Mitochondrial Peptides: Have We Found the Path to Optimal Health and Longevity? Transcript

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Introduction and Guest Background

You're going to lose weight if you do this, and that's going to solve the problem. You have to understand the whole process. And so yes, we may lower inflammation and lower visceral fat.

But for this person it may be because they're immune system is just wrapped up right. This person and maybe they don't have the nutrients to to support mitochondrial function.

So now we've got to really bolster their mitochondrial function. Yeah. Same same outcome, same symptoms, different focus in clinical therapy. Welcome to doctor Talks the podcast where every episode leads to a healthier you.

Join us as we navigate the world of optimal health, uncovering groundbreaking strategies to conquer chronic disease. In each episode, we'll bring you the latest insights from leading health experts, medical innovators, and wellness warriors.

If you're seeking to transform your health journey, or if you're looking for answers to burning questions, you've come to the right place. Get ready to unlock the secrets of lifelong health and vitality.

This is Doctor Talks, real talk from real doctors on the issues that matter to you most. Hello. This doctor can't whole talk. Today we are honored to have Doctor George Rice, who is going to be speaking on, mitochondrial peptides, mitochondria, peptides.

Have we found the path to optimal health and longevity? And I really think this is a key. We got pharmaceutical companies pumping tons of money into this because you look at, you know, basically all the diseases of aging have to do with low mitochondrial function, neurodegenerative diseases.

You know, the cells don't have enough energy and they just end, totally dysfunctional. They cause mutations that cause cancer. So looking forward to to this talk, a little bit about George.

He's known as empowering, and a guide to, authentic next level health. He's a specialist in precision performance medicine. He believes that one should not just survive, but thrive.

He's an expert clinician known for getting people to look and feel better than they thought they could. And I love that we see it all the time. He combines state of the art lifestyles, lifestyle, life, style assessment, technology with cutting edge epigenetic coaching will have him explain that, peptide therapy, hormone optimization and functional medicine to guide motivated clients to their full health potential.

Is passionate about, for clients to develop the knowledge to obtain next level physical performance, and youthful appearance and longevity. And I agree, it sounds like he becomes partners with his patients and which I think is key.

He received his B. S. in, psychology from Stanford. Not too shabby. He obtained an Ms. in health science management and an MD from Rush University. He completed his family medicine residency at the University of Southern California.

I won't hold that against him. One. And he is board certified in family medicine. He is certified in age management medicine and certified by the Academy of Preventive and Innovative Medicine.

And the advancement. Bioidentical hormone replacement therapy. He is certified in functional medicine through the Institute of Functional Medicine. So you can tell he's been to a lot of courses and gone through a lot of training.

He's recognized as, IFM certified practitioner, especially trained in functional medicine and nutrition. So highly qualified, I'd say, would sum it up.

Thanks, George. Thanks for being on. Hey. Thanks, Kate. It's great to be here. Very much appreciated. Sounds like you're doing great work. Well, it's all, part of, it's a passion, right?

And, it really is, a statement about, you know, what we need?

Why Mitochondria Matter for Health

It's a really a myth that you have to fill poorly as you get older, and, I really created all this stuff and participate with my clients, to help change that.

So, and I thank you for allowing us to, get the message out and thank you. And I think that's that paradigm change where our, you know, standard physicians are lagging way behind, where you don't go in until you've had a heart attack and tell your, you know, feeling.

So horrible. And nine times out of ten, they don't know what to do with you, right? Because, you know, I've, brought this up. I don't I blame the physicians a little bit, but it's the system.

They don't get paid extra for learning more right now. It's the ego. Cares less wins because they can see more patients. But, so breath of fresh air. You know, doctors like yourself are few and far between, especially in Alaska.

And, very far between. Yeah. So how many doctors do anything of the sort in Alaska? There's a couple, there's a handful of, off the top of my head. There's, 2 or 3, who are, dedicated to, functional medicine and shifting the paradigm.

And you make a good point. You know, this, you know, I try to straddle both systems. I tried to straddle traditional medicine and bring this into traditional medicine because I saw the impact it made, on my patients.

And so you're right. It's not, it's not their fault. Meaning, it's not the system's fault. The system is doing exactly what it's designed to do. It's designed to treat, acute problems and disease.

We can't fault it for that. But. And again, to your point is, when we get this new information and ability to make a difference and change, it is on us to do that.

So, you know, I try not to pit the two. The paradigm against the other paradigm. And in fact, it's I really pitch it as, this is just extra tools for your toolbox.

And so, but it is difficult to do, in the other system. So you're right there. Yeah. I guess. Yeah. I'm guilty of that because I love just seeing so many doctors that, you know, I don't know if you may have, seen this where you send the patient back.

The doc, the patient loves their doctor. Right. And but they haven't got better for ten years. And they come to you, they get better, you send them back.

You think the doctor will call you and go, oh, what did you do? Now they're like, that's quackery. If a doctor doesn't know about it, it's it's quackery.

And the least they know, the more adamant they're right. But, but I'll, I'll get off my soapbox and, and, yeah, we, we can, we can chat about that offline.

So anyways, but but there's a lot of good, good physicians and a great but a couple of bad ones. Really. Right. Let's talk about mitochondria first. Right. But our mitochondria.

So the mitochondria, of course, we all forget about it. Right? You know, that first year of med school, it's like a cramming in and and you can't wait to forget it.

But I wish I had paid a lot more attention, when I was in Mexico, because it's actually, critical. So the mitochondria are as I talk to my clients. These are the, the the little critters inside all our cells that make energy.

And they are the I call them the switch boxes. So food oxygen that comes into our bodies, and they take that and convert it into energy, and they make us run.

And so it seems to me that, it's, you have to look at the mitochondria. If you are looking to get people to optimal health, it has to be part of the equation.

And they do a lot more than just make energy. We're finding out now. Oh, absolutely. And so that's how we're traditionally thinking of it. And so, they do a lot more.

So they regulate rather the cell lives or dies. They regulate, how much calcium is in the cell. And that alone regulates lots of other processes, like how much insulin you put out.

If you're a diabetic or you have too much sugar. So they do a lot. And we're learning more and more about them almost every day. And what happens and maybe what conditions, if the mitochondria become dysfunctional.

I don't even with, with age, they start declining. But what are some major things that happen and what are maybe major, some major diseases that are clearly associated with mitochondrial dysfunction.

And so, you know, the my answer is everything right? It is. Right. Yeah. Right. But you're right. We've associated, and are beginning to recognize, at least in the literature, strong association, with mitochondria dysfunction with, for example, Alzheimer's, dementia for heart dysfunction, heart failure.

The beginning of a sporadic disease, autoimmune, that is a big issue. And that, right away people recognize the role of mitochondria in, in autoimmune dysfunction.

So inflammatory bowel disease, multiple sclerosis, psoriatic arthritis. So all of those connective tissue disorders, mitochondria are playing a central role, because and the reason why I say all of it is because, you know, it's all about how much energy do you have to make things work.

And that's what it comes down to. Yeah. And and there's generally there's general, in the, health world, there's nine hallmarks, of, of of aging and longevity.

Mitochondria dysfunction is one of them. But for me, in through my lens, everything everything goes through the mitochondria. And, and also warm ups, so they're critical.

So. Yeah. And those that does go together. Yeah. Absolutely. Yeah. I mean, you fix the mitochondria, you're going to fix a heck of a lot of things, you know. Yes.

Signs of Mitochondrial Dysfunction

And and that's what I want to say of like, heart failure. It's like they do nothing to fix the heart. You know, I had heart failure myself a lifetime.

And, you know, a big part of my treat was, was rehabbing the mitochondria and the cardiologist said, oh, you maybe get 10% better in ten years or so. Just forget it. Like, I can't walk upstairs.

I can't. And then a year later, you know, with peptides were the key. Stem cells also help those. Yeah. And a lot of things. But. And he's like, wow, we've never seen that before.

Did he ask what I did? No, no, no, of course not. Right. It's a miracle, right. But, yeah. So, yeah. So you kind of know the importance of mitochondria.

So, like, what are some of the things that, like, how does someone know if they have this functional mitochondria? It's why they have one of those diseases or tired or, or forgetful or what are some of the for like the average person.

Yeah. So that's a great question. So as of now, you know, do we have specific tests specifically for mitochondrial function. And that's no, but and as you know, clinically, there are some, big signs.

And so chronic fatigue, autoimmune imbalance. So people who have, allergies or, what we call fibromyalgia, right. Chronic fatigue syndrome, any autoimmune issue, pretty much.

You can take that as a sign of significant, and all those go together. You look at, you know, chronic fatigue syndrome. They did muscle biopsies and fibromyalgia, chronic fatigue syndrome patients and their mitochondria are all swollen.

They're just even anatomically dysfunctional and just, dysfunction and, people like, oh, it's a made up illness and psychological. Right. Because we don't have heard so much less calories, you know.

Right. And and to your point, earlier you were saying, you know, if in traditional medicine, if we don't know, then it doesn't exist. Yeah. Right. Yeah.

And, just to say, yeah, the science is there. And the literature is supporting that. In fact, was it, 2016, I believe, there were a few articles, they looked at they did muscle biopsies and insulin resistant patients and consistently they have lower numbers of mitochondria.

They have higher numbers of low functioning mitochondria. And they have mitochondria that, are just not functioning well. And they actually they look swollen.

Right. And so like, swollen tissue, because of dysfunction. So the evidence is there, you know, is it proof? Well, you know, I don't have to jump out of an airplane, you know, without a parachute to know what happens.

Yeah. We don't know. Right? We just know. Yeah. And written a couple review articles on, hypothyroidism or same or hypothyroidism. And the rate limiting step is in your cells need energy to bring the thyroid hormones in.

Right. And any condition with low mitochondrial function, your hypothyroid. Right. Yeah. Which, which compounds and perpetuates the problem because actually the pituitary sees the thyroid but the rest the body does not.

And your thyroid is one way to boost mitochondria. But if they're dysfunctional you're feeding on, you know, dysfunction in all cell. Right. But, it's it's not that they're just stuck on one paradigm.

The TSR is the end all. And here I mentioned the study just came out showing GSR, which is very unreliable. Right? I love to scale up and preach on that forever.

And call it a classic. And, you know, you know. Yeah, I remember yeah, I think I was telling me earlier when I was a resident, I was, I read your paper on the, summary of thyroid function, and I think you'll be happy because, this paper that came out, actually just extended and expounding on what you were talking about in the sense that TSH does not necessarily correlate with peripheral, physiological process.

It's really the brain's happy. Right. And it has the ability to take its own thyroid hormone, but the rest of the body is suffering. And so they did a study.

They looked at all the studies in thyroid hormone and did a strong correlation of actually free T3 and free T4 are more indicative of the clinical condition of the client.

The patient was rated really low. So yeah. And and it's like or will suppress the PSA and they go to their endocrinologist or their doctor and they'll say oh my God, you rate them hyper thyroid and they're in their pulses 54 they just gained 30 pounds and can't get out of bed.

Yeah. Their their temperature is so low. It's like hello. Like, you know. Right. Crazy. Everyone just stuck to this algorithm, right. Some obvious to you, and, seems obvious to me.

And hopefully we can get more people to be more obvious to it. Yeah, hopefully. I just mentioned, as I've been working on tests for 15 years, I got it 90% done.

And I can't finish it. But we'll come up with a test to show that, so we kind of talked about the consequences or what a someone healthy person all of a sudden their mitochondria go, let's just say it's from toxins or whatever illness.

What what's the repercussions? So you're right. So, people who are pretty healthy, and they have a lower function. They may not notice it as much to be more subtle.

So excuse me. You know, people who are active, they may notice that they don't cover as quickly between workouts, and they feel a little more sore and the soreness of the clear, they can't, push themselves.

They can't do as much, high intensity training. So that's on the other spectrum, of course, on the lower end, we're just, you know, the average, client who doesn't work out too much, they just notice a lack of drive, focus, concentration, neurological, decline.

Physically, they begin to put on, you know, that, a little bit of weight toward the middle, no matter what they do. The matter, decrease in calories, exercising their metabolism starts to slow, right?

And no matter what they do, they can't get it to kick up again. So those are all big clues. And, thyroid plays a big role in that. But certainly big plays in the mitochondrial are beginning to be inefficient. Yeah, we got it.

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

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And I find like post chemo it's wipes out the mitochondria. I mean these people just lethargic. They're depressed. They don't know why. Yeah. And they really, need treatment.

I feel bad for them. And their doc says, oh, no, you're fine. Don't take anything like, you know. Right. And it's just really effective with a couple patients like that recently.

And, you know how they're mitochondria and they're like, oh my gosh, you know what happened, right. And just simple stuff. Right. You know, CoQ10, derivatives.

I mean, there's tons of studies in the cardiology world, about energy recovery until we can get the mitochondria back online. I think ribose is a really awesome.

You like IBS or you use some of the supplements, like, I've used both. Yeah. Because of where I am, I'm limited. Limited in terms of I. V. treatments. But, I find that even just taking powders, 3 to 5g a day, you can also do nad subcu.

When I don't do that. Yeah. Which which is, Yeah. Is basically take the vial. What is it, 100 or 2mg for cc, point to a day. And, it seems to work really well.

Awesome. Yeah. And along with use, also like p, q, q minus Q those things, in fact, when we're using five amino 1MQ is that all of a sudden stop working?

But we thought, you know, we kind of overcharge the mitochondria. And when they couldn't keep up with the, basic creating process inside the mitochondria, and we'd give those and all of a sudden like, hey, it's work to get, you know, what makes sense, right?

And so how do you protect the mitochondria or, or do mitochondria protect themselves or how does that work? Yeah. Great question. And this is all, part of some, recent research that's come out.

It's pretty fascinating. So we used to think that, and we were, you know, you probably thought like I was, that, pretty much this whole tradition of medicine sees it, you know, we just send signals to the organ, and it does what it's supposed to do, and that's it.

Right? But now we're understanding that, the mitochondria actually, send signals out, and, and they those signals are mediated, through, a class of peptides called mitochondrial derived peptides.

So when the mitochondria, in the cell gets stressed, it can actually not only send signals to the local community to bolster itself, like create more heat shock proteins, create more components for the electron transport chain to make more energy, to start to absorb more of the oxygen.

So we don't make more free radicals. But even further than that, the studies show it actually send signals out into circulation and into the CNS, the central nervous system.

And so it's not just the mitochondria being told what to do, and they're misfiring. They actually are sending signals out to preserve themselves, preserve the cells, preserve tissue.

So it's a fascinating, network that we weren't even aware of. And it just drives home the point that you're making mitochondria are there. There's a hub.

And if and if we want to optimize, we have to address that. So that's how they protect themselves. And if we can support them, with the right food, you know, PQ co Q10, which is an awesome antioxidant, for, mitochondrial function.

And now we have the ability to provide the peptides themselves, meaning the mitochondrial peptides that they usually make themselves. We can actually provide them to you to bolster your own function.

So it's wonderful. And so, it's exciting. It's exciting time, to be a patient, I have to say. Yeah, yeah. As long as they don't get shut down. Yeah. Right.

Yeah, that's that's a scary thing. A it's safe and working, right. We have to get them stopped. Right? Yeah. We found, like, as you were saying, that they do a lot more to make energy.

Like they tell the body when there's an infectious, insult and send off all these different things, and they'll go into the danger response and stop making energy and doing all these other things, you know?

Right. And, so it's good. So what what type of peptides, help mitochondria. So probably the one if, you know, so if you have, some patients, even doctors who are kind of looking into this, probably the one that I heard about was,

called mots C moxie.

It's, derived from the, gene of the mitochondria, the mitochondrial DNA, of which is 37 genes. And, Moxie is shown to really help bolster, basically energy production.

It does lots of stuff. That's wonderful. It can increase its own production when it gets under stress. It helps since as ties of body to insulin. And so, we haven't even discussed that part.

Inflammation and insulin resistance, which is the foundation of chronic disease. So these mitochondria work to, decrease insulin resistance, increase insulin sensitivity, and use, stop the process of dying off, meaning stopping a ptosis.

Sort of. Excuse me. If the insulted injury and inflammation go too far, they continue to trigger the cells to die. And that can, cause a chain reaction.

So these peptides help to kind of bolster the gates, kind of fight off that drive to to die, and help the cell function better. So, and then, other benefits are, they also help to burn more fat, in moxie and in particular, it's actually been shown, to kind of, have almost the same effect as exercise.

And so, and you're probably familiar with this in longevity and aging, everyone's talking about and k the pathway. To, to kind of the pathway to longevity.

And that's one of the reasons why there's a lot of talk about metformin. Right. Because it, it has seems to have, some impact on that. K but I'm not completely convinced from the studies.

And I'm someone who I can't take metformin. My stomach doesn't like it. So, yeah, there are a lot of people who are like that. So, so moxie helps to drive up that Ampk pathway stimulating, another, enzyme, called PGC one alpha.

And, that is the kind of the master regulator of energy, it stimulates a whole bunch of nice pathways for longevity and health, and in particular, makes mitochondria grow.

So if you stimulate that ed k pathway, PGC one alpha goes up, your mitochondria go up, and then you just bolster, cell protection and performance. So yeah, that moxie has been wonderful.

And it's own to increase VO2 and athletes, increase, VO2 max and help increase their dance. So lots of positive benefit with. Yeah. And I, I agree with the Ampk is like the hot thing and I've tried so many Ampk stimulators.

I you know, I, I rather see like with, with moxie, we've had diabetics, all of a sudden they're like, oh my God. My, you know, I've been on diabetic medication now my hemoglobin one C went from 7.5 to 5.8.

I've lost 25 pounds. And it's, they're like, oh my gosh. You know, where's this been? You know, nothing works for everyone to see. Like, some people respond better, right.

But many, many, many people feel good with it. They got more energy.

Growth Hormone Peptides and Fat Loss

Brain kind of lights up. Well, what kind of dosing do you typically do with that? So, moxie, again, depends on, on the client. Generally, if you're first using it somewhere between, basically, 3 to 5, I'm sorry, 5 to 10mg, for about 3 or 4 weeks initially.

And then you go, just, daily after that, you can, do it. Actually, a lot people talk about cycling. And so this is another thing with peptides. Particularly with the, this is typically used with a regimen with a growth hormone like receptor or peptide.

And, you tend to cycle those off. And so in, in what we do, we usually have people do it for a month, at the higher dose and then, once weekly for maybe 4 or 5 months and then come off of it and see how the body goes.

Yeah. I think it's always better to, cycle, but I don't know, I doubt it. I tell patients the cycle, their it's like, and yeah, I, I think it's really good.

And so what other peptides kind of go along with it, would you say? So certainly, we like, in the clients like, like one, two, nine, five with the from Orleans with the combination.

So which is do you explain that, screening of stimulates growth hormone. Yes. Yeah. So these are growth hormone, like, peptides that, help to, interact with the, the complex network of the growth hormone environment.

So we used to just say, well, your IGF one's low, you don't have enough growth hormone. Let's just slam the body with growth hormone. Right. And now we're kind of understanding.

Well, that probably wasn't the best way because it's, it's it's a it's a complex system. And each system has its own set of, receptors. And they each have a different impact.

So you may be bolstering, for example, muscle growth in this pathway, but you might be shutting down liver function over here. Because if you're stimulating receptors too much you get downregulation of receptors.

And that can cause imbalance in other systems. So the nice thing about these combination peptides is we don't tend to see that. So we don't see the downregulation of the receptors.

We see a longer response clinically, and more consistent. And and it's due to stimulation of multiple pathways in the balance fashion. So you get all the benefits of growth hormone, greater, metabolism, muscle growth, better insulin regulation, and particularly and this is kind of the key after mitochondrial function lower in visceral fat. You know, like you said, weight lost weight just kind of comes off.

And people don't they go, wow. And it's do you think the benefit and insulin resistance is, is, solely due to the loss in body fat, or do you see that occurring before the, it's again, you have to think thinking the complex system.

So the insulin resistance, most likely is being driven by lots of high intracellular fat, which is creating chronic inflammation inside the cell. That chronic inflammation shuts down the body's ability to respond appropriately, or cells to respond appropriately to insulin.

Fat accumulates, and they themselves secrete lots of hormones, which, again, you and I would probably talk fat is just inert, right? It's just that just you just carry it around.

But actually, no, there's about, I think the last count, there's 26 or 27, performance from fat and only maybe one of them is good for you. The others.

Right? Yeah. Not not a good ratio. Not not a get ratio. Right. And so they create inflammation. So so it's not just about lowering the insulin resistance.

It's about lowering the intracellular fat which by the way decreases romanization enzymes in the cell which creates more estradiol. Yeah. Yeah. That's it.

That's the association between we're kind of getting off track of that. But it's fascinating. That was a association people were making with, for example, breast cancer.

And hormones. We saw all the observation studies showed increase estradiol in breast cancer patients. So therefore estradiol must be the cause. So don't give estrogen to these to to these clinics when actually the estradiol was just innocent bystander as a product of upregulation of aromatase and chronic inflammation.

You see lots of estradiol intracellular late but it doesn't have anything to do with the cancer as everything. Yeah. And I don't know, I see this too, where it's like all these, guys who are low, who are obese, which they have low testosterone and they give them the andro gel which aromatase actually upregulate, and they're making more estrogen and the astron.

Right. I wonder why they keep gaining weight. Right. Yeah. And it's not it's not the hormone. You're not doing them any favors. Right. It's the it's the underlying.

It's a root cause underlying process that we're really addressing. And so that's why addressing mitochondrial dysfunction I think is just going to open up a whole new world. Yeah.

It seems like you look at everything, it's like the core, right. Fix the mitochondria. Right, right. And then everything else will kind of, you know, you go upstream, fix a problem and everything downstream will just almost kind of take care of itself.

So, so, so to your answer, it's not like, yeah, you're going to lose weight if you do this. And that's going to solve the problem. You have to understand the whole process.

And so yes, we may lower inflammation and lower visceral fat. But for this person it may be because their immune system is just wrapped up. Right. This person may be, they don't have the nutrients to, to support mitochondrial function.

So now we've got to really bolster their mitochondrial function. Yeah. Same same outcome, same symptoms, different focus in clinical therapy. Yeah. And let me ask you how do you approach a patient.

Like what typical test do you do. To try to solve this I was just thinking, like you have a global understanding, which I won't say anything, but I but, is that, you know, to hone down.

It's, you know, I love getting tons of labs right up front. Sometimes it's not practical because, there's cost and all those things. What's your kind of special whatever the, Doctor Rice method of, getting down to the problem, right.

Well, it sounds similar to to what you do, so. Yes, in, in in our approach, and in this, well, you know, functional approach, but actually it's become more of a precision medicine, cellular medicine, whatever you want to call it.

Now, we actually look at all as many of your body systems as we can. So, yes, we do typical lab work, but we also do, functional diagnostic testing. So we do organic acid testing.

We do, what's called touch testing. Looking at the relationship between the brain, the pituitary, the thyroid, the gonadal adrenal axis, we do, it's two tests.

And. Yeah, that's testing. Kind of gives you, adrenals and all the metabolites and all that. And you mentioned organic acid testing. Yeah.

Testing, Root Causes, and Clinical Workup

So organic acid testing, is a simple test, and you could use a urine test. It looks at about, I believe about 85, or somewhere around 90, metabolites, through the process of the urine.

And it breaks down the category so I can get an idea if you have, toxin overload related to yeast or mold. If you don't have enough healthy bacteria. And in terms of gut health, we know that's a big issue.

It's not so much where the, that stuff or not, if you don't have the healthy bacteria to, for example, regulate your immune system because 90% of the immune systems in your gut, you're going to have problems no matter what you do.

And it's interesting. It's the gut bacteria. Cause the problems, but also if you're sick, you end up getting bad gut bacteria. So. Right, right, right. It's a yeah.

Yeah. And it's all connected. And so what's a cause and a marker. Yeah. Yeah absolutely. And so we can see if for example someone it has too much, clostridium bacteria.

Now they're not bad by themselves, but they can significantly disrupt, neurotransmitter production in the brain. Wow. That's pretty important to know.

We can look at oxalate production, lactic acid, and even more importantly, minus control performance. So these none of these tests are 100% none of them are great.

If you paint a picture, right, you get a picture. Absolutely. So to your point, it is nice that you order all those tests because actually, the more perspective you have, the more detailed picture you can create for that client.

So it's worth it to get all those test. Yeah. And it's sometimes hard to convince the patient to spend a little more money. Get this right. And because otherwise you can you can go down this path, all of a sudden you get a test and oh my gosh, is this right, right, right.

I'm sure your patients have been a lot of different place, at least on ours are. And they want the, the answer. And you're not going do the same old tests over and over and over right now.

And, so I, I think it's great, you know, tightly. I'm sure you're reversing these people that, you know, they might not be the sickest, they might be the sickest.

And but the quality of life just gets tremendously better. Absolutely. And I'm sure they come to you as kind of, you know, I've seen five other providers.

I've been to three different specialists, and they're all telling me the same thing, that I'm fine. Right? Am I allowed to look at it? Right. But, doctor, I don't feel fine.

And so to your point, you know, there's a you need a different approach. And so, yeah, it makes a difference. And not just for now. Again, we also looking at the client in terms of, where are you going to be like where you're 98.

Yeah. Are are you going to make it to 98 unless you do these things right. Or you might make it to 98, but you're going to be in a nursing home and, you know, with dementia. Yeah.

And they feed you. Yeah. And and who wants that for reality and, you know. Right. That's like one of the number one killers. They say, oh, your cause of death is broken hip or, you know, subsequently pneumonia.

But what? Gotcha. There are the last ten years, you know. Right. Right. Yeah. Mitochondria also osteoporosis is that they give you meds that stop the breakdown.

Bones or one bad bone on top of. Yeah. Basic. Right. Or good bone on top of bad bone. Right. Yeah. I don't know, I just go crazy with the with the paradigm now.

Yeah. But, let's see. Yeah. Well, well, is there a ways to protect the mitochondria? So. Sure. So, in fact, giving the peptides, is, is a great way to do that.

Of course, hormones I'm a big fan of. And I know you are, too. In fact, that's what kind of pulled me out of, traditional framework. Was I, you know, hormones were, I thought that was going to be the magic.

For the rest of my life. It still is, but now we're learning a lot more. So, yeah, peptides giving the peptides, like C, actually, there's, there's a couple of others.

They haven't been, ready for primetime in terms of human use, but they're getting close. However, tried and true, exercise, exercise, exercise. Right.

I love exercise. It's a religion to me. I exercise every four months for eight minutes. So. I get my shots every day. Well, as long as you're in, as long as that exercise period is so intense, you're.

That's right. No, I'm on my own for four minutes. So, so, but, yeah, we have peptides to make your body think it's exercising. We have peptides that make your body think it's fasting.

So, better life through and and injections and I, I think you mentioned, human in, five amino one MQ. Some one could be hard to come by, but, they're all of similar, you know, they, they boost their mitochondria or function.

Right? Right. And they offer different, different pathways to do that. So again, the idea of, you want to address a complexity to optimize the synergism of your body.

And that's what the traditional system tends to minimize. And it's not our fault we're human beings. And we tend to want to simplify things. Yeah, we want to understand.

Right. Yeah. The standard is one drug, one disease. Right? Right. And the biggest breakthrough was, hey, they found if you use two hypertensive medicines, a smaller dose, it works better than one.

Right. So we thought we were better. So if you go up with this drug, the highest dose, that doesn't work. You start the second line, right? No. Start with, you know, they're working on different, you know, pathways.

And that's all we're learning is, is key. And all of that is much safer, much more effective and much safer. Absolutely. And that's the nice thing about peptides is they don't do one thing where you can just overloaded or it it does multiple things right.

So it gets it gets balanced right. Yeah. So, what's kind of your favorite or. Well, let's say when a patient comes in, what do you typically do? You start patients right off the bat with mitochondrial peptides.

Or do you balance or hormones first or nutrient and or what? Or get rid of fungus if you see it, or dysbiosis or what's kind of your pathway so that everyone's different.

But yeah. Yeah. And, and so basically yes to all the above. So if I think it's appropriate to, just based on what the client is telling me, to, start them on something, I will, as long as I don't think it might, be interacting or I need to assess another pathway before I give it.

For example. I would love, and I frequently give people, hormones right away. So if you're, especially if you're a woman and you, you know, all the classic hot flashes, night sweats, weight gain, no libido.

And what, my husband touch me anymore? All that stuff. Right? Hey, estrogen is a mitochondrial booster. Absolutely, absolutely. Yeah. And you look at all these menopausal women and the doctor.

Doctors don't say yes or no. Cause cancer. It's like, okay, you're going to be demented in ten years. You're going to get osteoporosis. You're going to be frail. You're going to. Right.

It's just, stop it. Right. Yeah. And yeah, we forget to look at the other side of the coin. Yeah. Don't take that because of this. But what happens if you don't take it right?

Alzheimer's, dementia, heart attack, stroke, cancer, osteoporosis. Right. So we don't talk to women before menopause about any of these things really.

Or men for that reason. Right. And the studies even show if you don't give progestin not progesterone, it's actually show me the study that shows increases breast cancer.

And the problem is in the literature they confuse progestin and progesterone. If you want to give someone breast cancer, give them for just in a right hand.

If you want to prevent it, give progesterone, you know. Yeah. And there's a, I don't know if you, aware, doctor, doctor Glaser. She's a breast surgeon.

Breast cancer surgeon, I believe in the Midwest, Indiana or Ohio. She actually gives her, breast cancer patients testosterone because, yeah, it's showing a totally decrease.

Right. My my review. Bioidentical hormone debate. No, I haven't seen that. Oh. I'll see. Yeah, it goes through all everything from clinical to the, biochemistry and every study had to, had, for instance, S3 all versus this diol was estrogen, progestin versus progesterone and shows that women should not be afraid.

Bioidentical hormones, of course. It's like and it's a made up term and, you know, it's it's crazy. It's it's fine. This goes out 15 years ago. And it's proven true.

But they don't say, oh, it's proven true. They just kind of start doing it right now. Right? And, more and more drugs are coming out that are bioidentical, right?

Right. It's. Yeah, it's it's generating. Yeah. Like that types. And so that's the nice thing about peptides is if they work, they work. If they don't work, guess what you don't have I have to me, I to date, I have not seen anyone have any really bad side effects from peptides because they are natural part of the system.

Hormones, Epigenetics, and Personalized Care

And so if they can't bolster it then that means that there's something else not working, but it's not going to cause a side effect. Yeah, it just show me a medication that you can give a thousand times the dose and have no side effects.

They can't find it toxic dose. The body would do that with water, right? Yeah. So want to argue it's safer than water. You know you'll die if you take a 1001 dose, right.

So in that regard, you know, so if a woman comes in and she's not sleeping and she hasn't had a period for two years, you know, I'm going to put you on progesterone.

And within three days they're sleeping like a baby. They're made better, at having I mean, assess their estrogen or just after yet. My only caveat to thyroid hormone, and I usually give that to just based on symptoms, is I need to understand what's happening with your cortisol.

Because, I've had a few of you probably have two, all the typical, thyroid hormone symptoms. You give them a little bit, and then it's a wired and tired, you know, they they don't feel good.

It's not the thyroid hormone. As the emergency room doctor will tell you, right? Oh, you got two. So you have T3. They blame that if they, Yeah. And we find with immune dysfunction, they're sensitive to everything.

You know, it's even with, with a supplement, patients just react. I tell them, okay, look at the pill for a week. Smell it for a week. I take right. And they're much more likely to have like, it is a chronic response, meaning that it has to do a dose.

Like they'll get palpitations. And of course, they blame the thyroid. I, we had one doctor give one microgram, which I'm like, why do you give anyone one milligram? It's like, it's like you never know.

Yeah. It's like, oh my God. You know, it's like. And that's happened to her. Of course she goes, A doctor blames us or blames one of our doctors and she had the same reaction to Tokyo ten.

Same reaction to like, almost, almost everything, you know. Right. But, it's it's interesting. And one study showed that, people that have that look for h-h v6 high incidence of that, that they have human herpesvirus six infection, which is the isn't sexually transmitted.

It's people with low immunity get it right. Chronic fatigue syndrome. It's interesting stuff. You know, it's one of those things the more you learn, the more you know, you don't learn. You don't know.

But I wish I, I almost wish I didn't have to sleep because, I've got a pile of stuff here to read, and it's just fascinating. If I were to show you everywhere.

Yeah, it's it makes medicine bundle it in. And actually, I thought this was what medicine was going to be like when I went to medical school and saying, we'll see who wins the election.

We may have to cut that out. Right. Well, yeah, you guys, and we'll see. We'll play it after November 3rd, see what happens. Yeah, yeah. No, but it's I mean, there's a lot of powers to be that, you know, they want the status quo.

They think giving everyone health care. I mean, it's going to make everyone have a horrible health care. And I put out a health care reform plan. And, you know, I thought it the thing is, we are like, we think we're, you know, basically the opposite of socialized medicine, where we have, you know, freedom of choice.

But we don't we are like, you look at the, the countries that are so-called more socialist medicine, you name it, Sweden. These things, they have more choices than we do.

You go to this, pharmacy, you don't have any choice. You know, how much cost the drug costs. You know, choosing between insurance companies is not choice, right?

It's crazy. I think they should open up drugs by, around the world. Right. And just have one, department. Just make sure they're safe and that it is, and, yeah, it's just it's ridiculous.

But a whole nother topic, right? Yeah, we we probably have to have a couple of shots of whiskey to finish that conversation. Yeah. And we end up spending so much or so much go.

I can go on and on, but, just goes to even the person who has the power to sell it to the distributors, you know, and he gets 30% cut back right there, 30% higher to that guy.

Anyways, it needs a lot of reform, but it's tough trying to make, you know, the powers to be, it's it's scary. A lot of people are making a lot of money.

Let's see what, you know, I guess is strategies. When we talked about, to improve mitochondrial function, and, and energy production, anything else that you, you want to talk about that whether you have mitochondria or not, some, little key, pearls for patients or that or doctors on, listening.

Well, you know, and I think a lot of, providers already know this and they sense it. And that's part of their frustration. And they're looking for a different way, is in order for us to really optimize, people's health, meaning taking you from being sick to get imbalanced, from going to balance to optimized, which is the other side of the coin.

We have to do it in a different way. So we have to understand, we have to understand that food is medicine. We have to understand, that, treating the root causes it only way, we have to understand hormones.

We have peptide therapy that can use your body's own natural abilities to to thrive. And so we have to get out of the, the like you said, the one drug, one problem mindset, simplified mindset.

And again, just to just accept the complexity of the of the client. And so to your point is that's why you need to get all those labs done. It's because it's not just because we want to spend the money, because we need to understand the client in their health context.

They have their own unique health puzzle, and it goes together in their own unique way. And we have to understand that. And the only way to do that is to get a good picture.

And so, in my great regard, mitochondrial, the, function, fitness and hormones are, are significant pathways. So most of my clients, just with that alone, get to 70%, 80% of where they want to be.

I think balancing the hormones give a little fibroid, as with most road and and and so many things can be helpful. And while peptides are a tool in the toolbox, they're damn nice tool.

Very nice tool. But, yeah. Reminds me in terms of labs, I remember I went to the lab myself and the bottom was like, so that doctor that all, and I'm like, yeah, what do you think?

Because I don't know whether he's the worst doctor or the best doctor, I don't know. And I said, I like 30s, awesome. And the cutest guy to. But, so there's nothing wrong with her.

Yeah, she never knew, but it's not. They're not happy because they got to do all these tests, you know? Right. And, but it's good for the patient. It is. And that's that's what all this is about.

It's not about any. It's not about the supplier supplying medication. It's not about the health care system. And then bringing in enough clients to make money with procedures.

It's about the client. It's about that one person. And that should drive all questions, in all approaches. So yeah, again, take, patient focused, you know, an end of one.

That's all it is. One person in this study that is. And have you found I mean, of course, we both read all the studies, and I'll read a study like this thing is the best things.

And sliced bread and I tried I'm like, what's not a good you know, I, I, I can't get it to work, you know. So it's interesting how studies are important, but they can also be manipulated. You know, it's true.

And another point, is the, the impact that epigenetics has. Right. And so that's, great point. Good. Good point. Very good point. Because, you're right.

I tried it. Right. And it did nothing for me. And can't you try it? And man, I mean, I mean, you you put on muscle, you sleep better. You just feel fantastic.

But why did it work for you and not for me? Does that make it a bad product? If I just do a study with you in it, it's going to look great. If I do the same, study with me and it's going to be negative.

So it's not that the study is bad, it's understanding your epigenetics your genomics. Right. And so yeah. Can you talk about the epigenetics. You know Max.

Yeah. Yeah. So genomics is really looking at understanding what your library, your DNA library is epigenetics is looking at the factors that, impact how that library is interpreted.

And so, understanding your DNA. So I think most people now understand that, your genes are not your fate just because you have the gene for, insulin resistance or the, BRCA one gene that runs in your family, I don't think most people know this.

I think it's profound. Well, or the ApoE4, you know. Right, right. And so just because you have that gene doesn't mean you're going to get breast cancer or Alzheimer's dementia.

However, it means that you have to live a particular lifestyle that doesn't activate that gene. Or more importantly, you can tell that gene how to behave.

So that's kind of a new concept, right? Yeah. You can turn on and off, through one study and this was a small set of genes, but like a battalion other peptide.

Right. Basically activated 147 genes and basically suppressed, like 89 genes, you know? Right. And and a lot of these, you know, basically PPC same thing.

You know, they stimulate the growth, suppressed, inflammation and all the, you know, all the bad genes.

Closing Thoughts on Patient-Centered Medicine

So. Right, right. And so, yeah, that it's not bacteria. Huge. Same thing. Huge, huge. And so that that's the again the beauty we keep coming back to peptides.

That's the beauty of peptides is that the peptides already understand the complex system. Meaning they go in and they know what to do. They know what to do in the liver.

They know what to do in the brain, the heart they got, etc.. There's no medication that we can make that can do that. We just don't have the knowledge to do that.

So that's the beauty of the peptides is that they don't understand, what your epigenetics is and actually change the community. Right. So it's not about that one gene even.

It's about how that gene is interacting with all the other genes in that area. And. Oh, yeah, we're so far behind. Yeah. Yeah. So we look at one gene.

How does this but you need these genes to be active as well. Right. And we are so far behind, you know even the microbiome just way you know, we think how complex that is.

Even more important is probably is probably the virus, right. All the viruses and the bacteria pages that control the bacteria. It's just like exponential, you know, just opens a door.

Yeah. So that that one I then one approaches, you can kind of go, whoa, that's just way too much. We can understand that. Right? Or just kind of look at what our bodies have already been doing, right, and just let it do its job.

And so we can do that. And we're closer to that. We're getting closer to understanding all this other stuff. But, that epigenetic understanding your epigenetics can make a difference.

So that's why, for example, the ketogenic diet might work wonders for you, right? Doesn't work for me. In fact, if I go ketogenic for more than a month, I actually actually start putting on weight because I have the genetics.

I have to have a certain amount of carbs to burn. Yeah. Yeah. Right. And for you, you don't. And so ketogenic is wonderful for you. But, that's the difference it can make.

And so if I have that genetics and here I am, you know, eating tons of fat and I happen to have April 3rd or 4 or 4, four. What am I doing? I'm not doing myself any good.

Right. Yeah. So understanding your epigenetics, what to eat, why you need it. So it's not just enough get enough to know that. Yeah, I need some money for my thyroid.

But what about your glutathione? And your hormone production? And how does it work in, in your brain, in your transmit? So, yeah, even in extreme cases like ALS have to have a genetic defect.

Well, we're finding we can shut that gene off, you know. Right. Yeah. So I agree that I think that was one of those profound statements right there, that that we've heard and for people to remember.

Yeah. And it opens the door, to, for, you as a provider, again, you're already doing it. Right. But for providers who are getting into this, you can make a tremendous impact on a person's life. So.

So I used to work in, I did work in the emergency department, and I was on call, and you probably know how many think you had gotten, you know, medicine, right?

So, yeah, I just I just intubated you and put you in the ICU, and now you're awake three days later. Oh, okay. Great. When I get to go home. Right. I've gotten more thank you's in this part of my career.

And I've gotten in the first part of my career. Yeah, I did anesthesia for a bit, and it was like, you saved their life ten times, and you go back how you do.

Like, I remember you. You're like, yeah, you miss my IV. I. Yeah. I also prevented your brain from shutting off, and you're having to like, okay. Yeah, yeah, that's okay.

But so yeah. So, it's really rewarding. And so, you know, the fact that you all are providing peptides and education opportunities for the providers, I think is huge because that's I think that's what people are.

Look, other providers in particular are looking for. So, so I think we're to restart our training program. And just so people get good training and not just, you know, money oriented.

So. Right. Well, I think it's a great interview. I do have, amazing information. Again, profound, you know, thoughts. And I really think, yeah, you're right.

We have to get the epigenetic word out. I don't think many, many people know that, but it's such a key. It is it's a it's very important. So, what was great, talking with you and, Yeah.

Anytime you want to talk, just give me a call. I've got, I got lots of days I want to bounce off. Yeah. So. Oh, no, I'm happy to, I love, talking with you and speaking with you.

And I think thank you so much for sharing your knowledge. Oh, absolutely. Anytime. So the more people we can get on board, the better. All right. Thanks so much, George.

All right. Thanks. Get you have a great thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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