Introduction to Functional Testing

Welcome back, everybody. So today I have a strong bias. I'm going to say this is the most important interview of the entire summit as a testing company.

You know, first of all, look at who we are looking at to see the mirror image of greatness here. Right. It's the model that's reflecting it. That's what makes this conversation epic, is.

We are talking about testing. So Dr. Sam Shay is going to tell us and this question comes up in almost every conversation. We talk about fibromyalgia, we talk about hormone replacement, we talk about vitamin D, whatever it is.

Everyone's saying, well, how do I test? How do I know? That's the whole point. So, first of all, thanks for joining us. Absolutely. And we're going to bounce back and forth today on a number of different types of tests and from the perspective of a functional medicine practitioner, somebody who goes far beyond, let's go test your cholesterol levels, you know, and really understands what functional measurements we need to be looking at and tracking why they're important auto tests, what to retest, why you're testing. We're gonna dove into all that stuff.

So besides this, a very valuable conversation. By the way, I know everybody wants to hear this, so let's jump right in, man. So you're obviously been doing this stuff.

Where do you even start? Like, I know you have this concept of these ten pillars of health. You know, it's a framework that you work with. And maybe we'll start there. Tell us what you think about that.

In terms of the context around testing. There's there's certain elements in background. I understand, around that you don't just leap into his your his your box set of testing, positive tests.

And that to get to test is a couple of steps in between. But each of them is extremely important. And what I put together was a for the benefit of all our viewers and listeners, you know, there's a there's a presentation that I have here that will kind of guide us through because keeping track of all the moving pieces is a lot.

So having some visuals will really help my background, in which how I even got into functional testing was I really love helping busy health conscious moms, entrepreneurs and mom for nurse improving keep their health desired body shape.

And the reason why I have really felt connected to health conscious moms entrepreneurs, and mom-preneurs is because of my background with my burnt out, stressed out, in pain mom-preneur that she was not doing well with their health and by her own admission did not make very good decisions on behalf of her children, especially her youngest.

And just to fast forward, just like my mom and I now have a fantastic relationship, it took a couple of decades of repair. But back when I was growing up, I was really on the wrong end of many sticks.

So severe, crippling insomnia to the point where it stunted my growth. Terrible gut issues. Two addictions when the video games when the sugar I was physically attacked violently attacked regularly at school for about a decade gaslit invalidated.

I had chronic joint pain from the injuries. I thought back pain was normal until I went to see my first chiropractor when I was a teenager. And it was just it was not a good scene.

And I decided that as a teenager I was going to take my health into my own hands and dedicate my life to natural

medicine. I knew I was going to be a doctor at age six.

The Ten Pillars of Health

I didn't realize it would be natural medicine when I decided in high school and what I realized after going a very long and circuitous journey and I call myself a health, much a combination of multiple different professions, I mean, my doctorates in chiropractic, I had three bachelor's degrees, one in psychosomatic medicine, one human anatomy, one in health and human health and wellness.

I also a degree in acupuncture. I used to be a functional neurologist when I had a full time face to face, hands on clinic, and then when I transitioned to full online, I went I started in neurology over Zoom.

So I switched over to functional time, functional medicine through the Institute for Functional Medicine and also studying with Dr. Kalish for four years.

And I lead functional testing because I like third party data validation and then to actually have numbers have data and be able to collaborate with outside experts with the data in hand.

If things get the things are a bit hairy on the tests and the labs are the labs are so powerful because it saves people tons of money and time in the long term tons and actually gets to the heart of the issue.

See where the damage biochemistry is so that we can solve what's going on at the root level? Well, there's there's things that are kind of less it's hard to find things more root than the actual biochemistry.

Like maybe you get done like physics and quarks and stuff and maybe like you're going to talk about emotions that kind of influence on some other type of kind of esoteric scale. But chemistry is about as foundational.

And what the link though that I saw that we're going to talk about the fact the we're going to talk about some major categories of testing and what I'm going to share is exactly all the major players in terms of the functional tests that are out there.

But also how do you tell if you are with the correct type of clinician or coach or support that is able to know correctly what tests you actually need?

So okay, we see that all the time where okay, the product may be great, but how do you interpret it right and what you can get. I like data is dumb. You need to know what a question to ask and you have to have some experience.

People interpret that and makes all the difference in the world. So very thankful that you're going to help us with a. So the way to know if you're working with a great practitioner interpret test is do they actually look at you before the test do they actually analyze you because it's I mean, you can make some general things like most people need some mitochondria testing, some DNA testing, some testing, hormone testing, like you can throw out like you do a parade or principal of testing.

And so like what everyone I see generally needs all of these things. And then and the way we go, well, sort of, I mean, that can be very helpful. But what you want to know is it does does your practitioner, how will they analyze you?

And your lifestyle is a very strong indication of how well they analyze the tests. So I'm going to share with you a framework. It's just my framework.

It's someone I developed working with some pretty, you know, the kind of the throwaway cases in the medical community that I had to pick up when I was living in New Zealand and like I had the ten pillars of health.

Now it's important that your practitioner has a has a filter, has a model, has a framework. Now lines of ten pillars they could have like the, the triangle health, like the, the, the pyramid of wellness, the inverted Roberts of of

hygiene, whatever.

It doesn't matter that they've got to have some framework. This is mine and I picked ten because tens a number we can wrap your head around. I saw some of the 37 categories of health like bro good luck teaching that that's that's not going to happen and like three is too simplistic so this is the ten pillars.

The first one is brain and hormones. So brains in the center. And if you want a piece of anatomy in which all of health is kind of dictated to by the board, it would be the hypothalamus.

The hypothalamus receives information from the physical structures, the biochemical or biochemical signals and emotional inputs. And you're going to look at the brain in the hormone system, and the seat of the hormone system is actually in the hypothalamus as well.

And you can look at other function neurology sets in here. All the hormone, thyroid, adrenals, sex hormones, melatonin, you have an analysis of brain hormone.

And then the second pillar number two would be bowel. And yes, that is a hidden joke. Number two for bowel and you want to look at how well you chew, how well you digest, and how well you poop.

Now, someone asked me like, what's the most important supplement I could ever have? And the answer is chewing. Chewing is the single greatest supplement on the planet because you're actually can absorb your actual food better.

You're going to stimulate neurology to digest better and so on and so forth. But there's lots of questions you can ask around digestion habits, eating habits, bowel habits.

And if you can't, you know, if if you live in an amazing, beautiful house, but the toilets cannot flush, how long are you going to stay in the house? Not long.

And the body control taxify and so on. So this is bowel and digestion. The third help now that is injuries both chronic and acute or unresolved class.

That is physical pain, that is head injuries, bad dental work. I would put in this as well as genetics. I would put genetics testing in the physical body.

And the reason why is because when you look at twins, they have the same body because they have the same genetics. That's my justification for putting genetics in.

You know, obviously you put genetics and nutrition and detox pathways and all that, but it's just the twin thing kind of made a lot of sense to me because you got to put the testing kind of in broad categories somewhere.

So bowel we would check for like gut testing would be in here for example. So I put genetics in here, somebody because of that twin phenomenon, the fourth pillar is burst, which is the only if you see that all the pillars begin to be burst was the closest thing I could find for like exercise, like burst exercise or high intensity interval training or movement and an exercise how your conscience should analyze your movement patterns, how well you move the frequency, the how, how much variation, how much recovery levels of intensity, and modify your levels of exercise according to your physical capacity.

Your time capacity. Genetics plays a huge role. What types of exercise is optimal for you? But people need to have their movements and their physical exercise is analyzed.

And sometimes people, sometimes word exercise is a trigger word for certain people. So sometimes I replace the word exercise with movement. It's like, Oh, I don't like exercise. I hear something, but how about movement?

I can do movement. Great. And then I give them exercise, you know, it's just a word shuffle, so forth. Pillars,

movement and these three bell body mass.

These are all in the physical realm, physical pillars. And then we are the biochemical pillars, bio toxins. Now, this is inflammation, this is toxic. This is food additives, this is petrochemicals, this is heavy metals.

This is there's there's tons of different things in this pillar. And your practitioners should be asking you about your exposures to different heavy metals, petrochemicals that you live on or in your farms where there are springs that you grow up in, anywhere that there is a big particular industry or coal mining, what type of food, your exposure to artificial sweeteners, packaged foods, fast foods, etc.

This is the toxic color, so your practitioners should be analyzing it. And you can see from this pillar, like if you've got a meaningful exposure to, say, mercury in your past, then metal testing should be on your menu.

But you wouldn't know that unless you ask the questions. Six pillars bio nutrients. This is nutrition. This is by far the most controversial pillar of the entire ten.

Everyone's got an opinion, sometimes more like five opinions to one person and nutrition is bio nutrient is the opposite of bio toxins. Bio nutrients is everything that your body uses and metabolized for its benefit.

Biota toxins are things that make you weaker. Now, when I say it's what metabolizes, you know, you've got your things most people think will like carbs, proteins, fats, vitamins, minerals, antioxidants.

But there's two other things that people miss, which is sunlight and oxygen. Those you metabolize to, you metabolize sunlight and oxygen. So you want to have a practitioner that asks you about sunlight, exposure, breathing habits and so on, because those are required.

And the whole reason why we the whole reason we have mitochondria, we have oxygen is for mitochondria, why we breathe. So now you can do lots of testing here in the bio nutrients.

You can run mitochondria, the panels which can function as micronutrient panels to look at your amino acids, fatty acids, fat soluble vitamins, etc. You can run genetics testing to see if you've got various genetic requirements that that require you to have more of a certain nutrient beyond the bell curve normal like the the term that I learned was called nutrition genomic dosing, not nutritional dosing.

So nutrient neutral genomic dosing would be the dosing of supplements or foods that are strong enough and high enough in order to trigger genetic expression as opposed to just throwing widgets into the machinery.

So it's like one gram of fish oil that's nice. That's widgets into the machinery, but you get like above two grams into four grams, etc. You now get a neutral genomic effect where you get much greater transcription of of your genes these way more beneficial.

You change the machinery of the cell, not meaningfully just throwing widgets into the existing machinery. So that's bio nutrients, breakfast is a seventh pillar.

Now breakfast is having a starting meal. Now I know that there's a lot of talk on fasting and intermittent fasting and time restricted eating and all the rest of it.

And I will just say, particularly for my female clients, it's been very rare for me to work with a female client who has done well long term on skipping breakfast, extremely rare.

And my my understanding, both clinically and in terms of, you know, talking to smart people about all this is that there's there's a different hormone physiology between females and males. And there's a if you skip breakfast, there's a risk of your cortisol just keep going up, up, up and up.

And when we're living in the modern I have a friend of mine named Dr. Roger Borbon coined the term modern

woman syndrome and when we're in modern women's modern woman syndrome is like, you've got to be like running the family, going on the PTA meetings, having your own business, you know, kicking ass and all these different ways.

And the adrenals just get really burned out. And then when menopause kicks in and the ovaries shut down, now it's up to the over. That's up to the adrenal glands to not only handle all the cortisol, but also most of the sex hormones, what's left over.

So a bit creates this real stress on the adrenal glands. So my recommendation to people that are fasting is to not skip breakfast, but to make dinner way earlier.

So that way you can have your fast how much of I'm a bigger fan of time restricted eating than I am of longer periods of fasting, which you are going to have long periods of fasting.

I recommend starting with breakfast in order to ensure that the cortisol that was built up over the night is actually dampened down with food. Now, the other thing about this breakfast pill and the reason I came to this conclusion is that I saw that in over 99%, and I actually sat there and counted it over 99% of my chronically ill females, all of them either skipped breakfast, had sugar for breakfast, coffee only for breakfast, or like processed, refined grains for breakfast.

And that's when I decided, okay, this clinical model needs a sliver on breakfast. And it also then became routines. So breakfast and routines morning and evening routine.

Because the other thing I observed is that the sickest group of people I've ever worked with as a group of people in general were night shift nurses because their routines were just all over the place.

And so breakfast in routines is its own separate pillar. And I know that there's lots of debate in the fasting community. I go off of my clinical experience and what I've been reading and I, I just, I really endorse people if they want to skip a meal, skip dinner or have it way earlier and just constrict the time.

So that would be the seventh pillar. The eighth pillar is bothers, which is the only B word I could find for stressors on trauma. So there's all sorts of there's financial trauma, stress, or there's family issues, societal issues, watching too much news, you know, too much clutter like Marie, you can go Marie Kondo, your entire, you know, house.

If your clutter is a visual stress, electromagnetic fields for certain people that are sensitive to it would be under here and working with and identifying how much stress both chronic, acute and on and things that are unresolved in the past that are singular and formative in someone's experience because, you know, there's no amount of term.

Right, that's going to undo meaningful childhood trauma. It's just not going to happen. No, no amount of ashwagandha is going to fix that. So you must have a clinician or a practitioner that's willing to have the difficult conversations with you about what's been unresolved here.

Then the fourth. And so the ninth pillar is bugs, which stands for bugs and infections and mold. So this could be gut infections, this could be mold, this can be Candida.

It can be all sorts of things. And when I was living in New Zealand, otherwise known as mold, central is a tiny little island surrounded by ocean and all four sides with very crappy building materials.

Mold is a really, really big deal. And, you know, there's lots of different testings here. Like we also have, you know, epidemic of Lyme disease. There's there's all sorts of stuff that can fit into the infections.

And infections are its own separate its own separate analysis to know if you grew up with a bunch of cats and you may have an ongoing, you know, subclinical toxoplasmosis infection, I mean, the crazy cat lady story that that has some truth to it because there's a I was over 90% correlation of schizophrenia and toxoplasmosis infection in the brain.

So and that's why I put bugs in the mental emotional quadrant because of that little factoid. In fact, there was a museum exhibit in in two Papa Museum in Wellington, one of the best museums on the planet, explicitly on how infections affect the mind and mood, an entire exhibit just devoted to parasites and mood.

Then the 10th pillar is bedtime or sleep quality, consistent C quality, consistency, duration and depth of sleep. I was a crippled insomniac, like just it was terrible.

The blood insomnia that I had growing up. And there's all sorts of labs I can go into analyzing sleep, but you have to have someone actually asking the questions around sleep and what your sleep hygiene is because there's multiple things that can wake people up or interfere with sleep or kind of pull them out of deeper stages of sleep.

Like whether it's light exposure, sound exposure, temperature shifts, movement patterns, air quality, there's, you know pets EMFs can it for those that are sensitive going to start their sleep there's so many different things that can affect sleep.

So the big picture here is that this is the ten pillars of health and false modesty aside, it's a pretty comprehensive model. Now, this doesn't have to be your model, but just make sure that the person you're working with before they recommend tests has a model, because then they can know with confidence that they're actually ordering the correct tests for you, not just some standard out of the box thing.

Yeah.

The Functional Medicine Cycle

So we got this is this is a brilliant model like in terms of yeah, I'm trying to pick apart at who have I dealt with that what their whatever their concern or problem was wasn't resolved within what's here.

Right. And it looks like there's there's an answer. If you look at this wheel, this is spin the wheel. You're going to land on something. That's probably your problem, right?

This is Mad Max spin. It's all here. This is this is essentially functional medicine in a chart. Going back to the breakfast thing, one thought, I know you want to talk about the testing and everyone's waiting to hear about that.

Just one thought. So the breakfast thing I get, there's I guess there's a nuance. So what you're saying is that by shifting the hours, you're not necessary.

Are they giving up the benefit of autophagy? And now it's more like you're just aligning it to the female circadian rhythm as opposed to so people are just fasting at the wrong time, is what you're saying.

Yeah. And so and I'll say something that may be a bit harsh to say, but I'm okay with that. It's that you look at the people who are advocating skipping breakfast and by and large the people that are advocating it are 2240s, financially solvent tech entrepreneur males, right?

Yeah. Those are the people that are endorsing it now. They love skipping breakfast because that cortisol going through their system, they like they get shit done, you know, that's that's that's the false appeal of of skipping breakfast is because it's like it's a creating this this experience of like your own self generated endogenous coffee but it's cortisol and and the thing is is like that that may work for male physiology until it doesn't.

And then we've got, you know, kind of a, you know, kind of a catastrophic kind of collapse. What I see in females is this long, chronic grind down, but for men, it's like, awesome, awesome, awesome, kaboom, you know?

And so I just I just see that people can really, really benefit from all the benefits of autophagy, all of them just have breakfast, lunch and a super early dinner.

You know, it's it's not. And you can get all the same benefits of time restricted feeding without the detriments

skipping breakfast. And that kaboom or implosion is like adrenal thyroid type problems.

Or what? What do you do? Usually it's a car. It's actually a cart, it's usually cardiac. And that's when I run. When I run, I'll give you one example.

I have a CEO that I work with that has about 400 employees, I don't know, something like that. And, you know, he's he looks like he's you know, he feels like this big, strong bull CEO, always getting stuff done, super high energy.

And then I ran his labs and catastrophe. It was like massive cardiac stuff. His adrenals were just ping pong all over the place. Gut issues, lots of mitochondrial, like lots of amino acid deficiencies and like a lot like was surprising.

But he what I believe happens is that there is this first off the mind is very powerful and he's been used to just keep going, going and going. And I think what happens is that he's lost awareness of the actual state of his body while his body is slowly eroding away.

But he's not noticing and it's still powering through. And as a high as a really high achieving entrepreneur, he's used to rallying and mobilizing his nervous system.

And what's going to happen with those folks is they'll they'll feel awesome. And then catastrophe out of seemingly nowhere. But with functional testing like we caught this years in advance like like I firmly believe I saved his life, you know, from a major catastrophe in the next couple of years.

So it's, it's that that's what I'm referring to about the the male female differential, the decay. Okay, cool. Okay, let's get into the testing. I'm not sure if we're there yet, but I thought you were going to get there.

Yeah, we've got so we've got one, one more. So if you like that model, I'm going to briefly cover this one. This is actually the entire cycle of functional medicine in one slide.

This is this is all of it. So this is the entire cycle of burnout disease. And I'll show you where genetics fits in also. Okay. Everybody taking a picture.

I'm doing that myself right now. This is really important because if you understand this, you will understand 90. You'll understand more about the entire process of functional medicine than 99% of people on the planet.

False modesty aside, I know the modesty just erupting from my book, exploding on my face. So. So here's the cycle. Bad lifestyle choices or bad life circumstances will create an adaptive response, but it's interpreted through your genetics.

So this green the green arrows on the top, the right in the bottom, those are genetics. So I have I make the bad lifestyle choice for bad life. I'm in a bad light circumstance.

So for example, I had SpaghettiOs growing up for years for lunch. Now was that a choice as a six year old? I mean, I may have asked for it because I like the flavor, no matter how toxic or didn't know any better. I'm six years old.

Or was it a circumstance as a six year old? It's a circumstance I'm just given. What am I lunches now? There may be people that through, you know, through no fault of their own, all through fault of their own, they're stuck there.

They they are choosing to have SpaghettiOs as a regular part of their meal. Now, the body doesn't know the difference between whether it's a choice or circumstance.

The body has to adapt to whatever it is. So whether it's a choice or circumstances, almost immaterial because the body's now going to have to adapt to interpret it through its genes to experience one or more of the four following adaptive responses.

So either create inflammation, blood sugar dysregulation, tissue breakdown, or generate free radicals. Those are

the four adaptive response. Which one and what degree that's genetically based.

Then if you have chronic adaptation, you have one or more of these that happen long enough and strong enough. Then it's going to affect your body's systems and damage you like your hormone system, your gut system and your liver system.

Obviously, there's more than three systems, but these are the three main ones for our purposes of discussion. Now, your genetics will determine where the damage is going to likely coalesce hormones, gut, liver or some combination different ratios.

But lab genetic testing will tell you in what direction you're heading. But the functional testing will tell you what what is actually happening, what inflammation, what blood sugar dysregulation, what tissue breakdown, where the free radicals or whatever, free radicals, which organ systems, the brain hormone system, the gut, the justice system, liver detox system, the functional testing is in these things, in these two corners, genetic testing is in these areas.

And then if you've got chronic breakdown of these three systems, again through depending on your genetics, you will then express symptoms. This is the sad symptom, Kitty, with this Paul was talking, so I'm so I'm going to find this picture.

I saw symptoms, weight gain, fatigue, low mood indigestion, cravings, insomnia, chronic pain, hot flushes, whatever it is. And if you have symptoms, then you cope with bad lifestyle choices, which then generate adaptive responses, which then over time create chronic adaptation, which then create damage and create symptoms, which then create more coping mechanisms, which then create more adaptation and around and around it goes.

So this is the entire cycle. So the way to break the cycle is one, you analyze the ten pillars of health or whatever model you're using to deal with the, quote, root cause to stop the negative lifestyle choices or circumstances as best you can from even spinning, spitting out the cycle in the first place.

You then can do genetic testing to identify two things. One, where your genetic fault lines, and two, where you where's your genetic optimum. And if you understand your genetic fault lines, you can set up barricades, genetic barricades through proper lifestyle choices to prevent your adaptive responses from careening into excess inflammation, blood sugar, dysregulation, etc..

So it's like it's like setting up the I forgot what they're called in World War One when they have these massive foot flotillas of ships that would prevent blockades, blockades you set up you set up a genetic blockade with proper lifestyle and nutrition and all the rest of it, and it can slow or stop up of the the these things from happening inflammation, blood, sugar, dysregulation, etc..

But then you also use functional testing to identify where where you are. What is the thumbprint by functional testing?

Why Testing Matters

I'm talking about like, you know, mitochondria testing, liver testing, a gene. I make a distinction in genetic and functional because there they're they're related but they're testing very different lenses.

And so you now know where to put testing what what's the response you're dealing with what organ systems you're you're that are being damaged and then you can create a customized lifestyle diet nutritional plan accordingly according to functional tests genetics and your lifestyle.

So that's the entire system where you can fit all of functional medicine into one coherent cycle. That's very cool. And then so your testing and you've, you've gotten all these insights and you kind of know where to focus, you know where the red flags are.

So you're both foundationally understanding genetically, here's how your body works. And you're also

understanding in time, here's where you're at because of what you've done.

So the solutions I don't want to skip ahead, but are they typically supplementation, environment, nutrition? Like what? Where do you is it medication?

Where do people normally go when it comes to fixing these things? So supplements, so so solutions are very are very varied. And based on the practitioner's skill sets, they're their depth of analysis that are their experience are the ongoing learning and the solutions are many.

And I'm a pragmatist, not a perfectionist, but I have to know what the perfectionism is in order to dial back to what's practical. Because people, people, people want to live in their ideal, but they're have to attend to their ordeal.

And so the solutions are at the root cause of it. Like you want to start with the lifestyle foundation. So for example, if someone is is dealing with digestive problems, yeah, sure.

Supplements can help. That's that's great. But there's also many things that can be done that have nothing to do with pills. It could be do with, like, are you sitting too eating, turning off social media while you're while you're eating.

There's even neurological things that you can do called like if someone's constipated. I had terrible constipation growing up. I couldn't go except every 3 to 5 days.

And both my medical parent, medical doctor parents and my pediatrician said that was normal. Well, that's as much. Yeah, I know. Sure of it. Literally. So.

So what what? So things that you can do, for example, like palming the eyes. This is just gentle. You're not poking your eyes or pressing start to see light or feel pain.

Palming the eyes will trigger what's called the ocular cardiac reflex, which is cranial nerve. Five is the afferent nerve and vagal nerve is the different nerve.

When you press on the eyes, it's it's, you know, it slows the heart, but it also moves the digestion along and it increases peristalsis.

Hormone Testing Overview

That's just one example where it's not more magnesium is not necessarily always the answer for something as relatively, you know, common as constipation.

And I mean, there's it's it's it's a mixture of what the the solutions are or is it winnable? I mean, that's the first that's the first filter through when trying to decide what someone needs to do.

Can they do this in a way that they can win at it and feel good at it and get results and also feel like they are building momentum that they can take on more and more and more over time as victories accumulate, that they're able to feel inspired to then take building more and more healthy habits as opposed to just data dumping 300 generic health tips.

And so here you go. Good luck. Any other questions on this or we'll get into the testing that's. Going. Okay. So big reasons to do testing. Number one, saves you time.

Number two, saves you money. Long term, there is upfront upfront investment in in time. But the good news is you're not going to be no longer led, distracted, distracted or led astray by the shiniest new supplement gadget or hack.

I know you know, everyone you know here comes along someone's inaudible goji berries juice like that seems

healthy, you know, and like, oh, good. Oh, it helped me so much.

You can be my MLM downline for the Storable Goji Berries. It's the best delivery system are super absorbable like you don't you're not going to get lost.

Bye bye. What's in the latest magazine or podcast or why not? No, it doesn't mean that those things can't be helpful, you know, storable. Good. You just decide like, you know, whatever, whatever is being recommended, a particular supplement or particular exercise program or whatever it is, those are all useful.

But the thing is, you have to know if you need those things. Now that testing comes up, then it saves you money because you're actually knowing you're only doing and taking what you actually need.

If you're actually absorbing those fancy supplements, you spend money on what lifestyle changes are changeable as what lifestyle changes are critical, as opposed to just they seem good because of all the podcasts are currently talking about them and it also prevents people from veer careening off track, you know and spending on this next shiny thing it's so I this is massive saving of time and money over the long term.

And the cost of you know, way a lot of people will say, well, it's not covered by my insurance or I know this test is a few hundred dollars. It's the cost of waiting to be sick and to pay for that versus preventing it.

Preventing prevention is a lot cheaper than illness. Yeah, I have. My father is now in the kind of mid-cycle later stages of dementia and l elder memory care is I was I think was the 2021 was 2021 says it was like something on average in the United States was over $70,000 a year.

I think it was like 83,000. I think the number was 83, 222. Is cinemas popping right somewhere. It's, it's a year. Yeah. So I mean everybody. Okay so now talk about the categories of testing and what this the the purpose of this section is.

It's kind of like exposure therapy where you where our listeners and viewers can get exposed to the the types of tests, the names of the companies. So they're not overwhelmed with all the jargon that's being thrown at them if they go see a functional medicine practitioner.

So the first major category of testing is hormone testing. Now, the the one the hormone tests are basically launched. Functional medicine was adrenal testing.

So there's sort of three tests now. They're called like adrenal cortex profile or ASP, but Genova or precision analytical is cortisol awakening response or doctors data.

Zero has one like there's there's almost every lab has an adrenal test of some type. And the salivary adrenal test really developed in Harvard, I believe, in the seventies because they wanted to go collect samples in like deserts in the tropics and it's hard to store safely and transport blood and stool.

Slow is easy. So that's why they developed the saliva technology. Now, for people who are doing saliva salivary testing, I really encourage people to get the cortisol awakening response that or car for short as an add on because it will check your ability to adapt to stress because your adrenals your cortisol levels should spike within 30 minutes of waking up.

And if it doesn't, that means that it's a micro stress test that you can't actually adapt to stressors to encounter a worse is when it inverts or actually collapses down sort of goes up.

So I highly recommend the the cortisol awakening response add ons. The second major type of test is sex. The sex hormones and melatonin. Now they're bundled together because precision analytical has the most famous one called the Dutch test for dried urine.

Total comprehensive hormone test. There are other people on there's other companies on the market. There's

other ones that do similar type tests where they're checking for not just, you know, e to on a blood test.

This is actually a urine saliva test where they're checking for at least on Dutch like seven types of estrogen. The checking like all the Cascades and the DHEA.

And it sends constituents that metabolize into estrogen. You know, they're checking testosterone. It's metabolites, progesterone metabolites. Also melatonin like your checking the whole cascade.

Because the reason why that's important is because if you've got imbalances, say, in estrogen and you need to know where the estrogen being shunted as if being going into 60 hydroxy estrogen into four hydroxy estrogen, which is really bad.

That's the one that causes problems in the DNA or is it going down into two hydroxy, you know, like you want to know where things are going and different lifestyle changes and different supplements divert estrogen in different ways.

And you want to know what's actually happening so you can redirect the traffic in the right direction. So a lot of women will ask me if if a woman has pre-marital causal still in her cycle, when do I do the test?

And often their doctor will say, I just take it and do it. There's something that will give them precise, you know, on this day, what's what's the ideal time. Okay.

So it depends on so so assuming assuming there's a normal 28 day cycle, assuming that Dutch at least recommends you do the test between days 19 to 21, I think maybe 22.

Now if you have a shorter or longer cycle, you compress or expand the the company's helpline is used to all these questions. They can help you determine and if you really need to, you can also get if you have really wonky cycles or hidden cycles and things like that, you can always get the there's these kits to measure where you're at in your cycle on a day to day basis.

And you can do that. But if you're definitely post-menopausal, then it doesn't matter what day you do it because there's no cycle anymore. And men can do this at any time because they're not cycling.

So that's so that's the sex hormones testing.

Gut, Mitochondria, and Toxicity Testing

And then there's thyroid. Now thyroid is actually the one that launched my testing because I was infuriated by an endocrinologist in New Zealand who only ran tests.

Mike, my patient was right in front of me, had every sign in the book on hypothyroidism and the endocrinologist just snarkily said, All your test is normal, go away and take it anti-depressant because you're making this up.

And like, I mean, it's like, it's, it's it was it was one of the few times I was doing was to contain my fury. Not at my patient, not at all. It's just at the injustice of being gassed.

And so that's when I started researching. I needed I needed a thyroid test to check for way more than just DSH. And so here's the list of the minimum sex that your thyroid test your check for TSA treaty 33 T4 reverse t three anti thyroid globulin anti thyroid peroxidation antibiotics.

That's the minute. Now sure there's an etc. sector and there's like there's, there's, there's like maybe five other ones out there. But these are the big six. This is these are the important ones.

And you know, Genova has one, tzachi has one access medical has one. Most companies have some sort of comprehensive thyroid. But but these six are the ones that you should really look for.

So this is the overview of hormones. And in that thyroid section, this is where the thing you said earlier about who is interpreting it for you, like where are you getting this from?

Your people say, Well, I'll just go to my family doctor and I'll get my thyroid test done and they'll say they want all this stuff. And then the result comes back and there's this range on their.

Yeah. And the range of so ridiculous it's like, you know, where in the world are you. Somewhere between Toronto and Beijing, you know. And that's where which, where are you.

But so, so having somebody with experience that knows how to interpret this stuff is so crucial because the range is provided by, call it FDA Health Canada are silly to say the least. Hmm.

Yeah, I see what you're describing is the difference between medical normals and functional. Optimal, right? Yeah. So when I. When I, when western medicine is looking for are things outside medical normals and that's not necessarily their fault.

And here's why. Because Western medicine was developed historically out of triage, out of military medicine, know where the the the priority was. Are you going to lose a life or a limb or bodily function like your.

I know. Then you are over there and here's a painkiller and stop stop shrieking so loud because we've got people we need to save, literally. Yeah. So so western medicine was developed honest out.

It came to its conclusions honestly via military medicine. The problem is, is that when you extrapolate out and internalize and and and demand that everything is either an emergency or it's not.

And if it's not, just wait long enough till it's bad enough that we can test it, then we can say it's emergency and then enroll into drug surgery and so on.

So the the philosophy of Western medicine is ideal for the emergency room and less ideal for things that are chronic, and especially not ideal if you want to be optimal.

Functional medicine is that is a gray space between overt emergency pathology and normal, and especially between normal and optimal. That's where functional medicine really shines.

It's is a very big sandbox in medicine from emergency to optimal. And the problem is people trying to play in the wrong corners of their sandbox. And that's where the friction comes in.

I have nothing but the highest respect for emergency care technicians. I can do nothing for an emergency thing, but they can't do crap for optimal things, right?

So it's like we're all on the same team, but they're the ones in the medical senate. They have medical ascendancy and authority in general. So it's it's hard to play sometimes.

It's hard to play when someone is the big bully in the sandbox. So that's that's the history of why these medical normals, they're not designed for optimal function.

They're designed to identify, are you in an emergency or not? That's what they're actually for. Yeah. And what I recommend is that you you have you work with people that actually understand the difference between medical and functional, optimal, and they're able to tell you, okay, you're in this number.

But that's actually like in this gray space between optimal and normal. And what you're not. And then what can we do to get you more into optimal? But that's why you're being gaslit by your medical practitioner who says like, Oh, your test is normal, though you have every single sign of hypothyroidism under the sun.

It's because that that's that's where the philosophy comes from. So that's hormone testing. Next one is gut testing.

There's three main gut tests. There's the there's the big ones, you know, GI Matt from diagnostic solutions, lab GI effects from Genova GI 360 from doctors data.

And then there's the CDC, which was one of the originals way, way back and several companies. So it's comprehensive diagnostics tools. I can read what it stands for.

It's a little come back to me later. And these things are checking for the big infections, like whether it's H. Pylori, parasites, candida bacteria, someone's checked for certain viruses, normal gut flora, pancreatic function, fat digestion, inflammation, gluten, antibodies.

The test has some variation between them, but those are the big four GI map GI Effect GI 360 and CDC say that the functional medicine practitioners use.

Then there's the subset of gut testing called SIBO. Now there's 2 hours, you go to S, there's 3 hours SIBO tests and then there's like, there's like newer versions that are coming out small intestinal but your overgrowth like there's a, there's like a tribe of test out there that's now out.

You know, it's, there's, there's different types of ciba test. This is like a gut. It's a breath test as opposed to a stool test. And then there's the food sensitivities and intolerances.

So this is looking at your reactivity to foods, to chemicals, to additives, to there's a certain nerve tissue antibodies that are indicated in certain general diseases.

And there's so many labs that have so many different types of food sensitivity testing like CYA, ex fiber in America, Al Genova and everyone is arguing over whose food sensitivity test is bigger and is really annoying.

It's like talking to water filtration companies who says I filter better than you? So I so I would say I'm also going to say something that may be controversial again, I'm okay with that is that I do food sensitivity like last I don't do it first because most of the time people's food sensitivities and intolerances are actually got issues in disguise.

So if I if I poke my arm with my finger and it just bounces off the skin, whatever. But if I have an open wound on my arm and I put my finger into that wound, do I have a finger allergy or might irritating an open wound on my arm?

So if I have a gut lining and it's fine and a piece of broccoli comes wide, just kind of bounces off of it, whatever. But if I have like it's inflamed or there's an infection there or it's leaking or whatever's going on, and then a piece of broccoli comes by and pokes at it.

Then the intestine is just going to react the only way it knows how to spread immune response to it. But it's not the broccoli itself. Now, some people broccoli stuff like that's genuine but healing seal the gut first, then go back and check the food sensitivities and tolerances.

That's that's 99% of time. That's what I do. And what do you think of some of the newer gut tests that are claiming that they are big data and so things like Biome, for example?

Yeah. So what I have seen is that I don't really see the my colleagues in the functional medicine community use that they use JFK's jump, G3, 60 and CDC.

And I also I, I'm just going to keep that and keep myself a diplomatic I have questions about about what what what is being tested there with biome. I also have questions about the the collegiate relationships of the pharmaceutical companies of biomes forming.

And I don't feel like pharmacy should be the first line of defense for a gut issue unless it's absolutely required. So I have. Understand it's kind of like we went down this path of functional healing to only bring ourselves back to what we were trying to get away from.

Yeah. So I get it. So the next category of testing is mitochondria and supporting systems now. So there's a lot of supporting systems for enormous. So when I say mitochondria and supporting system, the original the original test for mitochondria was called the Iron Panel developed by Dr.

Ward of a Matrix Labs. And like the seventies we oh half of like all functional tests Dr. Ward he invented amino acid testing, organic acid testing, fatty acid testing.

He developed the blood spot technology stuff that's going on. He he did. He did all the stuff like he was absolute genius and so when you're checking for mitochondria, you're checking for can the mitochondria make the electricity?

Can you make the ATP? You're checking for the neurotransmitters. How about because no transmitters tell the cells like, hey, we need you to make this manufacturer do this thing and you like for you to ramp up or ramp down your electricity accordingly, it checks for brain inflammation markers because inflammation will affect mitochondria free radicals.

90 plus percent of all free radicals are generated in the mitochondria. And think of them like sparks from the machines that are burning all the fuel and you need these janitors called, you know, Mansard and glutathione for oxidase and catalase.

Running around, putting out these sparks doesn't like to place fire. You're looking at liver detox pathways because toxins can gum up the electricity factory.

Microbiome irregularities can affect the mitochondria. And then there's the companies that do just kind of the core mitochondrial tests. You've got the OMX by Diagnostic Solutions Lab, you got the organics comprehensive profile from Genova.

Genova bought out, met a matrix sometime in the 2000s and Genova has they had the original tests called iron Panel. Genova created the new travel when it was in competition with a matrix in the Med.

A matrix was the Genovese version of the Ion panel. And then you've got like the test by great planes and like this, there's plenty of companies that have it's either called organic acids or OMX or something is what what they're referring to.

And what they're checking for is the core mitochondrial urine metabolites. And then they may have a blood component which should check for fatty acids, amino acids, heavy metal or certain heavy metals, certain minerals, fat soluble vitamins, all the things that go into keeping a mitochondria functioning.

So and I prefer the ion panel because that's the original. I also like the statistical read OMX has now mimics the five quintile statistical read for the mitochondria testing.

And that's important because if just to be a bit technical, if you have one metabolite and then the next one down is the next metabolic step underneath it, like going from GLA to digital. A If there's a greater than two quintile difference between the first metabolite, the two quintiles and more higher and the next one being two quintiles and a lower.

That means like it's a conversion issue. The machine that converts this thing into this thing, the machine, the middle is broken. And so it's not a deficiency in digital.

It's an issue with the enzyme that converts digital. And it's really difficult to do that analysis without having the that the quintile system read out of the ion panel now the omics.

So that's why I prefer that I don't know if there's a way easy to interpret and find out that you're not actually dealing with the deficiency of that metabolite.

You're dealing with a broken enzyme in the middle, and that's a whole separate set of nutrients and requirements. And everything is a deficiency when you see it.

Mm hmm. The other thing to look at is, of course, anemia and oxygen, deliverability and cardio metabolic markers and blood sugar like these are your major blood chemistries, you know, and access medical quest five in America, it's a Boston health diagnostic.

There's so many ways to get the basic blood chemistries. But what happens is that people go to a regular GP and they just get the blood chemistries, but they don't get any the mitochondria stuff and that that's problematic.

And then the last and now coming up on time read the last set of tests are the creepy crawly so the bad bad bad bad bad bad things that you do not want.

But you must find out if you have if you have a history of likely exposure, because it can change your entire journey. If you've got moles if you've got heavy metals and environmental toxins or if you have Lyme like these moles, metals in line, those are the big three now.

I mean, environmental toxins are lumped in with heavy metals. Those those are the big ones you do not you really hope you don't have. But you must know if you have a history of exposure.

So Great Plains does a small test.

How to Choose the Right Practitioner and Lab Access

Vibrant wellness as a maltose or mycotoxins might cause a fancy word for moles. Whatever heavy metals Quicksilver Scientific is does great heavy metal testing, doctors, data and viral wellness of their own urine, toxic metals, environmental toxins, and then vibrant wellness as a tick borne IGeneX has a lots and lots of Lyme panels.

The most people who run the IGeneX, they're like super line nerds like those. Like if you've got like like the super extra special, you know, Lyme dorks.

I say that with full affection. They use like if you do it. So yeah, if you got stubborn Lyme then you're likely going to want to work with the practitioner uses IGeneX.

Okay. So those are the major categories of functional tests. And as you mentioned, you mentioned nutria though I've seen it around and it seems very comprehensive, but you didn't have it listed here.

So do you think it's okay? It's the reason why. So the reason why is that? Because I'm annoyed that what I'm annoyed with. I mean, I used you know, we're also annoyed with Genova because they tried to do a rip off of the Ion panel.

And so what, what's actually happened is that the they have Genova has now shut down the Atlanta lab that was matter matrix as of last year and they have now taken the what they shut down the ion panel but then a bunch of us protested.

So what they've done is they've taken the 40 amino acid neutral and now run it, which is the machines are fine to run. It's the data presentation that's but what they've done is they've reskinned the new travel and they're calling it the ion panel because there's a neutral vowel which is the V that they have now.

They have the ion panel, which is now actually a 40 amino acid neutral, but it's presented with a five quintile read out system. So it's still called the Ion panel.

They've changed the metabolites to match the new travel, but it's the read out that's important so that that's what they're now the same. But it's the read up. It differs that's all.

Got it. So to summarize, do you need lifestyle analysis with an LED you lead you to focused labs, which then leads you to a customized plan and then retesting for functional is about every 6 to 12 months, depending on what labs and what markers are are awry.

So this, this is just the bottom line summary work with a practitioner that has a lifestyle analysis that can actually customize the labs to your situation and also can customize a winnable plan to you.

Yeah, that's incredible because that's what health care should be right where and this is what maintenance looks like as opposed to the reactivity we're currently stuck in, you know, masking a symptom.

There's no time to test what biological processes failing. You're just trying to put on a Band-Aid, you know? So this is awesome. And so do you actually work with patients yourself?

I work with clients at this. I have like free e-books on my website that that explain the ten pillars in more depth and more on the actual tests that I run are the suite of tests that I run.

And if people are are wanting to work with me directly, they can go to my website and fill in, apply for an application call to see if they're right for this type of comprehensive, lab focused care.

And so test like this, is there any consideration for jurisdiction? Like, does it matter if they're in the U. S., Canada, overseas? So for me, it's like I have I work with people in most places.

There's certain parts of the world. Testing is very difficult. Yeah, yeah. We find that there's certain countries where they won't like, for example, like France is very particular with genetic testing.

You know, Australia is difficult sometimes. So when it comes to transporting blood, you don't have a problem with ability. To distribute it. So it's so in in the UK, in Europe for example, there are existing distributors that already handle all the tests, the ion panels, etc.

there's there's a limited, you're more limited on what blood tests you can run because of the country. The country has its own little fiefdom of what panels you can run in New Zealand.

It's pretty it's pretty straightforward because neutral search is one of the main consolidation companies that has like 12 different lab testing companies that they consolidate.

Okay. Australia, it's kind of a hodgepodge because you've got neutral pathology that does its own versions of all of these tests and then you've got Dutch just through a different person and it like it really depends on the country.

It's quite difficult to do testing in Southeast Asian countries and Far East Asian countries. Yeah, you got. And then even if you, you find a distributor that's like they like triple the whole site, it's really the wholesales kind of so so it's much easier to do testing in the States, Europe, UK, Australia, New Zealand.

There are there are ways to do these tests in other parts of the world, but it does get trickier. And so this is where it's better to go for like if with blood you want to do the blood spot technology tests like the metabolomics, like what?

Genova made a blood spot version of the new travel, which has more limited metabolites, but it's, it's close. It's definitely not all, but it's a lot just with blood spots.

So you want to deal with a blood draw and like it is dry the blood spots on a little card. It's way easier to transport than dealing with vials. So so this is where certain labs have an advantage because they remove the complexities of of samples that can spoil in transit.

So I would I would only do a metabolomics test instead of an AI on if I was doing any type of testing in Southeast Asia or anywhere in that area. Makes sense.

So this was a very powerful presentation because I don't think anything was left unanswered. If somebody blows through what you just laid out, this is exactly you basically took, you know, many years of somebody trying to figure out functional medicine, taking every course, going every webinar and lecture and and put it all together into one presentation.

For us, this is, like you said, not only your chart, that flowchart, but your testing. This is functional medicine. This is what you need. This is this is human maintenance.

And you put it all together and this has been powerful. Thank you so much. I would urge everyone to book a call. You know, this is you have somebody here that not only is curated but also likely can interpret it, given how much find.

Yeah yeah so so this was a pleasure thank you will also share the you had your guide so we'll share that with everybody I'm sure everybody is going to be interested in downloading that.

Thank you again. Awesome presentation. Well, thank you for having this summit. Like it's real empowering that, you know, it's just really, really important that people get proper information.

And summits are by far the easiest way to distribute and scale excellent content out to the masses. And I am so grateful to anyone who's doing summits because this is you don't have to be locked in some ivory tower.

You're not actually just sending a direct out to the massive scale. And it's awesome. Thank you so much for doing this. Pleasure. Thank you.