Why Reverse T3 Can Tell You More Than TSH (Part 2 of 3) Transcript

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Sponsor Intro and Episode Setup

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Thank you, Integrative Peptides. Now let's jump into today's conversation. So what are the protocols or tools available with bioregulators in peptides for the current weight loss trends that are going on?

You know, everybody's on the GLP-1s and they're looking, there's a bunch of supplements now that come out and manage different aspects of leptin or insulin resistance or these other gastric peptide.

What are your thoughts on it? There's so many in that. It's kind of like, we went to the studies of people who are, you know doing, seeing if they've been dieting, their thyroid drops, they gotta get the thyroid in there.

but with the peptides, mitochondrial, you got to bring the mitochondria back and so you know 10 of the Peptides do that. Bioregulators for the muscles like people are on the ozembic and they're losing muscle, this will help that Welcome to the Peptides and Longevity podcast.

Thyroid, T3, and Chronic Illness Overview

Each week, we'll dive into groundbreaking science, innovative therapies, and the future of health and longevity. Alongside visionary physicians and experts, We'll explore how peptides, cutting edge medicine and lifestyle strategies can redefine the way we age.

Get ready to transform your health, optimize your vitality, And unlock the secrets to a longer, healthier life. Let's get started. Again, we're going to begin our program.

Thank you very much for attending this special presentation of Boston Biolife. Today we have the part two of the Dr. Kent Holthorpe series, Empowering Your Path to Medical Excellence, How to Revolutionize Your Practice with Peptides, Bioregulators and T3 Therapies for Hypothyroidism and Beyond.

So this will be a presentation by Dr Holhthorpe, basically the extension of what we've done in the past. If you've been following along, Kent's a tireless worker and he's constantly creating new content and trying to really drill down on all the very important facts that one needs to know to be able to implement this into their practice.

So we've broken it into three parts. This is part two. And if you haven't seen part one, it's available on the Boston Biolite website. Many of you have submitted questions.

I think we have over a hundred, so I'll be moderating that towards the end. Without further ado, we will begin our program with Dr. Kent Holtorf. Hello.

Thanks, you guys, for coming. I'm Kent Holtorf, owner of the Haltorf Medical Group and Integrated Peptides. We're going to talk about how to revolutionize your practice with peptides, bioregulators and T3 therapies for Hashimoto's,

hyperthyroidism, and beyond.

Early in my career, after I'd left anesthesia, essentially, it was not for me. It's a shame my mind missed me, but it is nothing against anesthesiology.

And I took over family practice, really got into thyroid because I was, you know, pretty much dying at that time from Lyme and Babesia Bartonella and got really into T3 therapy.

I found that in within a year with the Stanley Family Practice, I'm able to take it over, convert it to cash, and we just had people just coming from out of the woodwork to get better.

And it was like, oh my gosh, this is like You have amazing but you know that was original thing was a t three that you can treat most. most anything with and it's everyone just so under diagnosed.

And if you want additional information, I've written a number, a lot of review articles and they each have, you know, 5,000 references showing the way that we diagnose and treat hypothyroidism, including Hashimoto's, Hashimoto's even gets more reason to basically the.

We're told in the U S it. It's allowing so many people to not get the benefit of therapy. And we'll find that the, you know, we talked a lot about this in part one, all the evidence is showing that part of the TSH is the worst marker to look for someone who has low thyroid, especially if they're older, if the have any stress, have they have depression, they they any chronic illness, do they had any inflammation, are they exposed to any toxins.

I mean, so there's like no one left. And because the TSH will basically be suppressed. We'll talk about thyroid transport today. so i'll just do a kind of a brief review of part one where really the key is think about the thymus and that basically it's right here in your chest and it basically is the monitor and keeps in check the TH1 TH2 balance and you can put Treg over here and t h seventeen which is the auto immune kind of side i mean it's an oversimplification but you have to let it work extremely clinically and we found every disease model it fits that it is nice you just gotta plug in things for you if you haven't done your general disease and not just a more part of the syndrome or diabetes or just the ashi modos and so it all works.

So normally as your your young your balance and then as you get older that the thymus activity will drop down to its low point about thirty five forty and if you look at the incidence of disease will be low bump for childhood disease then it right about forty five fifty that's when it just starts taking off.

And that's when people start getting all the inflammatory conditions, autoimmunity, age-related degenerative diseases, cardiovascular disease, osteoporosis, Autoimmunity, neurodegenerative disease.

All these things. And basically it's because the main reason is that their immune system now is a sick phenotype and an aged phenotypes. So that what And what will the low th one so our downstream marker for that now in case i was not a teach one side of time but it works as the best downstream market problem is the lab core if you do it it's a natural killer cell number it may even.

steer you wrong if it's high it could show me no senescence and that's by the best teach one number and teach you will look at things like c for a human trans and grow back to the human trends and growth factor beta is key in the problem is that we found that you can question my life or better in terms of their service.

Let all their test for our key test and the question all these things it always. Negative I can tell you a bunch of stories on this where? Fortunately you want to get these key tests and at the in part three We'll give you all the layout what what labs to order and you'll be able to treat Really any patient that walks through your door, so we'll go ahead and move on here And we talked a lot more about thyroid, how someone with Hashimoto's, really they have the highest incidence of antibodies to their pituitoid, they had the high incidence antibodies, to mitochondria, I mean they're a bigger mess than You know what?

Oh, we're just waiting for the thyroid to burn out and then we'll give them a little T4. So we talked about the local

control of thyroid. When you have stress, any chronic illness, age, toxins, basically what will happen is a type 1 deitonase will be suppressed, which is in the periphery.

Now you don't get as much T-4 to T3 conversion in cells of the body. And then, all the stress and insulin resistance, whatever this physiologic stress is, so it's going to lower that T4 to T3 conversion, that activation of T-4.

Now, it also has type 3-D niolase in the periphery. That will basically increase T 4. to reverse T3. So it stimulates type 3-D ironase and upregulates.

Now you're making less T4, T 3 in the cells of the periphery, but you are making more reverse-T3, which people say, oh, it's an inactive metabolite. No, we look through.

And then the flip side is the pituitary. It has different receptors that are high affinity. different deidonases that aren't suppressed. They do the opposite and they also have basically they don't require energy or maybe such a small amount of energy that when the body has a lack of conditions such as diabetes, chronic illness, heart failure, you'll see it, anything with mitochondrial dysfunction, What happens now, the cells in the body aren't getting enough thyroid, but the pituitary is happy.

So what happens, T4 is coming in, pitutary, it's taken in. It's converting it to T3. And what does that do? So that's going to lower the TSH. With, again, chronic illness, you're going get a low T SH.

They go, wait a minute. And the chronologist went to my course, my basic school says if your thyroid is good, you're going to have high thyroid, low TSH.

If you have low thyroid you'll have a high T SH and normal, normal. But it's wrong. It's actually inversely proportional. Yeah, so high TSH, really the thing is the low TS H does not mean high thyroids.

And then let's look at the T4. And so the two things occur when you have chronic stress, whatever it may be, that the body, the deidrinases, will now not transport T4 into the cell.

And T-4 is much more, you know, we're actually going to get into this. So yeah, let me move on. But T 4 is that that transporter is very energy dependent, so it can't get in the sell.

You now have high T four and low TSH. Oh, they're high thyroid. No, there not. They're actually the marker low. And you'll see low T3 or free T 3 and high reverse T three.

We're going to get right into thyroid transport, which is the diadonases certainly play a part. But this is really the main reason that you see these so-called strange thyroid function tests on all these chronic illness.

So pretty much name it. That's what you're gonna see. What you end up with with any chronic illnesses is a peripheral cellular hypothyroidism. and but the pituitary is happy so it's actually suppressed and with autoimmune disorders it gets worse because they again they Numerous other autoantibodies that they actually have an auto antibody that blocks the pituitary, not uncommon.

Say if it's connecting to that deidrinase, wow, that should slow it down. So it should be good that the TSA just stay up. No, it is the only one that speeds up the t4-t3 conversion in the puttuatory.

So you know really that we'll get to the treatment things but immune modulators and t3 you'll find you will treat these patients quickly easily anybody's gonna talk about the thyroid bioregulator and all that.

kind of clinical parts would be in part three coming up. So thyroid hormone transport. In order to have biologic activity, T4 and T3 must get into the cell, correct?

Because they're nuclear receptors. Really, if you look in the textbooks, it says free hormone theory or diffusion hypothesis. It was formulated in 1960 and where it was assumed that the concentration in serum is going to be the

pressure to push it through in pituitary.

And it's completely wrong. but still being taught no one the only question that why should they do so on any condition associated with mitochondrial Dysfunction and impaired thyroid transport includes, I mean, these are all that document one of the needs, pretty much everything, especially you look at neurodegenerative diseases, heart failure, diabetes, obesity is huge, insulin resistance.

All these associated with mitochondrial dysfunction. Like in the study, they had 171 fibromyalgia patients. They looked at their mitochondria and only one person with fibomyalgio was in normal range for mitochondrion function.

Depression, huge incidence of mitochondrial defects and dysfunction.

Thyroid Transport, Reverse T3, and Testing

Bipolar, a couple of interesting studies on those, neurodegenerative diseases, aging, again, chronic disease syndrome, fibromyalgia, migraines, and chronic infections.

And everything's a vicious cycle, cardiovascular disease, any inflammation, high cholesterol. But as all the studies are now showing, really for the last 10 years, that the cholesterol theory is dead.

High cholesterol is actually a low risk factor for heart disease, but anyway. So yeah, the standard blood test can be very unreliable. When you think about it, when this goes by the TSH, any of these conditions are present.

And actually also is emotional stress. People think, oh, it just really suppresses your immune system. It does not. It, again, modulates it in that TH1 to TH2 shift within TH 1 to Treg, TH 2 to Th17.

And that's what happens. So we see that with mast cell activation. OK, so relying on standard thyroid function tests and managing chronic illness, it's unreliable at best.

Almost all these patients, all of them, have some form of secondary and tertiary hypothyroidism. there what happens the pineal hypothalamic pituitary thyroid axis is shut down.

And they have high pituitary T3. So they had high T 3 in the pitutary causing low TSH. At the same time, they're having low t3 levels in their peripheral tissue.

All have reduced cellular transport and thyroid. Also, we're finding a lot of thyroid resistance, which is interesting. It's kind of a little subset, all causing lower tissue thyroid levels.

Looking at the T SH is becoming, you know, just kind of worthless. And that's what we do, it's standard of care. I read another study two nights ago and they came out with a huge meta-analysis and all this stuff and found that probably almost up to a half of anything published is wrong.

It's especially the case of when you have the genetic tests where they take like 20,000 SNPs and take way more than that and then they just put them all in there and see which ones are associated with some X disease of aging or outcome.

And it's kind of like taking a bunch of, let's say marbles and throw it on the street and the ones that kind go into the bushes, oh, they're associated with this illness.

So it is a little scary and that's just not even the purposeful deception. The pituitary, so again, it's different than every cell in the body, all the references there.

The adenases, the high affinity thyroid receptors, and the transporters, they may have to do with any, but very, very little. Again, pitutary will maintain or increase the uptake of T4 and T3 in low energy states, while the rest of the bodies will have significantly reduced transporter T-4, to T3, you know, as it crosses that threshold.

T4, T 3, and reverse T three have separate, specific, energy-dependent bi-raid transporters. So they're all different. How can we use that to our advantage?

The T 4 transporter is more energy dependent than the T-3 and the reverse-T3. And those are about equal. Because again because energy-dependent and any condition with mitochondrial dysfunction Will have this what happens when you'll get enough energy so that so they basically stop working.

He stopped working in a Physiologic opposite manner so even slight reductions in cellular energy. I eat mitochondria Dysfunction or it could be toxin.

That's totally essentially they're all suppressing the mitochondrion they result in dramatic declines of uptake of t four and they will block the up take a t three as well but they're much less effective and this goes into the quintessential ones are depressed patients which is interesting you look at all all the studies so i remember i've read this group of harvard doctors did a study on.

I retrieve it for bipolar and found that they all but didn't work you know well they get the wrong wrong hormone. It's like, yeah, T4 doesn't work. You have to give T3.

But then a number of studies came out showing totally the exact opposite. So the future gave them an increased T-3, numerous chronic illnesses, while the rest of the body is starving.

Here's a couple articles looking at different tissues that have different amounts, and this one's showing that the liver is also completely different than the pituitary.

If you look here, so the red line is T3, the blue line T4, and this dotted blue is reverse T 3. This is the amount of uptake of the hormone, whether it's one of those three.

And then this is just the amounts of stress going out here. Stress is shown to be the biggest killer just shuts down so many things but even so just a little bit of physiologic stress what happens immediately.

The t4 but also reverse t3 start dropping in the amount of cellular uptake so now i get this point. they're basically only pulling in half the amount that they should be of the reverse T3 and T4.

But if you were to give straight T 3, you're going to do much better. This is the drop in cellular and drop of mitochondria function, and this is this the uptake.

So at 25%, the T 4 has lost 50% of its Uptake reverse t3, you know 40 something but at 25 percent. It's only 25 35 maybe 40 percent at for the t-3 So it's much more immune to that and then as you get sicker You can basically see how a t4 just basically gets down to an equilibrium.

Basically nothing's coming in now This is where we can use reverse T3 to get a very compelling idea of Should we use T4, or is that bad? Or do we need T3?

So because it has the same pharmacogenetics, and this is not to scale, it could be very, very close, that a high reverse T 3 shows that it's not getting in the cell.

So there's your diagnosis for lack of transport of T 4 into the cells. And all these patients are getting T four, wondering why it isn't working, okay, we'll switch to armor.

Well, sorry. have dramatically more T4 than T3, probably not the best move. Well, the arm are better than the T-4, of course, but you find these patients will just do so much better with straight T 3. And this looks at, you know, what happens to each that we use for monitoring and measurement of the thyroid activity or effect.

Here's kind of, again, from mild to severe. stress, depression, cholesterol level, insulin resistance, any physiologic stress. So the TSA quickly drops off very fast and should be even faster.

This is the accuracy. How much accuracy? So it drops from high to low. Now T4 is not much better because it's basically going to be blocked very quickly from getting into the cell.

So with this you will have low TSH because its being suppressed and then the T4 is being blocked from going into this cell, so high T-4. Now people say, well what if it is Grave's disease, you'll have Low T SH and High T 4? Yes.

I hope you can differentiate clinically and the T3, reverse T 3, or if you want to even worry about it more, do the ratio and that. So now T three is going to hang on a lot longer.

Well, this was kind of this exponential or logarithmic work. This is linear. It is gonna be accurate much, much farther out. But now, if take the free T2-versity ratio, that is telling you much more that its accuracy is consistent.

And yeah, so it gets a little confusing because everyone, and I even tell my patients, it's a lack of diagnosis issues where you have less T4 to T3 conversion, much easier way to satisfy the patient than what's going on.

And it is true, but there is a bigger effect. We will get right back to the episode, but first, a quick thank you to our sponsor, Integrative Peptides.

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That's integrativeptides.com, code podlife, P-O-D-L-I-F-E. Now back the the episodes. So, high reverse T3, do not give T4. Big problem with Reverse G3 is it used to be so clinically relevant and clinically useful.

because they used a radioactive amino assay and the reference range was nice and wide and had a nice bell-shaped curve. And then they go to the more accurate and precise LC, MS, LMS, liquid chromatography, and then GC-MS gas chromatic graph mass spectrometer.

It is precisely not accurate, it just puts people all in the middle. It's become a ridiculous thing that we battled with them and they don't want to do it.

Another side note, in some of our key tests that will look for this high TH2 and low TH1, natural killer cell function, C4A, human transfer and growth factor beta, a lot of coagulation markers.

LabCorp is so much easier to deal with than Quest. They're all terrible. Their tests are totally inaccurate. They never come positive. And we had so many cases, like we were treating the vets for two years and we have a veteran come in, totally disabled, did a very large blood panel and she was sick, sick sick.

And then I see everything's normal. I'm like, okay, this is lab four. Like I said, there's no way this has to be abnormal, and then all of a sudden she goes, wait a minute, I got a quest result.

And every single one was like three times the max, you know. So I would steer away from lab 4, even though the alternative isn't great. Okay, identifying defective thyroid transport.

How do you tell if you have defected thyroid transfer? Averse T3 level inversely correlates with the amount of inverse T 3 transport into the cell. the transporter university we'll talk about that and there's some other this kind of little clues that you can use if the free key three free t four ratio is less than three it shows they're very likely sexual binding it works better for women.

But sex hormone binding globulin is produced in the liver in response to two and a half things. Your amount of thyroid in your liver, the amount estrogen, and sometimes with severe inflammation it will go up.

Women should have really above 80 and if they're beyond everything and they are at 40. Either just a lack of estrogen and or lack a thyroid man gets a little it's not so great low normal nk cell so you want that greater than thirty litic units that's a number one thing but you're trying to get it done at class they screwed up and elevated

human transferring growth factor beta this is a one that.

we discovered or that we did discover but I mean on kind of an extra clinical little pearl because that basically fibrosed my whole heart. So I, you know, with Lyme, Babesia, Bartonella, I Was it sick as a dog?

They had from an utero contraction of all those things. Basically, after being in and out of a hospital with sepsis, all this stuff, and all of the sudden they start going into heart failure.

And it was a strange heart fail. There was diastolic in that. It was my heart fibroses. What does human treasure growth factor beta do? Fibrosis. And so the cardiologist said, wow, because you can maybe get 10% better in 10 years, I could not walk upstairs.

I couldn't stand straight up. If I can't live like this, forget it. So I always picked Halloween, said I'll give it a chance. And long story short, around the world, found peptides.

They didn't want to believe it, and I'm like, wait a minute, what are these peptide things? But also CD4, CD8 ratio, you want it greater than 2.5. Immune activation, coagulation, and we can give you all the labs that constitute that.

But when you look at all these things and you treat those things, the patients get better. So your local control, this is also 2003, I guess. What do these look like when see them on a blood test?

So here's baseline. It's a healthy person. And this as you get sicker out of here. So they end up getting a more severe of the illness, more depression, calorie reduction, kind of does the same thing.

Well, this is the normal dude at the second part. So amount of tissue, hypothyroidism, inaccuracy of TSH and T4 levels and diminished utilization of t4.

It's a little redundant. But so as the person gets sicker and they get mitochondrial dysfunction and the transport of these thyroid hormones go down, what's the first one just comes right up?

reverse T3, which seems it would be a good marker for chronic illness induced hypothyroidism, cellular hypathyroid. So the problem with the T4, now this is serum level.

It goes up because now with the low energy it can't get into the cell so it goes in the serum. But also with this is you're getting a suppression of the TSA so now less 3T4 is being made to convert to reverse T3 where at the same time it's being held out.

So there are two competing factions which one's going to win out so that's why you get kind of an up and down where it Not much is coming in but as here it's because the tsh is suppressed and there's not enough being produced and with the th will go up a little bit as it senses this drop in thyroid production but then.

The, all the, you know, it gets flooded with, two gets flooding with T3. So it starts going down. You see we have strange thyroid function tests and they all will fit into this part here.

The aging thyroid, so this also, this was 2009. I put this together with a bunch of journal articles looking at different journals that had documented people's TSH, free T3 and free, T4 over the years.

And we're able to do a zero to one 20. and you can see here, okay. People's free. T three goes down as they get older. Okay. It's kind of with arguments like oh people, you know going in the hospital man What's called non-phyroidal illness and it's a good thing for them to want to burn a lot of energy Okay, is it you get thank you.

That is a reasonable hypothesis, but TSH goes down now if this whole Tsh thing is Hey, TSh is you mired high your third boat. He's low there's high here and If thyroid's getting lower, this should be going like this, correct?

Should have the opposite way. It should across. I don't know if you can see my cursor. But now, again, what the

heck's the problem with this T4? Like, doing nothing.

Pretty straight. Maybe a little bit lower because of that competing factors where it can't get into the cell because the lack of thyroid transport. As you go forward, there's less T-4 made because if the suppression of the TSH.

And so again, TSH climbs with age. Do age individuals have better functioning thyroid increase? Yeah, so hey, look at this. They've got the lower T SH there.

of health. Age while associated with a decrease in free T3 while free t4 remains constant. It is known that age associated will reduce mitochondrial function, so that is not surprising.

The lower the average TSH, the lower free the t3 without a change in t 4. So it demonstrates that aging is associated low tissue level thyroid. Let's look at other things that are common.

Stress, and there's emotional stress, physiological stress. Sometimes stress is good, sometimes it's bad. When cell cultures, so your cell culture are intubated with serum from a physiologically stressed or dieting individual, they're shown to be a dramatic reduction in the uptake of T4 by the cells that correlates with the degree of stress So the more stressed the individual, the most likely their serum is going to shut down that thyroid transport.

So serums from non-stressed individuals had no effect, while those with significant episodic stress had up to a 44% reduction in deeper uptake into the cell.

Don't be stressed, my friends. They found that TSH had no correlation despite dramatically low tissue levels of thyroid. Let's look at dieting. Repeated cycles of diet, weight loss occurred at half the rate and weight gain occurred three times the weight compared to controls with the same calorie intake.

So many people diet and it's like, can you make it any harder? So these are things that you can fix. I would recommend people get a bireflex in the office which first medical journal show the knowledge of a doctor looking at someone's ankle reflex is a better test and blood test for thyroid they could predict who would benefit from thyroid and who wouldn't and also which one corner with symptoms more.

Clinical Evidence for T3 in Depression, Obesity, and Heart Failure

And so Yo-Yo dieting, they found associated with a 25 to 50% reduction in T4 uptake. And these are going to go real quick through these because you hear, oh, reverse G3 is just an inactive metabolite.

So reverse C3 suppresses T for T conversion. All the studies are there. It actually decreases cellular energy production. Reverse G3 is a more potent inhibitor of T4 to T3 conversion than PTU.

You know, such use for microthyroidism. Reverst G block cellular uptake of t4 and t3. And so reverse T 3, when put in these cultures, block the cellular take at t 3 by 23% and T 4 by 34. Results may indicate that reverse G 3 itself has an adverse biological effect.

Hmm, maybe so. Thyroid and exercise. So it goes down to a significant stress, especially women that exercise extensively, they will actually see a drop in their metabolism.

Very concerned about overtraining, so I do my every three months for eight minutes, rain or shine, no matter what. That's what I do. And Alzheimer's disease, increase reverse T3 in the cerebrospinal fluid of Alzheimer.

These results suggest that intercerebral thyroid hormone metabolism, possibly the occurrence of brain hypothyroidism, as a cofact progression of the disease.

Reverse T-3 and weight gain. T 3 falls again during acute and chronic calorie restriction. Reversed T three increases during the acute in chronic caloric restriction, blocking thyroid effect and lowering metabolism.

so it's really hard to lose weight we find most women that come in who have been dieting will be twenty five percent lower which means they essentially their burning amount of calories equal to somebody sixty percent their weight and if they're chronically ill there.

Basal metabolic rate is terrible. We'll also use the thyroflex, which measures the brachioradialis reflex. It will measure that reflex of that. So when you're basically here, let's say your hand goes and then goes, it should go.

So the slower the relaxation phase, the lower the tissue. And amazing studies on me showing it, it totally correlates. This is just showing that a patient with high reverse T3 is found to have a abnormal thyroid stimulating test showing central hypothyroidism.

Then they repeat a bunch of these. So reverse t3, is associated with essentially central hyperthyroid. Yeah, so here is, let's look at the cardiac world.

You know, all these endocrinologists are scared to death of T3 and it's crazy. Elevated reverse T-levels are associated with a three-fold increase in risk of one-year mortality independent of age, previous myocardial infarction, prior myo-cardioparxia, and prior angina, heart failure, serum peak, serum, pre-teen and the MBK fraction level.

This is a study showing the misleading diagnosis of low thyroid using T4. So the low-thyroid, it's going to be essentially high, so that's misleading you.

And so it says, look to the reverse T3, which again was much better a number of years ago. And then that's what I think throws people, especially if they get a TSH and they'll say, oh, you know, high T4, low TSh.

Oh, they're right on the border of thyroid crisis and their pulse is 42 and there gaining weight every day. They can't get up bed or freezing cold. But let's look at T3 levels and mortality.

This is just looking at people in the highest. Turtile of the three of lowest mortality and morbidity from cardiovascular disease and then the middle of middle and the lowest level will have the highest and quite a big difference there so free to three levels of direct inverse correlation with.

mortality morbidity and chronically ill patients these were chronic disease patients and patient middle was in the middle t three syndrome you know i like to add syndromes everything it's a strong predictor of death and cardiac patients might be directly indicated in.

or prognosis of these cardiac patients. And if someone has heart failure, their T3 levels are always so low. I've never seen any of them that had even close to anything optimal, let alone just maybe even super adequate.

But they just turn around so fast with it. Yeah, don't be afraid of T-3. There's all these studies showing how safe it is. This was a study where they looked at, okay, what is the best way to test them?

Biroid study 403 men in Journal of Clinical Endocrinology Metabolism. they can't fit just in their journal. They looked at the association between all these different thyroid parameters and the correlation with tissue level of thyroid effect.

So this study demonstrated that TSH and or T4 levels are poor indicators of tissue thyroid levels and thus an enlarged percentage of patients cannot be used to determine whether a person has U thyroid at a tissue-level.

In fact, T-4-levels had a negative correlation tissue levels of thyroids. The higher the T4, we're associated with a decreased peripheral conversion of T1 to T3, low T-3 syndrome, Low TSH, and high reverse T 3. And they didn't know about the transfer.

The study demonstrated reversely is the best indicator of tissue levels. Thyroid was inversely correlated with physical performance scores. The also demonstrated that this T3 reversity ratio is currently the better indicator

tissue level of thyroid and the porosity of TSH and T4 levels further worsened is further decreased in the presence of chronic illness.

So statins, yeah, so they will falsely lower TSH. So if you're suppressing the T SH or whatever, watch out for that. They also knock down your mitochondria.

It could be a cause there. Accuracy of TSH in fibromyalgia. So not a big study, but they did therotropin-releasing hormone testing in 13 fibromalgia patients and 10 controls.

And they found that, as you would suspect, all of fibomyalgic patients were hypothyroid, despite the fact that the standard thyroid function test, TSH, D4, and D3 were all in the normal range.

Now, I did a review article on HP axis dysfunction and chronic fatigue syndrome and fibromyalgia and we found basically the same thing that 90 plus percent are low.

Interesting thing, the fibro-malgia patients had more of a defect and a block in their hypothalamus. And the chronic patient had it more in the pituitary which makes sense in that the the fibromyalgia patient of the pain centers they're all there and just kind of more of a diffuse symptomatic group where the patient patients have more like this and that's just my thinking but they found the patients and have a low normal tsh which average eight point six.

First is one point four two in the normal okay so you up there and the saying okay there by red slow not make it lower than the normals so if there's some other tests like that they would just they wouldn't it but you can't yeah so make doctors miss the thyroid for so long again she chronic dieting fifty percent drop.

Base metabolic rate. When normally resumed thyroid levels and metabolism do not return to normal. So yeah, it's a big problem. And I do worry a little bit about this intermittent fasting if it gets too severe.

You're doing a lot of things and turning on autophagy, but you're also shutting down your thyroid, maybe. Then it is commonly stated that treatment of reduced T4, T3 conversion, thyroid transport, and thyroid resistance has been shown not to be beneficial.

Okay, so psychiatrists especially came out and they go, You know, wait a minute here because we gave them all T4 and it didn't help. Of course it did not help because you got to look at the pathophysiology and the mechanism.

But then when T3 was used, the results were amazing. The STAAR report, largely they were done on antidepressants. It blew away every antidespressant and worked when all the other ones didn´t.

it had less side effects than every other antidepressant, including especially less anxiety and palpitations. Why aren't these psychiatrists using this stuff?

So you have the dysfunction present with depression and bipolar. So again, the same thing, you get downregulation of diatomace 1. You get reduced T3 conversion in the periphery and reduced uptake of T4 into the cell.

thought to have high normal thyroid hormone, but it's kind of the same thing as it goes along with others. And we used to actually as well, is we would give people shots of straight serotonin.

We were told all the time that, oh, it doesn't cross the bloodway barrier, you know, so, like, Oh, really? People are getting better. Oh no, its placebo, placebo.

I knew medical students came on and mistook the dose like it was supposed to be one, to one vial. And the first one went out. I mean, it wasn't dangerous or anything.

She still breathed, but yeah, well, I thought it didn't cross the bloodstream barrier. So anyways, hypothyroidism and depression. Half of depressed patients found to be hypathyroid, again, if you're looking at their thyroid function test,

they're not.

You got to do this thyroid stim test which we recommend not because you look at it you don't get if you do every day, it's going to be all over the place.

It's kind of like hitting the person's head with a hammer and going, can you feel this? And saying you're normal. And so additional studies show that depressed patients have reduced T4 transfer to cause the blood-brain barrier.

So they also have a defective protein that also keeps it from getting into the brain. We're liking the analog of TRH which it doesn't stimulate thyroid but it really stimulates brain function and so that's kind of you know with all these peptides I think they're going to make a resurgence and but the bioregulators have they certainly don't take away the you replace all those injectables but doctors that are using these things they are finding it just put a good dent in it.

to be able to add that. Looking at thyroid and insulin resistance, diabetes, leptin resistance. So they looked at the impact of supplementing T3 on cardiovascular risk in obese patients to partially reserve and reduce the T4-T3 convergence in an obesity.

They had 70 patients with normal standard function tests were treated with just a low dose of straight T-3 for six weeks. The state Well, the dose was not high enough to completely reverse the problems that they seen in obesity.

There was a different induction number of cardiovascular risk factors, including cholesterol and markers of insulin resistance. Found no side effect. The authors conclude T3 may be considered to ameliate some of the risk factors associated with abdominal obesity, particularly in some age subgroups of obese patients with a relative resistance to thyroid hormone.

And we'll see that they have a relatively resistance that you can do a number of things that cause all of receptors to also basically start going away, possibly dependent on the decreased peripheral dehydration of thyroxine.

depressed patients, double-blind placebo, which will study 50 patients with normal thyroid function tests. They randomized either received low-dose T3 or placebo.

they had a, you know, two-fold increase in response rate, Which is pretty good because, I mean, due to work, everyone goes off of them after a year. Tons of side effects, really hard to get off.

So they're a very positive response. Side effect was higher in the placebo group. On 10 out of 11, they basically included an increase in nervousness in the placebo group.

So everyone's like, oh, and they're going to be jittery and come on, Chris. This is a bipolar case. I think I mentioned 159 treatment-resistant bipolar patients.

They tried on average 14 different meds, no response. What they did was they just said, okay, put them all on T3 and dramatically better. And very quickly, after 14 different medications, at least, that did nothing for these patients.

And the author was a very thankful doctor that told them to just do it. That's the STAAR report I talked about, a large study ever done, found that 66 of patients failed to respond to antidepressants, okay, right there, or have side effects serious enough to discontinue use.

Of those who do respond, over half will relapse in a year. A trial found T3 was effective even when the other medications were not. They were shot, it was shown to be 50 more effective, even with the less optimal dose of 50 micrograms to make up for the CWNR cell or T3 deficit present in patients, despite having the average CSH and higher pre-T3.

They're non-depressed patients. So again, they're confusing, like saying, well, you can know they are higher, which is currently incorrectly interpreted.

And there's kind of the typical, yeah, come in, keep going in for depression. Oh, damn, what's going on? So let's look at insulin levels, diabetes. A newer study shows that insulin-resistant diabetes, metabolic syndrome, mucin resistance, you'll see several reduction to urethra conversion, facilitated deficiency of T3, high and reverse T 3, thyroid resistance with chronic dieting.

So now we're looking at thyroid resistant, serum and tissue thyroid levels drop with caloric restriction. You actually should have less receptors. reduce sensitivity so you need much higher thyroid replacement.

And in this study, so what they did, they starved and then they were testing their metabolism by seeing how much oxygen that they burned over a certain period of time.

What they found was that the ones that were dieting is that in order to bring that metabolism back, They had to give five to twenty times greater dose to bring that vo2 Back up to what it was before so that's pretty like damn So here's impaired sensitivity.

So this is all thyroid resistance. This is a thyroid hormone that may reflect energy balance problems driving type 2 diabetes. And you can have a resistance from, and I don't know if you kind of went through all the things that are needed for the thyroid to have activity in the tissues.

If you look at a resistant, it could be, like we were talking about, cellular control but i think more talking about either the receptors are basically less of them they're less sensitive with which would be there not able to activate them are transcribed and there's something happens that there could be a toxin or something but or the body will actually just actually get rid of.

Again, thyroid-resisting and fasting. There's a significant decrease in nuclear receptors. So there's one thing. Just doing the fasting for a period of time will dye up less thyroid receptors and then add stress onto all that.

And there is that part. And then just real quick, you guys know, we're being toxin to death. And so many of these toxins block the thyroid. But when they block it, it doesn't result in an elevation of TSH.

So that all knowing, tuiterary does not know everything. You know? So BPA blocks thyroid receptor with no changes. I had about five of the studies. T3 and heart failure, I want to tell my story on that.

It was a long time ago. One of our first franchisees. So low T-3, it says commonly.

Bioregulators and Peptides Explained

I have never seen it unless they have an amazing team, you know, cardiologists and a chronologist, but they let them just be really low because they're scared to give them T 3 because of their so fragile.

He wasn't working for us yet, so he's going through the training. and he called me up. He basically gave me T3 and it just reversed his heart failure.

The guy was in the hospital, just like totally a water overflow, totally ascites and, you know, huge peripheral edema, lung failure, it was just terrible, he couldn't even function.

And then he ended up giving the T-3 through a lot of different steps, very slow because he was very scared. But the guy ended by getting out of it bed and walking around and then they go on one week on and two weeks off or something like that.

And so he went off and when he was gone, Endo came back through and took him off of it and put him back being bedbound. But yeah, so again, T3 significantly improved the neuroendocrine profile and matriculatory performance.

We find so much, and this study showed that new onset autoimmune disease that someone had, in this that he had 80% chance that they had a significant, stressful, almost always, so they have them emotionally.

That is what just kind of started this. And that's what happens is you get that, again, emotional stress, especially, you know, physiologic too, but you'll get big suppression of that TH1 but a big raise in that Th2 and Th17.

And when you look at you, like if you have any mast cell patients, that this is a big contributor. And if look close, you'll usually see a large number of those multi-system illness patients that have mast cells.

They'll have high ACTH, but low cortisol. Hey what the heck's going on it's resistant to the ACTH or there's a block somewhere between that AC why isn't it stimulating the adrenal to make cortisol and so what it does it starts pumping your brain can make more course I was going to TRH to try to make more ACTH, which then should make for cortisol.

But the CRH is a direct and indirect stimulator, a very potent stimulative mast cell. And here, so, you know, if you look, and then also the autonomic nervous system and the sympathetic nervous systems starts contributing all these fight or flight cytokines and chemokine.

And this also drives it all to that low natural killer cell, this low TH1, but high TH2 with high mast cell activity and high eosinophils causing dramatic increase in allergies.

So I used to, before we had peptides, we'd just give a little bit of cortisol if you ever read jeffrey's book is pretty old now but it's still cutting edge because they have to change the single thing in modern medicine but and that's fine or if you can i wanna give a basic adrenal bioregulator fix the adrenal recommend is giving the pineal gland by regular.

epitalin, which does so many things, reverses autoimmune disease, increases telomeres. And then if you add that to a thymic peptide or a thermic bioregulator, it is probably the number one anti-aging combo.

You'll see some of these studies. But first, they gave it to, I forget the numbers of patients, but it was around 100, bottom for 15 years. They just gave him three doses of epitalin, So, and they gave them six doses and followed them for cardiovascular disease and mortality, morbidity, everything else.

And the ones that got the treatment had dramatically less cardiovascular deaths, cardiovascular mortality. they're actually cardiovascular got better not worse dramatic reduction cancer improve quality of life like every measure you could think of less chronic infections less hospitalizations and just from six doses that they were bigger than the standard but.

And then, you know, it'd be a low natural killer cell function here and just all this histamine floating around. So art is whole Sears thing. And if anyone's interested in Sear's, we wrote a eight page Seer's chapter for the LDN Research Society and it ended up being 88 pages.

But it's been well received. Check it out. I wrote it because I had all these people I'm treating for Sears and they're on these binders. And I might go, how long have you been on those?

12 years, but I know I am going to get better. Ah, you know, I'm a little ADD. I want to go a bit faster. So in the whole point with, again, Shoemaker has been amazing as the father of this whole illness and putting it all together, so great things.

But one thing he's taking away, the model takes away all the mycotoxins and all these other toxins that are basically causing the low immunity. That's the mechanism to get rid of the lower immunity, well, You can fix the immunity much quicker and now you can detoxify much your body's working much better, that it just feeds things up so much.

And with the immune monitoring theories, the biorep regulators, and the peptides, like all of these POTS cases, it's kind of like, oh, don't worry, you know, they can be really hard to treat, but we found that you do these things and Potsys goes away.

It's also like autoimmune, just such a great program for autoimmunity. I got MS, do you think you can get out? Well, yeah, probably next week, treat so many of them.

So peptides and bioregulators. What is a peptide? So, peptids naturally occurring or analog of short-chain amino acids. If they're greater than 40 to 50, they are considered a protein.

That's why we say protein there. Longer considered, a proteins. Peptides generally work on the cell surface. Okay, so they'll attach a surface receptor and then they kind of do multiple secondary messengers.

And some may, but not very often they work epigenically by binding to different repressors and suppressors on the DNA. Again, the hormones work on specific receptors in the nucleus, so they basically are slow on, slow off.

The difference with the bioregulators is they're fast on fast off, The peptides are caught in the middle and you get that multiple. Their effect is much like a supplement.

And people say, man, if it has all the effects, it would not make them very dangerous. You don't know what they're doing. But it's kind of the opposite with that because if a man does one thing, they will knock something out, right?

But when it does a number of things, their compensating and a lot of these Peptides and bioregulators, they're kind of like smart drugs, right? Even just BPC-157, I'm sure you're aware of.

If your blood pressure is low, it raises it. Your blood pressures high, brings it down. You're hypercoagulable, that will actually improve that. No clotting factors and you are bleeding out, will decrease your bleeding time.

They're throwing that adaptor marker in there because adaptogen, wherever the body does, are going to modulate. And peptides very synergistic with each other with supplements, hormones, meds, not a problem.

Again, the peptide bring like most every known process in the body where you should think it was hormone. That's a kind of a fine tuning of that hormone if you think of you know, kind of layers.

Cup tides generally have tissue-specific effects, and while hormones are generally kind-of widespread, have an effect on a lot of things. So they're extremely safe, given some at a hundred to a thousand fold the usual dose.

no problem so it's really been a hot topic they've been to buy rainers been difficult to get because they'll come out of russia and they could not get him because russian basically only accepted u.s.

dollars which i don't wanna get rid of us dollars but because of that they couldn't deal and so i'll be ending up going through by to them here so. They're out and of course they raise their prices and all that stuff.

But they're really unique stuff and I got so many stories and you get stories like very quickly with this stuff, like the kidney peptides or the Kidney Bioregulator.

I have kind of leftover low-level kidney disease from the Lyme, Babesia, whatever it is, you know. So my creatinine would be like 1.2, something like a 1.4, but take one of those and yeah, there's TMI, too much information, It's really foamy, right?

But if I take that about, I don't know, six, four to six hours later, it's not. And that lasts for probably two weeks. So I'd take one. But of course I'm going to take it intermittently now.

In so many cases, people say, oh my gosh, my daughter was on dialysis and they're going take her off and things like that. So, the bioregulators or the peptides, there's another layer too because your body has a lot of natural occurring isomers that are actually more stable, more resistant to enzymatic degradation, they're more potent, and some are as potent as a 60-fold increase in the half-life and also a much higher affinity to the receptor, so now it's much more specific.

And so, that's like if you see with integrative peptide, The TB4FRAG, it's a naturally occurring isomerase, 60 times the hapline. And the KPV has the same thing, making it much more potent than other KPBs.

It makes them more resistant to the ability to be broken down in the gut. So it makes it more bioavailable and actually much, more, potent. You get high patient satisfaction, saves patients to get money while maintaining an excellent revenue for yourself.

Because you guys are here, you're trying to treat some of these sickest conditions and doing new different things. And you want a good life for yourselves and you deserve it.

You should be charging much higher cash rates because they're not paying for your time. They're paying this time, like this, where you are doing all these other things to better treatment for those patients.

charge more. It's also higher value and you will get more patients actually. Here is just a breakdown I put together in terms of all the different peptides.

There are some bioregulators in there. I'll leave this to you. Bioreglators. it's a very interesting story. What are bi oreglulators? So they started during the Soviet Union, and the Union realized that all their submariners, their cosmonauts, in their high-speed jet house were aging tremendously fast.

So, they put it on this Vladimir Kabasin, who was head of the military or governmental geriology society and aging, said, you got to fix this. like okay and he's actually working with Pavlov who you'll know from you know Pavlovs dog but he was really into bioregulators which is interesting in the gut and I don't know how how they got to but they they were the first ones was the fineness okay they took thymus extract and the pineal and i mean i don' know oh they went right to it sounds good Conspiracy and they put these together and said great results but no one knew about this it was a soviet secret and all the people are getting it where are you those cosmonauts most mariner most military probably and the olympic team.

Which is pretty well during that time right but and then at the fall soviet union they start slowly publishing all their studies are thousands of studies and but are russian so i'll be no one's reading them and finally some people start reading well hey wait a minute what is this stuff going on and so it started slowly coming out to the u.s.

So basically, they got them out here, became a big hit with the doctors, and there's 21 of them currently for all the different tissues, whether it be brain, pineal, thymus, muscle, gut, or mostly your stomach, lung, bronchi, heart, prostate, vessel.

Vessel one is amazing. It lowers the inflammation in the vessels. And it's also a lot of amazing stuff, reversing cardiovascular disease, great for neurodegenerative diseases.

So one product that a company has coming out as a cognitive function product for the cortexin, which is the brain bioregulator. I should tell you, so it gets very confusing, like for, let's say, the Brain Bioreglator.

Thyroid Bioregulators and Q&A

They have an extract is one product they're all named in russia that i'm slowly you know but so hard to remember what was what but they have the next track version where they basically process it as you but by regulators in there then they are synthetic ones which when they can find out the active peptide then it's just a synthetic.

bioregulator has a different name yeah like the vessel ones the sujin and basalt and you know they're all the kind of thing like that and then pineal gland which sounds like part of the pinea gland but it's part we're finding does have pineal and also thymic and other brain activities and effects.

And then there's a two amino acid product called Bylon that is kind of like a thimic, pineo, brain, it does a ton of stuff. So there are 21 bioregulators, but where we're finding finding more if you wanna let's say get the thyroid bioregulator you can either get a russian extract the russians synthetic and then as another company did put the

extract in there and dan isolated all the.

the different components and no one knows actually with the thyroid bioregulator somebody knows but like Kevin is not telling there's no synthetic thyroid bio regulator and so this product has not only more of that extract and more purified and then a amount that says above like 200 micrograms or 400 micro grams of three different thyroid by regulators which are shown to work on not just the thyroid and I'll show you that the studies are just like your Oh damn, just like reverse, like Hashimoto's disease that caused the thyroid to bring the levels back up.

So it covers all the whole access is what we're seeing that it's doing. Of course, if they have Hashimottos, it is like, yeah, give it, and all their autoimmunity goes away.

We haven't had a huge amount of cases, but you just hear people saying the same thing over and over. And their thyroid level goes up, you know. So it's going to be totally safe and no side effects.

And then you add that to the T3 and don't do one or the other. I mean, you can certainly, but the real power is in putting those together. Bioregulators are by rule four or less amino acids.

So between two and four, they have the advantage of being able to bypass all the enzymatic degradation in the gut and the rest of the body, really only if they're i see you later and and amandade they'll get through more than they would just because of their size but you really to get the power that you need to be a see later than a date where the owner of the lady who had the cdc as his pattern ran out so he came out with.

brilliant marketing saying stable BPC, which is an arginine salt. And then he did a study and published this and really marketed it saying that he put acylated Bpc and his new stable bbc in stomach juices.

The other ones basically were broke down, but his argenine BCC did not. It's interesting there's probably like six or seven third party studies that show that it's set you can put it in there for twenty four or eight hours with that and if you look at and also when the seat elation and ammendation of bbc or kpb that's what the body does.

When it has a critical peptide or protein that it doesn't want broken down the gut, the body will acetylate-namidate it. So it makes it much more robust against any enzymatic degradation and also improves the affinity to the receptors and all that.

I'm always like people get so confused in this and so we kind of think hey it shouldn't be stable BPC it should be unstable Bpc yeah it's kind like you know what what are are they doing and that's why you'll find they'll have usually they put snack in with it because it also makes it polar so when you acetylate them it makes you more non-polar so you get through increased chance of getting through the lumen into the bloodstream and while the salts are very charged making it even more unlikely and stop protecting from getting broken down.

And they put snack in there because it works through a number of different ways. It's going to disrupt the tight junctions and then also cause a lot of inflammation where, so now the stable BPC can hopefully get in because of the open junction.

Retreating leaky gut, I don't know if that's the best way to go, but I just want to mention that. And so here's like, you know, bioregulars, very tissue specific.

So each one here is, but you'll see a little bit of crossover. Cerebral cortex, cortex cortex. That way one in one. You can take that as they're generally very system sensitive, so the exclusive.

They'll go after if you need something for the thyroid, it goes after the thyroid. But it also, a lot of times it may, oh, and it helps the lung and helps to kidney a bit.

The main thing it does Is that tissue specific or organ specific type thing? Are we ready for the Q&A? Yeah, yeah All right, good. So what I'm going to do is I am just going break things into the three areas we typically talk about, you know, we get the biochemistry element, the individual products and the clinical aspects, what are they used for

and then how do people implement and maybe what expectations we have.

For TB4FRAG+, can it be taken BID continuously or do we need to take one month break every two months like the past injectable TB 4? Yeah, all those things with stopping and no one knows.

I mean, there's no set protocol with all of those. It's generally out of the abundance of caution that we don't want to suppress, basically the production of anything or feedback loops.

But we're finding that, we do not see that happening. I just kind of, A, why not take a little courtesy to make it safe if you can because I can't see that affecting treatment in a negative way.

So we'll usually do it like every day for 30 to 60 days, depending on how sick the person is. And then we will go into maybe three weeks, four weeks. you know maybe stop a week or we just say a lot of times do it during the week and don't do anything on the weekend.

So there's been no great studies to show this peptide can suppress this if it's done over XML and there's nothing to say that doing the pulsing it makes a difference, but it make sense.

So why not? Here's a question that kind of dovetails into this, which almost kind answers itself. It says, thank you for the questions about thyroid bioregulators.

Can they be used all the time without a break or how would one know when to restart if they take a brake without doing frequent laps? So is it something like about feeling?

Do people see the return of symptoms? Are there so many Because with the thyroid, you can check, but you got to realize that everyone's wrong with terms of thyroid function tests.

But you'll see a lot of the effects with their, now they have better insulin sensitivity. They have improved energy and improved mood. I mean, so many clinical effects.

Biorangular is kind of same. they're working epigenetically. that thank God they're turning, it's kind of like stem cells where they do, and some of those were very epigenetically as well.

And they turn on the healthy genes and the genes of the young and they turned off the disease of aging and diseases of illness. no in terms of particular biomarkers and there is in term of overall health and or like our kidney we have one let's say you know so all day what's my creatinine and da da.

So it's really kind of you want to check the biomarks of that system then that will give you a good sense. Okay, so let's do another question here. For oral lichen planus, can you empty the BPC capsule into the mouth and spread it around the oral mucosa?

Will that work? What about KPV? Yeah, both excellent choices. And if you look at the studies, lichens planas and all those, and also scleroderma, are symptoms of Lyme and it's documented so many places, right?

I think Babesia could play a part as well, where it is just horrible and so painful. And we did kind of a mini trial where we had a placebo, cream, a linea, and something else, cream, and then we did a three-peptide combo cream and gave it to the people with the lichens planus.

I would imagine it was the BPC, you had KPV, maybe epitalin, or the thymogen, alpha-1, which is thynogen which, actually orally, it's about 100 times more potent.

then like Thymulan and Thimus and Alpha-1 actually, and then with Bylon at 2. So we mixed that and it was like, as soon as they used that one, they just threw the other ones away.

Yes, it does work very well. Alright, so let's see. I have heard that T3 is not advisable to take if one has

osteoporosis. Is that true? It's the people that don't want to be bothered with using T-3.

We don' hear much anymore, but first start now we'd suppress the TSH, go the endo, say you're going to get osteoperosis, like, okay, we'll see, and her bone density findings keep going up and up, and yeah, so the studies have, kind of the standard studies, but you can put on so many things that they will build bone.

And there's the bone bioregulator, there are so may of these things. Bone is also bone loss, it probably has an autoimmune component to it as well, certainly an inflammatory component.

but yeah so we have so many ways to to build the bone that it's not an issue but if you look at the actual studies and if You suppress a someone's thyroid and this is where you're really trying to depress it but when you aren't suppressing a Someone if we're treating someone and they're TSA to suppress.

We're not trying do that. It's just that they are They're basically hypothalamic pituitary thyroid axis is not working. So it's going to get suppressed very, very quickly.

But the studies show that if you give them, as long as they, if they're not on anything and no vitamin D, no, you know, all this other stuff, estrogen, testosterone, that you can get a small reduction in bone density.

But as soon as you add those things in, then these meta-analysis and things show that you don't. Now, if you also, let's compare that to the risk of osteoporosis with an SSRI.

It's about 2.5 or 2 point 8 times the, what is felt to be the worst case scenario with suppressing the TSH. Again, it's a knee-jerk reflex that people have been told over and over, but, you know, fail to look and if, show them the the data, so don't confuse me with the facts.

Yeah, not, you know, we want to monitor it and monitor, yeah, I can do the bone density, but also monitor you can use CTX or NTX are both the same thing on each side of the phone.

And you follow that and you couldn't do that almost every month or two or three months. So let the patient know your bone, density tells you where you are.

This tells me where your going. They feel very comfortable with that. We've never gotten burned or like, shoot, bone densities getting worse. Monitor it and you can show them how you actually improve the phone so yes it's really a.

A disease of reality and aging and inflammation and immunity yeah she fix all those things that it dramatically gets better. Okay. So is there a correlation between T3 and cardiac small vessel disease in women?

Other than I would want to make sure I get it. I mean, giving it, I can't imagine a mechanism where, yeah, it'd be the opposite. She must be asking, does it help?

And yeah. It totally helps. You know, dilate. Correlation between, you know T-3 levels and people with cardiac small vessel disease, I guess.

Peptides for Mast Cells, Hormones, and Pain

Yeah, if you have low level of T3, you're going to be more likely to get it. But the way it was worded makes me think she's looking for a negative association, but I can't think of any bad of it like that.

Okay, so here's, do you see hair loss increase when you switch patients from Synthroid over straight T3? Yeah, well, um, So with thyroid and hair, loss, okay, not enough thyroid cause hair lost too much can, but with those patients.

So usually these are stressed out women. Okay. They have, where men usually get the androgenic hair loss. The

women get a chelogen efflugium, which is more of a stress-based.

And so what happens when the body, when their body stress the hair follicles, instead of being all random in terms of their growing cycle, well, they'll grow, and then they fall out and resting phase and grow.

So what happened with the stress is that their growth cycle part shrinks. their resting part increase as well as their fallout. And what happens is their immune systems are always terrible.

So, and they often have some chronic infection, you know, something that's really driving their illness might be mold, a lot of toxins, multiple hormone deficiencies.

Once you fix all those things up, they start getting better. In fact, I would even tell patients, yeah, when we, because it happens, okay, they have this tibial fluid germ and their hair is thin and it just doesn't grow.

And I tell them when I put them on, you know, T3, their going to have hair fall out, but it's kind of like the hair's just sitting there and these hairs are coming in, kind pushing them out I think.

But it is getting them back into the growth cycle. And I know women have hair loss. I mean, for men, it's bad. For women, It's like devastating. And so any bit, and you tell them, like, okay, oh my God, you know, if it is really tense, they will turn around.

It is not unexpected because you are putting it back in the growth cycle. So anything that is sitting in a resting cycle is going to ditch the hair. But it doesn't take that long to get it and grow it.

Next question is what peptides are best for mast cell activation and histamine intolerance with itchy skin and eczema? I feel like we've had this before, but.

Yeah. So KPV is like the number one. And if you go to Rebecca Ferguson's blog, she was a mom who had a autistic daughter. She was like on the internet for a long time for that.

And then she got post COVID really bad. So she had a big following and then someone. got ahold of kpv and then they're like oh my gosh this is getting rid of my long covid in days and so yeah she tried it and had a tremendous response and all these people are writing all this stuff and i'm like stop because i think they are going to think we paid you for this or something and it was like and these were super sensitive too and a couple people just the first time i ever had someone who had any negative response to any of these peptides or bioregulators.

But when you get these multiple chemical sensitivity, it's like look at the bottle or we smell the bottles and they were taking like quarter doses and getting great results.

It's interesting because it is very immune modulatory, immunosuppressor suppresses mast cells probably better than anything else. but it doesn't suppress the immune system.

And then you can add that to like the BPC is kind of the, you know, on the work everywhere that the workforce, but KPV has so many properties that are just like really neat like and also there are a number of studies on the problem is a lot of these things too it's whatever study they decide to do and publish now becomes known as being you know something for that but you you find they do all these thing like oh that's interesting but it makes sense you And TV4Frag had all these studies on protecting the heart with a heart attack and all of these things.

And it gets kind of labeled as the Heart one. But it works great for also long COVID and really combining all those. If you want to pick one, I would…

Yeah, KPV is a rock star. I made a bet early on that it would outsell VPC. It's still losing. So yeah, start using KP. But I'll go to that Rebecca Ferguson.

Oh, she's so nice. And we just donate a bunch of product to her group, Diary of Recovery dot com. Yeah, it's great.

So it works on so many different areas, not just on directly on the math cell.

Doesn't mean you also you can't continue to use your antihistamines and those things, but you want to work on it upstream. OK. Can peptide therapy used to manage hormonal imbalances related to symptoms of perimenopause, menopausal and antipausus?

Oh yeah, yeah. And in more description, the surface of this because, you know, normally, they're getting perimenopause and menopaus. Yes, I should be getting, right hormones and bioidentical and the right delivery methods.

But, and we're kind of excited to kind mention how hard it was to get those big, you know, all the doctors were loving all this stuff and then they didn't get it for months and months.

But like, for instance, at Battelle, so there's an ovarian bioregulator, the ovaries start going again for men, now there is like you don't know what used to be likely the woman's fault, right?

Let's say two people aren't getting pregnant, but men are coming back because their sperms are a mess. But yeah, and and also like with menopause, for instance, epitalin, which is the pineal peptide.

This was I'll tell you what the rats say that we don't even studies, but they had 135 rats that were menipausal. They gave them all epitallin. they all started menstruating.

25% had live normal births and were giving them to women, especially if they're wanting to have children. But you know, yes we're able to start turning on their their whole cycle again and someone and i know i forgot to tell the call tell him and then you have a really pissed in the other happy.

So I gotta clarify that before we do it on my telom. But it's kind of an anti-aging, because it is also extending their telomer length. It hasn't worked on everyone, but some also increases anti malarion hormone.

Their FSH comes down, their LH comes. We've seen it work on PCOS, where you'll have that L-H two times higher than F-S-A-G, and then it flips. and they start menstruating normally and dramatic reduction in metabolic dysfunction and insulin resistance and leptin resistance, and all that.

So it's really interesting. It's going to be even more interesting as we go on here. All right, so we'll do one on pain management now and then we're going wrap up.

For pain-management clinics, neuropathy, trigeminal neuralgia, arthritis, fail-back, surgery, syndrome, chronic fatigue, do you have a chronic recommendation or protocol?

So that would be more like MSK inflammation. Yeah, there's so many neat things because a lot of the mitochondrial boosting, not only a cartilage and a muscle bioregulator, the immune modulation part of it with the peptides and the thymus and the thymic peptides, the thyrogen, and the bilon.

Once you monitor the immune system, it really all stops that inflammation. It basically stops the hypothalamic, pituitary issues. Pain actually will. I think we looked at some of those studies where Where like pain will suppress the thyroid because it's best to get an ace's but unfortunately opiates.

Do the same thing so they don't help but so all these things it shows how they can all be used together you know for a lot of these these pain guys. And and really so much of it is is neuropathic pain, you know So many great things that you can do now like along with these, You know in combination with you ketamine red light bed is amazing Give some methylene blue and then I'll wave on now work on the redlight bed when it works even better You can add PEMF with that Really?

Weight Loss, Mitochondria, and Closing Remarks

It's no kind of like take this one thing, like with three things you do pretty well but then if you add like 15 things that are but that our dressing different parts of the body and and all that that they're just like, oh my gosh, I got better so much faster and it's so easy to fix something when you're working on all parts of the dysfunction.

All right. So we're going to have one more question and I'm going make it about weight loss. What are the protocols or tools available with bioregulators and peptides for the current weight-loss trends that are going on?

Everybody's on the GLP-1s and there's a bunch of supplements now that come out and manage different aspects of leptin or insulin resistance or these other gastric peptide.

Well, what are your thoughts? There's so many in that it's kind of like we went to the studies of people who are, you know, doing different dieting, thyroid drops, but with the peptides, mitochondrial, we got to bring the mitochondria back.

And so, 10 of the peptides do that. the bioregulators for the muscles, like people are on the ozembic and they're losing muscle. So this will help that.

And in terms of put these in, maybe they might not be peptized, but put them in the arena where people often were using NAD and loving it. But you can take like 5-amino-1-MQ, which is going to block that accessory pathway.

It's basically putting a ton of NAD right into the mitochondria. And you've got MOTC, and these are injectable, but we are getting those damn things back, I think.

Tessofensen, which was originally developed to be an SSRI, doesn't seem to have any of the properties of those and no side effects and weight loss with that.

There's AOD. anti-obesity drugs but even really fixing the immune system and lowering that inflammation because you're going to lower all the insulin resistance and because that seems to be the detoxification protocols.

Oh yeah yeah and you know but you can't detoxify without mitochondria And I think, yeah, see, they're all go together. So, all right. Well, I that's a good place for us to stop and thank you everybody that spent the time with us today.

But Ken, you did a great job of really nailing down a lot of the key components of this. And it's an evolving discussion as we'll be preparing for thyroid part three even though you're covering similar concepts that the ones reinforcing the other and what we find from the questions that are coming in and how people responding to these presentations you doing is that we see people learning.

We see them being able to implement these tools in their clinical practice and they really are making a difference i think that's the most important thing about the work that you do.

Awesome, awesome. All the questions. On behalf of myself, Joseph Krieger, Michael Cameron, our media producer, Dr. Kent Holthorpe and his team at the Holhthorpe Way and Integrated Peptides.

Thank you for attending this Boston Biolife live event. This was wonderful and really appreciate everybody that spent the last two hours with us, it seems, to really put together this compelling information.

So thank you very much, Kent. Cool. Thanks, Joe. I appreciate it. As always, stay in touch with bostonbiolif.com. For the latest information via webinars and upcoming summer series, many courses with all new exciting topics for the world of longevity, anti-aging, and functional medicine.

Austin Biolife live events can be found on our website. And as I said, there's a whole litany of new courses and programs that we're supporting. the Perinatal Stem Cell Society in their Utah U. S.

stem cell practitioner certification. As many of you may know, the state of Utah has changed its regulations to allow

certain procedures using perinatal biologic to be used in clinical practice without fear of reprisals from government or FDA.

This means a whole opportunity for healthcare providers to learn the basic science of these wonderful products and how they're used to clinical practices.

and to really optimize the learning curve for many people that have been doing this for years, maybe perhaps in the shadows or not under the full scrutiny of regulatory bodies.

But this is a wonderful opportunity to catch up, be part of the perinatal stem cell society, get your certificate and be prepared for the revolution in stem-cell biology, which is coming leading the way with the state of Utah.

And as always, our Boston BioLife Academy is 24-7 to learn. This includes courses that we have run with other partners like Peridotal Stem Cell Society and the programs that Boston Biolife has created over the last eight years.

Our MedPub Research Portal offers real-time access to the world of academic research from biotechnology and clinical medicine. As always, new papers are published daily, and this gives you the power of 9,500 peer-reviewed journals.

So having the World of Research at your fingertips and access 20 CME credits is always a valuable tool in the repertoire of the healthcare provider looking at new and emerging therapies.

Our complimentary research is highlighted and focused on our social media posts. This is where you can find access to peer-reviewed publications that focus and highlight on upcoming live and in-person education content.

So look for us on Facebook, LinkedIn, and other social outlets in 2024. For more additional information, please reach out to me directly, Joseph Krieger at Boston Biolife 978-569-8080.

And as always, keep posted on bostonbiolifed.com. We look forward to seeing you at one of our live events or registering for one our webinars or our mini courses.

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