that we're gonna see is a lotta people are on GLP ones, right? People like Ozempic and semi-glutide and that.

I thing what we gonna to see a huge synergy between GLPs and NED. Because GLPS are working on people's metabolism, And then also there's some interesting work in the longevity space where people are taking low dose GLPs.

So combination of low-dose GLP plus NAD could really be a great anti-aging mechanism. Or people who were on GLPS because they had, you know, that criteria, they might be obese, things like that, already have metabolic dysfunction.

And so NID being reintroduced into the body to help restore metabolic function is a good combo. I think that's kind of where this whole space of functional medicine is really going to tie in, right?

Because these are not things that doctors were trained in traditionally, peptides and GLP is new in the space. Forget about even NAD and all the IV vitamins.

That's not taught in med school either. Maybe now in this curriculum now, but most of the doctors who are out in field and have been practicing for a long time, I mean, nutrition, we didn't really learn it directly in medical school.

I learned it outside of school, How much nutrition did you get in med school? You get like one week, right? Yeah. Right. And now, you know, functional medicine is massive.

But that's probably one of the reasons why I travel around the world so much. I mean, I I'm pretty international, at least a third, if not more of my time, either doing lectures, learning.

That's all colleagues. You want to get that very world perspective to you, just to see what's going on. What else is out there? What is is that? I think America has one the best systems, but there's still things that are quite novel.

Yeah, yeah. So, you know, as an NAD expert, where do you get your NADEFO? We got it here sourced here in America, but I would say… Because I can only imagine you got the best quality energy.

Yeah, that's a great question because, while it's produced here, in American, the raw compound is made in Japan. Oh, it is. Yeah. So and it's quite interesting because there is a difference.

And so some people, when they try one product or another, they just notice that it stronger. I would say there could be a few reasons why it like that.

But I think one of the components is that has a high stability on the shelf life. So if it says 500 milligrams of NED, it probably is actually, you know, 99 percent 500 mg, whereas some other companies out there, the purity and the potency go down.

So even though it said 500mg, It might be only 300mgs. It's kind of the analogy I would give down, that's like watered down botox, right? Someone might see their plastic surgeon and botax lasts three to four months.

But then somebody might See a different person who is not their normal plastic Surgeon. And they said, my Botox were off in a month. Yeah, and so that's the same concept, but I think it's more so it sounds like the manufacturer is doing it on purpose It's just it sourcing and you can get any desourcing from you know China and whatever and You know things like that might have heavy metals things and a lot of those raw API's come either from India or China a Lot of the time.

So so let me ask you this so NAD it I've learned that it is temperature sensitive, right? I'm talking about IV and AD Is there a difference between the quality if you're getting any D that's been sitting out of the cold environment?

I mean, I think obviously that sort of more of a how does it what is the preparation and storage of it? Probably it won't be as effective, right? But I they do stabilization studies and sometimes even with what's on the label, they say stored.

But then they also do like max studies. Right. Can you actually still administer this if it was sitting on a table for a week? And so some studies say you can write at least in these are in house quantification studies from the compounding pharmacy.

So I think there's always going to be a little bit of that role. I Think the preparation of the NAD the sourcing I mean, some of this is what we call trade secret to write certain pharmacies don't even release how they produce the ID IV because part of The Secret Sauce might be this one or two things that they do to treat it.

Right. OK. And that's a lot of the like what I would call the regenerative medicine world, too. Yeah. You know, there's lot trade secret. Once you tell everyone, it's like, oh, well, then I'm going to clone the cell that way, right.

So is there a difference between buying your NAD already in solution versus the lifelies? You're asking. It's interesting. I actually prefer it when it already mixed as a liquid.

Could lyophilize be a better way to do it because it is less temperature sensitive and whatnot? I mean, I'm open to both. You know, for me, the way that our compounder makes it, it's always in a liquid.

But it could be lyophilized. I've always wondered that. Is the potency still the same? We can do a study for you. At the end of the day, as long as the patient gets the result, then that's the most important key thing.

Right. Of course. The hard part now is finding out, not only just dosing, what version of NAD is good for Or what version or what combo stack, right? I think one of the things that you could really dial in is like, maybe I take my IV NAD, I do my oral supplementation to go into the cell, my daily maintenance formula, and then I have a sub-Q injection because I took GLP-1.

That doesn't sound unreasonable to me because when I look at it, they're all doing different things, metabolically. Now it does get interesting in the sense of like, is sub-q NAD better than IV?

Well, IV is probably going to be stronger. It's going be a bigger dose too, right? But subq is not that impractical because, when you do a sub q, you can actually do it in comfort of your home.

Right. So there's there is going to be ways. Yeah, I'm just not going do a thousand milligrams. That's not gonna be fun. You just feel like you're just kind of like regretting that.

All right. With NAD, is there any patient that shouldn't get N. A. D.?? I think that's a tough question, you know, in the sense that there's this one early studies like, oh, maybe can any DB bad for people with cancer?

It's like anything that involves cancer. Everyone's going to just shut down the door, right? Well, if you have cancer, don't do this. Don't. Do that. So obviously, from a precautionary standpoint, have you of cancer should probably most likely they'll say, consult your doctor if it's appropriate.

And then most doctors say don' do it. I mean, I'm okay with that, right? But is there enough studies to support that any patients with NED, taking NAD will cause more cancer or fuel the cancer?

You could argue, well, cancer cells fuel, you know, if NDS fuel for a normal cell, it could be fuel a cancer cell. Well, what about a patient with lung cancer, should they stop breathing oxygen, they got this lung, and so don't the lungs rely on oxygen?

So it's a little bit of that theory, kind of, that train of thought. You could also then argue, well, technically, NAD helps with DNA repair and regulation, and it gives the body to fight back and boost the immune system.

So then you could argue that NED is good for your immune systems. And if you have cancer, maybe it's something that's plausible for you. Again, not medical advice for the audience, but things to consider.

I always say these are the answers are in the questions. and I think when you've good questions, that actually how you create good research studies, you know, any D and pregnant women.

How does NED affect a baby while growing? That's no one's going to do a study on that, right? No one is going do, hey, this group of women are pregnant and this.

Yeah, I don't think they would take the risk. There's a risk, but, you know, it could be either or. But that's where I think like that. Why certain things are a little bit more safer, if you take more oral supplementation, that makes more sense.

Because your body's going to at least when it's orally taken, it s going just excrete through the kidneys the excess right typically right or some sort of form of metabolism where maybe gets excreted in the bile and then goes to the gallbladder and it goes out you know through your waist.

So I think it I think the supplement space, because it's so large and there's many players, when you're looking for a good supplement, is the research behind it good?

Is the founding team like a real founding and they devoted themselves to the science of it? Because there are a lot of supplements in the space. It's just a marketing team.

Right, they they reach out to a manufacturer. They're like, Oh, I like these ingredients. Let's manufacture it. But sell

it and they kind of pose themselves as well as a white labeling game.

It's a whitelabeling game, but like you can tell the supplement companies that are out there that a legit they're doing lots of revenue because they've been around for a long time.

Or let's say they were a newer company, But they are more of a startup. The founding team is passionate about it, That's what you should look for when you're looking for supplementation.

I agree. Especially if you got like a supplement that has like, a scientific advisory board, reputable doctors, there's some research going behind it.

You know, one of the ones that I was amazed by, and I interviewed one the main doctors who's on the scientific and advisory boards, is IM8, the David Beckins product.

Like, they're putting a lot of science behind that, you know. They got the Mayo Clinic involved and everything else. So with NAD, I've heard of like patients that are very ill patients, you know, sometimes cancer patients patients with autoimmune issues, like just feeling like crap after doing N. A. D.

Any reason why they would feel like that? probably their bodies in dysregulation already, right? And so like, they probably don't feel as good in general.

And maybe their body feels that way, because it's also like a barometer, and so the NAD kind of mentioned the feature of unmasking. So there's probably un-maskings of some of the symptoms that are happening.

But it's hard. It's like, even cancer so specific. Is it very serious cancer like pancreatic cancer? Or is it a type of cancer that might be quote unquote curable like prostate cancer.

Inflammation, Metabolism, and Biomarkers for Longevity

I mean, nothing's always curatable, but there's a higher chance of survival, right? Right. So I think it really depends on the type cancer, it depends of the dose.

Uh, I that's also why the whole concept of like which NAD is right for you. And so I think in that game of like, I call it the NAD wars, like everyone's like mine's better than this guy and da da.

There's a combination. And maybe in cancer patients, maybe it's more specific. They might need a different flavor or different dose. Right. Are there any particular biomarkers that you would want to keep a close eye on for patients getting any treatments?

So that's one of our studies that we're going to be producing. Part of the longevity world is like, what kind of markers do you use to measure longevity?

There's a methylation study made by true diagnostics, which is interesting, right? And that's kind measuring like your DNA that gets methylated. And as a sign of genes turning on genes, turning off, they have also like you're biological age.

Those are cool, And so I think in the NAD world, even measuring NED is pretty hard, right, because it's a pretty complex process. The traditional methods, which are gold standards, are, you know, using mass spec, Which is a very heavy duty equipment, and just even to prepare the sample, You got to freeze it at minus 80, things like that.

Interestingly, because science and cost of equipment's going down, it's a lot easier to do these things. So I don't think there's one single biomarker that's great.

That's your thing for NAD. I think it is going to be a combination. Like there is another test coming out. It's made by a company called MiScreen. Its measuring your mitochondria function.

And I would think that is an amazing test to try. Everyone should do a MiSCreen test because you want to know your baseline mitochondrial function Because that's basically telling me, how does your body produce energy?

And is this energy going to be effective? and then is there something dysfunctional in my oxidative state, meaning like I have a lot of stress in mind.

And so I think because we now have the science to measure these things, it really gives people a little insight and control on how they want to manage their health.

What about VO2 max? Yeah, VO 2 max is good. I mean, you know, I think I. Think these are all the new what I call like health markers, right? You know you go to your doctor's office, your blood pressure measured, they weigh you.

Maybe they might even do a body composition. Some places have you have DEXA scan, but like I, think the more advanced places are going to have things like VO two max.

They might do grip strength, right? Grip strength has been correlated to longevity. So I think all the interplays and then everyone's different, for what their goals are.

If somebody is more sedentary, maybe the VO2 max isn't as interesting for them. People who are athletic, they definitely want it. I've even had a device where I was doing hypoxic training.

Convincing my body that it had lower oxygen to then increase my bodies production of red blood cells Those are the things that I think are next-gen. We're like, yeah, there's some technologies out.

Yeah, that's a pretty does it? Yeah. Exactly. There's lot of cool things out there like it's not you know, we see a lot wellness biohacking places whatever you want to call them and a Lot of them just focus on and these are all great things like cryo red light therapy hyperbarics and then it all and the IVs, right and But then really getting into the nuance of like, like I said, hypopoxic training, maybe ozone IV therapy.

And some of these things are more complicated, right? Because even the people who are doing plasmapheresis, which is kind of an oil change for the body.

But those are really good for certain people. EBO too. Yeah. Because let's say you had long hauler COVID. And you're trying to pull out this antigen complex that's causing this sickness in you or whatever it is, right?

Now there's even things like microplastics. And so the micro plastics in your bodies now are, you know, it's not a minimal amount. It's a large amount of the studies are we can see about one credit card size of plastic daily, but that day, so there, I think there is definitely, there s room for so much.

So I th nk longevity is not going to be, quote unquote, I always think it's a misnomer of that term. It's not about like living to 120, 130. I'm more on the health span side.

You know, maybe I get to 100, 111. That's nice number. And then that's it. Right. All of a sudden, you're a vegetable for 100 of those. Yeah, if you are like 150, but from 150 years, your bed bound, just leave me at 100. I'm good, right?

Yeah. That's I want to live to 99 and then done. Now, doc, there was I no longer take it. I probably should order it again. And I'm trying to remember what the name is.

But any time I was taking the energy at that point in time, it was a powder. Take it to help the symptoms. Supposedly help with the absorption of it, was like three letters.

There's an abbreviation for it and want to say TNP years. Oh, if maybe it's trimethyl folate. Yeah, yeah. It's basically it kind of helps with some of the side effects it because N. E. D.

can consume a lot of methyl groups, right? OK. And so taking this supplement kind of helps with some of the side effects. Another thing that people take out of these like beef liver pills, because it also donates a lots of metal groups as well.

Does that really work? Yeah. Is that helps absorption? You know, I mean, it probably helps efficiency. OK, you know. I think the absorption question is like if you're getting IV, NED, its absorbed.

But then it's more about the utilization, kind of that chemical reaction that's in your body. And so again, back to sort of like, how does our body's metabolism work?

That's kind the key thing. So I think a large part of the debate in the science world, clinical world the online social media world. It's like you have a lot of people kind just like having hypotheses, but then you got to test it, right?

And it is very easy to be like a keyboard warrior or even like an article warrior. I read this. But that mouse study might not apply to humans, right?

So I think that's why, for me at least, that why I became so mission driven to do university based research, studying the NAD molecule, understanding metabolism, talking to colleagues, traveling around the world.

I have a lot of other things I could do with my free time, but I choose to this because I can think it's that important. You're passionate about it too.

So with NAAD man, a lotta the hedge fund guys, they're calling this the brain reboot. What is it that NAD's doing in the body that's making people sharp as a tack?

I think it's basically people who are depleted of energy. They probably have that fog lift, right, when the NED gets into their brain. And a large part of it, there's some interesting early studies too.

It's like, could NHD help slow down dementia? Or can NDD help clear out the receptors that are causing early Alzheimer's? So I that that probably what it touching upon.

It's the same reason why some people also would take NADH. Now I think from a cognitive standpoint, NAH is more effective for clearing out that fogginess and giving people that mental sharpness.

But I thing that's kind of where the idea of combining NEDH, and AD plus into a combo like therapy is where it's going to go. And that's why I think the field now is no longer just about I take any D.

That's pretty generic in terms of like terminology, right? That sort of, like, I drive my car like there's trucks, there is motorbikes, you know, for, sports cars, stuff, electric vehicles.

So it's the same classification. If if you're on any therapy, it is going to go to what type of therapy are you on? What route is it? IV, oral, subq, da da.

So I think that's kind of the key part is really understanding NAD is not just actually this one molecule anymore. It's different molecules and derivatives and precursors and different routes of administration.

And so we see that in medicine, clinical medicine has different route of antibiotics. We came up with all these different antibiotics because certain bacteria don't respond to other antibiotics And then you can have oral antibiotics, IV antibiotics injectable antibiotics.

Antibiotics in a spray. So all these things kind of contribute to like, you know, and obviously in that infectious disease medicine has been around forever.

And so now the concept of like cellular medicine, is really big now because cellular Madison was probably considered more like bench work, like laboratory stuff.

But I think it is coming mainstream because in the era of functional medicine Testing is so important and the testing is not just your generic thing that you might go to a typical lab core request, which is good.

You know, they they do the basic exams or not. They have some advanced stuff, right? But in the functional medicine world, we're seeing so many more novel things that are coming from private companies.

Right. You know, with NAD, you start hearing a lot of these stories from people. Oh, I did a pulse electromagnetic field therapy and I my N. A. D. 500-milligram drip in 30 minutes.

Or, oh, did I a CBD IV drip and was able to do my after within 30-minutes. I do a red light bed and did my much quicker. Have you heard of any of this happening?

I think I hear everything, right? So, I mean, look, if someone can tolerate it and it doesn't cause them a problem, you know, that's good. I, mean from a red light bed perspective, like people, methylene blue IV's gotten popular these days.

Yeah. But like, red-light therapy apparently like helps with a lot of that mitochondria function with methylenine blue. So those are the things I thing are interesting, what I call bio-stacking.

Do you do that stuff, the methyline blue? Yeah, yeah. It's quite interesting. Methylene blue and IV NED kind of have a tendency to synergize. And so there you know, and there's some controversy about is methylene blue IV good for you versus is it bad for You and better.

I mean, there is a lot of debate on I me What are your thoughts about the method? I think I like it, right? Do you want to do it in high doses over time many times?

A little unsure on that I'm very confident on the IV NAD or oral supplementations and precursors I Think those are absolutely safe and I they're consistent that you can do because your body already has a mechanism that it uses to produce it or salvage pathway or, you know, endogenously absorb it, right?

So I think that's something that probably, and I we think about why are we in an era where this is so important and we need more things like IV, NED? I thing we're just in a much more difficult environment, our food is highly processed and so we are getting a lot of gut inflammation, so gut information is a massive thing that is causing medical diseases, We have massive hormone dysregulation, endocrine dysfunction, right?

All the plastics and synthetic stuff that we're being exposed to, even in our clothing, there's been a lot of controversy in some of the sports clothing and athleisure wear leeching into the skin and then you're absorbing it.

So I think we are in an era where our body is so naturally depleted of energy because we constantly fighting our environment. That's toxins, exposures, low quality food, highly processed food.

And then, you know, just the chemicals around us. Yeah. What would be your top three things to detoxify the body based off of a lot of these environmental toxins?

Ultra-processed foods and all that other stuff. I mean, obviously a great diet can help detox the bodies, right? So having a whole food diet is really good.

people doing a lot of sweat law, you know, sweat saunas and things like that you can sweat out the toxins.

Stem Cell Therapy and Regenerative Medicine in Florida

There's some good supplements out there that also help free up toxins from your body like heavy metals and binders. That's a good one. While you're doing some of these external things, like sauna.

And then for me, obviously, an interventional standpoint, I'm very, very strong on, and help the body and that helps

detox. So it's combination, right?

Lifestyle, and then sort of the things that are very intervention based, like supplements and sauna, And then medical based right, medical detoxification.

Yeah, I like to break everything into three categories, man. I've been like really sticking to it, where it is like prevention, early detection and treatment intervention and making sure that you understand what you're doing in all three of those pillars.

Yep. Um, so let's uh, switch gears a little bit here. You're now here in Miami. You got some cool stuff in the pipeline. I don't know how much you're willing to talk about it, but it's around the stem cells and the regenerative medicine.

Sure. So let's talk. About it man, because this is like the future of a lot of stuff we're talking about. Future of medicine really will be regenerated, right?

You know, obviously, as you mentioned, stem cell essentially became legalized in Florida as of July 1st, Right? Yeah. which is pretty incredible. I think, you know, I would rather have an openness around the conversation because what you don't want is have people just fly to Mexico.

Nothing wrong with that too, by the way. There's some great docs and institutions out there that are doing it, but you want people who are going to a safe place.

And so when you have it where it's more popular, or you can do things like US stem cell therapy in the US, there's just a bit of a higher quality of standard, right?

Why are people going to Mexico, the Cayman Islands, and all of these other countries to go get these stem cell procedures? I mean, you hear Tony Robbins talk about it.

You hear all these very high profile individuals. Well, I think in the earlier days, it was, well, there's many reasons, right? One, It might be cost, Right?

It just might cheaper to do it in Mexico. Right. Just in general. The second aspect is when you think about like the evolution of stem cells and how it kind of came to the scene, the FDA regulates the stem cell like a drug, right?

There's certain criteria in which if you do this, like clone the STEM cell, if it's considered more than minimal manipulation, X, Y, Z. So there's all these criteria if do an additive.

FDA is like, you're making a drug, but that's kind of true, right? It's a physiological drug. If a stem cell can heal your torn meniscus, I mean, that a therapeutic benefit, which is pretty much like drug like or acts like a.

And so when we take these things into consideration, like we're very much research based. So there are IRB studies that are, under FDA, they know about the studies.

That are happening. You want to do these IRD, FDA based type of studies because you really study it. So some of the things from a stem cell research perspective that are very popular under IRB studies, one, long-haul COVID, right?

There's not like this cure for long haul COVID and we're discovering more and more how longhaul or COVID has even more problems. Two, autoimmunity, coming from vast majority of problems, leaky guts, probably a big source of autoimmune and then environmental toxins.

Three, neurodegenerative, Alzheimer's, dementia, things that are very hard to treat. There's not like a drug or a pill that says, I'm reversing your Alzheimer, reverses your dementia.

And then the fourth, musculoskeletal orthopedics, right? You can either do surgery, like arthroscopies or replacements, or maybe stem cell therapy, which can actually heal something that otherwise wouldn't have been able to heal or the person wasn't a good surgical candidate.

So if we kind of take a look at the whole of what's happening in the stem cells space, what I am very, a big fan of is mesenchymal stem cells. So you have mesenchymo stem cell, hematopoietic stem, cells, you kind of have all these little exotic ones that you're hearing about also on Instagram and social media.

My primary focus on mesochymostem cells and what I call autologous, your own DNA. so your DNA, in my opinion, has all the blueprint and instructions to help heal your body.

That's actually how we survived. I mean, you know, if you're a young child and you have an injury, notice how young kids actually bounce back faster, right?

If a younger kid hits his head or his or her head, the recovery is much better than a 90-year-old grandma, grandpa, because of the elasticity and also the healing capacity of brain and the tissue.

And one aspect is, it's stem cells, right? There's a higher quantity of stem cell, there's more robust. As we age, or we have stem-cell exhaustion, we don't have as much stem, cells we're not producing it as, much it is not dividing as.

Much so in the terms of like, where stemcell research is now, you can actually clone your stem. Cells legally in, the US, under these IRB approved studies, and then administer to you.

But one of the key things that's very important, like, let's say a mesenchymal stem cell, which is very, very potent, it can actually turn into other different types of tissue, a connective tissue muscle, right, things like that organ tissue.

Right. So stem cells, you can give them in several routes, but one is IV. One is a direct injection. Let's see. We're doing a joint. There's even aspects to that.

Again, kind of like how people use the generic term NAD, a stem cell is not just a STEM cell. How you clone the stem cells are important. So for example, when someone says I'm doing stem-cell therapy, that actually doesn't really mean a whole lot.

Well, what kind? Right. Okay. Is it autologous or allogenic? So autologist means auto yourself. Allogenic means another ones. And so typically most people are doing allogenic stem cells.

It's a donor stem cell source. Nothing wrong with that. You know, there are donor banks in even these research studies. But if you can do autologous, the best thing is it's your own DNA and you're less likely to have a reaction like a graft versus host, right?

and that happens right but when you do autologous your own dna you can get cell quantities in the hundreds of millions and so why is that important when someone's doing a stem cell dose and it's 20 million 40 million stem cells that's not really in my opinion a high dose therapeutic high doses are 200 million and above that s a 10 factor increase so you kind of look at it you're getting 10x the dose that is mostly available around the world.

And where are you pulling these from, like fat tissue, whole blood, bone? Right, so typically you can get mesenchymal stem cells from fat tissues, and it's not that you're using the fat itself.

The fat's a nice, soft, cushiony place for these mesenchymo stem cell to hang out. Okay. So a stem-cell bank gets created and this stemcell-bank is basically your permanent archive.

Obviously, it is all registered. These are things that if the FDA wants to look at it, they have an archive bank, right? Uh, then you pull from this master bank and you can clone the stem cell out that you clone out to 200 million cells.

And that's not, and then there's another layer. So now you've solved the layer of, I have enough cells, a lot of people say stem cells get stuck in the lungs.

That's a true statement too, but partially true. When you culture stem cells in a typical lab grown medium, so kind of very basic stuff that, you know, is very standard in the industry.

Stem cells have a tendency to get very big and sticky. It's like this polysaccharide material, which is like a carbohydrate. And so when you get these cells that are big, sticky, they get trapped in lungs.

Now you're not going to die or anything, but basically the localized treatment becomes in But if you have Alzheimer's, dementia, Parkinson's etc, whatever condition that falls under the neurodegenerative condition, you wanted to get past lungs into the blood brain barrier.

And so it's going to be very important that the stem cells are very small and not sticky. That's possible when you actually know how to clone stem cell in a very particular way, know, how the science works, the STEM cells can replicate in small compact way which also allows you to Get them to that 200 million limit because Growing 200 million cells that are big and sticky requires a very large amount of space but growing stem cells That have a high integrity of the cell the size and the quantity is actually small It doesn't take as much space in those large and Sticky ones that you're talking about create a clot or anything.

It's not really gonna create A clot because you also gonna have A filter okay when you actually give it as an infusion. it's just they're very they just not as effective and Right?

And so this is kind of like the nuance of the stem cell world, just like there's a nuance at the NAD world. So in the ideal world which is kinda basically, we're about here now.

We can clone stem cells in to 200 million range. They're small, they're not sticky. The genetic capacity of it is your own DNA. But quality of stem self throughout the cloning process has high integrity.

I mean there is no mutations, there are no things that could cause anything bad in your body. That's where we're at. That why I think stem cell therapy will become more mainstream, hopefully in the next five, 10 years.

I also think being in Florida with the regulatory being very supportive of, hey, you can get stem-cell therapy now. We're going to learn a lot. And so that's why, like I said, research first.

You always want to study it, make sure it's right for you. But I've seen a really good outcome. Yeah, that's amazing, man. And I keep on hearing from a lot of people that that were flying out of the country to get the stem cells where they just do it as they call it almost like their birthday shot.

You know, they go at least minimum once a year and they're doing it more for age management, you know. To help prevent disease, have good vitality, Have vigor, et cetera.

What's your recommendation for someone who's potentially like listening to the podcast and considering, Man, this stem cell stuff sounds pretty unique.

Right. You know, I I like the idea of doing it on your birthday, right? You, know we I think the old-school way of how people viewed health I'm gonna gonna do my annual physical, but honestly like that's so outdated Like what is your doctor gonna?

Do when he sees you one time a year like if this is like a whole this a lifestyle, Right? I mean, maybe he can do something right. I've not not knock it by all means, you know obviously I have a vision myself but like I view it more as like The relationship you have with your doctors the relationship.

You have your body and I think if you're doing even standard lab workup every six months at a minimum. So from a stem cell therapy perspective, you could probably argue twice a year.

Once you are still good, right? Because if your body's like, let's say you, your baseline, 10 out of 10, And then at the end of the year, you're a seven out of 10. Well, look, having that stem cells to boost you back to 10 out 10 kind of just always resets that body.

Yeah. You know, is there an ideal cadence? I think twice a year is really awesome. Dr. D down in Miami at Biohacks, he brought one thing up and I was like, man, that's a really good idea.

He says, we need to create a functional medicine calendar that people follow. It's like hey, this time of year you got to be doing this type of testing, doing, there's some of these you do.

You know, your stem cells this time of the year, you're doing your detoxification protocol, et cetera. So I think that's something that in the functional medicine world should like someone should actually come up with that.

Yeah, I I. Think it comes down to like the openness and then obviously, unfortunately, a lot of this stuff is not covered by insurance. No, it's not. But I thing that if the insurance world could open up and like, hey, if we actually did this functional testing, we wouldn't have as many people on diabetes.

We wouldn' have these people with complications with heart disease and things like that, But I think, you know, what's happening in this space though, is the cost is being driven down for these tests, right?

And so when we have these lower costs, we can actually do these things on a base level. But you know, again, it's sort of like, how do you want to allocate your time, money and resource?

You know maybe you might not go out as much and let's say for example, go drinking, right? Because drinking is like it is fun, but maybe just you, its not really cost effective, and maybe its also not a benefit for your health.

So I think if we reallocate how we spend our money, I don't think its unreasonable to put a thousand dollars aside over the course of a year for you health, you get quite a good amount of testing done.

You pull that from your entertainment budget. Absolutely. So, Doc, you know, there's a lot of hype on the anti-aging world. There's all kinds of products.

You know you walk the floor of some of these conferences and you're like, what the heck is this? What is that one thing that you keep on seeing or just like people, please stop?

Oh, I don't know. I'm probably not even looking at it. And I usually at the conferences, meeting up with friends and colleagues. I don't know. I'm very open-minded to stuff, so I never want to shut one down.

It's like, maybe I just don' t know enough. Yeah. And that's more the science mind. You're inquisitive, and I do not want pretend like I know everything.

So I am very kind of like oh, that is interesting. What's your thought about frequency medicine? You know, like microcurrent? Yeah, I have seen that. Look, there is definitely some interesting frequency products that I think are great.

Then you have the product, you are like this thing probably doesn't work. Right. So I think frequency medicine could be that territory where people like, I don't know if I believe this, but people are skeptical.

Cause then I've seen like, they're like okay, we programmed the frequency of X, Y, Z into this. I'm like how did you get that signature pattern? Oh we just have it.

From what? Like they don't talk too much about it, no I tell you Dr. Willix, who was my mentor, and even Dr Davis, um, They're really big into frequency medicine.

And I noticed that with the guys like in the cardiology world. Yeah. Um, And um I, I been like really kind of looking

into it like man, it kind of makes sense, but then it just takes you into like this whole realm and a whole different universe.

It's very quantum, right? Yeah, very like that fourth dimension of living. But I mean, I get it. Technically, we're all water and carbon atoms and molecules.

Yeah. See, that's the thing is all of a sudden they tell us, well, you know, You're really not here. You know you're not. I'm sorry. Come on, man. Let's have a regular conversation.

Look, there is things like harmonic frequency and vibration. Of course.

Biohacking, MAHA, and Closing Advice on Health Mindset

And so if your body's in resonance, which is kind like a large part of what they talk about, it could make sense that that might like decrease inflammation or that could be a reason why the cells absorb you know more molecules or things like that so i'm not against it i just think i don't know enough to understand it but some people swear by it like there's people who are like oh i did this frequency thing and then all my aches and pain went away or x y's you Okay, of course, you know, it's, definitely one of the more non mainstream stuff, but I kind of think it s like, the power of prayer, right?

Yeah. And so people who are very do meditative stuff and things like that, there must be some sort of frequency of that too, because meditation helps people.

I think there's a lot of interesting work where people kind People who meditate and think they're going to get better, actually get, better. But people who think their health is negative and they think are going die, they end up getting sicker.

I think there's a cancer study on that. People thought they were going survive cancer actually do survive. The people are like, I'm not going, to survive, They have a lower survival rate.

Yeah, yeah. Actually, believe a lot of that, a believe that Dr. Holland, right now there is a huge movement going on, the MAHA movement, Make America Healthy Again.

You know, RFK Jr. is leading the way. What are your thoughts about this movement? I mean, look, I think he's done a lot of good so far, you know. He removed a of the artificial dyes and colors in our food.

I think I, think what he's doing is good. He's everyone's going to have something controversial about them. I know there's gonna be people saying, oh, but he did this and that.

It's like, yeah, there is. Everyone's on that spectrum. But I. Think until more, I don't even can't, even think before when him who else actually put so much energy and effort into actually making, you know, making us try to focus more on our health.

Agree. You know. And so I thank with that whole Maha movement, like I thing there a lot more good happening than bad. And I think because the awareness is about nutrition and all of these other things, that's a positive thing.

And he actually cares about our food supply, which, you know, if we could actually just have great, clean, healthy food, I. Think half of our problems would go away.

Yeah, agree. So that we're going to have a little bit of fun right now. OK. All right. I'm going say a name of a biohacker and you're just going. To say the first thing that comes to mind.

See. Right. Okay. Gary Brekker. I want to say 10 X, because that's what he's affiliated with. OK, I don't know if he is anymore. Joe Dispenza, definitely spiritual.

Yeah. Dave Asprey, biohacker Ben Greenfield, fitness Brian Johnson, experimenter Peter Artea. He's kind of like, he's definitely longevity at pharma. He calls it like health, can't remember, something like 3.0, med 3.0. Yeah, yeah.

Awesome, awesome. So next thing we're gonna do, So I bought these cool cards here from one of my favorite podcasters, the diary of a CEO. Oh, OK. Yes.

Steven Barlet. Yeah. So he came up with these. so we're going to open it up. Actually, I'll let you open. OK, you got to grab two cards out of there and you're gonna answer the question.

I'm going answer. The question? Yeah, so you grab to cards. You can shuffle them, shuffle him up or whatever. Read the questions and then answer it. He's got a killer podcast, by the way.

You know, I've listened to it. Some of these are longer questions, right? I think so, too. One, two. What makes you angry about society? And other question, what would you do if you absolutely weren't afraid?

What makes me angry about society? I think we're in a society where there's so much possibility, but there are a large amount of people who focus on the negative stuff.

And I actually think if you put your energy into the more positive things, you'll get more done. So it's kind of like we are in an era where people are I don't want to say they're not as resilient, but it kind of is how I feel like everyone wants to complain about something about people just focus on doing stuff.

Right. Complaining is not going to get you anywhere. You got to actually just take action. So I would say like, that's kind like what I'm noticing is that the resilience for people is like really low.

Noticing that too, with a lot of the younger generation. Um, yeah, combo. I mean, you know, definitely when I grew up, but there's like, there was a ton of stuff that happened to, like me as a kid, I'm like that was normal.

Now it's, it was like drama. People want to talk about it on their podcast and blow people up on IG. Like guys just… Be understanding and tolerant or whatever you wanna call it.

What would you do if you absolutely weren't afraid? I don't know. I have a friend who's learning how to sky drive. And I just, I dunno if I would do that in my free time, but I'd probably do stuff like that.

You know, and I think I've such a high sense of responsibility. Well, what if die? It's like I'm not even concerned about dying. Like what about all the people who rely on me and all of the things that we're doing?

Kind of feel like more like, that's what holds you back. Or injuries and stuff. Yeah, or injuries. I don't be a patient. And I already know what that's like.

Because I treat a lot of people. So I'm like, I got a perfectly great body. Why am I jumping out of a perfect? So, you know, I risked my life for about 12 years in the fire department.

After I retired from there, there's no more risk. I'm not jumping out of a perfectly fine airplane. That and Kelly skiing and all these things. If I was in a different age where it didn't matter, I think when you get older and have more responsibilities, There's that bigger mission.

And then if you have a family, of course, right? I just think the stakes are different. I agree, of course. So, Doc, if there's somebody out there right now, man, that is listening or viewing this podcast and they can really resonate with today's message and there is one thing that you can leave them off with, what is it?

I think it's really about focusing on your priorities. And like a lot of people don't think health is a priority for them because they're overall okay.

Or let's say there is something they are dealing with their health. It's just focus and consistency. Its so easy to say

it, but it actually really takes a lotta energy.

And so if you can kind of create this routine around focus and consistency, that's big. And I kind didn't even talk about it too much with, you know, during our session now, but like the mindset of longevity is truly a mindset.

It's just like how an athlete has a certain mindset to like win or perform, there's a saying like, championships are scheduled. You don't just win a championship because you played good football or soccer, etc.

You schedule that, and it's the discipline, it is the mindset, the consistency. So I think the biggest thing is if you've been thinking about doing something for your health, now is your moment to just write it down and make it happen.

And just consistently look at it. Even if don t do anything, just looking at what you have written down is very important. I also think using pen to paper is really helpful.

And Doc, if people wanna find you, where do they find ya? Probably more, on social it's pretty easy. You know, I'm at Dr. Holland, so D-R-H-A-L-l-a-n-d.

So it spelled like the country except with an A. On IG and TikTok, pretty much on all social platforms it said. And you know we love getting questions, you can even find us on our website and send stuff.

Happy to connect and we're just producing more and more information out there. Once we release a lot of the research, people will wanna know a little bit more.

Amazing. Doc, we'll have all those links down below. Yeah. And this was very informative. You know, one thing that you're doing here, you are changing the course of medicine.

It's one day to be a physician. That's another thing to do a position and doing what you do. So I want to thank you for that and thank for coming on the podcast.

Thanks, Sam, for having me. I really appreciate it. Guys, You heard Doc. He said it, longevity, health, wellness, it's a mindset. Write it down, right?

It's just like anything else that you want to accomplish in life. You have to plan it. It just doesn't happen. And not just winning the lottery here, you have actually put in the work to do it, we talked about a lot of different things here.

A lot things that are being researched. Guys, make sure you take this podcast, share it with your friends, with their family. Make sure subscribe. Follow Dr.

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