Introduction to the summit and guest

For the. Welcome back to this episode of the Reversing Marcel Activation and Histamine Intolerance Summit. I'm your host, Beth O'Hara of Marcel 360 and I'm so excited to share this interview with you today that we're going to have with Cashapp Khan, who is the CEO and founder of the DNA company, and they focus on personalized medicine and really looking at this through these unique insights into our genetics.

And they are running the largest study of its kind globally, developing a functional approach to genetic interpretation. Looking at the overlay with environment, with nutrient, with lifestyle to create these personalized health outcomes, which is so critical.

And we're going to dive into what this means. We're going to dive into why epigenetics and genetic expression are so much more important than just looking specifically at your genetic blueprint.

And Kashif has a ton of information to share with us. So welcome. Thank you so much for joining us. No, it's awesome to be here. This is great. Can you tell us more about how you got into the study of genetics and epigenetics, and how did this come about?

Sure. So, it wasn't intentional. I can tell you that I was pretty sick myself. And it was it was the tool that got me better. So I had eczema, you know, to the point where my eye couldn't open my left eye.

I had psoriasis so bad that I want to clasp my hands. My knuckles would literally bleed crazy migraines. My business partner would have to drive me home in the middle of the day.

So everything was kind of falling apart all at the same time. And just like anyone else who first starts to experience these things, you treat them all at separate, siloed events.

Personal health crisis and discovering genetics

You know, there's a doctor for this, a pill for this or a cream for this, and you're treating them as all various labeled problems, right? I also had crazy allergies.

The older I got, the worse they get. So I understand there's two meters fonts really well, you know, all of that is gone. I don't have any of those problems now.

So what was the key sort of turning point was nothing was working. I was on all these pills, getting various tests and exams done, and it just kept getting worse.

And I felt like I was kind of managing all this cornucopia of various problems versus understanding why they're happening in the first place. So I met a functional medicine doctor who was a friend, and I asked him, like, I heard you do things that are a little more root cause what's going on with me?

So he said, it sounds like you have a genetic problem. You know everything all at once. I said, what does that even mean? And so I looked into genetics, and I was honestly disappointed because I took a couple tests and I was told things like, hey, you got an 80% chance of Alzheimer's, a 60% chance.

What does that tell you other than, you know, anxiety for the next 20 years, waiting to see. Right. So that drove me to understand why was genetics so underwhelming.

And I found functional genomics, which was the same as a relationship between functional medicine and your primary care doctor. It's the same thinking, how do I use genetics as a tool to understand why the disease is

happening, as opposed to what the disease is, right?

The true root cause and the root cause? Typically, when it comes to things like diabetes or Alzheimer's, things you're not born with, these are our genetic conditions typically require an environment, nutrition, lifestyle mismatch for the disease to express.

And I started to learn that and I healed myself. Since then I haven't had a problem. It's been good. Five years ago, right where I spent most of my adult life sick.

That literally took me to the point where I took the keys to my company. I ran a marketing company where we helped startups grow, give it to my business partner, and said, I found my legacy.

I have to work on this everyone needs. But I just got and never looked back. And that's what we do. I think so many people can relate to that because it's, we have all these people in our audience that are struggling with these various symptoms.

A lot of what you described are actually symptoms that are related to mass activation, histamine issues, and then they're going from specialist, a specialist to specialist.

And everybody's giving them a one size fits all approach. And one of the questions I always have is so one of the root causes we deal with a lot is mold toxicity.

And then those tick borne infections. Why do we have some people who are animal toxic environment in the same family, and one person is deathly ill or bedridden, and then the, you know, other people in the household are not as sick.

Why do some people get bitten by Lyme and other tick borne infection? You know, those vectors in these tests, some people develop symptoms. Some people never develop symptoms even though they're carrying the bacteria and other pathogens.

And part of that is our toxic load. Part of that is our genetics. But it's exactly what you're saying, that it's this inter combination. So you could have identical twins, one person in pristine environment, not express those genes, one person being exposed to mold, heavy stress, lots of air pollution.

And they're going to express those disorders. And there's plenty of studies behind all of that. Yeah. And this is you're asking the exact question which should be asked, which were the answer to everything.

Right. And take myself again as the guinea pig. Like I said, my I had really bad migraines to the point where my business partner would drive me home.

But why didn't he have migraines? Right? What was going on? So I found the source to be that in our office, the ground floor, there was a manufacturing company and they were pumping toxins into our air vents that I was breathing in.

Meanwhile, only I got sick. He didn't. Why? Well, what I discovered later was when it comes to glorified and glorified ization, the ability to bind toxins, send, send them to deliver, to metabolize and get rid of them.

People know that when you drink alcohol, it has an effect on your liver because you're cleaning things out, but they don't think about anything else that you have to clean.

As you go through life. So there's key genes there that direct those processes. And that's what genes are just to get to cut to the chase. It's an instruction that tells your cells what to do.

There's certain genes for which we look for these snips or variants. People are familiar with those things. It's like that spelling mistake in the gene. You have that spelling mistake.

Why genetics must be interpreted functionally

It doesn't do its job the same way as it should. What if you don't even have the gene? Literally, there's an entire page of your instruction manual missing.

That's what happened to me. There's a gene called GT1, which it's possible to have a different type of variation called a copy number variation. It's not about what version of the gene that you get.

You didn't even get the gene. Some people have an extra copy of the gene, and when it's instructing something as important as the traffic copies in your bloodstream, drawing on toxins to get rid of them, you could either be doing that at zero, or you could be doing it at 300% if you have extra copies.

My business partner, who has a very different ethnic background than me, he's, thinks Scottish and Irish. He has an extra copy of this key gene. So when we were doing a renovation in our office and they were doing epoxy to put, sort of this, this material on the wall for a lab, right.

It's like a smooth material. They were doing drywall paint. I broke out an exam of. He walked around with no mask, like it was no problem. Right. So the key to how do you take it from the genetics of you have an 80% chance of a problem to more certainty that getting away from that probability based answer, you have to understand, if I'm telling you that you have an 80% chance of Alzheimer's, I'm also telling you that 20% of people with the exact same genetic profile didn't get it.

And if your genes are that deterministic that they draw on cellular function and tell your cells what to do. So why did 20% not get it? They had the same instruction, same manual.

It's again comes down to environment, nutrition, lifestyle. Because you weren't born with the disease. You were born with greater risk. Bad hardware, you know, bad quality cellular structure that makes you more prone to that particular thing.

But you still need to make the right or wrong choices to get to your net result. And this is a difference between take my genetic profile, put me ancestrally where I came from.

South Asian. My family lived in the mountains, very clean and organic. They probably weren't sick. Shift my context to what I wasn't designed for, and all of a sudden I'm a race car trying to, you know, drive off road in the mud.

It doesn't work. Right. So and that's what happened to me. And I got so sick. So. Yeah. So exactly to your point is that genes are how what you're wired to do, your capacity, your innate capacity, your net result is now what what do you do with that tool that you've been given.

Right. What are you designed for? Is that what you're doing? Great. You're probably be healthy. Are you doing something very different? Then you will be that person who has mold exposure that ends up in bed because you are missing key genes, or that person that gets Lyme disease and for some reason is bedridden when their friend didn't even know they had it right.

The key processes of methylation and detox, etcetera, that create that additional load. You may be at this tipping point where you're almost there because of something else, and you just needed the trigger of Lyme or mold or something else to push you over the edge where you're, again, bedridden.

So this is where these differences come from. And, you know, I started looking at genetics about ten years ago. It was one of the first things that validated that I wasn't crazy and I was so sick.

I had been bedridden. No one else around me was dealing with these issues. Everybody's in the same environment, and I'm the Princess and the pea where, you know, being behind the gasoline or, you know, a diesel type of, vehicle in front of me.

I'm getting ready to pass out like it was dangerous for me to drive at times. And and no one else is this sensitive to anything. So I was labeled as crazy for quite some time because given what I was dealing with.

But then I could go, oh my gosh, well, look here, I have a ton of variants. I actually have that same missing gene. And I am Irish heritage, right? One and the same missing gene.

And in a lot of other genetic variants, and a lot more than the vast majority of people. And you talked about Alzheimer's and that we know there's a genes, right, that the E4 e4 can increase that risk.

But I also want to put in there that most of these conditions, research shows, are really only like around 20 or 30% genetic cancers. Most cancers are only 20 to 30%.

So we have this huge other percentage where we can change these with things like our you mentioned diet, you mentioned lifestyle. We, toxic exposure, things like meditation, change, genetic expression.

So if we go what? Let's go now to talking about that genetic expression. Because ten years ago when I was looking at genes and getting all into this and I was falling in the Asco and just these early people in the science genetics, we were all going with the LMT to FA, you should take methyl folate if you have. Yes.

You can't process sulfate. And and all these people were coming off of sulfur foods. But then six months later they were worse because you need to detox.

We're light years beyond that. But this simplistic equations are still all over the internet. And there's a lot of education catch up to happen. So can you help us with that piece? Yeah.

So the challenge there was and this is natural progression of any science. You have to start with what you have. Right in the beginning was what even is a gene right.

What does it even do. We we had to discover that. Then we had to sequence the genome which cost billions of dollars, which now costs a few hundred. Right.

So that had to be done. Then we had to understand. Okay, I have this list of genes. What do they mean? What do I do with them? What are they actually doing? It.

Does this make my eyes blue or does it give me cancer? Like, what is this gene. Right.

Gene pathways, dopamine, and context

So in that research, in order for that to be done effectively and quickly, there was this very gene siloed approach. What does this gene mean? What does this gene mean?

What is this gene mean. But the body doesn't work that way. Right. The body is in 22,000 independent genes doing independent processes, which is how many genes you have, 22,000 right there systems which we already know.

We already know there's a hormone system in the cardiovascular system and neural networks that are driving neural chemicals. And we already know what all those things are.

So what needed to be done was, first of all, we needed to do this gene by gene to understand what genes are important, what matters. We then needed to go back to what we already knew, which was human biochemistry.

Here's what we already know is going on. Now let's take these genes and plug them in. The processes that already exist. If this gene instructs something in a methylation like for like you talked about, that's great.

We know that. No, but that's one step out of 7 or 8 steps. And now all of a sudden there's a lot more precision to methyl folate or what version of B12 or sublingual or, you know, a dinner cell or methyl COBOL.

I mean, like, what are all these choices you have when you look at the full cascade? Here's what methylation actually looks like as a process in biochemistry.

And here's the genes that instruct as opposed to what does this gene mean. What does this gene mean. Registry, which is the way geneticists think because that's how the research all of a sudden you can take this, again, probability based stuff and make it very certain and methylation as a process versus a bunch of independent genes, you have two very different outcomes.

If you look at it like this, look at it in the context of the human body, the way the body actually works. Let me give you an example. So I don't know if I mentioned, but one of the problems I had when I was sick was depression.

Right? There was days where I just didn't want to go to work, and it started in my 30s. Never happened before that. So there's a neurochemical called dopamine.

And dopamine is what allows you to feel pleasure, but also reward eat some tasty pizza or do something. Go to work. It's both of those feelings, when you look at things genetically, there's a gene called D2, and you'll see, it's like, you know, talking about things like addiction, right?

You are more prone to addiction because of the variant of the gene. You have. Then a lot of people say, well, I have this version of the gene, but I've never been addicted to anything.

You're wrong. You don't. Genetics doesn't work right. So what you have to look at is a cascade. How does that neurochemical actually process and what environments would cause various problems?

Now the truth is it's addiction. It's also achievement and it's also depression. It does all three things. You have to first understand the full pathway, which I'm going to describe.

And then the context that you're in. So the full pathway is the first step is you need to experience dopamine. You need to bind and connect to experience of pleasure reward.

Then most another gene breaks the dopamine down right to get you back to normal which also breaks down histamine. Exactly. Yeah. It's another. Yeah. I mean just to throw that in there and this is the other challenges.

People think about genes as single purpose or single factoid like and they're not. There's so many multipurpose and multi systems and sets of systems interlinking.

Right. So you have to understand again how does the body work. Then there's an enzyme called Comt which is driven by the gene called which now sweeps out that broken metabolite gets you back to normal.

It also deals with hormones right. So that's why it can just look at it and like quercetin and salicylates. And exactly. So you can't just look at it as one.

This gene is related to addiction. No it's a this gene clears broken metabolites out. Now you have to discover all the metabolites it deals with. Right.

So now I have the lowest version of the D2 two gene which means my receptors are sparse. I don't really feel I have the fastest mo and the fastest part.

So I feel it way down here and it'll last that long. So for me, yeah, addiction is a really powerful option because when I do finally find that thing that I enjoy, I'll get hooked on it.

And when I was young, as a teenager, we grew up in poverty. And when I finally found something enjoyable, I got hooked. Right? So my context of being unhappy and not getting pleasure because we couldn't afford pleasure, really, compared to the people that I saw around me and then finally experiencing led me to addiction.

So that was one potential route. Then when I was, you know, in my late teens, my father passed away and I became responsible for the family. I had to work.

So I started working and working and working. And a few years went by and all of a sudden I had a team of employees, and I owned a couple businesses. I didn't even understand how that happened, because the same neurochemical pathway drove me towards reward.

That feeling of achievement felt so good that I kept chasing it and chasing and taking bigger risks. And bigger is right. Context change. So the meaning of the genes change then.

And I get into my 30s, I built a pretty decent business and I felt like I was doing okay. I had my first kid and things were kind of slowing down. I became depressed because I stopped trying.

I didn't have a reason to push or pursue, and I wasn't taking those risks and getting those dopamine hits every day. And so I didn't want to get out of bed and go to work anymore.

So it's not single gene, single meaning, single factoid. Right? It's how does the body work? And now how does each gene instruct each step? And guess what?

This gene doesn't only do that, it does other things to end this system. All this knowing that these systems are interconnected and the context will shift your outcome.

I had three different contexts and three different parts of my life in the same gene pathway led me to three different paths. Now if you layer on top of that nutrition, what was I eating environment?

How did I exercise the genetic expression? There's even more nuances, right? For the pushing me further down or away from a certain path. And that brings you to a really precision.

And, sort of like, you know, exactly what to do about what's going on. Right? That's so great. I love this example. And then if we layer in the nutrition piece, we know that there's a gene called DDH, right.

That produces a deviation sign that helps convert dopamine to epinephrine norepinephrine that's in on vitamin C right. And it's inhibited by Clostridium bacteria.

So cluster D overgrowth in the gut. So we can have all of these aspects going on in our lives. They're going to shift. And that's what's so different about the type of gene reporting we can get these days.

Compared to when I started. And and and and I'm not dissing these tools and all. They were great tools and ten years I needed a they saved my life because I was able to start going, oh my gosh, glutamate.

Now I understand why I'm so sensitive to glutamate foods. And I could start putting some pieces together. But we've evolved quite a bit where you can start to enter lace.

There's various genetic pathways, the nutrient side, the lifestyle side. Who's going to be more sensitive to stress, who's going to be more sensitive to nutrient depletion and things like that. Yeah.

And the key to what you're saying is we now have better interpretation. So meaning we most journal companies know how to run a test. And to tell you what version of what gene you have, how much is that going to change your life?

Histamine, inflammation, and cardiovascular risk

That starts with interpretation. What does it mean? How does this apply practically? Right. So that learning came from clinical practice like functional medicine, doctors, integrative doctors, executive clinics, actually using genomics and say, wait a second, this report's wrong.

Because when I do this, this happens. And when I do this, this happens. So we did the same thing that study that you talked about, the largest study in the world.

We realized that the reason why genetics was broken is because genetic research was only researching genes, not people. It wasn't applied in the context of how people actually do stuff.

So we we shifted gears. We said, let's, let's actually be patient facing. So we met 7000 people one by one, by one by one and understood their physical traits, how they behave.

We were able to document their behaviors, document their hair, their skin, everything about them to understand what are the genes actually net out and equal.

And then of the various choices that people make, why did some people get sick and some didn't, and some of them are counterintuitive, some of them are obvious.

It's what your doctor would tell you anyway. Some of them are the exact opposite of what your doctor would tell you. There's certain people we have to tell them.

You should not be doing cardiovascular exercise. We understand you're trying to make your heart healthy. Guess what? You're slowly killing your heart.

And this applies in this sort of math cell. And it has to mean world because one of the things that happens is mass inflammation. And it's been studied that the inflammatory load from this histamine response, one of the areas where people feel it is the endothelial, right.

It affects the endothelium the feel aggressively. And you may not realize and explain that what that is for. Oh sorry. So most heart disease doesn't happen in the heart and typically happens in the arteries around the heart.

Right. So blockage calcification cholesterol issues right. Most of that isn't based on the thing that you're treating. The cholesterol problem or whatever induced.

The inner lining of the artery is called the endothelial. It's that that inner cell structure that the blood actually touches and flows through. Right.

That's the endothelial. People have different quality versions of this hardware. Some have a resilient stainless steel where you can see like, you know, grandma smoking a pipe till she's 100 years old.

You can't figure out why that's probably her. Then there's some people much more, by the way. It's less likely for you to have the good quality version of hardware have not so good, you know, cellular structure here.

So it's more prone to inflammation. And that endothelial runs throughout your body in your vasculature right everywhere throughout your body. So if you have the not so good version, which means it's more prone to inflammation and you are suffering from something like history, histamine issues, mast cell issues, which you know, you're already having an inflammatory load.

This is one of the areas where you're going to have a net effect, but you may not know because there's nothing sensorial about it. There's no pain. There's no, you know, until you go to the doctor one day and they tell you your cholesterol numbers are up and you say, why I eat perfectly.

I run on the treadmill every day. Well, that's maybe the problem, because you may not have the you may not have the ability to clear the same person who's going to suffer from history.

Your response? Vessel mold issues, live issues have the adverse reaction is the same person that can't clear the oxygen's caused by cardiovascular activity.

You're taking an oxygen breathing super heavy so you're taking it away. More oxygen to create more oxidants, your cells taking oxygen and nutrition to create energy.

That's what they do. But in that process they create oxidants which are highly toxic. You're saying this sorry. So sorry. Let me just bridge for a second we're going with cholesterol for people who this is big news for.

That cholesterol we know now is not related to diet. People eating dietary cholesterol, speaking of cholesterol volume and cholesterol goes up is an inflammatory marker and some marker that detoxification pathways like salvation are working well to convert it.

Things like bile and our steroidal hormones. So that's that's where this goes. I just want to make that link for people. Exactly. Yeah. And that's exactly what we're what we're trying to teach people now is that that outcome of I had a cholesterol issue could be rooted in your detox issue.

Right. Because you're causing the inflammation here for which your body's response is to use cholesterol as a hormone to reduce the inflammation. And if you have the not so good version at 90 to 1, is what we look at to determine this.

If you had that also good version, you're just going to get there a lot faster right. And then that cholesterol buildup is going to happen a lot faster.

And guess what? When cholesterol meets toxicity it actually hardens and gets deposited. It can move. And if you had the bad version of the gene, which you talked about earlier, you know, cholesterol transport, it's even more exaggerated.

So this functional approach of looking at all these various components to really understand where you're at. So that's one sort of outlying problem that takes years to develop this, the nature of chronic conditions.

You don't turn a switch and get them. They take you many years, decades sometimes to develop. But if you don't deal with your histamine issue, mast cell issue, mold issue, live issue, one of the outcomes potentially could be cardiovascular health issues because you're causing the inflammatory load, which leads to the cholesterol issue, which leads to and so on and so on and so on. Right.

So it's and this is why everything is so interlinked. And you do understand the system, not just the genes. Yeah. That's perfect. And and it's not that you're saying don't don't move, don't get any kind of exercise.

But you can tailor the kind of exercise. And I've always been that overachieving had to constantly be on the go. And you know, if something's good for me, 150% is going to be better.

So all my life, I pushed and pushed and pushed myself to try to be a runner to I, you know, I wanted to be able to train for marathons. At one point I was doing long distance bicycling and building up for a 50 mile bike ride, and no matter how I did it, I crashed so hard.

You know, every approach I made. And it finally came to me that my mind is not designed for that. Now I do plenty of exercise, but for me now it's like two and a half mile an hour on the treadmill at pace, get my blood pumping.

But I'm probably not ever going to be a marathon runner in my 40s. That's you know, I'm getting a little later for that anyway. But but it was inflammatory. I noticed my fatigue would get worse and worse, and then I couldn't get out of bed.

My hands were swollen, my joints hurt. Something is going on in those pathways that are telling me that this is this is not good for me. Even though everybody says, oh, you've got to get all this intense exercise, even high intensity, like the interval training.

Yeah, doesn't work for me. I crashed out and people got that. Yeah. And you're designed for more weight training

resistance like push heavy things, right?

I did yeah. Yeah, yeah. So this is where I was in the exact same boat as you. It sounds like we're genetic twins. We're very fairly similar in our makeup.

And I, I firmly believe that if I had done things right, I wouldn't have all this white hair. You know, like I've aged myself prematurely because I. I thought I was doing everything right because it's what everyone else was doing.

Right. But it was not designed for me. And, and literally that oxidation that load of, you know, it was not designed for me. And that caused me to age prematurely uncertain of that.

So I'm hiding my white hair still. So we're looking at now not as much specific Marcel genes, but the whole picture, the inflammatory picture. Because we know that inflammation body, there are over 200 receptors on the mast cells.

So any form of inflammation in the body is going to dock on one of those receptors and start triggering those mast cells. So we've got to lower that overall inflammatory load.

Detox capacity, supplementation, and behavior

And even with histamine again we're looking at this whole pathway not just the dog gene or just the Mo gene. But we can look at histamine production. We can look at multiple histamine degradation pathways, which most people don't even know, that there's the pathway that clears alcohol is down the road from Dao and clears right histamine as well.

So that's your second step after Dao. And it is there anything else you want to add around that Marcel histamine sign. Yeah. So the way we think of things functionally.

So there are very specific genes that are studied around both. We don't look at them. Well we look at is why do some people get a little sick. Some people get medium sick. Some people are in.

But that's what we try to help with, that disparity between the various outcomes. And that isn't resolved by resolving the mast cell or histamine problem.

Although of course, if you impact that you're impacting it, there's exponential, you know, sort of headache or pain when there's multiple things going on in the body for someone that is perfectly healthy, has zero inflammation, no problem.

They have this issue they might not even know. Just like Lyme disease, they get hit by the bacteria they don't even know. Then somebody who's already on that tipping point of there's mold in their basement.

They don't clear toxins. So, well, they work in a factory with chemicals. They just needed something to push them over the edge. Right. They're almost there.

So this is where we look at things functionally to look at the key systems of leukocyte ization. It's not just one gene. It's a it's a whole system where just like I said, just STM same thing.

You could be missing it. Forget about what version. You don't even have it. Right. And then this secondary gene dot there gap so important in clearing.

And you know you could have a very specific version which means you just don't do that process so well. Then you go to a naturopath and they give you glutathione, and you don't have the genetic instruction to tell glutathione what to do.

And it just makes you feel worse because it starts binding on the minerals and nutrients. Also not just the toxins, because it's not being constructed properly.

So doing that well and bringing your sort of toxic load, any autoimmune type issue often is rooted in sort of environmental toxins. Not only. But that's a usually a big part of it is usually one of the parts that we don't recognize is it's not obvious, it's not in your face.

And something you don't even realize are toxins that are in your water and your food or whatever you don't even notice. So either reducing the load, which is tough.

It's very challenging. If you live in your house, you eat your food, you're going to go to work, you're going to it's very hard to reduce the load. So often the more important thing is to increase capacity, because that really those are your two choices.

You got to turn one down and the other. Increased capacity means knowing exactly where you're not, not doing well, and then supplementing right supplementing with the right stuff.

Not just here's my detox pill from CVS. Right. It's you got a supplement where you're not doing well. That is true of detox. That's true of methylation also.

And you have to be very specific on how you supplement methylation. Again, we talked about the entire cascade as opposed to just aging for and I can't tell you how many people will be told from a genetic consultant that offers great.

You're great with methylation, right? Meanwhile, everything else, all the supporting characters are failing. Right. So there's one reaction within this entire process is great, but everything else sucks.

So you can't be doing well, right? So you have to look at the cascade. And again there's very specific supplementation. Your two options again reduce the load increase capacity.

Those are really your two options. Then the third area which typically doesn't get spoke of but it's so important functionally is more in behavior. Your perception because it applies to compliance.

Like am I even going to do the stuff I'm being told? It applies to sort of reward seeking behavior? You if somebody tells you specifically you're going to do it right, you're wired for it.

Just like you said, 150% is the right number for you, so you get it. But there's some people where 50% is too much. And we can understand that genetically based on their reward pathways, based on their sort of serotonin pathways and how they deal with irritability and stimuli and all this type of stuff.

So understanding your neurochemical makeup allows you to personalize how you take this information, and how do you perceive it when you say it? Seven out of ten is a really seven out of ten.

Is it two or maybe it's ten, right. But based on the way you think you're you're not actually close to what's actually going on, your ability to deal with your clinician or your coach and the person that's actually guiding you through this process.

How do you take in what they say? How do you perceive what they're saying? Is it a personal insult every time, or is it dry instruction, like how do you actually perceive things?

That's all genetically wired. So that's one of the biggest areas where at least when we are personally working with patients and coaching them or building their programs, a big part of what we consider before we even get into the therapeutic recommendations is how do they think?

And to know this about yourself, the people around you who you also have to ask to change to support whatever changes you need. You know when you go to Christmas dinner, when you go to work, right?

It's a different environment and you can't control that anymore. So how do you even talk to those people about

what you're doing? All of that starts with that.

So that's what we always recommend to people understand your neural wiring, who you really are. Then get into where am I weak genetically? Then understand?

Am I going to choose to stop the, toxic insult? Turn it on that now? Or can I not control that? And I'm going to start to supplement or change food, diet, etc.

to increase capacity. That's kind of excuse me. The process we go through with people and also in the approach is more functional. We haven't even touched Marcel or Histamine yet.

We're saying, let's just get your body ready to deal with whatever your clinician is recommending for that problem, right now. The outcome of the work that you do or somebody else does with them, they're going to get so much further down that healing journey because they're removing the load.

All this other stuff that's call it counter like comorbidities that are tied to this, that make it so much worse. Right? That's what we see. Our role is in this whole sort of puzzle.

Gosh, I love that. And that really ties into our philosophy. And that's why we call it Marcel 360, because we want to look at the mindset, the psychology, the social relationships, and you talking about how people take in information, bring in the personality piece.

So there's that coaching element to what you're doing. And there were a couple pearls in there. I wanted to go back to some really, really great ones.

One was that, you know, we keep touching on this methylation pathway. And for people who don't realize it's much bigger than you are, that there are multiple genes in that pathway doing different things.

And we have all these nutrient cofactors beyond methyl B-12 and methyl folate. We've got potassium and seeing to magnesium and these other things. And the blockage may not be it methyl folate.

So just because somebody has elevated homocysteine doesn't mean it's a B12 or folate issue. And that's where pulling all the info together is helpful.

But then you were talking about the GST and I want to come back to that. Sure. So GST is how Bluetooth down target a toxin and attach on to the toxin.

What do you recommend? This is something I've actually been on the hunt for. And as you were talking about, if you start taking glutathione, I own because the instructions aren't there correctly, then it might start targeting minerals or other things you don't want to target.

So what are let's just go to that little nugget. What are you working on? Those tests. So we've what we've sort of done in practice is things like NK, which have been like the precursors, things that don't need instruction, they just go straight to work.

So NK, selenium, alpha back acid, basic stuff. Milk thistle. Right. Sometimes there's certain combinations of these things that we give people. We've also used third party product, that we've tested, you know, we've, we've been the guinea pigs.

And in general. Yeah. The one challenge, however, is NK, they're trying to make sure that you can't buy it anymore, right? Yeah. Which is becoming difficult.

I understand that in certain contexts, it can be considered. You know, prescriptive. But that's been a very powerful tool. It's been helping a lot of people.

Some people also don't do well on it. But for the most part, it but those that's what we've been using, and it's been very helpful. Then we have some really, sort of interesting cocktails that we've been experimenting with.

DNA privacy, data use, and the 360 report

We actually built a, a compounding pharmacy in the middle of our office. So we have and tech said literally compound nutraceutical pills that we test with people.

There's some things that, again, support a system over here, and another system thrives over here because of that load. There's unique ingredients like taco Trino, which is a vitamin E.

Which has been proven to do really well with brain health, endothelial health. But again, it reduces inflammation in certain areas, which allows other stuff to work better.

So it's we're not targeting that problem. But by supporting everything you get into the sort of homeostasis where everything is working. Right. So it's also about understanding other inflammatory targets and getting rid of those. Right.

So yeah so that's some of the stuff we've been up to. Yeah. That's great. We know that high gamma e that form of gamma is helpful for mast cell activation from the inflammation.

Yes as well. So this has been amazing info. One of the things that people always ask about is privacy with DNA testing. And particularly there have been a lot of issues with that.

A lot of very valid concerns with that. Can you talk about the similar. Yeah. So it's it's kind of a dirty secret of the genetic industry that the genetic business isn't a very good business because your DNA doesn't change.

So I test you once and we're done. Right. So that challenge of this promise of, you know, new discovery, new science, etc., Entrepreneurially was failing.

And so the investors for all these various companies are saying, well, you got to figure something out here. So what do they figure out? Well, we have, human sample.

We have your DNA. That must be worth something to somebody. So the genetic testing industry became a data selling business. And this is partly why the Consumer Reports are so disappointing.

Because they're not designed for you. They're designed for the buyer of the data. The person who's paying 2 or $300 for a test versus the buyer of the data was paying $5,000 per data set.

So you can be assured that whatever you're buying was designed for them, right? What genes are they need to know more about, in what order, etc.. And so that led to this sort of underwhelming reporting, which was more recreational or infotainment type stuff.

And this said really, in 2017, I've done a lot of genetic testing and the data quality we're getting from the major company that was out there. Yeah, they switched versions because they were like pharmaceutical company, and I lost about 60% of the data that I was looking at.

Yeah, just in that version change that. That was the exact time when this all happened. So 2017 and 2018 was when Glaxo came in and funded 23 and me, $300 million shifted the sort of purpose of why they were there.

Right. And that happened with several other testing companies in that exact time, 2017, 2018. So that's when the entire business became a data collection business to help design personalized medication.

So what we said is in this problem, there's a major opportunity because people still want good information. They still want somebody to take their genome, mined it for data and tell them everything.

Right. So we did that. We said that let's be the inside company. We're not the data selling company. We believe that if we overwhelm you and sort of underwhelmed me with powerful information, you're going to stick with us and you're going to say, can I work with you on coaching?

Can I buy some supplements? Can I buy the next report that's coming out next month? So that's what we did. We and we were only able to do that because of, again, the study of those 7000 people to document things that are actually actionable, that we can teach.

So that's a very important consideration. And I would say for the most part, if you're giving up your DNA, you're giving up your privacy, you have to sign things that are consent to research.

We make it purposeful that we don't do that. That's not our business. Our business is to teach you so much that you're going to want to stick with us.

So you don't sell any data? No. Which, in fact, our system is all anonymized and aggregated. So if somebody would have hacked it, it doesn't even point to anybody.

So that's helpful to know, because people also have concerns that if someday their genetic data gets to insurance companies, that they're going to lose their benefits.

So that's huge, that it's that it's all anonymous. This has been an incredible interview, amazing information, so helpful. And I want to thank you both for joining us out of your busy schedule and also recovering from your cold.

And, and also thank you for your support of your summit and your company is one of our, supporters that helped make this summit possible. Can you tell people where to find you and if they if they want to get involved with, with your reporting and your genetic kit, how can they find that?

And we're also going to have all of this on our resources page. And that's at Marcel three 60.com/summit. Sure. So it's the DNA company.com the DNA company.com.

And the the test we've been talking about is called the 360. So we call that sort of all encompassing which it goes through six key systems that we think everybody needs to know about which is cardiovascular diet, nutrition, hormones and fitness of body type and body development, that type of thing.

Immunity. So cellular health, which is so important. And what we discuss today, mood and behavior, everything about the brain, which is actually the biggest report and then sleep because sleep drives all this other stuff.

If you're not sleeping right, you're probably not doing well. Right. So why is it that I can't fall asleep, can stay asleep, sleep through the night, but wake up feeling like garbage?

Genetically, those are three different things. So these six things come in the 360 report. That's sort of the flagship product you'll see on the website.

From there, if you choose, like if there's a particular problem you want to work on, if there's something I need to lose 10 pounds, whatever. The thing is, we do have coaches that are trained genetically to help you do that, right.

So you'll see when you go to the website, the 360 is a test that there's various levels of coaching for different people that have different goals. Some people say that just I want to rip myself apart and build myself back together genetically. Right.

That's a whole other layer. There's some people that say that my mom had breast cancer. I just want to make sure I'm safe. So there's various levels of coaching we can do.

And our intention is that because the gene, the same algorithm or artificial intelligence that we build to populate the reports also ties to solutions, meaning that if we know here's what's wrong, we also know uniquely kind of how to fix

that.

So we're going to keep curating things like supplements, like therapies, like people like yourself who are specialists and experts to tie to that person's genetic weakness so they know what to do about it.

That's really the sort of long game for us to say that once you're in this ecosystem, you're going to find the things you need driven genetically. So they're solving your particular problem at the root causes opposed to masking a symptom.

That's great. Thank you so much again for joining us and sharing your wisdom, your experience, your knowledge to help people in our audience get their health back.

It's a pleasure. It was awesome. Join you for.