Introduction to Dr. Tracy Gap and the Peptide Summit

Welcome to the Peptide Summit. My name is Doctor Matt Cook, and I want to introduce you to Doctor Tracy Gap. And he's a board certified urologist, which I'm super excited to hear about because we're getting, high level people coming into the peptide space, which I think is a credit to the field.

He's a world renowned men's health and performance expert, bestselling author, professional speaker, and he has over 20 years of experience focusing on providing fortune 500 executives, entrepreneurs, and athletes a personalized path to optimizing their health and performance.

So I'm, delighted to have you here. On the Peptide Summit. Welcome. Oh. Thanks, man. Glad to be here with you. So give me, you know, I, it turns out I spent the first half of my career doing anesthesiology, and, my, my real good friend, Shahram Gilani, is a urologist.

And so I had a surgery center, where we did urology and orthopedic surgery. And so we it was we did mostly orthopedic surgery and did ultrasound guided nerve blocks, to to put parts of the body to sleep for surgery.

And then the rest of the time, I, hung out with a bunch of urologists. So I spent most of my life with urologists. And so the fact that you're, you're you're coming in warms my heart.

How? Tell me about your journey, of how how did you get started? And and integrative health and and how did that happen? Yeah, I think it's great question.

So I have, been practicing urology for 20 plus years now in a high volume, busy practice here in Sarasota, Florida. You know, started out doing a lot of robotics, doing a lot of big open, open surgeries, in the hospital.

And, after a while, you start to get disillusioned with health care. You get, you know, really disillusioned, disenfranchized with, you know, are we actually making a difference?

These guys will come to the office, you know, 250, 300 pounds. Just want their Viagra pill for sex. And, I found that, you know, guys were not really necessarily experiencing the transformation that I was hoping to to really provide.

I went through my own health issues about now, seven, eight years ago or so, where, I actually went to see a doctor for the first time in my life. And it's very interesting and, a very vulnerable experience to be on the other side.

And that really opened my eyes to, without belaboring the story, I'll just say that that it's not my eyes to how we, as medical doctors have no idea how to really promote or optimize health.

We are taught how to treat disease, how to stand out symptoms. Let me offer this operation or this procedure or this prescription medication.

From Conventional Urology to Integrative Men's Health

And that's really about it. That's what we're taught. We're taught pharmaceuticals for this problem. And so it hit me when my health was deteriorating and I was not able to be the husband and father that I needed to be.

That shit, I got to change my own health. I gotta upgrade, and I don't even know what the hell to do for myself, let alone for all these guys who were coming to my office.

And, you know, we're taught in our medical training very little about health, nutrition, fitness, sleep, let alone hormones. We didn't have one day of actual hormone optimization training in urology, in residency in the crazy.

So I realized that I had this need and this desire to learn more. And that got me into the field of functional medicine and epigenetics. I went through a, epigenetic certification program to read your genetics and understand how to implement that to your life.

Went through peptide verification programs to learn about the amazing benefits of, peptides and how we can really take a precision based, personalized approach to health.

Learn about hormone optimization from some of the experts around the world. That was, an entirely new arena that you would think that urologist is the expert at.

But we have no idea. Urologists have no idea how to how to manage hormones. And so I took all these experiences, all this training, all these certifications and put it together and created this, this focus, this passion that I have and that I was I was done with medicine.

It was about six, seven, eight years ago. I was just doing medicine. I hit a wall where I just I wasn't really, enjoying it. I didn't feel the benefit.

I wasn't really, feeling like I was providing the transformation that men needed. Now, I love coming to work every day, that I love the change I'm making in men's lives.

And, it's a whole new world. You know, I, I had a similar thing where I started to get a little bit of brain fog because I was breathing anesthesia gases all day.

That's the same thing. And so then I. And, you know, as long as I sat there, it's interesting because we both real. I started to realize I needed to hit the eject button from Western medicine and, and and now what I do is totally Western medicine, but it's integrative with all of these other things.

But I remember vividly seeing all of these men and women who were ten years older than me, that were totally falling apart. And then and especially in anesthesia, you really see people like that at 20 and 30 year old anesthesiologist look like the healthiest people on the planet, and they really do.

And the people that 60s looked like they're dying. And and I had, Barb told me, she goes, you know, in back when I first met you, you could smell the chemo fluoride on you.

And she goes, and she goes, you still had it for a year after you. Wow, wow. So I echoed those thoughts, but you hit the eject button at just the right time.

And and and I would say when you when it comes to functional medicine, I think one of the areas that I think has been from the very beginning is hormone optimization, because that becomes something that if you start to balance those hormones, it starts to balance biological systems.

And so it becomes an input that helps get people better. Could you walk me through how you think about that? And I know that you can give people creams, you can do injectables, you can do pellets.

How do you think about, the risks and benefits of some of those different things? How do and how do you guide somebody through a journey of that? Sure.

I think it's important for Matt to if I can, take a moment to take a 30,000ft view of the of my entire approach because I think this would be valuable for the listeners.

Perfect. Well, yeah. So, so I've developed what I call the male framework. Mally is my is my fun acronym dealing with men's health of how I take a systems approach to health.

And, you know, when we look at when we think about functional medicine in Western medicine, there is this integration that you and I are both, you know, really passionate about where I can combine all these aspects of

health to provide the transformation and, and the outcomes that men need.

And so my male framework is an acronym for M is mindset A is aging, L is lifestyle and is environment. And I'll just quickly fly through this mindset I talk a lot about, you know, stress and stress resilience and what is your why and overcoming limiting beliefs.

Because one of the first things men need to understand is how to overcome these limiting beliefs that they can't change, and that they're not able to change and get past those thoughts.

Focusing on living with intention and what is your why and really staying true to what your, your, your, your goals are and never swaying, how to deal with stress.

You know, I believe that stress and the cortisol effect that we have from stress is a big culprit. When we look at all the underlying health problems like sleep and hormones and obesity and metabolic syndrome are all intimately tied to cortisol.

So that's that's n a is aging. This is where I look at all the processes that when we think of of the aging process. And this is where hormones come in.

And so, you were you were mentioning testosterone before and I, I like to say that a lot of docs out there are only focused on testosterone and get your t shot or t pellet whatever.

And I go beyond testosterone. I look at thyroid and DHEA and cortisol, insulin, melatonin, DHEA, progesterone, vitamin D, estradiol. You know, all these hormones are like a symphony and the interplay is magical.

And so you have to address all those hormones or else you're really missing the bigger picture. Under aging. Also look at cellular efficiency, cellular function.

And this is where we can talk about peptides and the amazing power of peptides to optimize cellular efficiency. And then reducing chronic inflammation, which which we know is a big culprit when we look at aging as well.

L is lifestyle, you know, nutrition, sleep and fitness. I take a very, precision genetics based approach to lifestyle where based on your genetics, you may do better with certain types of diets or detox programs or fitness plans or whatever it may be.

And then E is environment looking at gut health, immune function, detox, toxic exposures to endocrine disruptors. So that kind of gives you the general ballpark of how I approach all this.

And so to dial deep down in any one of those, I like to just be sure that I emphasize that, hey, we got to be sure we're not missing any of these other aspects of a much bigger systems approach.

Okay. So then I, 100% support support that, like with my whole being and, you know, it, it goes to show, you know, and I was is kind of funny.

The Male Framework: Mindset, Aging, Lifestyle, and Environment

I was talking to, Doctor Plant, one of my great, younger doctors. And then basically I said, you know, I go, here's the thing. I go, I did the same thing.

I busted my butt and worked as hard as I could and and got to that point when I got done. And then I go, you're starting a new moment when you have to actually learn to crush a super healthy lifestyle.

So and so then that means you got to learn. You have to you have to become an amazing cook and and you have to. And then hot and cold and exercise and then managing all of that.

Because I think you talk about age management, if you can really dial all of that stuff in, and that's exactly what you're what you just said is exactly what I think everybody should do.

But 100%, you probably could practice medicine until you're 80. And we're probably I don't I can't see stopping like I'm going to probably do just as much medicine when I'm 75, you know, because, you know, we need to change the world for a better place.

And it's there's going to be continue to be things going on if we don't do all of those things, and then those things set up biochemistry to kind of work better.

Basically. Yeah. Without question. Yeah. I completely agree with you. And, you know, when it comes to lifestyle, you see so many patients, in my practice, I'm sure yours as well, who will want the magic bullet?

Like, can you just give me testosterone alone or or tell me just to just the exact pill supplement you need to take, or give me the peptide that's going to make it so I don't I don't have to worry about exercise, or I don't have to sleep, or I don't have to worry about eating the right foods and there is none.

And I think that's really important to to point out that, you know, we're here on this peptide summit to talk about the amazing benefits of peptides, but I really see them as the icing on the cake.

And if you haven't baked a good cake, that icing doesn't help. It doesn't do anything. And so I think that's really important to lay the foundation for us.

So that's a good one. I in fact 100% agree with that, which is why I'm leaning into some other aspects of the conversation. And I'm actually going to lean out.

So I like what you said. So I'm going to come back to where we started, which was hormones. But then like I just 100% agree it's not a test tossed around, okay?

It's this is the symphony of all of these things. So you mentioned, you mentioned, you know, in vitamin D, you mentioned, you mentioned the thyroid hormones.

I think it's super important. Maybe you take me through that. Your perspective kind of on on hormonal and biological systems balancing from 30,000ft. Yeah, sure.

So, so if we're dialing in to the hormone section of that, a column, if you will, you know, I do a deep functional assessment looking at hormones. So when we're looking at testosterone, you know, you want to look at free, free and total testosterone.

You want to look at FPG and look at DHT or dihydrotestosterone, which is what testosterone can get converted into. You want to look at estrogen? I'll tell them what GBS.

Yeah. So so CBG is sex hormone binding globulin. And the way to think about this is your pituitary tells the testicles to make testosterone. Testosterone gets produced and enters the bloodstream.

And a lot of it, in fact, most of it will get bound to proteins in the blood as HPG, as is the largest component of that I'll be in. And some other proteins to a lesser extent.

But what happens when these proteins bind to testosterone? It makes that testosterone relatively and our keyword, they're relatively ineffective. So for testosterone to work, it has to enter the cell, go to the nucleus where a bind to the androgen receptor to have an actual effect and causes transcription, translation, protein production.

And there's ultimate, you know, biological effect from that testosterone. If it cannot get into the cell, then you have a problem where the testosterone not actually having the effect that you want it to.

And so that's why we look at free testosterone. And I'll see a lot of guys who will come in. And they've only had their total checked, which I would consider fairly worthless because we want to really look at the free testosterone and that ratio of the two.

Now, I'll briefly step back also and talk about the reference range for testosterone and for total and for free testosterone. Now there is I've talked about this on stage about endocrine disruptors and how they are really crushing our our testosterone.

And we're experiencing a testosterone pandemic worldwide. We have seen testosterone levels plummet by over 30% over the last 20 years, over 30% decline in total testosterone, over 40% decline in free testosterone.

Crazy. Yet that reference range, which is 200 to 800 people, consider the normal range. That's nothing more than the average of the population. You know, you look at the median and you take two standard deviations on either side, and that's your reference range.

And so when you look at a lab set for total testosterone, this is 200 to 800. Like God that's not the normal range. That's just what we're seeing because testosterone levels keep plummeting worldwide.

And so in reality you and I know that, you know, depending on on what lab, what scale you're looking at, but, you know, you want a free testosterone of around 20 to 25 or so or 250, depending on which scale you're looking at.

That equates to a total testosterone that may be 800. And believe or not, get ready to cringe here. That may require a total testosterone of 1500. But if that's what it takes to get your free up to the healthy, normal, optimal levels, then so be it.

But I want to be clear that that range that you see on the website is not the normal, healthy, optimal range. That's nothing more than the reference range.

And that's where a lot of doctors make mistakes. And in Ukraine and endocrine disruptors, as is the primary cause of, of, of that drop in testosterone.

Yeah. I, I wholeheartedly do. And I plant my flag on that, that, I and if you can find my top on YouTube, where I go through all the studies on this, but there are some, fairly fascinating published literature on all the different chemicals in our foods and our water.

You know, the birth control, the, atrazine, the phthalates, the BPA that are clearly causing a direct effect on hormone production. And it's not just testosterone.

You know, we're seeing effect on thyroid. It's related to obesity, autoimmune disease, even cancer, even increased risk of cancers. So so then to restate that, there's basically a sea of pollutants and toxins that we live in that are at higher and higher levels, that we're getting assaulted with all the time, and then those will cause our body to make they'll disrupt our endocrine system, which is the system that makes hormones.

And then we'll have. And so now compared to the past, we have lower testosterone levels. I know, an alarming levels of all kinds. Yeah, a lot of these a C of it.

I jokingly call it an endocrine disruptors soup. Oh that we are bathing. Exactly right. Yeah. And had a couple effects. So one is it could crush testosterone levels, hormone testosterone thyroid levels, or it can bind to the androgen receptor to make the receptor not work.

Or it can mimic the hormone itself, like turning on a light switch that won't turn off. So a couple of different ways that the endocrine disruptors can work.

Okay, so then I'm like how this conversation is going. Because then what that means is if you rewind back to the beginning, what. And then this kind of goes to show you kind of probably a shared philosophy the way we would

have.

So then the, the conversation that was maybe less exciting, which was that detox lifestyle wellness thing is certainly important because all of that soup or that sea that we're swimming in is, is actually disrupting and making either us not make hormones or block where the hormones work, so that then basically our biochemistry is somehow stunted, I guess.

Yeah, I absolutely agree with that. That statement. Not exactly.

Hormone Optimization and Testosterone Basics

So, you know, under the the environment column, I talk a lot about, you know, of regulating your detox function so that your body is better able to clear toxins through phase one.

Phase two detox systems in your liver, glutathione, etc.. How do how do you do that? How how do you like to do that? So, based on your genetics, actually, I can look at and, superoxide dismutase and glutathione and catalase and really identify, some potential weaknesses.

And I could potentially, provide supplementation. A lot of is diet, nutrition, you know, cleaning up what you're eating as well as peptides are great as well.

So basically these are enzyme pathways that do a job of detoxifying. And and so there are supplements and other strategies to sort of get them going and sort of turning them back on.

That's right. Help your body clear the trash. Yeah. And then the other part of that is the toxic exposures, you know, coming back to the full systems approach, if you're not eliminating those toxic exposures, then you're wasting your time taking testosterone.

You know, if you're not cleaning, you know, clearing your drinking water, not using plastic water bottles, but using stainless steel if you're not eating organic, if you're not eliminating the personal care products that we know are loaded with these toxins, you're wasting your time.

Now, if if in, in 1910, what do you think? If I could if I had a time machine and I could go back and do some blood tests. What do you think? That testosterone.

What about for a 35 year old guy? Yeah. So? So we've actually seen studies where a 50 year old guy and there were three studies, the male Massachusetts aging study was the US one, and there was one from Sweden and Finland as well that looked at this exact question.

Now, they did not draw blood from 1910, though. Don't get me wrong, but this is back from 1950s and 60s. Actually. We're looking at blood levels. And what they saw was a 50 year old guy today has a 30% lower testosterone level than he did 20 years ago.

And so you can extrapolate that, and I'm sure it doesn't keep going all the way, you know, infinitely. But I know that there's a steep curve over the last 50 years as more of these toxins have come into our environment, that we're seeing a dramatic change. So, I mean, if I, if I would guess, I would say maybe they're told testosterone worth a thousand, perhaps.

Who knows? You know, it's it's guesswork. So but there's been a clear deterioration in hormone levels. And, I personally believe that the biggest culprit, you know, diet, stress, etc., are part of it.

But the biggest culprit is toxins, endocrine receptors in our environment. Okay. So then, so since we're on the topic of testosterone, if we get down to the nitty gritty, I, I have a, possibility of putting a cream on.

I'm possibility of doing an intramuscular injection, and then I have a possibility of doing pellets. Yeah. That could

balance hormones. And now, obviously, we have all of these other ones to think about.

We'll go to that next. But, how do you make the decision between those? Because I think that's, from a urologist. I'd like to hear your perspective. Yeah, yeah.

Good. Great question. And, there are a lot of dogs out there who will say, hey, you need shots or you need pellets or, you know, they're very black and white about it.

And I really take a personalized approach where I like to share the pros and cons of each and give you reasons why you might want to consider one over the other.

And then, I let the patient typically make that decision for themself. When we look at injectables, I, I actually find that subcu injections work just as well as I am injections of testosterone.

And so most men have shifted toward the subcu injections, and that's convenient, cause you can do it right there in the belly next to the belly button.

You can use a small insulin needle. The same, supplies that they're using for peptides as well. So it's really makes it easy from a logistical standpoint to have just the same, you know, equipment. So that supplies, so injectables you could do as often as every day or as infrequently as once a week.

Most of the time I recommend at least twice a week, if not three times a week. And and the rationale there is, the more often you do it, the more stable your level gets.

If you did shots once a month, like some of these, okay docs out there used to do, you get these big huge peaks and then a plummets and it stays low until your next big peak and you get no real stability.

The more frequently you inject, you can get a much more consistent, stable, level. And so now's where you get into the, the aspect of how compliant is the guy going to be?

Is he willing to inject it, you know, every other day, or is it really where he can't stand the sight of a needle? And once a week is as much as you can imagine, you know, you weigh the pros and cons with injections.

The pros are that you can get very, very tight, very specific on the levels that you want to achieve. And you can make microdosing adjustments to get the desired effect.

And so with that one, the I'll give you the the two, the two obvious downsides. One is the acne. And then two, that all joke is, is that, sometimes hormone replacement, especially when they go to those super high levels, like 1500 people.

I used to joke there was a joke. It's a great way to double your testosterone and lose half your money because they get, you know, the kind of a little anger and little rage.

And so people get divorced. That's like a joke. But I think that within every joke, there's a little bit of truth. How do you see maybe with the more stable levels of without the, the bumps with the subcu less of that?

Or have you experienced that or what are your thoughts about about those? I, I see zero issues with rage. I see euro issues with domestic abuse. I see zero issues with any kind of behavior change like that.

Now, could you see that if you're, improperly dosing, if you're taking steroids, if you're doing other stuff, that's that's a different story. But, you know, what I'm looking for is to optimize men's hormones to the appropriate, healthy, optimal levels.

And I'll tell you that I've never seen that in any guy that I've worked with for 20 years now. What I think is important is that you, you know, monitor the levels appropriately and you get them to, you know, to where you want to be in

that you're not trying to overshoot you.

You're not, you know, going crazy with it. As for the acne, you know, occasionally men have side effects. Every now and then, guys will have hair loss with testosterone.

And that's really more guys who tend to, and this is genetics based to have a higher conversion to DHT. It's the receptor where the hair loss, activation, that receptor where that tends to occur.

And so some guys have hair loss, some guys get acne, which we can actually treat. There's a medication we can use to help with that actually. And then every now and then guys will get, swelling in the lower extremity, some edema.

But those symptoms are typically pretty rare. But I've also met never seen a guy in my career, in my practice, have issues with rage or beat in their life or any kind of problems like that.

It's a rage. Maybe it's not the word. Yeah, the where, where, where we used to see it. And I've never seen it. Rarely with the injectable or with the with the subcu or with the creams.

But where I did see it was and maybe this is the next topic, you know, we would see people that would do pellets and then they would take people to 1700 to 2000.

That was like there was a motif. And I think that may have been a motif that I was seeing more. Gotcha. Yeah. 5 or 6 years ago, because I'm not seeing it so much now.

But, but but tell me about pellets. Yeah. So, so pellets are attractive because they last for a long period of time. So, pellets involve, a guy or a woman either way, lays on their belly on the, on the procedure table.

No more. Not a small spot in their Baltic. Make a little puncture and with a little trocar. Insert these tiny little pellets, and these pellets will slowly release testosterone over about four months, give or take.

And metabolism going to vary for individual, but about four months or so. And the beauty of that is for especially men who travel. So I have guys who may be international travelers and they can't get back for months at a time.

That's where pellets are really attractive, because guys can get dose once in a last for four months, and they have a nice, steady state and they're happy and it works well.

The downside to pellets there's always a con. The downside with pellets is that the dosing can sometimes be tricky. And so if I'm starting a guy, if he's a brand new, you know, version, just getting started on testosterone therapy, I'm really not excited about starting with pellets because I don't know what his body needs for testosterone.

Like what his requirements are. And and everyone metabolize it differently. And and so dosing can sometimes be a challenge if someone's never been on testosterone therapy before okay, that's a good one.

So then now we'll put a bookmark in this. And I that's going to be a nice dovetail to peptides. But before we go there you mentioned the thyroid hormones.

And you know and when you hear about functional medicine there's I would say one category of people would says, well we can just balance those hormones.

Everything's going to be okay. There's another group that would be a big group that says, if you balance the thyroid and fix the thyroid, everything, a lot of other things start to come into place, which I would also, support and agree with.

Tell me your thoughts about thyroid health, the thyroid and or and how that comes in your practice. Yeah, I'm, I'm glad you brought that up because I, I feel in men's health is really overlooked.

And a lot of guys don't even check the levels. They don't care about the levels, or doctors will just check TSH.

Endocrine Disruptors and Detoxification

We'll talk about that in a second. But a lot of guys aren't aware of the fact that some optimal thyroid hormone levels can contribute to symptoms like low energy fatigue, brain fog, slow metabolism, poor muscle development, obesity, difficulty burning fat, losing weight, poor sleep sounds a lot like low tide, doesn't it?

Yeah, because the symptoms are nearly identical. And so it can often be mistaken for just low teens. Again we come back to the systems approach. To help that you got to look at all of these inputs into a complex human system and not just focus on any one piece.

And so focusing diving deeper into thyroid now, for the listeners, TSH, which is thyroid stimulating hormone, is produced by the pituitary gland. It is not an active hormone.

It is a signaling molecule that tells the thyroid gland to make thyroid hormone. So again, TSH has no biologic activity other than to tell the thyroid gland to make thyroid hormone, which it does.

The thyroid gland will make predominantly T4. And it's called that because it has four iodine molecules to it towards T4, T4 is a pre hormone. T4 is not the active hormone.

It has an I-9 molecule removed when it's activated to turn into T3. Removing an item convert T4 to T3 is called di ordination, and there are actually genetics around the doencas enzymes and how active they are and how likely, your body's going to have the ability to convert that T4 into the T3.

But nonetheless, T3 is the active, biologically, productive form of the hormone. And so that T4 and T3 will then feed back to the brain and tell it, hey, we're good.

You can start making TSH, we're fine now. And that's the negative feedback. That's how that works. The problem here is that most Western medical doctors and endocrinologists that went to medical school with you and me mattered.

Who were in the same class as we were, and they still preach. Just check TSH and that TSH will give you the all the answers that you need if DSH is high, clearly the thyroid gland is not responding, clearly not making enough thyroid. So we'll give you a arrow.

The TSH is low. Clearly you're making an all star or you don't need hormone. Here's what. And so they're using TSH as a surrogate. And I feel very strongly that that's a big, big mistake for a number of reasons.

Number one, TSH is nothing more than a signal molecule. You're not checking the actually active hormone. You're only checking the signal molecule number two.

Just because TSH is low, that does not mean that the thyroid gland has produced the desired amount of T4. Nor does it mean that that T4 has produced the desired amount of the hormone.

We really care about T3. And so that's the key there. The key is that you need to measure T3, specifically free T3, which just like testosterone, you want the free unbound form of the hormone that's actually the biologically active form of it.

And that's what I measure in my practice. I look at free T4, which has some effect, but really mostly T3 is where we get the benefit. So then that's why, I always tell everybody that, I came from the heart of the medical industrial complex, just.

Yes. And, you know, and we're doing integrative medicine, but what you said just sounds like medicine. And so and then that's kind of the rub, you know, and, and, and so then, I would say, I would say, like my interpretation of that

and I would agree with everything that you said is, is that, you know, it's interesting.

It takes they say that like, I have a brilliant idea comes up and it becomes into the scientific literature, and then it's going to end up in this clinic or at some generic clinic in 20 years later.

And so then the the reality is, is if you want to have a thoughtful conversation about the thyroid, then you're going to have to check all of those things and understand those things.

Just like if you want to have a thoughtful conversation about testosterone, you're gonna have to look and balance all of those things. And so then that's essentially what we're doing now.

Then if you think about a really amazing, player that came on to the scene, and I just can't wait to hear you talk about this from a urology perspective on on the on the hormone replacement front.

And I always say that there in functional medicine, you have to figure out which gang you're in. Like and the biggest gang has always been the hormone replacement gang.

But, but and so everybody was doing, you know, testosterone and growth hormone. And so then all of a sudden peptides came out. And so then suddenly peptides became a way that we could influence what's going on on the growth hormone side of things. And for the most part, almost everybody that I know quit doing growth hormone as an injection and then evolved into the kind of the peptide conversation.

Take me through your perspective, on this topic. Yeah. Thanks. So there's a fun kind of cutting edge topic that really I think is really, where most practitioners who are involved in peptide therapy start, and that's the whole CJC and growth hormone kind of conversation.

So when we think of this symphony that you and I were just talking about earlier, growth hormone is one of those hormones in that symphony. And we recognize that there's a a linear decline in growth hormone as we age.

And we know that growth hormone is critically important for energy metabolism, burning fat building muscle, cognitive function, brain function, and so on.

Again, the same sort of benefits that we see with thyroid and testosterone and some other hormones. Growth hormone is critically important. And so, you know, that's why people, used and abused growth hormone over the years because it was deemed to be this, quote, fountain of youth.

And it had a that's a very appealing, effect from taking growth hormone. A growth hormone itself has some detrimental effects that are worth pointing out.

Number one, when you take growth hormone, you are turning off your own body's production of growth hormone. So let's go to how that how it's produced like we've done with the other hormones.

We have the pituitary gland which is where growth hormone is produced okay. We have above that the hypothalamus, which is another part of the brain that releases growth hormone releasing hormone.

Great and great has two functions. One, it tells the pituitary, hey make more growth hormone. Number two, it actually goes around the body and has a clear trophic effect in and of itself. Where does play trophic effect mean?

It means just like a key that works at multiple doors, multiple locks, it has multiple effects. It actually, this is something that most people aren't aware of.

Growth hormone releasing hormone actually has some of the same beneficial properties as growth hormone itself. And that's a really key point here. Great is very valuable in tandem with growth hormone.

So when you take growth hormone exogenous late you get this big blast of growth hormone levels. What happens

to your growth? It turns off it. The the hypothalamus senses higher growth hormone.

We don't anymore. It turns off. You've now lost that great effect that is so important in adjacent or next to in tandem with growth hormone.

Choosing Between Testosterone Creams, Injections, and Pellets

You also don't have the diurnal you know, throughout the day we have a, variation in our growth hormone levels. And when you take exogenous growth hormone, you're crushing that you're basically blown out of the water and your levels are high continuously, and your body is not made for that, your body, it's not a healthy, optimal way to have, growth hormone levels, improved or upgraded.

And so, you know, we look at, a marker, how do you measure growth hormone? Well, you can't really measure in the blood stream very well. So we use a surrogate for growth hormone, which is IGF one.

IGF one is a growth factor that is used to, measure indirectly our growth hormone levels. And so when we take growth hormone, we'll see a massive increase in IGF one.

Well, IGF one actually has some of the same benefits as a growth hormone as well. So what we really have here to back up is you have growth hormone releasing hormone, growth hormone and IGF one, all three of them that have kind of the same beneficial effects together in tandem.

And so that's the pro. Now the con is this risk that, you know growth hormone has an anabolic effect. It is stimulating growth of cells. And the theoretical I want to point out theoretical risk is cancer.

You know could it promote cancer. That's that that's really the the the the biggest risk that people talk about. Is it theoretical. Yes. Is it proven. No.

But that's something to be aware of. And so, you know, when we look at, for example, a guy who has prostate cancer, I learned this a lot. That guy was growth hormone.

I'm not your guy. If that guy wants peptides to boost growth hormone levels, I'm still probably not your god in theoretical, but it's a real potential risk.

So let's say, let's say, had, prostate cancer five years ago. Had a process, had a prostatectomy. Yeah. Yes. That is normal. That's different. Yeah. That's fine. That's different.

Let's say that's like let's say they had prostate cancer. They got seeds. Yeah. And their PSA is two and it's been stable there. Yeah that that's totally fine.

You know what I really mean is that, you know, I see a lot of guys on active surveillance who have, load intermediate grade prostate cancer that I will manage with, active surveillance, expectedly optimize everything else.

And actually, remarkably, those guys are okay to get testosterone. Let me repeat that. The guys who have low grade, indolent, non aggressive prostate cancer studies show it's okay to give them testosterone to optimize their levels as long as your modular cancer closely obviously.

And so then this is this is you know, the two big conversations to me is the big guys and prostate cancer and hormone replacement and then women and breast cancer and from a and there is some evidence that guys that get prostate cancer may trend to have lower testosterone.

Right. Oh yes. Huge huge correlation that you're upset right. Mad. And that's a really big misconception. Testosterone does not cause prostate cancer.

Testosterone does not cause prostate cancer, right? Low testosterone is directly associated with a markedly

increased risk of prostate cancer, right? Yeah. So then that's ones.

And so then now so then. This one right here to me is for me and you I would like to be in contact with you and have this, ten year conversation with you.

Yeah. Because we're living the lifestyle. So we're going to be practicing medicine for them. I want to have a 30 year conversation with you. Yeah. Oh, yeah.

Because what's going to happen is, is we'll see an interesting, evolution of, of thought around this. And just like there's, there's an association for cancer with lower levels of testosterone, which is going to probably evolve for us into this idea that it's okay to be have a normal testosterone.

Yeah. In and around that. Then there's an analogous conversation on the growth hormone side that, it's a hypothetical risk, but it may be the people with the lowest levels may be more imbalanced, and it may be something about the imbalance of low levels that makes people susceptible, I don't know.

Yeah. Yeah. Very interesting thought. Exactly. Yeah. But coming full circle back to the growth hormone, I just want to make sure we kind of tidy that up, that, you know, the reason peptides are such an appealing way to to increase growth hormone levels is that we are helping.

We're stimulating the body, the brain, specifically to produce more growth hormone through age by increasing grace levels, which is then stimulating the pituitary to make more growth hormone.

And so that's more of a natural, normal diurnal rhythm and, a healthy way to, to optimize growth hormone rather than blasting it exogenous like okay, so then now we're going to I'm going to take that.

And so then now we're going to do a deep dive for for my peptide people take me through the, the the sort of the entry level first kind of part of this conversation the people will start to do is they'll take what's called CJC and EPA morale.

And so then and, and so that's two peptides. And they put them together in the same vial and then talk me through, your thoughts on that, how you like to dose it and then how, how, how and where they're working and talk me through what's happening there. Yeah.

So this is when people first start peptides. This is probably the one that everyone starts with because it's it's fairly benign. It doesn't seem to cause any, any, side effects troubles.

It's amazing for sleep, by the way. You take it at bedtime. We'll talk about dosing implants. Amazing for sleep, amazing for for energy and naturally boosting growth hormone.

CJC is a growth hormone releasing hormone peptide. What that means is it will increase growth hormone releasing hormone function to stimulate the pituitary, specifically the anterior pituitary, to produce more growth hormone.

It will morlin works in a slightly different way. It's a grow in the medics, okay. It works on the grill and receptor in the pituitary. Now, what this does is it turns off the brakes.

Okay. What I mean by that is there's another hormone to make this even more confusing called somatostatin. Somatostatin sits there and basically turns off the pituitary.

It turns off growth hormone. It suppresses it okay. It gets in the way. It's like the brakes, okay. Smash hits the brakes of the pituitary. The pituitary cannot make growth hormone okay.

It more and turns. Also notice that it blocks somatostatin. It is a double negative. It turns off the brakes okay. That allows CJC to work its magic to work again.

Great to stimulate growth hormone production. And so that's why the two of them in tandem are so, so beautiful in that they work through different mechanisms to achieve the same outcome which is increased growth hormone production.

And the benefit there also is that you have increased grade levels as well, which again that affect is so important. Okay. Amazing. Totally support that.

So then, how do you like a dose that's so normal dosing for that is point. It's a, 2000 microgram, ephemeral and 2000 microgram. CDC in A12 mil bottle.

And you'll typically do point one, and I'm sorry, treatment two in a bottle, you know, 2.1 CCS of that every night at bedtime and bedtime dosing is important because you want to boost growth hormone production and the highest levels or the peak of your growth hormone.

Hormone production is when you go to bed. And, it's especially helpful for improving deep sleep. And so that bedtime dosing is really, really important.

Now you want to do it only Monday through Friday. So I will be sure to, emphasize that when you're doing so, you just see even more in bedtime Monday through Friday.

Give your brain a break. Saturday and Sunday and you've got a dose. I'm sorry. Okay. Ahead, I was going to say you can also double the dose, take point one in the morning and point one to bedtime.

And that's an approach that's more geared toward weight loss. So either approach most guys do point one to bedtime, but you could do point one in the morning, point one at bedtime, right?

Yeah. And then there are some people that will do with us. Do it three times a day. But I like, I like the, the once or twice a day and then they're, you know there are, there are some people that you will talk to you that will like to do a higher, concentration of EPA, epa Maryland.

And so then there are different ratios. And so, so you like the, the 1 to 1 ratio. Basically I typically just do the one. Yeah, I do the 2000 microgram 2000 microgram combination.

Yeah. Okay. Which now the I don't know if you have an amazing practice which is anti-aging wellness, you know, male, wellness, the population of patients who are have real significant, complex illness can have side effects from CJC in EPA.

Have you ever seen that?

Thyroid Health and Why TSH Is Not Enough

You know, what I've seen with CDC is, some guys have gotten a rash in their belly, to the point where they actually I had to stop. And I would say this happens.

I mean, you know, 5 to 10% of the most, I've seen are a local rash at the injection site only not a systemic rash, but locally. And, some guys get flushing in their heads for about, 15 to 30 minutes or so, which goes away and is typically when they first start taking it, which, tends to resolve with time.

But I have not in my practice, had more severe reactions than that. What do you think that mechanism of that flushing in the head is? Great question, Matt.

I don't know if it's, if it's, some filler or something in the itself. It should be pure simple. So I can't imagine that's the case. I don't know, do you?

Well, I'm it's something that I'm sort of trying to figure it out because basically what you just said. And I think this is

an, an important thing for people to hear, and which is, is that if if you're a healthy 50 year old guy with basically no problems and you and then you come and you kind of get it on this program and we're balancing thyroid and testosterone and there's little things that happen, but almost never does anything go sideways.

And you might get a little flushing. And that flushing goes away. And, and I think that that's because, these hormones have receptors on blood vessel walls.

And so then that flushing is, is potentially it's activating those receptors. But you're potentially also healing those walls. And so I think that there's potentially it may be part of a beneficial process.

If you look at I've had some very significantly ill patients who have like Lyme disease or mold. And then that's a whole nother sort of can of worms. And then interestingly, that population will have this, I don't know, Mia, where there's a and so then one of the things that happens with them is that they have Pots, which is stands for basically when you stand up you get low blood pressure.

That stands for postural orthostatic hypotension. Those people, if you give them CJC will get flushing. And sometimes that flushing will last for like a week. Wow.

So then it's into then that is this is just one of my little pet projects that I'm sort of trying to figure it out and what I have. And now, interestingly, and then this is a really interesting one.

Like, for example, we take care of the patients with mold and they have basically a real inflammatory sort of, pattern, both in their blood and in terms of their genetic transcriptome.

And so all of these aspects, you can't give those people VAP until they've gotten better. So you don't give them VIP, the peptide that regulates the brain until they're, there's a marker.

They do this vision test called the visual contrast sensitivity test. And once that comes down and there's not inflammation around the optic nerve and then they're better then at that point, then they can start, to do this peptide VIP that fixes the mold.

And so then interestingly, I've had people who were sick on the more than Lyme spectrum and they couldn't take CJC, but then they got better. And once they were better, they took it fine.

And so I because this is like you're better than anybody I've talked to up until now at describing this stuff. And so I say this just as a back end part of the conversation.

So people hear that if, if that, that flushing in, in, in, in sick populations may mean that you, you, you might want to think about trying one tenth of a dose and then working your way up.

Or it might be that someone had a reaction, but then once they get better, they they, they still end up doing great with it as part of a strategy. But it may mean that they go, they need to see you for their thyroid and their lifestyle and all of these other factors while they optimize and kind of balance all of those other things.

And then you can add the peptides for the growth hormone that. Yeah, that that's fascinating. I appreciate you sharing that. I'll tell you this really highlights a couple of things.

Number one, that, you know, this is kind of one medicine. And I think it's really important to point out that, you know, we talked about the systems approach and how peptides are the icing on the cake that, you know, if you don't have that fun foundational aspect of health first, if you haven't, you know, clear chronic inflammation and infections and mold, etc., then you should not be adding peptides.

You should not be adding the you know, these are not just performance enhancers you can add until you've done the foundational work. First. And there's also shows that I don't work with Lyme and more patient.

I only work with patients who are sick like that. So I haven't experienced that on my practice. And that just shows that that, you know, everyone's going to respond so differently to these peptides.

And we can look at the basic science of what they're supposed to do and how they're supposed to work. But in fact, like you point out, some people respond very, very differently.

And we need to be cognizant of that. So I support that. So then, now then move on to one of my favorites. So then, so as and if in terms of helping with growth hormone, the CJC and a Premier and the next one is Tessa Maryland and tell, tell us, tell us about how does that work, what are your thoughts on that and how do you like to use it.

Yeah. So, you know, I, I Tessa Maryland is like, is like Xavier Maryland on steroids. It is taking it to the next level. When you look at CDC in Maryland, we talked earlier about IGF one and, that combination, that peptide does not tend to really affect your IGF one levels very much.

Now, is that because it has a, a less aggressive effect on, on growth hormone? Yeah, it's a milder form, if you will, of, of, of optimizing your growth hormone production.

Tessa, Maryland is going to raise your IGF one by about 150 points. Now, that's not as much as if I was blasting with growth hormone. But that's a pretty high.

That's a pretty dramatic change over a very short period of time in your IGF one levels. And so, I, I do see the value, the benefit of Tessa morel in is great for, you know, you guys talked about shredding and talk about, you know, you know, burn fat, build muscle very quickly.

And it is a had does have a very anabolic effect. So it is appealing in that sense. I like to cycle it. I'm very careful here. Well I, I love them all and long term.

But then I'll cycle Tessa Moreland for 4 to 6 weeks and then I'll go back to see to see of them all and for let's say, three months or so and then, cycle the Tessa, because it does provide some great benefit, but I don't want to turn off IGF one for prolonged periods of time like that.

Okay. That's good. I also will cycle. And so then sometimes a little bit longer, sometimes a little bit shorter. And so then word. Yeah very very similar.

The the what what do you, what do you, what do you think it is. And the mechanism that helps, helps that work more effectively. You know, not I actually don't know the answer to that.

I don't know why it is that that it's more effective. What has, a much more intense effect than ever? More. Yeah. Do you and. Yeah. I'm not positive. Do you know, why? Do you know?

Peptides for Growth Hormone Support

And when you use it to use Tessa morrell by software, do you use the Tessa combination? Yeah, yeah, I use it by itself. Typically. Yeah. Okay. So that we will use, a lot of time a Tessa.

It's a combination. And so then, and so then, and interestingly, I found like the anabolic and then for working out, like, I like to take it in the morning before I work out.

And is that also for you. Yeah. I think you either way some guys do it at bedtime. I think you do as in morning as well for, for training either way is okay.

Yeah. I, I will emphasize on the Tessa that it's six days a week. So CSA of Laurel and five days a week breaks out on Sunday. Typically any five days.

You want Tessa? Six days a week. And I do one day of rest during that. And a lot of those, I think evolved out of

people. People started doing this. And the story that I heard is people just kind of came up with that as an idea.

Well, let's give the body a break. And so then that was that. That came out of a conversation at a conference, you know, a number of years ago. And so then but I like the idea of not doing something every day and taking breaks and cycling.

And so then I'm always I'm constantly sort of in a similar mindset. So then in terms of, maybe we'll kind of continue on and, and peptides that affect the brain because we're, we're thinking about the brain and neurological function.

It from a perspective of, of, of neurological function, what are your favorite peptides? And then how do you tie them into kind of mental health. Yeah.

Great question. So, when I deal with mental health, I don't do a lot of, work with, you know, traumatic brain injury sort of stuff. I don't do a lot of work with dementia, typically, but I do see a lot of guys that have, anxiety, memory issues, cognitive function, reduction, brain fog, that sort of stuff.

So that's where we look at peptides, like, see link. I like sealing nasal spray. It's actually part of, of an immune package as well. It does have an immediate modulatory effect as well.

But I use it more commonly for anxiety. Does have a of memory as well. Cmax is good for memory as well. And then I hex, like direct stuff when I'm looking at memory.

There's a new, looking at server Lyson is next one looking at, you know, cognitive function and memory. There's a new oral one out, and I won't name the manufacturer, but, I'm currently testing it myself before I could recommend to others to see if it if it truly does have an effect.

I'm not sure if, you know, oral dosing, what the absorption is like or, you know, bioavailability of it, but, which, which, which licensed. Yeah. There's a it's called what we do is called as an oral performance, verbalizing that it has come out recently that I'm testing myself before I give it to anyone else.

I got to be sure, that, that I could see some benefit from. Yeah. So it's interesting. I, I, just got, a new patient, yesterday who was on that, and I hadn't seen that.

And so then I'm going to try that one. Yeah, that one is most of these are synthesized replies and is, is is actually an animal based product is an isolate.

Yeah. Yes. And isolate which I have, which I have liked over the years. And you know, as these days as kind of difficult to get. But then these, you know, we have clinics internationally and we're internationally sort of focused and in these conversations, because the regulatory environment, what, you know, people listening to this just have to focus on the regulatory environment that they're practicing in and the country that they're living in.

But, it's all over the map. So we're we're an evolving into kind of a new space. I think, in these topics where in different parts of the world, different things are available and, and legal.

The, but it's as I, as I and I but I want to echo what you said, which is, is that. The only thing that seemed relevant vis-a-vis a conversation like this, you know, 15 years ago for both of us was what is the randomized clinical control trial?

So, you know, and now we're, our approach is so multimodal. Okay, okay. Brain fog could be thyroid. It could be mold, could be low testosterone. So then we're we're playing with a diversity of things because almost everybody has a diversity of things.

And then we're working on kind of balancing and creating homeostasis. And then within that homeostasis. Then we're trying these things on ourselves and on our patients.

And it's a different way to practice medicine, because I like to say there's nothing that I do that I don't do to myself. And you get the further that you go with that, you get fairly intuitive with how you feel on that.

And it helps me like, I love that you said I'm trying out on myself. You're not even talking about what it is because you're trying it. I do, I do the same thing every day.

Like, I tried four things today and I was like, oh, like I did, nitric oxide, a nitric oxide lozenge. And so then I was, I did the lozenge and then, nitric oxide relates to kind of blood vessel dilation.

And I love these lozenges. And I took it. And then all of a sudden, I, I just felt like an incredible sense of well-being while I was doing my consult this morning, and my voice got a little deeper and richer, and I was like, oh, oh, that's a good one. Yeah, that's kind of it's kind of, I don't know what your thoughts kind of cool.

Yeah. You know, you bring up the point and I'll this program that I run, I run a comprehensive integrative program that incorporates medical management with peptides, with, wearable tech, with genetics, with health coaching, fitness coaching, you know, all these pieces that integrate together.

And you know what I call it that is called my in one program. Oh, cool. And it's called and one specifically for what you, you just discussed. And that is that this is and of one medicine, every one is so uniquely different.

And all of these inputs that are affecting you may affect me very differently. And so it's understanding how your, you're responding. And and that's what to me is fun is like a puzzle.

Every, every patient is a puzzle. And how do the pieces interlock with each other? And, it is fun. It it's it's exciting to approach each patient understanding the basic science behind these peptides, but understanding that everyone's different and they respond differently.

And, you know, the studies are in pharmaceuticals. You know, when you have these these pharmaceutical companies that could spend hundreds of millions of dollars on research studies until they get the one that proves their drug works, then they can market it and say, look at this story that works, that there is no one out there doing a HEXO study on memory, right?

There's no money there. And that doesn't that does not mean that they Hexa is not amazing for memory and acts as a nice one people, because that was a cream that you can rub on.

Tell us, tell us about De Hexa. A little bit about the biology of it and, and how it helps with memory. Yeah. It's, I find, I've actually using my cell phone.

It's great from memory. I can't actually, at the moment pull out the basic science behind, the mechanism action of it. I just know that, you know, I use it that, I think it's 20mg ML cream, and, It's amazing.

Yeah. Perhaps you can enlighten me on the on the basic science there. The, it got I forget the so I have said, well, well, it will actually improve has some benefits on mitochondrial function and, and cellular efficiency.

CJC and Ipamorelin for Sleep and Recovery

And so as a result, it's driving cell efficiency and, and and I think that is what leads to the cognitive benefits, for, God, I, I, I literally look at this like three weeks ago and I just kind of, you talked about BPC, what's your thoughts on that?

And when do you like to use BPC? Now, I love BPC. I tell you what, it comes, as both an oral peptide as well as an a subcu injectable peptide. And the oral, is it first of all, BPC is derived from gastric enzyme from stomach juice enzymes.

And so it's benefit is typically seen in reducing inflammation. And that could be gut inflammation. It could be issues

with musculoskeletal inflammation.

It could be systemic chronic inflammation. But that's really it. It's, targeted use of action. In general, it's believed that the oral version is better for gut inflammation, whether it's, you know, irritable bowel, whether it's, you know, potentially, you know, leaky gut, Crohn's, you know, that sort of stuff.

And the Subcu injectable is more for systemic inflammation. You can even inject subcu near a joint to get better local anti-inflammatory. So, I love BPC.

I have found for myself personally that even the oral will often help me with musculoskeletal inflammation, which does not make sense. And people say the oral should not affect your joints.

And you know, subcu is the preferred route to affect, musculoskeletal inflammation. But I see benefit with both. And so, I use both oral and subcu my patients and on myself and, I think it's a great drug for, I should say drugs is a great peptide for reducing inflammation.

You know, one one thing that I will tell you, we do a lot of musculoskeletal medicine. And the interesting thing is, is that there's a fairly high concordance of people that have leaky gut and inflammatory gut problems and musculoskeletal things.

And so maybe that, that BPC and do you ever have you ever seen some other combinations of BPC and CPAp together. So then and Cfpb is actually a segment of the growth hormone.

Is this mechanism. And and interestingly the Cfpb also has some benefits for mast cell. So it the that combination can be a real nice anti-inflammatories gut stack.

And and and so then it goes to show you if you think about it the way we used to think about it. Well okay BPC sometimes works in the gut. Sometimes it sometimes works if it's orally, sometimes it works, sometimes it doesn't.

And so then you go, well okay, why is that? Okay. Well, maybe that's because it works on the people who had leaky gut, and the leaky gut was the cause of their musculoskeletal problem.

If that wasn't the cause of their musculoskeletal problem, you may want to inject that subcutaneously, or it may actually be absorbed. So it's like that, that that process of thinking is kind of helpful.

And then as a, as a patient, as you're working through it, have you in terms of like as when you're working with people who might have prostatitis or some of the straight up urology problems or, or have you been using, peptides in that area?

I do, and I'll actually use for those guys. I'll use subcu BPC for those guys. As a, as more of a systemic anti-inflammatory effect along those guys with with prostatitis is in from is non bacterial and that tends to be more inflammation.

And so I have used BPC with some success now on every guy. But it definitely does help. Now in terms of for guys and sexual health are you are you doing p shot.

Are you doing PRP to the penis or are you doing shockwave. What's how how's that going? Yeah. So we, from, you know, we look at sexual health from a regenerative perspective.

You know, we have all the band aids, the tri mics and the bills and the vacuum and all that kind of stuff. But when we're looking at regenerative approaches, I do a fair amount of PRP.

I do a lot of gains with therapy as well. I love the combination of the two. And then there are some, you know, off label non FDA uses of some other stuff that I probably shouldn't talk about here on this, podcast or summit. But there's some other regenerative treatments that we can use for that as well.

Okay. Yeah. So I'm a fan of regenerative things for the sexual health. And you know, I've actually been doing so then in the the penis, if you think of the anatomy of the penis and it looks like a double barrel shotgun, and that's basically the, the part that fills up with blood.

And then underneath is the urethra. And so then one thing that we'll do is we'll inject, Something into that thing. It's called the corpus cavernous. But it's basically kind of like where the, the blood flows into the penis, and we'll put PRP in there.

I've had a lot of success with, using peptides that are. And have you ever done that? I have, I've heard of that I have not done on myself yet. That's that's next.

Next level as pioneer level. Yeah. It's, I you know, it's funny because, you know, who I did it for was, doctor friends of mine that had erectile dysfunction.

And I wasn't going to talk about it. But then you reminded me because, you know, the band and I like that you said the Band-Aid is these medications called Tremec and by Baymax.

And to tell people what those are. Yeah. So, first of all, what was the peptide you used for the for the intergovernmental injection? Okay. So you can use BPC 157.

Tesamorelin, Brain Peptides, and BPC-157

You can use thymus and beta four, you can use BPC 157 and thymus and beta four together. I think that's probably the best. You can use a fragment of thymus and beta for the fragment one.

Yeah. 1 to 4 works well. And then I've used GCC and that's a connective tissue peptide. I don't use the with the copper but just the GCC without copper okay.

So you did the TV for where the BBC is what you're saying I was one of which one you did. So that was the that was the first thing that I started doing.

And then like once I started doing that about three years ago. Okay, cool. So then I had guys and so then this is will be a good one to for you to go back into.

So yeah. The first that let's say you come in and you go, oh okay. Erectile dysfunction. And so it's not working that well. And so then the first thing is let's take Viagra or Cialis.

So then that works works works. And then that stops working you know. And so then the next thing is potentially people start to do some other things and those fail.

And so then they go to a urologist. And that urologist will put them on an injectable. And this is where they're actually injecting into the penis. Right.

And that the, the medications are by mix and try. And so tell us about those. Yeah. So what we're doing here is we're trying to, you know, use the phrase band aid because these guys while we're working on regenerative approaches, they want to have sex right now.

They don't want to wait three months until we get a good blood flow working. And so, when the pills, as you mentioned, Matt, when, you know, viruses don't work, vacuum pump doesn't work, they don't like it.

Inject bubbles are a great way to stimulate an erection on almost any guy any time. And so we look at drugs that will increase blood flow to the penis.

And so drugs like pump haven't phentermine and prostaglandin E. Those are three injectable agents that will all cause vasodilation or widening of the arteries to allow increased blood flow in the penis, which is really the hallmark

of an erection.

And so Papelbon infantile women together is called by mix two drugs together or power and control mean and prostaglandin E is called tri mix. And then you can even add atropine for quad mix for guys who, need more help.

And you could do super tri mix, which is a higher concentration of those drugs as well. But those are the drugs that are mixed together. As an injectable, what I call band aid to get you an erection, like right here, right now.

Okay. Good one. So then, what happens with those is somebody that has erectile dysfunction, and then the the the medication. Stop working. You inject those and then what?

That vaso dilates all the veins going into the penis. Then it can lead to an erection. So then I ended up having, some friends who are doctors who basically we're, we're doing try Max and by Max that had worked for a while and then by Max will stop working.

And so you move them on to the try Max and so that it stopped working. And so then this was basically, this was kind of revolutionary for me to do this, but with my logic was they came to me, we're going to go get a penile implant, because that's the next thing that a urologist would do, sort of on this road.

And so then, sure enough, I started injecting BPC. And then when I do, when I do the shot, I do it with an ultrasound. And so then you can look and see.

And so I stick, there's a little artery over on the medial side. So I stick the needle in and then I stick it in, I stick it in. And it's just a 30 gauge channel. So this is a tiny needle.

It doesn't hurt at all. And then what where. And it was very interesting for me because when I injected the, the thymus and beta four and the, BPC and I had heard that, you could do this and people had done it, you inject it and, and then what happens is immediately you see the whole penis start to raise a delay, and then it starts on that if you come in on the right side and you'll see the right side dilate.

And then then what I do is I go to the other side of the table and I inject the other side. But by the time I get to the other side of the table, they're both totally dilated.

But I do an injection on each side just so that it's balanced and I have the same amount of medication that I've put on both sides, and then what happened is basically almost everybody that I've done this for, when they go from being on by, try Max back to by Max, and then they, they I got guys that then suddenly they start.

Now Viagra starts to work. Now the logic here is that just what you said? We're trying to bring blood flow back. And so then now we've got a diversity of solutions and a diversity of sort of things to begin to try.

And then and, and then interestingly, if you say, what do I think is the future? I think the future is and I have, I have had people do this successfully is to, to get to where you're using by Max and try Max, but then you start to intersperse and do peptides instead.

And this, this is I wasn't going to go into this, but to me, this is the future of urology. And so, I can't I literally can't wait to talk to you next time I talk to you and see here your evolution of thought around.

Yeah, I, I've heard of this and I've been a little reluctant to introduce into my practice, but now you got me excited. I'm gonna go out there and the next guy is, he's going to.

He's going to have a conversation with me about it. Yeah, it's it's very safe. And I've never had a problem with it. And then I can kind of talk you through the dosing.

And the dosing can be low dose. The dosing can be high dose. So I've got quite a bit of thoughts around it. And so anyways well it is a 100% pleasure to talk to you.

I feel like we covered some interesting ground, some new ground. But if you live in Sarasota or if you're a guy and you live anywhere and you want to have, a thoughtful, amazing physician take care of you, then, I encourage you to call, doctor Japan.

Japan. Like. Yeah. And, and he's going to take awesome care of you. I appreciate, man, enjoy this a fun conversation. Awesome. Thanks a lot. But.