Introduction to biohacking and peak performance

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Same with psychedelics, people have been using psychedelics to expand their brain and now we're finding so many other uses. This is Dr. Talks. Hello, it's Dr.

Kent Holtorp with another episode of the Peptide Summit. Today we are honored to have Dr. Goyle from Toronto. He's a biohacker and just really doing a lot of cutting edge things.

And today he's going to be talking about biohacking, psychedelics, hyperbaric O2, and peptides for peak human performance. Dr. Goyal is founder of Peak Human.

So it's a peakhuman.ca again in Canada. His goal to get you a hundred times what you are now with advanced training in anti-aging, integrative, regenerative medicine.

He advocates a healthy lifestyle, really, which everyone does, but it's that biohacking that makes it much easier and you get there much quicker. You know, centered on plant-based diet, of course, physical activity and enhancing mental resilience.

He was the main host partner for the Toronto Biohacking Summit in 2018 and brings with him extensive knowledge about a lot of things, but interesting also cannabinoids, psychedelics, and emerging science of psychedelics and peptides.

So welcome Dr. Goyal. Thank you for taking the time. It's an honor. And you're doing a lot of, a lot of great things. Thank you so much, Ken, for having me here.

So tell me about what you're doing there. I know you're doing a lot. Very interested in this kind of merging field of using psychedelics and cannabinoids, low dose for depression and other things.

So tell me a little bit about that, if you would. Yeah, to be honest, I really came out of this whole biohacking space. A couple of years ago, I ran a summit here in Toronto with the biohacker summit folk from Finland.

Basically, the concept of biohacking means to be able to take charge of your own body by measuring it and understanding it and then experimenting on what's out there in the world.

Generally, it sits outside medicine, but I got really interested in this field. Cannabis really came outside of medicine at the beginning and really medicine is now catching up to that.

Same with psychedelics.

Cannabis, psychedelics, and evidence-based medicine

People have been using psychedelics to expand their brain and now we're finding so many other uses like genes and migraines and depression, anxiety, so on and so forth.

Nice. Yeah. Because, you know, with this whole biohacking and you mentioned kind of outside of mainstream medicine, you know, things are moving so fast now and there's so much inflammation.

You know, 20 years ago, you know, trying to get information or write a book or whatever it is, you go to the library,

try to find the journal, copy it.

Now it's just so much coming out. It was exponential. It's just really, who can gather that information? But there's so much information out there. But studies have shown, and internal medicine found most doctors are practicing 20 years behind what's available in the medical literature.

And it takes on average a proven new therapy that You know, tons of studies will take 17 years to adopt in the mainstream medicine on average, unless it's a new drug where they have Salesforce and you know, they're just pounding the doctors.

But yeah, so everything, you know, is moving so slow in better medicine, but the so-called alternative or integrative space is moving so fast. And it's evidence-based.

There's more evidence-based I found than standard medicine that's still using, you know, what they learned in residency and medical school. Yeah. And that's why it's not fair to call this, you know, alternative medicine or, you know, complimentary medicine or something, because then it gets this kind of, kind of, I don't know.

Yeah, stigma. Oh, no, study. It's kind of non-evidence based and all that, but what biohacking is all about science? So biohacking, well, you're looking at actual numbers and science and data.

And you're drilling down more to actually cellular mechanisms and basically how the body works instead of, hey, let's lower cholesterol. We need to spill lower cholesterol.

We're just kind of… Little Barbera, you know where this is the more science we know the more biohacking goes on And I think what that means is that we're not there's no particular dogma like you might have a particular I don't know a form of alternative medicine which has this okay, this is this is the way it's gonna be like, you know, I must we believe in this theory of how things work, but When you're looking at biohacking you're just looking what whatever the science takes to that, you know If it's today, it's vegan diets tomorrow could be keto diets.

It doesn't really And there's no actual attachment to any outcome. All we're looking for is what is the science telling us? I'm willing to change with it.

And that's what, you know, I love like medical debates, right? I'd say here's the thing. You know, everyone has their… in, you know, inherent bias from what you've read, what you've seen.

But, you know, just basically going back and forth, here's your studies on this. But the problem is, that's gone. Everyone gets, it's so political and emotional.

It's like, if you say something that's outside the dog, well, you're a clap. You know, it's kind of like, you're racist. It ends the conversation. And so, you know, vested interest and bias, and you look at, You know, levels of evidence, you know, you've got your randomized double-edged supernatural study, meta-analysis, you know, single-blind, basically case studies, anecdotal, and below that are basically this by the WHO, World Health Organization, found that societal guidelines are the worst form of evidence.

They're so far behind, they don't change because there's a big fight, you know. When new studies come out, they don't adopt, say, oh, my patients are good, my patients are fine.

And I have an article on the National Academy of Hypothyroidism, NEH, NEH Hypothyroidism, National Academy of Hypothyroidism.org. But why doesn't my doctor know this?

And goes through, there's lots of concerns in these journals, say, doctors aren't adopting new therapies because the system also doesn't allow them to.

Even if they spend all the time researching all this stuff, their, their hospital, whatever, we'll go, you can't do that, you know? And so it's, they're put in a bad position.

You know, they, it doesn't, it doesn't do them any good to learn more and do stuff. Yeah. You know, luckily Canada has been a bit of a pioneer in the whole cannabis space because it, you know, we've had the medical cannabis stream now for a good 10, 15 years and now it's become clinics where we write prescriptions to licensed producers that has been about already four or five years.

So we've had a lot of ability that has been much more openness now. So I think there's already about 10% of the population that has received, has probably used cannabis.

Nice. I know you use a lot of that. And then on the psychedelic realm, can you tell me about that? Like what you use, what have you found it useful for, like dosing of things?

Yeah. So psychedelics, I mean, again, they said it's still in the gray zone in Canada. Like they're not, it's not an official thing that one can prescribe, but I can educate patients on how to use it and what the science is saying.

Generally, what's been in fashion is either microdosing, something like 100 milligrams to 200 milligrams once every three days for a couple of months.

Let's say sorry, I've just tried psychedelic mushrooms. Is there different, I don't know about all this, is there different potencies? How do you know which one to use or different strains?

It's still very difficult in the psychedelic world. Yeah, there are in the psychedelic mushroom world to know what's more potent or other. But generally, if you just go with that type of 100 milligrams, 150 milligrams of a dried psychedelic mushroom, you should be fine.

It's not going to cause me issues. What would the normal dose be? Oh, I mean, if one is going to a therapy session, if you take about, usually about a gram, you'll start to…

That's like recreational use, they use about a gram. Well, I mean, I think that it's being used in therapeutic settings at bigger doses. So under the care of a therapist, you know, this has been shown to help people get through some problems that understand what's going on, what has happened in their life.

Sometimes people see the same problem a different way. It's something that's difficult to say. And so is it like a lasting effect? And so people say they kind of are like look at themselves from kind of the outside and say, I'm not doing this right or not doing that right.

Or I think that's more with ayahuasca. They're similar. They're psychedelics. They're still similar, acting on similar receptors. So it's the 5-HT2A receptor.

So this serotonin receptor specifically that the psilocybin or ayahuasca or DMT is acting on. And what that's doing is increasing the serotonin level, but it's giving a sense of interconnectedness, this feeling that you're connected to everyone else, to the nature and stuff like that.

And at a higher dose, what ends up happening is what we call the default mode network starts to get suppressed.

Microdosing, set and setting, and therapeutic use

So whatever's underneath starts kind of a bell shape or inverse bell shape, whatever. Well, ecstasy. MDMA is part of ecstasy, but MDMA is clearly being used for PTSD trials right now.

What we just don't know is, and this is some of my concerns, is that What are the long-term impacts of taking, you know, MDMA on a regular basis? You just don't, I don't know about that aspect, but.

Yeah. The weather, I think at high dose is kind of the same thing. You start down regulating or there's some, you know, toxic. Probably are, could be down relating serotonin because such a big dose of serotonin is coming out.

So receptors might be getting down regulated. We don't see anything in the psychedelics like psilocybin, myovask, or DMT of people getting any type of overdose or downregulation of those receptors.

But you need to take these doses. The maximum you could be taking is once every three days because otherwise you won't have an impact. Gotcha. And then when do you see a difference and what do you generally see and how long do you do it?

Let's come back to the micro dosing. So if somebody is taking a micro dose, they may or may not feel that dose. Like it's very subtle. Like they might just be a little calmer.

They might think, you know, They might just feel a little bit sharper or something like that, but generally they won't feel it. But what the research showed was that people who did microdosing after a few months, they did surveys before and after, they just found that their mood was better.

All right. So you're diving deep into peptides and longevity on this podcast, and we're right there with you. Integrative Peptides stands out, trusted by over 10,000 doctors to deliver real results for their patients.

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not at the microdose level. But if one is taking an treatment dose, like you're with under a therapist or you're dealing with somebody who's there to support you and watch you, first it's important that we call the set and the setting so that you have set it right in tension.

One week before, you set yourself that you're avoiding alcohol, you're avoiding Trying to put yourself in a good space here. You're not getting to fight with somebody.

You're putting an intention of what do you want to get out of it. Even if in your mind you're putting forward, you know what, I'm kind of working on this issue of my relationship with my mother or something like that.

You just put that in your mind and when you actually do have the session, These things just tend to come up. That problem tends to come up. Oh, interesting.

So you're, yeah, intentionally trying to solve a problem. I heard like with ayahuasca, if you drink alcohol, it doesn't really work or, you know, and you found that you use this for addiction as well.

Yeah, for sure. I have patients who are using it to get off, you know, painkillers or alcohol and they're taking more in the micro dose, micro dose dosage and they're having a lot of success.

Gotcha. And you're kind of doing the same every three days and how long till they start seeing benefit and how long do you continue? Yeah, it can be a long-term thing.

This is again, these are micro dosing people doing that. for some time, I would suggest a couple of months, three months trial and people are noticing after usually a month that they feel different and they can increase to two, 300 milligrams if they want.

Let's say for depression. Do they just like, Oh my gosh, I'm no longer depressed or just like, you know, I don't feel depressed. Like is it, you know, kind of a slow, steady type thing.

It's slow and steady. Cause what this is actually doing is helping you to see something a different way. We call this rewiring your brain. I'm like, how'd you get that like crazy?

We call the anti Tony Robbins. You tell him this is what you can do. I'll give you a thousand reasons why you can't do rewiring. You just need rewiring because that's exactly it.

Because you can tell a depressed person to change the way of thinking, but it's very difficult. They can't get out of that, you know? You know, so it's very interesting, like, you know, watch some of these documentaries on, you know, some of these people have everything, like some of these celebrities, they have fame, fortune, you know, everyone loves them.

And they're so depressed, they want to, like, kill themselves, you know? It's amazing. What shows depression is nothing to do with logic, you know? Like, look at all this stuff I have.

It's, you know, what do you have to be depressed about? You know, well, that's depression. You don't have anything to be depressed about. You know, or everyone can find something, but yeah, look at it.

There's a society that unfortunately sets us up that so many of us are struggling with negative thoughts. Yeah. And I think though, would you say society, the way everything is now makes everything more of the COVID thing.

You know, everyone's, you know, stuck. Yeah. And, but also just like even, you know, we'd have computers, you'd send a letter, you'd wait a week for something to come back.

Now it's like, or when you're in high school, you never know, where are you in this pecking order? It's all vague. Now it's like, how many likes do you have?

And everything's texting, instant response, instant gratification, stress, we got traffic, emails. It's like, we're just being overloaded constantly. Yeah, I don't know if you've seen Social Dilemma on Netflix, but it's pretty impressive.

I just saw part of it. I was just talking about it with my girlfriend's son. I'm like, damn, and I only saw part of it. It's like they know more about you than you do.

They can tell if you're pregnant before you do by how your shopping changes. Right, right. But yeah, it's very clear that it does cause like use of social media causes depression, anxiety.

And looking at everybody else. And also, you know, they're talking about news. If you look at certain news sites, they're going to feed you that same news.

So it makes every, polarizes everyone. Cause this is all the news you see, this person is all sitting, no wonder everyone's fighting, you know? It's like, that's what the political climate's about.

This is what people are going down their own rabbit holes. And that's how people are getting radicalized. Yeah, and they're just adamant because that's all they see.

Yeah, it's scary. It's scary. We can go on by that. On that, it's very political. Yeah, it's like a dialect's opener. Basically, because what happens, the more we think some way, the roads get stronger and stronger, the paths.

So what we want to do is make it that it's, again, wash over some of those roads so that you can start new paths. And so by, again, suppressing the top part of your brain, the rational part that's always thinking and thinking, Suppressing that allows, you know, some new pathways to form.

Basically, that's how. So it's not always going to be an antidepressant. It could be put in the wrong hands. If you go and take a psychedelic dose and then you're in a bad situation and you're having a fight with somebody, they're not doing it.

Yeah, I've heard it's from the experts. It's like context, right? Yeah. Ian is in a bad mood around bad people. people and, you know, bad energy. And I always like our analogy with people, we see this with a lot of, you know, chronic disease syndrome, Lyme patients, you know, you can almost tell that they have this illness within a minute on the

phone, right?

And they're just, they get wired different. And I think of kind of like, a feral cat, if you bring that feral cat in very soon after, you know, it could be totally normal.

Peptides for brain health, sleep, and recovery

But if you wait a month, there's almost no way you're going to get that cat to be comfortable, you know, holding it like a regular cat. I'd like to see a study on a feral cat and give the feral cat the, see if you're going to rewire it.

Definitely are people giving cannabis to pets. I've definitely seen that. Yeah. And then the psychedelics compared to cannabis, what's your thought? Like two separate types of medicines.

Like one is actual endocannabinoid system, you know, helps with balancing immune system and happiness. But yeah, they're working in completely separate systems.

Yeah. And I think your endocannabinoids, let's say, will take out THC, but you know, it's so anti-inflammatory. You know, the melanocortinase and like, I often want to say, it's similar to hormone.

Amazing for like mast cell activation syndrome, but you got it injected. That's super short acting. So there's like melanotan, which thing is good or bad, you know, it's basically like melanotan one or two.

you know, called the Barbie doll, whatever, you get tan, you increase libido, and you lose weight. But we found that tiny fragment, KPV, which is also absorbable orally, is great.

It's such a great amine modulator, anti-inflammatory, mast cell inhibitor. So I think that's a gut. Are you using a KPV for gut issues? It actually absorbs too.

So we're using it for mast cell. We just haven't used it for a long time because we couldn't get it, but it's also coming out as available as oral. And we're finding, I want to do studies on actually showing the bioavailability, but we're finding the clinical outcome like with mast cell is, it is very good, but also gut is great.

And initially with the gut, it's also, you know, delta sleep inducing peptide, you know, you use it for sleep, but the highest levels are in the gut. And it's very anti-inflammatory, you know, when it lowers hypothalamic inflammation, which causes, you know, diabetes and leptin resistance and hypothalamic pituitary dysfunctions, all the hormones are low.

So it's, you know, kind of amazing new systems everyone's looking at. And sorry, just kind of just one facial DSIP. So are you fine that you can get that every single day?

Like I've been giving it every day, but is it, is it something I should do? Yeah, I found, I mean, it kind of, one of the ones that changed my life for sleep, you know, it's not a sleep medication where you, where you get sleepy.

It kind of changes that whole sleep center. I found if you combine the Delta sleep-inducing peptide epitalin. So pineal hormone or pineal ion, and then a growth hormone, either growth hormone secreted, growth hormone itself or AOD, anti-obesity drug, which is a fragment of growth hormone.

That combination seems to work very well. It takes a couple of weeks more epigenetically, but I've been the worst sleeper. I've had Lyme all my life that just messes your sleep up like crazy.

And it's still not perfect, but it has helped so much. Cause I would, you know, everyone calls me a vampire. I get energy at midnight. And, you know, if I wish the world was turned around when I was in China was awesome because I could, I was on us to be up all night and just to talk to people during the day, you know, but it's that combos helped a lot of people.

The epithelium, are you giving us all big doses at one time? When you look at the studies, they're basically done in big doses. They did like one week every six months, but we just do it smaller doses every day.

And we find that it works. And delta sleep also looks like it's orally bioavailable. And it's interesting. So generally, the smaller the peptide, the more likely it is absorbed.

But there are certain ones that the conformation, if they amino acids, if it has enough hydrophobic, so lipid soluble amino acids that it tends to conform, it can actually be absorbed.

So BPC157 is not a tiny peptide. Well, it's tiny compared to proteins and things like that. But it is equal potent to injectable for systemic conditions like they did study on same colitis and Alzheimer's model that worked for both where people with joint pain just give it orally boom.

And that's why we also like the, you know, TB4, thymus and beta four, you know, mean modulator, thymic peptide, a lot of great studies on and modulating that immune system, but it's 42 amino acids doesn't absorb, but the four amino acid and terminal absorbs whole.

and has the majority of all the effects, some beta-4, but it doesn't simulate mast cells. So that part was taken out. And there's another smaller fragment, nanofragment, that also is immunomodulatory, that should be available orally coming out too.

So kind of interesting stuff when you kind of dig down into the dirt, right? Yeah, that's quite exciting. Yeah. But yeah, so what do you like for cognitive?

I know you do a lot of, you're obviously a lot of brain stuff, depression or cognition, dementia, what type of things do you like to do? Yeah, I'm pretty excited about using a lot of cerebral license, which I'm giving in kind of a big.

Like 10 milligram dose, IIV. If the person can make it into the office, I'll try to do as much as often as they can get into the office. But usually it's something like once a week.

We'll do at least 10 treatments I've seen. Good results of patients with early dementia. You know, just people who just want to have a veg at work. And so sugar lysine is basically, you know, brain peptides, a mixture, which no one knows exact composition, but we're actually testing with the mass spec time of flight.

We're going to figure out exactly what's in there, but they made it here, a biologic, so you can't get it. IV or as injection anymore, but it is orally bioavailable because the peptides are small enough.

And they've had this study showing that orally, you know, EEG changes. So they show, show that it works. So that's, that's, I know going to be out in a couple of weeks or so.

Yeah, I'm pretty excited if you can get that. Yeah. So like one caps equal like two CCs. It's very difficult. We have to get a ship right from Austria and like, it's not easy.

Yeah. And we used to get a lot of stuff from Europe and I mean, they're approved in, you know, in Europe and these other countries, but we had a patient who was FDA or DEA agent because you're on the list.

You better stop getting stuff from Europe, you know, that you're like, oh yeah, we got to stop even though You know, and people think something's FDA approved, that means it's proven and safe.

It's like, there's so much corruption in the deal. But, you know, COVID is no FDA. Just kidding if there's anyone listening. But yeah, you know, all these, these great chewers surely will be exceedingly safe, much safer than standard meds, you know.

And it's funny, my pharmacy chair, we have so many FDA chemists too, they say, yeah, if you find something that's totally safe and works, it's like you get taken away.

So I've also been using FGL, but at the same time mixing in with the 3-bar license to the IV. And I'm doing some C-Lank and C-Max. Can you talk a little bit about those?

Yeah. So I'm basically, the FGL looks to be like neurogenesis helps to increase neurogenesis of brain cells, neuron cells, and about two milligrams I'm putting into the IV with every treatment.

So with that, you need a little higher doses where a lot of peptides like nano, basically micrograms, other than milligrams, it's a thousand times more.

So they tend to be more expensive as you need so much more. Yeah. That's the problem with some of these. These are kind of a hundred dollar type. And I'm definitely adding it down as an alpha into these for anybody who's got any type of brain concerns because of, you know, trying to reduce neuroinflammation and, and, uh, yeah, yeah.

And a nice study by Mr. Bader for SRAG reducing microglial activation. Yeah. Yeah. So it's all these people, you know, brain on fire and especially these chronic infections.

And we heard a little about C max and C lang. When do you like one or the other or what? Fine. Yeah, I wouldn't, I didn't see like, I'm using more for the, for the addiction.

People have addiction issues and, and CMAX more for the depression. But apart from that, no, I don't. Yeah. I think I'll, I'll agree. Very similar, you know, subtle differences.

I think the CMAX a little more activating people, like take the either nasal or, you know, with it or shot. You know, I think a little clearer. Where sea length, I find people with like anxiety, it's a little more calming, helps deal with stress.

I gave it to rats, like, which they do terrible things to rats, like how long they can last even with, you know, swimming until they drown type thing, but, or at least they think they're gonna drown.

And I find when I'm really stressed, I'm looking for the sea length, you know, but. So I like those and see like there's a lot of also immune monitoring properties.

There are some studies, you know, showing to prevent viral infections. What do you, you know, just jumping there, you mentioned the frag with the T with diamonds and beta.

So what's the frag part? Is that an addition? No, it's actually a piece.

Mitochondrial support, autophagy, and longevity

So if you look at thymus and beta-4, it has multiple domains that do different things. And like you'll have part of this, you know, immune modulatory, some activate mast cells, one fragment works for hair.

So the fragment that go that is available currently orally is one that does the immune modulation, very anti-fibrotic, great studies showing, you know, reversing, diabetic, nephropathy, you know, kidney damage, heart damage, traumatic brain injury, reverses, heart failure, post-infarct.

but it takes away that part that stimulates mast cells. Now, if you give TB4 to a person with mast cell, usually they're better because of the upstream immune modulation.

And all these mast cell experts, they're not direct mast cell inhibition. And histamines, yeah, that's part of it, but look upstream and you'll do so much better.

And so it's also small, it shows only four amino acids. And so it crossed the blood-brain barrier, so we get a much bigger effect. Now there's another fragment that actually works for hair.

And by using the hair fragment, like you'll see the studies on TB4, B1-JECT, or, you know, put a top, we probably, because it's so big, but the fragment actually can get into the, into the scalp.

What fragment is that? Just curious, how do you, how does somebody who's trying to get this understand what the different fragments are? Yeah, so you basically got to dig down, so the hair, so the amine fragment is basically the first four amino acids.

And then the hair is about three quarters of the way in, another four amino acids. and then the nanofragment is another one that actually is located multiple places in the TB4 as a three amino acid and actually there's also So two amino acids, it's amazing that they have all this immune modulatory effects.

And you think, how could a two amino acid thing do that? You know, but it doesn't, it also makes it through the, the enzymes, enzymes don't break them down.

And then, so they'll show that, you know, they'll do have studies, you know, basically the two amino acids, the three, the four and extend it. And then all of a sudden, like, if you go too late, it stops, you know, makes it not work and go backwards.

So it's, it's interesting stuff. Okay. Yeah. It makes sense to me now. Yeah. And let's see, you also, you talk about, I know you said you mentioned substance abuse.

You found some use with peptides and also the microdosing. You already talked about substance abuse. The peptides, I guess mentioning with C-Lanc and, and some of the neural like IFGL and, and, and C-max and thymus and alpha.

Also doing the vitamin C IV drips for that. Um, Yeah, those are, those, those seems to be what. Gotcha. So it kind of, kind of that rewiring and, and I think just, you know, we see work for depression, traumatic brain injury, post-traumatic stress, you know, and anxiety, I think anytime you reduce that anxiety, because so many people with substance abuse, they're really using it as, you know, self-medicating.

Yeah. And yeah, you reduce that constant anxiety. It's huge. That's great. And what are the ones do you like? So you said you like Famous and Alpha One, BPC 157. Yeah, definitely using BPC.

I'm using a lot of AOD 9064 for weight loss. We're having a lot of stress from that. And can you talk, can you explain that? What AOD is? Basically, it's AOD seems to be, it's a fragment, I believe, of human growth hormone.

So it seems to have, without the side effects of growth hormones, it works only, I think, the weight loss part, the fat loss. That's called anti-obesity drug is what it came out as.

And the studies actually looked pretty good, but they dropped it. They dropped from finishing the studies. It was in clinical trials. I don't know what happened because the studies are good.

You look at like studies on like Neurontin on other drugs for nerve pain. Like it was exactly like placebo. Then it dips down a little bit and they go, here we go.

You know, it helps, you know, and all the side effects, but yeah, it doesn't increase IGF-1, but has a lot of healing effects and very safe. I haven't seen any side effects with it.

And you can also put it into joints and things like that. We're kind of like, yeah, I like the AOD BPC-157 and either TB4 or TB4FRAG as our kind of standard cocktail for joint injections works really well.

You make the PRP? Yeah, either PRP, stem cells, exosomes, or decellularized growth factors now. Ozone, I do like prolozone. I think it's, you know, they're all, they all work, but I think putting in together, you might oxidize the peptides, but we tend not to do those together, but yeah, or just even doing the peptides, but usually with like a little PRP or, or exosomes or something like that.

Any of these growth factors? I know we can buy some of these growth factors, hypodermal growth factor. Can these things be added to PRP with that benefit?

Yeah. Yeah. You can, you know, add also problem is like the growth factors tend to be very expensive. Like if you try to, you know, there's certain serums and things like that, that you can buy from companies that combine different growth factors.

And, you know, very similar to peptides and, and in terms of turning genes on, you know, signaling epigenetic change the. you know, basically what genes are turned off and turned on.

And I know you do genetics and, and the thing is I love genetic tests, but your genetics are really about 20% of what's, you know, of what your destiny is.

Other 80% is how you could turn those on or turn them off depending on lifestyle, food, sleep, peptides, hormones, and like GHK is another one. So copper peptide.

I forget exactly. It turns like on like 78 genes and turns off 43 or something like that. I mean, that's not thinking the right number, but it's like amazing.

You know, so it's okay. And only I know I visit topically a lot, you know, for stuff, but. Yeah, it works. Great skin. You can also do it in injectable and it looks like oral will work as well.

It's only a tripeptide. It has that bluish color, but it's fine if you're injecting. It doesn't burn or whatever. Injecting it like I used to. Oh yeah.

And you have GHK on your body. So it's just two milligrams injection, you know, a day or a couple of times a week. But we'll do higher doses in the joint and then orally we're We're looking at how much is actually absorbed or transgermally, how to get it through the skin, not just into the skin.

And it looks like GHK by itself is not absorbed, but if you have the copper already attached to it, then much better absorption. Right. The GHK copper.

Yeah. That's how I think I've seen it coming. Yeah. Also zinc thymulone is going to absorb much better than just thymulone. So if there tend to be positive charge, positive charge, they tend to get in much, much better.

And like AOD, what is it? Like 167 to 191. And that actually absorbs orally. And the study showed that where you wouldn't think based on the size, but it has a lot of positive charged amino acids and the hydrophobic or lipophilic amino acid.

So it absorbs very well. Yeah. Okay. Yeah. And when you do AOD like for weight loss, what else do you like the, also the mitochondrial boosting peptides along with that?

Yeah. The only ones I'm using is I've used MOTS, which I'm telling patients to do on a weekly basis. And then I'm also, I'm just testing out the SS31 on a few patients a day.

Oh, that's right. Yeah. Yeah. So an SS31, if you talk about SS31. Well, as far as I was doing some reading, it looks like it seems to be improving mitochondrial efficiency and improving the energy production of the cells.

I think the studies showed that in mice, the mice who are given SS31, the older mice became younger, I think, after a couple of months. Yeah, yeah. And also some human studies that offer some improvement in elderly.

Yeah. And when you look at all these studies on aging and age rated illnesses, they have a number of things in common. You know, immune dysfunction, you know, your thymus goes, you get that poor, you know, TH1, Treg.

So you can't fight infections, can't fight cancer, but the TH2 is too high. So all this inflammation, autoimmunity, and

then also mitochondrial dysfunction is huge.

And so the cells actually don't have enough energy to even like detox, to kick out heavy metals. They don't have enough energy to die when they're supposed to.

So the cell needs energy, what's called apoptosis. So in the cell, the bodies, the cells have a a inherent mechanism of when they get senescent and they don't work very well, they self-destruct or they should, but they don't have enough energy to.

So all of a sudden you add the energy, now they can die. It's called autophagy. where you're getting rid of all the old bad cells and which there's a lot of, you know, kind of people promoting.

I agree as you want to do some things for autophagy and get rid of those old cells first and then start promoting the health. Cause you want to promote like, you know, make a senescent cell that's all crazy, especially mitochondria has a lot of inflammation and things like, you know, so the TB4, TB4 FRAG, BPC through the mitochondria.

actually a linea, which is a, any parasitic, any viral, any cancer actually, that's not in the literature. It's not approved for that, but it's amazing substance.

Metformin, resveratrol, all the bioflavonoids are great at autophagy as well. Intermittent fasting does that as well. So get rid of the bad cells before you try to, you don't want to stimulate all the cells.

You want to get rid of the bad ones first. What have you, what's your experience with like fasting, the nicking diet? You know, I don't promote much diet because I want to be a hypocrite because I eat like crap.

And I tried the fasting-membraning diet and I lost like 10 pounds, but then I gained 15 back. So, and I'm also with exercise, you know, I'm religiously exercise.

That's my passion every four months for eight minutes, you know, rain or shine. So I don't, I don't want to be a hypocrite. So I don't talk, there's so many people that can tell you more about, you know, what to do, exercise and stuff.

And I think the way you explained about the autophagy, that's exactly, that's where, that's where it really is now. That's so exciting. The science now, senescence.

how to help get rid of those cells that are in the senescence. Yeah. And I mean, it's amazing. You look at people, you know, I have friends in their eighties that it's where they're 40, you know, and other people who are 60 and they're like, well, I remember thinking in high school, someone's 60, that's nursing.

And, you know, I'm, I'm 56. I'm like, damn, I'm almost 60. And, you know, you think about whatever was the Simpsons, Mr. Burns, whatever, you know, and just hunched over and, and people are like that.

And it's, it's, it's such a difference. Like, do you want to live longer if you're in a nursing home and, you know, don't have your faculties and can barely do anything?

I wouldn't, you know? So I think that that's the big thing, you know, the health span and vitality span versus lifespan. And you look at the money spent in people's, you know, last year or two in life is huge.

We spent all this money to keep them alive, but they're already, you know, our heart's failing and, you know, they got dementia, like you remember anything and neuropathy and diabetes.

And, you know, that's like, you know, when I got heart failure, it's just from Lyme, I'm like, I can't live like, I'm not going to go on where I, you know, couldn't stand up and I would walk one mile an hour.

I remember, you know, going around the world and trying to catch my plane, just sweating, you know, trying to

make the plane at the mile an hour. But my head bent down like a ball and then pulling my suitcase in the, in the snow and getting on a subway in New York like this.

And it's crowded. I think someone's going to just, you know, hit me at the back of the head because you're like, how annoying. But yeah, like stuff like that.

And some people with heart failure and so like the, the peptides. changed my life, you know, reversed the heart failure and you know, studies show that with, you know, TB4, BPC, certainly stem cells and exosomes helped, I love ozone.

I mean, there's a lot of things that work and you know, PEP has one, one part of them, you know, it's a, it's a nice tool to have in your toolbox. It's pretty exciting.

I'm so happy that you're doing this summit because this is really the future of medicine. And so many people, they hear about peptides and you can give people studies and even doctors.

Labs, inflammation, and tracking health metrics

They want to hear what doctors are doing. You know, and what you're finding that works, because I'm telling you, like, there'll be a study that comes out and shows, you know, X treatment is so great.

If it doesn't work, you know, use it and like, wait a minute, the study you're showing is wonderful. Like, I haven't seen any benefit, or sometimes it's the first person that works on, but then no one else have checked.

Or it's like giving T2, you know, basically there's T4, T3, there's also T2, which stimulates mitochondrial function. And the studies show they're like, oh my gosh, this would be great for weight loss.

And there are some people who works amazing. They're like, this stuff is amazing. But majority of people we found it didn't work. You know, it's safe, so it's to try, but it's probably 15% of people notice a difference.

And there's certainly not enough T2 and like armor and those things. So you need, like, we're doing like probably six to 800 micrograms a day of it. I mean, no side effects, but I tell people try it for a month and if it works, great.

If it doesn't. No worries, but for people who works on it, it's like, it's amazing. And then another mitochondria booster. I think it's the same with everything, you know, the other mitochondria booster, some people are, oh my God, I feel like Superman.

I think all the peptides, I think really everything's like that. You know, you can look at, you know, why that's, I think that's the problem. People go to the internet and oh my God, I got cured me with this herb, you know, but.

try it on a bunch of people that doesn't work. And, and so I love patients that go to the internet and look for everything. You know, if a doctor says stop reading the internet, run, but just bring it back and we'll talk about it, you know?

And, and a lot of things just work on a, on a few people, but we got to play, you know, one percentage is you want things that work for the majority of people are safe, you know, effective and, you know, in cost, you know, and so you try to weigh all those things and which is like, You know, patient, well, my doctor says this.

Yeah, well, you ask three doctors, you get four different opinions. But then we found the less a doctor knows, the more adamant they are, they're right.

You know, I think, I think you've probably found when you get into this biohacking and dig deep in all this stuff, you realize how little we know. Yeah.

And that's the thing. I still think it's still quite a bit of an art. I'd like it to be a bit more, unfortunately, you know, the

blood tests we have, unfortunately, don't provide enough guidance.

Okay, like, okay, which peptide works, which person, let's, you know, some of this is a bit of a… Yeah, and that's where I tell doctors that the labs are a piece of information.

And I love getting a ton of labs, like, you know, we usually have 35 for the sickest patients, but they've been everywhere. And you look at the chart, they get CBCs and chem panels, and the doctor can't find anything.

Well, if you don't look, and usually, you know, we know what's going to be wrong, but also our job is convince the patient And also convince the patient's doctor that, hey, you're in the right spot.

Here's, here's what's going on. But, you know, any one test, it could be a lab air, it could be, you know, and there's no perfect test. And I love to run a lot of great tests, but you know, costs and a lot of tests are great in research because they're right there and doing it.

But once they try to commercialize them, you got a tech drawing and it sits out, you know. And we sent our internet guy, just pretty basic lab, just he went to class and then lab core, lab core and class, one was right on top of each other.

Didn't need or anything, just went one to the other. One showed he was diabetic, the other one shared his blood sugar was awesome, you know. Okay, fine.

Yeah. And one insulin was sky high, the other one was low. I mean, these are just standard labs. So you got to take everything with a grain of salt. Or I don't understand why doctors, they order a lab and it's abnormal and they go, oh, it's a false positive.

Well, why did you run the lab if we're not going to do anything about it? You know? So yeah, anyways, a couple of last questions. What labs do you like to get?

Yeah. I mean, I tend to get like, uh, I'm looking at the hormones, like, you know, free testosterone, estradiol, DHEA. Um, but I'm also looking at HSCRP, lipoprotein, LPPLA2.

So you're looking for prevention, heart disease. I'm looking for signs of inflammation. Yeah. The whole cholesterol theory of heart disease I think is dead.

I mean, there's so many studies. Inflammation is huge. And a lot of patients, for instance, Lyme patients have so much inflammation, but their CRP is normal.

You know, and also we found if someone, some people check said rates, if that's low and low CRP, often they have coagulation defect, you know, the immune activation of coagulation and give them a little heparin.

Like the line, the, the infection will cause the body to line the vessels with fibrin, not a clot, but now it's lining it. So oxygen usually takes two seconds to get into the cell and now it takes up at two minutes.

and waste parties can't get out, nutrients can't get in, hormones, peptides, like if things don't work, it's something to really look at. And you can do a little kind of parlor trick.

It's not perfect because it depends on also patient in their effort, but normally if you have someone breathe out all their air, have a pulse ox on, and then hold their breath.

And so normally, so the oxygen from the lungs, you know, basically goes into the bloodstream and then, you know, through the heart, into the cells and into the cells and is utilized.

So you look at the pulse ox, that will go down as you shut off the oxygen. But if they have a coagulation defect, it stays, barely goes down. And so if someone like holds their breath, makes good effort, it goes from like 97, 98

down to like 80, some people 70s.

That's actually the blood's getting, the oxygen's getting into the tissues. But if it doesn't, it's a mark of a coagulation defect, you know? So when you clear that up and all of a sudden the treatments that didn't work before, now start working.

So it's some heparin in the psychology to do that? Yeah. Yeah. So usually it's very safe, safer than aspirin because it's super low dose. And you're like, oh my gosh, you're on blood thinner.

If you talk to a hematologist, they'll say, why are you giving that? It's homeopathic dosing, you know? But also the enzymes like lumbar kinase by the best, nanokinase.

But yeah, so when I tell people, I say I got good news and bad news. The good news is, the bad news is you got a coagulation defect. The good news is you got a coagulation defect, we can treat it.

But there's a panel we do for that. Nice. So I love all the stuff that they are doing. Anything else you're kind of excited about? I'm excited about this.

Well, everything about biohacking is about measurements. So I have this ring these days that's called the aura ring. It's really cool. It basically checks your heart rate variability.

That's a, it's a really interesting measurement because basically it can tell you what the stress that your system is under. So you'll, you'll notice if you have even a one or two drinks the night before that your heart rate variability will go down during the night.

It can explain heart rate variability and why. Heart rate variability is the variation in your heartbeat. And when you're relaxed and your parasympathetic system is working well, there is a good variation between beat to beat.

And when someone's stressed, again, imagine it's very stiff, your heart rate becomes very stiff, so there's less variation. That actually measures that.

Yeah. So it's pretty awesome. And so you're really competing against yourself. It's not about checking with somebody else. You can see day to day, you know, if you're overtraining, you'll notice that your heart rate variability might take a day or two to come back to normal.

Wow. Wow. And we've seen more and more of these athletes, you know, and weekend warriors and they've got to finish this marathon and all of a sudden they crash.

Yeah. And they've got like chronic big syndrome and, you know, and our immune system shot and that's, that's, that's very interesting. And because I think someone, you know, bought me the watch, whatever.

I've never worn it, but that sounds interesting. What does, what does it cost? You know, it's about a $400 US or a rank. It's O U R A. R I N G or a ring and NBA just come out.

I think they've made it their official. Wow. They want all the players to use now. So it's pretty cool to check it out. Yeah. And yeah, that's, that's pretty much.

I think more and more, we're also going to be getting into that. you know, measurement, you know, individual measurements like that. And you can, you can monitor your, so I think people really need to take an active role in their healthcare because, you know, just going for the checkup with their doctor, they find nothing, you know?

Yeah, I think we're more, we need to start, I think, doctors, because there's no way we can know everything. All we can do is guide the patient now. And just like, you know, the iPhone allows people to take movies on their own, technologies allowed people to take charge of their own health and the tools were there now.

But we, you know, we can probably provide guidance, but there's no way we can understand it all ourselves. And so patients have to do it themselves. They need to go out there and the information is out there now.

Yeah. And I find too, I think it goes kind of back, we'll kind of circle back to the beginning and then someone seems to sum it up a little bit that I think people, somebody, when they try to take an active role in their healthcare, it's so confusing because you read the, you know, all this stuff on the internet says this is good, this is bad.

The official stance is this, which is usually wrong, but those are the sites now that come up. You know, Google suppressing, you know, any alternative, you know, facts or, you know, it doesn't matter how many references you have.

If you have a couple of buzzwords, bioidentical, integrative, alternative, it's like you get, you get penalized and you don't come up. And so people see one thing and you tell them, like, well, I read this and this, you know.

Well, here's 200 studies showing that that's incorrect, but that's the stance of, you know, the endocrine society or the menopause society. So you can see this adds to their anxiety.

So a lot of people, or let's say at a party, well, I'm so sick, I got this and that. And then I go, well, you should consider this as well. My doctor said, oh, hold on.

Well, okay. How's that working for you? And they're scared to make a decision because they're just bombarded with basically conflicting information. So it's difficult.

Yeah, I don't envy. I think it's quite difficult to navigate. And so we can only be a guidance to people to help them navigate this. It's very difficult.

Yeah. Yeah. Well, great. It looks like you're doing some great work and on the cutting edge. And I don't know if you're the second person from Canada, but yeah, we're getting so many restrictions here on all our stuff.

The FG is trying to shut down everything, but everything's a big pharma. All right. Awesome. Yeah. Keep the good work. Thank you for taking the time and share her and your knowledge and experience.

I think it's going to be really helpful for all the, all the viewers. Thank you so much, Ken. Great. Thanks a lot. Okay. Thank you for tuning in to Doctor Talks.

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