Dr Mike T Nelson: [00:00:00] Welcome back to the Flex Diet Podcast. I am your host, Dr. Mike T. Nelson. On the podcast, we talk about all things to increase muscle performance, improve body composition, do all of it in a flexible framework without destroying your health. Today in the podcast, we've got the great Anthony Cast and we're talking all about the crazy world of peptides.

And this goes without saying that this is not medical advice. This is for entertainment purpose only. Always consult your physician. All those standard caveats, these compounds are for your pet rat. But it seems like you can't look anywhere on internet. Or maybe it's just my crazy Instagram feed without seeing people talk about peptides and different aspects of them.

And. There is some [00:01:00] good information there, but I would say a lot of it I don't really trust. So the reason I wanted to get Anthony on here is that he has been working with peptides for quite some time both on himself and with many clients. And as we talk about in the podcast, there is some research on these compounds.

But there's definitely. Not a ton of research on the human use aspect of them, and until we get more research, which hopefully there will be more coming at some point, if I'm trying to remain optimistic in the meantime, you're left with this void where it's more clinician experience and what they've used and what they have tried.

Again, this is not necessarily medical advice, but I believe that. If people are going to make different decisions, that you should be as educated as humanly possible about those decisions so that everything will hopefully go more in the right [00:02:00] direction. That's why I wanted to get Anthony on here. And we talk about a ton of different things in addition to just peptides and bio regulators.

We talk a little bit about what exactly are peptides and how they're helpful for the immune system. We even get into. Ketone Ester and some benefits from them. NAD supplements and alternatives. Benefits of carbohydrates, even just the general training performance. He also talks about some experience he's had with the zeal lights and detoxification hydration.

How do you pick a quality peptide source? And a ton of other stuff. And then if you want to get more in depth information we've got the flex four. We'll put a link down below. This will also put you on the daily newsletter list. The question I asked Anthony there is what would be on your checklist, what are the

questions [00:03:00] you definitely want to ask these different companies that are making peptides and what is the best thing you should know before using them?

So that one you can find at the flex. Four question. You can download the little link below, just put in your email and we'll be sent to you directly. If you're already on the fitness newsletter insider list you will get this sent to you automatically. So that part is not in the podcast. It is for subscribers only, but it's free to subscribe.

So we don't charge you anything to do that. And then our sponsors. Today we've got Teton talking about ketone esters. That is my biased personal favorite ketone ester. I'm recording this down from South Padre, Texas here. So I've been using a fair amount of them between kite boarding sessions and I find that it seems to help, but definitely with recovery and especially more on the brain fatigue side, if I'm out for two and a half hours like I was the other day.

It [00:04:00] is crazy gusty wind flying to New Kite. I was demoing from a buddy and my brain was cooked after about like two and a half hours and took a small break, had some food, and I had two ketone nesters and went back out and rode again in the evening session. Felt pretty good. So check them out below.

We'll have a link. And then I am a scientific advisor to them and an ambassador in terms of full disclosure on that. Also, we've got electrolytes from element. I was also using that. I, it was crazy hot down here and you also forget how much water loss you have, especially being out in the water or in the wind.

And I ended up having four packets of Element yesterday and my HRV and everything else was. Quite a bit better today compared to normal. So check them out at the link down below also. So without further ado, all about peptides here with Anthony Castor. Thank you so much for listening to the podcast.

[00:05:00] Huge thanks to Anthony for coming on the podcast and sharing all of his knowledge here. If you wanna know the answer to the Flex four question. Just sign up down below to the link. It'll be emailed to you automatically. You'll also get all the past flex Four questions we've had of guests also, which is great.

If you're on the fitness newsletter, insider list, my private newsletter, then you will get this delivered to you automatically. So if you are interested in peptides, make sure to check out all the Anthony's stuff. You can hit him up on Instagram. He does do consults and everything else. I would highly recommend you check out all of his information.

Welcome to the podcast, Anthony. How are you?

Anthony Castore: I'm doing terrific. Thank you for having me on.

Yeah, thank you so much for being here.

I really appreciate it. And today we're

Talking all about peptides, which it seems like they're everywhere now.

Dr Mike T Nelson: Like

I, I can't go on Instagram without being hit in the face with [00:06:00] crazy training things about hypertrophy, peds and peptides it seems, but maybe that's just my feed.

Anthony Castore: No, I would agree. They've,

There's really been a surge in popularity in peptides over feels like probably about the last four, maybe five years.

And fascinating area.

Really a lot of cool stuff going on and I'm excited to unpack some of that with you.

Dr Mike T Nelson: Yeah. What do you think there is more of an upturn in peptides? Do you think it's an education thing? Do you think it's, there's more newer ones out, there's more experience, or, I'm always curious why,

Some things are,

I don't wanna say trendy, but I guess for maybe a lack of a better word,

Anthony Castore: I think that,

In my opinion a lot of the surge

Started with,

All of us meat heads.

We accumulate the injuries.

And

You hear about your friend who had the shoulder injury and took some BPC and thymus and beta four and healed up in miraculous time. And I think. Those type of,

Anecdotes really start to spark [00:07:00] some interest and people start digging. And,

The accessibility to their,

10 years ago there was maybe one, two places that had them available, and now it seems like you can pop over to Amazon.

I wouldn't recommend that at all, but I wouldn't either. No, you can.

They're all over the place, but I think accessibility as well as,

Just a little more awareness of how applicable they are in so many situations.

Yeah.

Dr Mike T Nelson: I first heard of 'em, God, it's gotta be over maybe 10 or 12 years ago now from my buddy Carl Lenore.

We used to run,

Superhuman Radio. Oh yeah. And,

And the first time I heard about it I was like, oh, wait a minute.

What is he talking about? A peptide like,

It's not

A steroid, it's not

A supplement. And at the time he is like.

Oh, it's these research chemicals. I'm like, oh, this sounds shady as hell.

That was like my first response.

And now there's a lot more data and more use. So for [00:08:00] listeners, what, just define

What is a peptide? What are the normal routes of administration and just

The basic 1 0 1 rundown.

Anthony Castore: Sure. Yeah. So when we think about a peptide,

Peptide is just gonna be,

Two amino acids joined together, peptide bond up to,

I think currently it's 50 amino acids is considered a peptide.

If it's a longer chain than that, it becomes polypeptide.

Some examples of peptides that are gonna ring a bell for people. Would be like insulin. That was probably the first commercially available peptide.

The growth hormone we make, it was a massive

breakthrough when they could actually create insulin in a lab.

Was a huge breakthrough in terms of medical science.

Unbelievable. Yeah. And the growth hormone we make,

191 amino acids,

That would be considered like a polypeptide. But when we're differentiating between like a bio regulator peptide versus

A regular peptide,

Bio regulators are gonna [00:09:00] be two to four amino acids.

And a good way to think about it, these chains are so small.

Like I'm a short guy, so when I play hide and seek,

I got all the hiding spaces available. These peptides are like,

Me playing hide and go seek,

They. They can sneak into those spots on the DNA and create epigenetic changes.

So those are generally gonna be things that are applicable for organ systems,

That sort of stuff. Peptides in general, when we think about some of the longer chain peptides,

Like a BPC 1 57,

Most of those are gonna do their signaling on the cell surface or,

In the mitochondria. And those are more

Just

Sending a message and those cells communicate.

Dr Mike T Nelson: Very cool. And so bio regulators, you said are actually smaller, correct me if I'm wrong, smaller peptide chains, and they appear to be acting on the epigenome. So in essence, they're. Turning on portions of the DNA to have them [00:10:00] make a protein

Or do something. Do you wanna explain what

The epigenome is?

Because that might be new to people they've used, they've heard of the genome and DNA, but epigenetics and epigenome might be

New.

Anthony Castore: Sure. So,

Really easy explanation when we think about our DNA.

It's just this long code of information and,

The epigenome is gonna be how that information expresses.

So for example,

I might carry a gene for,

I don't know, carry a gene for Alzheimer's. But,

Whether that expresses or not is gonna have to do with,

Stimulus that would come in from the environment or other things. So when we talk about epigenetics, it's like a light switch that can be turned on or off, and how that gene expresses.

So the bio regulators have the ability to,

Bring out expressions in genes.

Dr Mike T Nelson: Very cool.

The first time I heard about this was

I think it was Bruce Lipton's book of the Biology of Belief when it first came out. And I remember looking at it going, [00:11:00] what the hell is this guy talking about? This seems like Looney tune stuff.

And then as years and years ago by I am like, oh, I think he was more right than wrong.

I don't agree with everything in there. And then you start looking at,

So some of the mouse studies they did where they changed the fur color to try to determine that some epigenetic changes are actually inheritable through a couple generations.

You can look at like some of

The famine studies that have been done over in Europe and we find that some of these epigenetic things were triggered and that they stay around for sometimes a couple generations.

Also, which is fascinating.

Yeah, it's

Really amazing how,

Some of this gene stuff can be passed through generations.

Anthony Castore: When we think about the bio regulators, a lot of the research dates back to in Russia on the nuclear submarines, they had the workers that would go out and,

Military invests a large amount of money in the training of these [00:12:00] people. And after six months on these nuclear submarines, they'd come back looking like they'd age six years.

And you can imagine, and it's expensive,

As well as,

Problematic when they have these people aging at an accelerated rate and they have to constantly train new people. So,

Professor of Vladimir Kason was commissioned to

Study this population and see what can we do to

Put a, put the brakes on the aging and help some of these,

Things that are occurring.

Regressed, or at the very least, put the brakes on him.

His research led to the bio regulator peptides several protocols. The one people are probably most familiar with would be like the Epitol.

And Epitol is the one that,

Prevents the,

Degradation of the telomeres. And when we think about telomeres, and this kind of ties into our discussion on DNA real good visual is if you look down at your shoes, the shoelaces and little plastic part around the end,

Your DNA would be the [00:13:00] shoelace.

And then that plastic part around the end is the telomere that prov that,

Protects it. And if you've got a cat like I do,

They're gonna chew up the end of that shoelace,

Which would be like our telomere going bad. And just like a shoelace, you know how it

Spreads apart and you see all these strings all over the place.

Now when we go to replicate that DNA, some of it might not be transcribed accurately or,

Perhaps even,

Not at all. And when we have that telomere in place to protect it, in theory,

We're gonna be able to transcribe DNA more accurately and prevent those breaks in the DNA. That lead to,

Things being expressed that we wouldn't want to have expressed

Dr Mike T Nelson: is, I think, wasn't there supposedly like a limit to how much that can be?

Like was it the hay flick limit? Was there limits of like, how much you can, was it replicate or change? And then I think there's newer things [00:14:00] showing that

The shoelace portion, if we use your analogy,

That's not a. Predetermined destiny. Like I think the old theory was it just keeps

Degrading over your life and at the end you're just effed.

But now I think we can

Rebuild back some of that little plastic coating. Correct.

Anthony Castore: Yeah. I think that,

The research is always changing, but I think to your point,

There're showing you can rebuild that plastic coating back.

The really interesting thing in terms of when we look at aging is that study they're doing,

At Stanford, the Buck Institute with,

Identifying all the different immune factors.

And I think that's really gonna be what gives us that accurate sense of how we're aging,

And

The targets that we need to focus on to,

Age better or slow the process.

Dr Mike T Nelson: Yeah, tell us more about that. You said that, I'm not familiar with that one. They're looking at different immune functions, is that right?

Anthony Castore: Yeah, I think,

And I just found out about this about a month ago, so I'm not as versed in it as I should be, but my understanding [00:15:00] is there's something like 10,000 immuno markers they identified and yeah. Simple problem. Yeah, no problem.

Just bust right through that this afternoon. Yeah. And the aging essentially is,

We

Think of it as a disease process.

In fact,

Something that'll really

Tie this together makes sense and I think, resonate with a lot of athletes.

I'm sure you've heard people talking about their joints wearing down over time.

And in fact, that's,

When the immune system is dysregulated, what's happening is like if we get an acute injury and let's say a little fragment of our,

Cartilage ends up in our bloodstream.

As it's circulating, our body starts to react to that. It creates this inflammatory process. And,

We develop an intolerance to our collagen, which is 40% of the protein in our body. And that inflammation

Creates more breakdown of cartilage. So it's

This vicious cycle. And when we think about, well, what can we do to stop this?

[00:16:00] That's a perfect example of where,

Peptides can come in using,

Like a type two,

A native type two collagen. We can start to reestablish that immune tolerance. And then we can use things like a

BPC 1 57 that's gonna,

Reduce some of the inflammatory cytokines like tumor necrosis factor alpha interleukin one, beta interleukin six,

And FKB and

BPC with,

Thymosin beta four.

Those are gonna help align our collagen fibers. So

They go in that nice straight line as we're rebuilding.

The thy and beta four also helps to prevent,

Fibrosis and helps with proliferation of satellite cells to that area. So between the two of those, there's really a lot of synergy. And then throwing in something like,

Not a peptide, but,

PTUs and polys sulfate, which is made from the cell walls of plants.

Actually regenerates cartilage.

There was some studies done in Australia on [00:17:00] that. Really cool. Within,

Six months on an MRI, you can actually see really cartilage regrowth. Yep. And,

Additionally this penici, I, it should be in the drinking water if you ask me.

It,

Works as a prebiotic so it creates a favorable microbiome atmosphere.

It reduces all the inflammatory cytokines and things that are associated with arthritis. It can regenerate cartilage.

So yeah, just

A simple example of how,

Aging that we think of is just

Something that happens is really

A regression or miscommunication from the immune system.

How that does in fact then break down our joints and how peptides can

Come to the rescue and put them back together.

That's fascinating. And say the name of that one again and is it oral and is it an over the counter or you have to find it on different sites or Tell us more about that.

Because I think especially,

Dr Mike T Nelson: This is, most of this podcast is,

Shamelessly for my [00:18:00] own information too, but as someone who is getting a little bit older is still doing snowboarding, probably. Pounding the crap outta my knees a little bit too much from airs kiteboarding and landing shit I probably shouldn't land, like, sounds fascinating.

Anthony Castore: No, absolutely.

So Penta and Polys sulfate,

It's P-E-N-T-O-S-A-N,

P-O-L-Y-S-U-L-F-A-T-E. And it's available orally as,

Comes as a tablet, but for the benefits for like joint health and everything, inject is gonna be a lot more effective. Okay. And,

Injected in the joint area?

Actually intramuscular twice a week,

125 milligrams.

And it's also available as a,

Injection. They have been using it in veterinary medicine for, gosh, probably 50 years, but,

Recently started studying it in humans. The best source for it would be a compounding pharmacy doctor. Could. Call that in No problem. It's not [00:19:00] a controlled substance or anything.

Oh, very cool. And,

Yeah, it helps with,

Like,

TGF beta stimulation for the tissue repair,

Reduces like the nuclear factor kappa beta.

It helps with,

Heparin sulfate signaling,

So it has those antifibrotic properties and it upregulates,

The,

VEGF and

TGF beta for the cartilage repair ing.

So it really has

Some cool properties. Yeah.

Dr Mike T Nelson: Oh, so you think that

You're just getting more potentially blood flow and stuff to tissue that tends to be very avascular, so you're getting more nutrients and everything else along the way?

Yeah, I think that's definitely

A big part of it. And then the effects that it has on the microbiome.

I think also I. They haven't really been able to parse out the specifics of that. But I feel like,

The microbiome and the metabolites they create have a lot to do with things.

And that, that's definitely gotta play some [00:20:00] role. The,

It, it also,

Downregulates,

The MMPs, which are gonna be,

That's another important thing in terms of

Putting out that inflammatory fire that goes on when we have these joint problems.

Yeah. Explain what those are.

So those are the,

Outside of the cell, the,

That matrix,

The,

I'm trying to think of how to explain it.

Yeah, basically it's

Extracellular inflammatory factors.

Yeah, that works. And with the microbiome effects, is that from the IM injection or is that only from the oral injection, or are they different?

Both of them would have

it, the oral might even have a little bit better,

Microbiome effect. And when we think about like what Penta sim poly sulfate is, how it comes from the cell walls of plants,

Anthony Castore: It's a,

Essentially like a,

Almost like

A type, it's closer to a sugar than an amino [00:21:00] acid, so

It's gonna feed the microbiome.

Dr Mike T Nelson: That's cool. Yeah. The best example I ever, or definition of the immune system I heard was from,

Ah, I'll think of his name anyway,

But he was saying that it was. Your cells are all going around saying self, not

Self not

Self, not self. Like they're always trying to figure out, Ooh, is this little guy, should he be here and is he okay?

Or, oops, this is an invader, we need to attack this person

And get it out of there. And obviously that's different per location. And

That's the theory of why some people have autoimmune diseases where their self starts realizing it can identify that, oh no, that was part of your tissue. Is it getting an error in that,

Signal?

And so it says, Nope,

Nope. This is bad. Even though it starts attacking good tissue at that point.

Anthony Castore: Yeah, that's,

That's a perfect description and in fact,

That brings from Meyers,

I knew I think of his name.

Oh yeah. The, yeah.

Anatomy trains guy.

The,

That brings up another [00:22:00] peptide that for I, I think,

If you were to throw me on a deserted island, tell me I can take three things with me.

It's gonna be this thymus and alpha one,

Ketone ester, beta hydroxybutyrate, and zeolite.

Dr Mike T Nelson: Oh. Tell us about this.

I'm, I haven't heard people mention BHB and Zeolites for quite a while, so,

Tell me about the other ones first. I'm excited. Absolutely.

Anthony Castore: So,

The,

You want me to start with,

Zeolites and the BHB or the No.

Start with your list from the top. Sure. So the,

THYS and alpha one,

It regulates your T cell response and it does what's called immune surveillance.

So exactly like what you're talking about when we're going around saying, this cell's good, this cell's bad. TA one is

Like this,

Spaceship kind of hovering all through our body and identifying the targets for our immune system to go after and.

When you think about something like chemotherapy,

You can use TA one in conjunction with chemotherapy and it targets the chemotherapy to the cancer cells.

[00:23:00] So for general health purposes, it's really good.

I personally take it,

Year round,

With travel and everything helps to keep you from getting sick.

And when you think about one of the rate limiting factors for hypertrophy response,

Is gonna be when your immune system takes that hit.

Great way to keep your immune system modulated to the proper level of alarm where it's not overreacting or underreacting.

So yeah,

Big believer in that.

Dr Mike T Nelson: And what's a common dose and is it,

Oral injectable? So,

Anthony Castore: so that one would be,

Injectable. And the common dose on that ranges anywhere from 500 micrograms,

Once every two days to, I personally take a milligram a day.

That's pretty high. You go from

micro to Millie.

It's,

Really large variety there.

The, when you calculate the dose on it, it's

Unusual. [00:24:00] It's done,

By centimeter squared. Centimeter

squared.

Yeah.

It's the only peptide I'm aware of that uses that calculation. Usually it's gonna be a body weight

calculation.

Yeah.

So it must be a body surface area somehow then, huh?

Yeah. Huh, interesting.

I will,

I'll circle back and get the formula. Yeah, no, I was just curious. That's interesting. But,

Yeah,

Really interesting. And then the other two that,

Huge fan of. Are gonna be the beta hydroxybutyrate,

Ketone ester. And I'm not paid by the company or anything, but,

I'm adamant with my clients about only using the ketone aid.

And the reason for that,

When you look at how they get metabolized and everything,

The end product that you finish with is gonna be different in that beta hydroxybutyrate ester when it breaks apart that, but trade in there,

Helps to do things like,

Inhibit histone deacetylation, and,

Help our microbiome.

Some other benefits to it, like when we think about these ketone esters [00:25:00] and why they're so amazing,

They reduce oxidative stress. Neuroprotective, they help with,

Metabolic flexibility and increasing a TP production.

They upregulate PGC one alpha.

They,

Work on stress resistance,

Particularly like Tuin one, Fox oh three,

Which are part of our antioxidant,

Response system.

They decrease it,

And it comes up all the time when we talk about inflammation like the tumor necrosis factor alpha,

Interleukin one, beta interleukin six, and they upregulate the anti-inflammatory,

Interleukin 10.

And they also upregulate the precursor to Risin,

Which is a metabolic regulator, the FNDC five.

The other really cool thing about them,

When you take 'em post-workout. There's starting to be some research accumulating that shows that they upregulate,

That,

Hypoxia,

[00:26:00] HI F1 A.

Which can improve production of erythropoietin.

If you ever have like traumatic brain injury or you're getting ready to go into surgery, one of the best ways you can protect against that,

Is gonna be the ketone esra because it's giving your brain,

Energy substrate.

It can metabolize when,

Glucose metabolism might be impaired or there might be lack of oxygen.

I personally take,

Six shots a day. The

Other time that I think is really beneficial to take 'em is gonna be, I just do a half a serving before I go to sleep. And that sounds counterintuitive because we think about ketones as giving us energy, which they do.

But when you take a half a cap full before you go to sleep. It improves your NAD to NADH ratio, which is gonna be your redox potential for the next day. And when we think about,

Like NAD and

We hear about how that gives us energy and everything,

We want that high in the morning.

It has some effects on our circadian rhythm [00:27:00] and also that's gonna be where we're getting the donation of electrons from for ourselves so we can really,

Perform metabolically.

It helps with DNA repairs. It's super important. But,

A side note on that.

A lot of people are going to getting these NAD IVs these days.

And I am adamantly opposed to that. And the reason for that is when we think about,

Like,

Getting this big dump of NAD in our system,

When we have, so we all have cancer cells and we all have senescent cells.

And there's a receptor, the CD 38 receptor, that is like a big NAD magnet, and it's really turned up on these cells. So when you get that dump of NAD, most of it's going to the wrong cells.

And that's why like a lot of times people get,

N-A-D-I-V and they're like, they get that kind of flush feeling.

Yeah. Yeah.

That's actually their senescent cells sucking up the NAD and,

[00:28:00] Definitely not a good thing. And they feel better the day after because that little bit of NNAD that didn't get used up by all the wrong cells is

Dripping into them. But a better approach, and this is another peptide we can talk about,

Would be using like,

It's called five Amino one mq.

Which is a lot like alphabet soup. Yeah.

But five amino one mq. What it does,

That's a little bit different. When we think about NAD, it gets metabolized by this enzyme called NNMT and NNMT when the levels are high of that.

That's also associated with fibrosis. So the five amino one MQ decreases the NNMT.

So the NAD that we're naturally making,

Like when we do our ketones at night and improving redox potential lasts longer. And when it

Dripped out slow, that gives all the good cells a chance to grab it instead of the bad cells. So more of it's getting diverted to where we want it to go. And you can even add to that effect,

[00:29:00] Downregulate those CD 38 receptors by taking,

400 milligrams of Apogen at night hour before you go to sleep.

Dr Mike T Nelson: So it's a pretty high dose of Epigene, which I think is from Camel Meal, which can also help with sleep onset and sleep architecture. Is that correct,

Uhhuh? Yeah. It's,

Anthony Castore: The only reason the dose is so high is because it's got really poor bioavailability.

And if you are doing anything to improve NAD production,

You just wanna be aware of those CD 38 receptors, so the little extra buffer in there is not gonna hurt.

Dr Mike T Nelson: Do you, I'll come back to a bunch of different things here, which is a great Sure. Do you think NAD supplements are beneficial? Like, I'm thinking of NR and NMNI took,

A high dose

Of nr like two grams a day for almost like seven weeks. And honestly, I didn't notice anything other than. It was very expensive.

Atrophy of the wallet. [00:30:00]

Yeah. Yeah. A wallet atrophy for sure on that one, but

I may have procured some of it from a company who left it out on their table after hours at a conference, so possibly that might have happened.

It.

Anthony Castore: I guess to answer your question, I think that,

The NR can raise NAD levels if you were gonna do something to raise NAD levels, that would be the best choice to make. But to your point, I don't think that's necessarily the most effective strategy. I think if you do something either that targets that,

In an MT enzyme, like the five amino one mq, or there's a nutrition supplement, it's a new one a lot of people probably haven't heard of, and it's called one MNA and

What that is, it's a metabolite.

That modulates, that cert one activity. Oh, that also enhances endothelial function, reduces oxidative stress, and,

Has some cardiovascular [00:31:00] protection, improves mitochondrial

Function. And,

Essentially it's like,

Recycling your NAD.

So you're,

It,

You're getting more out of less is probably the easiest way to say it.

It works for a couple different pathways.

It upregulates the ENOS pathway, so you're getting that,

Nitric oxide benefit.

As I mentioned, the tutin one, which is associated with like longevity and mitochondrial function and,

Acts directly on the NRF two,

Antioxidant response system. So I think.

In my opinion like that, and the five amino one MQ are gonna be the two best options. If you have somebody that's playing,

College sports or professional sports. The

I'm pretty sure the five amino one MQ is on the list, but the one MNA is not. So,

That would be the better choice. Or if you have anybody with like a lot of inflammation,

One m and a,

Is gonna be a

Great choice.[00:32:00]

Dr Mike T Nelson: And you said the one m and A is available as,

A supplement. So that's a oral I would assume then

Anthony Castore: Uhhuh. Yeah, they're both oral.

They're both,

Yeah, the,

One m and a is available as a supplement. Yeah, I think the company that makes it, it's called,

Like Endo, I think it's like Endothelium or Endo.

It's sounds like endothelial. I can't think of the name of it right now. Okay. But,

I'll put it in the, I'll send it to you to put in the

Yeah. No, that,

Dr Mike T Nelson: That's great because I think it wasn't a ris, RIS Veri trial was supposed to be like a cert one and it's, the research on that hasn't really panned out in humans from, it's my interpretation.

I dunno what your thoughts are on that.

Anthony Castore: No, it's,

My understanding is,

David Sinclair's in a lot of trouble for the falsifying the research on the resveratrol and,

The nmn. And for resveratrol, like a low dose,

Like we're talking 50 milligrams has some benefit.

And resveratrol actually works on that,

Downregulating, that CD [00:33:00] 38 receptor we were talking about too.

So there's some benefit there. But as far as. Some of the claims that were made,

I think they got a little carried away. And the other thing that you see a lot of times, like with resveratrol or just antioxidants in general,

People over antioxidant. Sure. I think,

If you were to distill it down to the single most important thing when we're thinking about training, health, longevity,

It's gonna be that redox balance.

And,

It's a delicate balance. And when we throw too many antioxidants in the mix,

We're really doing ourselves a disservice.

Dr Mike T Nelson: Yeah. Because I think there's, if I remember right, I don't think NAC did this or

I hate to say more natural mixed flavonoids, but like high dose C, high dose E,

Some of those even I think in humans now, I believe the early stuff was in mice, but, so it was may.

Not be beneficial for full, like hypertrophy, [00:34:00] adaptations. Would you agree?

Anthony Castore: Yeah, absolutely. The, when we work out that initial inflammatory response is important and something that's pretty interesting. I'm sure you're already aware of some of the listeners. This might be new news too.

When we talk about interleukin six, we have one that's made,

As a result from exercise.

And that's a good thing. And then we have one,

That's made like when we get sick, like cytokine storm and they're both interleukin six, they're both identical, but somehow our body knows the one we make from exercise kind of signals this whole favorable cascade of events. And the other one absolutely doesn't.

We want to keep that low. And,

To your point, when you take,

These really high doses of antioxidants post-workout and you don't have a chance to have that initial inflammatory signaling body kind of forgets it's supposed to repair.

Dr Mike T Nelson: Yeah, it, because people forget that those,

Those raws are also signaling molecules.

So if [00:35:00] we could,

Extinguish that signaling, you're actually dampening down the signal that you spend all that time in the gym trying to create, to get all the other cool effects downstream from it.

Yeah, absolutely.

Yeah. Another one I like in that area too is,

Astaxanthin,

Oh yeah. It's a red carotenoid.

And what's interesting about it is. It appears to get to a lot of different cells and doesn't seem to have negative effects on exercise, might even help exercise. And it doesn't seem to spin off many pro oxidants either, because like you were saying, sometimes like vitamin C high doses, which again, this is highly debatable that maybe some of the effects are from the pro oxidants that are created and the body response is creating something to mount against the prooxidant.

So the peroxide maybe had a positive effect.

But astaxanthin doesn't seem to build up a lot of,

Pro-oxidants per se.

Yeah. And

It seems to have direct benefits in the eye as well. Yeah. [00:36:00] Which I'm interested in. Yeah.

Anthony Castore: Yeah. I feel like,

My glasses need glasses some days.

Very cool.

Dr Mike T Nelson: We cycle back to

The ketones.

Like what kinda doses are you using? And I'm trying to remember. So ketone aid, is that the BHB molecule and then. Is it bonded to one three butane dial? Is that the other component? Yeah.

Anthony Castore: Yeah. The one three butane dial and uhhuh. It's the ketone aid.

They have,

The ketone shot, which I tell people the, so the ketone shot and the ketone ke four concentrate are the exact same.

One three butane dial differences. The ketone shot tastes better. I've had,

Some clients I've before,

Because

I'll take anything if it improves performance, I don't really care about the taste. Yeah. And,

The taste of those is

horrible.

I forgot about that. And I'd recommended them to

A couple people I work with and they were like, did we do something to make you angry?

And [00:37:00] I was like, no.

I,

I'm just

Numb to it. But

A cool trick you can do with the,

If you do choose to do the concentrate. There's something you get on,

Amazon. It's called Miracle Berry.

Yeah. And oh yeah, put that your mouth with the shots and it'll mask the mask, the taste.

But,

To answer your question about doses, what I do,

First thing in the morning when I wake up,

Usually wake up around 4:00 AM I'm an early riser, and I'll do one of the ketone shots, which is,

Five grams of ketones.

There's two servings in there. Each one has two and a half grams of ketones.

Then,

Usually around seven 30 I eat breakfast.

Then I'll generally have,

Some clients meetings end up having my next meal right around 11.

If I feel like I'm

Getting a dip in energy. Mid-afternoon, I would do another,

Ketone shot, so another two servings,

And then a ketone shot before I go to sleep.

Another two servings.

So that would be six servings [00:38:00] total. Now on days that I train, in addition to that, what I do is,

45 minutes before my workout, I take a ketone shot. And then 30 minutes before my workout, I do a combination of,

Eight grams of citraline,

10 grams of arginine, alpha ketoglutarate,

Bicarbonate, I just, I stocked up on the Alka sauce or gold while you could still get it.

And I got,

Ultra,

About two grams of Carine in there.

And,

Not beta lanine, but actually Carine. Carine. Yep.

And,

That's

My,

My pre-workout. And then immediately after the workout, I'll drink another full ketone shot, so another five grams. And that's gonna help keep the,

Insulin levels elevated a little bit.

So then 30 minutes later, when I take my large protein shake, which includes,

Three scoops of ucan, two scoops of the designs for health,

Beef hydrolysate, 10 [00:39:00] grams of type two collagen,

Two grams of trine,

Five grams of colostrum, five grams of,

Lactoferrin.

That,

And then I do a tablespoon and I'm,

A little anal-retentive about this, a wood or plastic tablespoon of,

Manuka honey for the benefits of the probiotics and enzymes.

Yeah. Yeah. And

You're checking a lot of boxes with that formula. Additionally, like for people that like to have some type of carbohydrate before a workout, the one that I would use, and I do this usually on like a leg day or like a larger muscle group day, is I'll add in 10 grams of trehalose and Oh yeah.

Huh. Yeah. It's really cool. Sugar, it,

Can improve insulin sensitivity. It has,

Some autophagy boosting properties.

It can work as an antioxidant and

It can,

Be an A MPK activator as well, so,

A neat thing to throw in your [00:40:00] pre-workout if you need a little bit of carbs in there.

Dr Mike T Nelson: Oh, that's cool. And what are your thoughts about the One Three Butanediol by itself? Because

I won't name any names of other companies, but other companies sell that as a ketone precursor and. My bias, again, I have a disclosure with a ketone company, but at one or two doses I'm like, eh, okay. Yeah.

Not too bad. At a higher dose. Like I'm definitely personally not training. I feel a little like, Hey, I've just

Been at the bar a little bit. I feel more that end of the spectrum, not like, ah, I wanna go trained.

Anthony Castore: Yeah. With the ones where,

Essentially like the ketone eight is kinda the mixture.

So you get that one that sort of releases fast and the one that releases a little bit slower.

And,

For a lot of people, that's gonna be a better fit. Sometimes when you get the ones that are just

Dumped in there, it can actually have a,

Work is a central nervous system depressant, [00:41:00] so it can make you a little, kinda like, oh, I think I'm just gonna sit on the couch today.

Yeah.

Yeah. They the ketone aid cells the hard ketones. And actually a cool trick, like if you have anybody that's trying to quit drinking you can swap out those hard ketones with alcohol and it'll give 'em some of the same like sedative effects that they'd get from alcohol and a lot better option.

Dr Mike T Nelson: Yeah. Because it, the one three butane dial actually does get converted to ketones and it goes down an alcohol diol pathway too. So it makes sense that high enough doses which, I find it interesting that, Fran, a Ketone eight has that as an alcohol alternative, and then HVMN has it as a performance enhancement and.

Full disclosure, I work for another company, which is Teton. So they have the BHB molecule bonded to glycerol. And so with that, you still get the ketone ester. You can still get high [00:42:00] doses, but you don't have the one three butane dial at all. It just gets metabolized into the glycerol pathway. Which again, I'm biased.

I have disclosure, I do scientific advisement for 'em. I'm an ambassador, so I'm biased in that direction. But they have some very interesting data that'll be out soon showing that they have a very interesting curve where it doesn't get super high blood levels, but it doesn't appear to show up in the urine.

So it's going somewhere, which we don't know where yet we're, they're paying for a bunch of tracer studies to try to figure that out. But in theory, maybe it's being used more by neuro tissue, cardiac tissue, I don't know. So yeah, that's been fascinating.

That's really cool. I'll have to dig into some of the research on Yeah, I'll

send you a bunch of their info.

Yeah,

no, thank you. I'd love to. Have you found any sort of CNS effect at a higher dose? And again, I've only done this with the BHP Glycerol mix and I did it by accident, so I noticed like 10 [00:43:00] grams, I feel a little bit better. Cognitive stuff definitely can be improved 20 grams, that for me is a more of a sweet spot.

And a couple of times I've gone up to 30 grams and done it during more of a grip intensive session where my sessions starting off, I had gone past my warmup initially. I did this one day just out of just trying shit to see what happens and I, I had two cans and I thought for sure, like, ah, this is just, a throwaway session because I had it during the training and I'm like, Hey, I got like, 95% of my PR on a session.

I thought I wasn't gonna barely do anything. And then I did it again. Same thing happened again, and then last time I did my testing I was like, well, lemme just do 30 grams to see what happens. And I almost got a PR on it. So I don't know, I just it's one of those things where it's happened enough times.

Anecdotally, there's zero data I can find published in this realm, but maybe if it's having some CNS effect, you're providing more energy to your brain. Maybe there's some different genic performance thing there. I don't know. [00:44:00] I haven't found any research on that.

Seems like there could be. Yeah, I'd be really interested to follow up on that.

Yeah. Yeah. No, that's super cool. And I think I cut you off if you're on your desert island with your peptides and you've got a couple more, right?

Anthony Castore: Yeah. Yes, I have my thys and alpha one, I have my ketone ester that we talked about. And the third one is zeolite and Yeah, tell us about that.

It it comes from volcanic ash and it's like if you look at it, it's shaped like a cage almost, and it traps like metals. It can get rid of like viruses, molds, pretty much anything you wouldn't want. It can trap it in there. Now the important thing is if you're taking any sort of oral supplements or medications needs to be at least two hours away or else it's gonna bind those up.

But I've unbelievably had mercury poisoning twice and, oh, how the hell did that

happen?

I feel like there's at least [00:45:00] one good story. Oh, there absolutely is. So I was this was first time 2019, April, I'm grilling out and like grilling some seafood. It's delicious. I'm like, eh, this is pretty good.

I usually eat four times a day and it went from fish like once a day to fish four times a day. And I was always really responsible about, I'm picking the fresh stuff well sourced and seems like I'm checking all the boxes. And we were waiting on our home to be built. So we were in these apartments that were in reasonably close proximity to railroad tracks and the fumes from railroads are really high in methyl mercury.

So between eating fish four times a day and these fumes like come October, like, I'm. When I was growing up, I had a photographic memory and I've always processed things pretty fast, but it was noticeably slower. I was waking up like 17 times during the evening to pee. Oh, [00:46:00] Jesus. And I was getting like a tingling through my fingers.

It was crazy. So I go in to see Dr. Serrano and you'll appreciate this knowing him. So we're talking and I'm describing these symptoms to him and he's like, are you taking some stupid peptides? And I'm like, no, it's got nothing to do with that. I'm like, I haven't, are you stupid amounts of

fish per week, Anthony?

So he he orders up my test and I was like, maybe we should check for mercury poisoning. He is like, it's really rare. Why? Why do you think you'd have mercury poisoning? I'm like, well been eating fish four times a day since April. He is like, we'll censor it. Of course for oh, you can swear it's all right.

He is like, you're a fucking idiot. Yeah. Why would you do that? And I was like, well, you told me fish was good for me and like the way it tastes. And he's like, oh. He's like, we're testing for Mercury. He shake his head and go, I, until you

eat it, like fucking four times a day for Christ's sake. That is exactly what he did.

I'm get pretty good [00:47:00] at my Serato impression.

Yeah. He, the Mercury, I love Serato back. He is fantastic. I wouldn't be where I am without him. Yeah. Mercury levels came back 25.4 and the normal is supposed to be four.

So

Yeah. Not needless to say, not a good thing. And then so I got those cleared out and then recently, it was actually just this last December.

They were back up to 19 and haven't figured out. 'cause obviously after that first encounter, I've been more mindful about seafood intake. I think that it might have been like could have been some bad fish oils or something. Yeah.

Dr Mike T Nelson: Well, especially correct me if I'm wrong, is usually pretty good nowadays, but definitely could be.

Anthony Castore: Yeah. I think well what I've done with the fish oil, just to air on the side of caution, is I use the PLAs Moens. I use a high dose of PLAs Moens. And I use, it's called Fatty 15. It's a Penta Decanoic [00:48:00] acid. And then I just take two crill oil a day, which is gonna have the antioxidant we were talking about that I can never pronounce.

Yeah. For astaxanthin. Yeah. There's some in there. 'cause the red color. Yep. And the with it being in phospholipid form, it's gonna be. Easier to absorb in those plasma allergens. Really, when we think about like, a lot of the benefits that we're gonna be getting from fish oils plasma allergens are a lot more bang for the buck.

In fact, there's a really cool test you can do. It's called the prodrome scan, and it's the only test I'm aware of that measures the functionality of like your heart, your brain, everything. This biochemist Dr. Dan Good now did huge sample of data research dating back to the eighties and looked at people that are healthy and their plasmalogen levels and all sorts of different tissue.

Essentially there's like the DHA precursor, plasmalogen, which, or the plasmalogen neuro. And then there's [00:49:00] the omega nine which are the plasmin glia, easy way to think about it. Like repair, neuro decreasing inflammation, glia, that's an oversimplification. But anyways when you do this test, it'll show you how things like your heart, your brain, mitochondria, all that stuff how much plasmalogen you're using in those areas.

And by looking at the different ratios, you can project health to almost a hundred percent accuracy. And then the beauty of it is you can simply supplement these plasma allergens according to what you're deficient in. You can measure the restoration of health. And not only do you have like the objective measure from that prodrome scan, but like I.

Speaking n of one. Like I can genuinely say after going through the mercury poisoning, knowing how my memory had declined and seeing where it is now, it's better than it was before. And really some benefit there. I do it about once a year. I think it's a good thing to keep an eye on and I'm a numbers guy, so I like to see where things are [00:50:00] trending.

Dr Mike T Nelson: Yeah. Any info you have on that will definitely stick in the show notes. That's super cool. I won, I wanna check into that 'cause I'm not familiar with that at all. Yeah, absolutely. And what kind of dose of, for Zeolites if they're, I. What a person used. And then outta curiosity, what dose did you use for the Mercury stuff?

Anthony Castore: So, with the Zeolites the brand that I'm aware of that most of the research has been done on is the med therapy pro by panacea. The problem is they're based overseas and it takes 30 days to the day to get your shipment in. So I learned the hard way. I order like 12 at a time now. But to answer your question about the dose good idea is starting with one scoop and and

one scoop is what comes in there.

Like whatever they standardize that to.

Yeah. And then after like a couple days. You're gonna, most people are gonna be doing fine. Go up to two scoops and for me, I worked up to three scoops to detox the [00:51:00] mercury. The one thing you had to watch was zeolite because it comes from volcanic ash, it's a binder.

If it's not well sourced, it could be binding metal. So ironically, you could be putting metal in your system. So it's really important to make sure you're using a good zeolite.

Dr Mike T Nelson: Oh, interesting. That's awesome. And I know we've made it this far without actually even talking directly about thy and beta for BPC.

Like, I've had other people use those off and on for God, probably going on seven years now. Uhhuh In the past I've linked to the podcast that I've had with Dr. Andy Galpin and my buddy Dr. Ryan Green talking about peptides several years ago now, and. I've had clients who, we went through a physician, we got a good source.

Like he verified the source. Like he used them all the time, like, solid protocol and like, I don't know, maybe 50, 60% of the time clients are like, oh my [00:52:00] God, this is like the greatest thing that has ever been done. Like 40% of the time was like, I don't know, I can't tell any difference at all. And again, wide variety, anecdotal, like using them for everything from tennis elbow to knee pain to, there's nothing really standardized with the population I could figure out other than everyone was getting, as far as I know, like legitimate, like source material, like following a decent protocol, which I know depending on where you order stuff from now, God knows what you may or may not get.

But

Anthony Castore: yeah it's really important to go through a compounding pharmacy so, know what you're getting. But one explanation for that. Actually a couple explanations for that. I think that. When we think about kind of mechanism of action and what they're setting us up to do, and, aligning that collagen there has to be collagen there.

So I think sometimes when people take those really to get the best results possible, it's a really good idea to use like a type two collagen. And then I also, if it's for [00:53:00] Tennis elbow, I'll have people use the collagen peptide Tendo Forte and the Forta Gel in addition. And the one I get and my friends all tease me about this when I tell 'em to buy it, they're like, all right, it's called Sparkle.

So, yeah, you can imagine I get teased about that. But the Sparkle brand has like a little bit of vitamin C in there to help with the collagen synthesis and the Tendo Forte and Forta gel, and it tastes good. So I can handle the teasing. The other thing, and this one always flies under the radar, I think people forget how

important it is to hydrate that when we think about like how a peptide works the way a peptide works, it's a signaling molecule.

And when I talk to people about what does hydration mean to you generally the answers I get are, well, I need to drink water, or I drink my water. I put some electrolytes, minerals in there. Those are all good things. But when we're talking about that kind of hydration that's gonna make it possible for a cell to do [00:54:00] its job we want to think in terms of cell volume.

And easy way to contextualize that is like, if we think about creatin, first time we took creatin, we get that cell swelling. And when we get that cell swelling, that cell volume, what happens is we're polarizing the cell. The way I explain that to people to make it a little more digestible. It's just like if I go buy a satellite TV for my house and I stick it on my roof and I think, I can't remember, I think it's supposed to be pointing like Southwest or something, so I got it.

Point in the right direction. Who knows? Yeah, we'll go with Southwest getting all 200 channels. Now, if that same satellite, for some reason I'm like, oh, I got a satellite. I just gotta attach it to the house. I stick it out my window, facing it, facing the ground, I might get 13 channels. And so it's really important.

The antenna is pointing where it needs to be. And when we have a volumized cell, we're accomplishing that. And the best way to do that is through use of neutral [00:55:00] osmolite. And when we think about neutral osmolite, like which ones would we want to use? Generally I'll do a combination of creatine, alanine, glycine, glutamine, and a low dose of leucine.

And one of the kind of cool things about low dose leucine, we know high dose of leucine stimulates protein synthesis mTOR on the other end of the spectrum, if you do one and a half grams or less, it actually can stimulate the TUTIN one and a MPK pathway. So, really good way to maintain that mTOR A MPK balance.

It's so important for people. And just to break that down a little bit before I go on, when I talk about the balance of mTOR and A MPK a lot of people think, especially like I always wanna put on muscle, so I'm like, why would I ever want anything other than mTOR? And what happens if we're in this build build state?

We forget that during A MPK, that's when our cell does the cleanup, it gets rid of. The debris it doesn't need increases [00:56:00] insulin sensitivity and maintains that metabolic flexibility that's gonna be important. So if we're in an

mTOR dominant state all the time and we become more glycolytic, we're not making as many a TP and we're gonna become insulin resistant and can lead to some other problems.

In fact might be a good segue into like the difference between G HHS and growth hormone. But yeah long story short, those neutral smolts, when we're thinking about hydration, that's the combination. And you can buy it as a formula. It's called i cell water, like a little I, and then word cell water.

Or you can get the ingredient to make it. The credit goes to Dr. Seeds on that one. It's his, I drink. And what's a little bit different about it too. So you mix this formula in a half a gallon of water and you sip it all through the day. Normally like if we have a glass of water, we just drink it down, [00:57:00] but this what you wanna do is you just sip it throughout the day.

So I'll mix up two servings of that. I sip it throughout the day in addition to my regular fluid intake. And it's fantastic. You get more outta less with your peptides or really anything that's working through a signaling mechanism. You can measure the improvements in hydration if you have access to something like in Body nine 70 where they can show you, Yep.

Body water. Body water, departmental. Yeah. Yeah. And yeah, I feel like that's a real low hanging fruit. And explains a lot when I see people that aren't getting results with like BPC Thymosin or peptides in general. Almost always, and I, most of the time see it with the LPs. Almost always they're dehydrated and we just get some water in 'em and they're like, oh, I guess these are working.

Dr Mike T Nelson: Oh, wow. Yeah. That's wild. Yeah, because there's very little human research on peptides. So we're left with [00:58:00] animal mechanistic kind of stuff, and Yeah. People like yourself who have a lot of experience with them, and like if you talk to researchers like, Dr. Keith Barr, who's done a lot of work on, collagen and tendons and stuff, he is like, yeah, we put a whole bunch of it in a, in our engineered ligaments, and the BPC didn't do anything.

But you still have anecdotal reports of people seeing miraculous changes. I've, I may know of people who may have done things like I. Insulin pumps to drive it into a tissue and in pretty high doses and stuff like that. Not saying I recommend that, this may have happened at a level. And then you go to look at the research and you're like, I don't know.

There's, so the study I want done is BPC 1 57 saline injection, pick your thing, tend to elbow whatever it is, running for like eight weeks. I would settle with like the first study to see does it really air quotes move the needle and what things it's most effective for. But in the meantime [00:59:00] it just feels like we're in this sort of weird area of, I think there's something there.

And all this was my question of, you had mentioned more about inflammation signaling and everything else. Do you think it's, maybe it doesn't have as much of a direct effect as what we think, but because. We have all these other beneficial effects with inflammation and other changes of other regulators that a side effect maybe is that it does appear to increase, tendon health and that type of thing.

In terms of mechanistic play,

Anthony Castore: I think that I guess I feel like it, it is inf affecting the inflammation. I think another factor that kind of comes into play when we think about the dosing of these with like BPC for instance, the saturation doses 400 micrograms. So if you, and it's got a short half life, it's about two and a half hours.

So if you have somebody that's taking like a ton of BPC and they're like, oh, I didn't get that much out of it, it doesn't mean that [01:00:00] after 400 micrograms you don't use any of it. You just, you're using con considerably less of it. Right. And if you were to do like, 250 micrograms four times a day versus, I don't know, 1200 micro or 1.2 milligrams twice a day, you'd actually get more out of the 254 times a day just because of that saturation point in the half-life. And or my theory would be that you're suppressing those inflammatory factors more consistently that way than if you do kinda like in the morning or in the evening.

And then when we think about Thymosin beta four the same thing. These peptides have really short half-lifes, so the timing of 'em becomes important. And then making sure, that we've got the we've laid the groundwork for good cell signaling with the hydration and having the collagen present so that when we go to build that house, we've got the [01:01:00] lumber and beams and everything we need.

Dr Mike T Nelson: And I also think of, isometric loading, which is a lot of Keith Bar stuff. Try to reduce stress shielding around the areas and, holding isometrics for a longer period of time so we can, get the signal, the stress signal to go through and target kind the area we want to repair.

It's probably a big factor of that too.

Yeah, it'd be really cool to I think people would see a lot of benefit combining that type of thing with small frequent doses and the hydration. I think that's where, when we look at like, the people that are like, wow, this was miraculous, really healed up, versus the people that are like, I was a little underwhelmed.

Anthony Castore: I feel like if we were to fine tune those protocols for 'em, that could really be the difference maker, assuming they're all, good source and everything.

Dr Mike T Nelson: Yeah. I may have had a client who, got a prescription for it. We've, he had some knee pain. We've worked around it. Got it.

Pretty good, but not quite gone [01:02:00] entirely. Busy professional. And he waited and he finally did the injection. It was a site injection. And then he forgot that he took it. And the next day he woke up and he is like, oh my God. Went to play, a sport. And he is like, my knee pain's so much better.

And I said, well, is there anything different? And then he is like, oh yeah I started doing the BPC, I think it was BPC and Thymosin beta four, because we were just talking about it. And he may have injected 10 times the dose that was prescribed to him. Whoops. He got his dilution wrong a little bit there.

Yeah. But he is like. But I felt so much better. I was like a,

yeah. Can, can't argue with results.

Yeah. So you hear weird stuff like that too, where you're like I don't know, maybe,

Anthony Castore: yeah. It's I think one of the cool things is we're starting to accumulate more human data. There's enough doctors now that are using 'em and records are being recorded.

That I think, especially like when we factor in what [01:03:00] AI is capable of and yeah. Compiling large amounts of data, I feel like we're gonna have some pretty clear answers in next couple years and sufficient amount of human research that we can make some more definitive statements.

Dr Mike T Nelson: Yeah. Last question as to wrap up.

I can talk to you about this stuff forever, but if someone is thinking that, okay, I'm gonna look at some bio regulators, I'm gonna look at some peptides. We went through a lot of different options. There's so many new vendors, new places popping up here. Like what are some things that people should look out for?

Obviously there's a lot of research that says, some of these companies don't even have any peptides in it. If you are doing something that is an injection for God's sake, I hope it's sterile. Because you can run into all sorts of issues with just, not even having material there, but injecting something that's not sterile.

So how can people get ahold of you? I know you do consults, I know you do consulting.

Everything else, all the above.

Anthony Castore: Absolutely. I try to be pretty active on Instagram. It's just [01:04:00] at Anthony Castor and I'm the first non-physician fellow for the SSRP Seed Scientific and research performance. I'll be lecturing this year at the Peptide World Congress, which is gonna be in Vegas in June at the win.

Oh, very cool. It is gonna be awesome. Yeah. If I'm so excited about it. This year is really gonna be our biggest year yet. We had like 800 people there last year. Wow. That's a lot. Expecting over a thousand. Damn. And it's, it is cool. It's like two days of, how the Swiss conference is set up, how you streams.

Yeah. I love Swiss Stream. Yeah. So it's like a Swiss conference for peptides and Nice. In addition to that, this year we're gonna be expanding the platform to include like some business stuff and some strength training stuff. So the lecture that I give I think for any strength coaches that are interested in getting into this space, and my goal is really to bridge that gap between the medical world and the training world.

I'm gonna be presenting a case study. A guy came to me, 240 pounds, [01:05:00] 28% body fat, six months later, 210, and 10.1% body fat. Oh damn. And

that's a big difference.

It the credit goes to him. He did the work, but it just with this case study, I'm gonna illustrate how when we think about what the training stimulus is, the pathways involved, the mechanism of action, and we're using the precise

amounts of the correct peptides to support that program and nutrition supplements, these kind of transformations are possible.

And gonna explain the architecture of thought so that people can, my goal is people on Monday morning can start writing effective peptide protocols and pairing 'em with whatever type of strength training they're working on and think it'll be a lot of fun. So I'm really excited about it.

Dr Mike T Nelson: Cool. That's awesome. Yeah. We'll stick all that info in the show notes. And yeah, thank you so much for all your time and just really sharing all your expertise and all your knowledge and being so open with everything. I really appreciate it.

Anthony Castore: It's my pleasure. I'm a [01:06:00] fan of your work, so it's an honor to be on Oh, thank you.

The show. And I've enjoyed your podcast and your teaching, so yeah, it's really humbling being on here. And any of the listeners, if you have questions, I'm somebody that probably ask more questions and anybody I know, so I love answering questions giving back any way I can. So please reach out and happy to help however I'm able.

Dr Mike T Nelson: Awesome. Thank you so much. Appreciate it. You're welcome.

Huge thanks to him for being on the podcast. Check out our sponsors. If you're looking for Ketone Ester. My favorite is Teton. You can have a link there down below. I'll look for a big announcement from them coming up. Probably might be May or June timeframe. As soon as this public knowledge, I will let all of for electrolytes. Check out my friends over at Element. We'll have a link down there below for them also. So again, thanks to Anthony for being on the podcast. Huge thanks to you for listening to the podcast. If [01:07:00] you find this one useful and you wanna send it to someone, please send it to them or share it around on social media.

Make sure to tag myself and Anthony so we can say thank you for sharing the podcast, and we will have many more special guests coming up. So stay tuned. And then if you can even leave us a, whatever stars you think is appropriate and download, subscribe, like, leave a review, all that wonderful stuff helps us get better distribution of the podcast so we can keep bringing you top level guests.

Thank you so much. Talk to all of you next week.

What do you suppose they call that? A novelty act? I don't know, but it wasn't too bad. Well, that's a novelty.

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