Introduction to the Summit and Guest

Welcome back. You're watching the Restore your Mitochondrial Matrix summit. I'm your host, Laura Frontrow, and I'm bringing you experts with fresh ideas and proven methods to help you boost your energy and fix your health so you can build the life you love.

And today, my special guest is Kashif Khan. Hi, guys. Welcome to the show. How are you doing? Pleasure. Be here. Great, great. I'm so glad to have you here.

You have such an interesting thing that you do. And I can't wait to jump into this. Kashif, you are the CEO and founder of the DNA company. And this is where personalized medicine is being pioneered through the human genome.

And as I understand it, you actually dove into the field of functional genomics with the DNA company and noticed that your own genes had a particular sensitivity to pollutants, which got you thinking of your own family's genetic pathways and what led to their challenges and the opportunities to reverse chronic disease.

Is that right? Yeah. I mean, I grew up around illness. My right actually grew up in poverty because my dad was so sick you couldn't work, right? You had chronic diseases from the time I could remember.

And I just thought that that was normal, you know, cardiac disease. And then my grandmother was sick. My uncles were addicts and depressed was just a whole mess around me.

Right. Wow. So this is a fascinating that this is what got you into DNA and led me there. I mean, I didn't come from the industry. I, you know, I didn't come from the science side.

I was running a PR and marketing company in Toronto and I helped startup companies grow. And I just got sick myself. And I learned from my own journey of being failed by medicine and only ever treating symptoms and not understanding why.

My biggest question is why? Why does this stuff happen? Yeah, why do we get sick? When I wasn't born sick, I didn't have these problems last week. Now all of a sudden they have. And what changed?

And it was my genome that sort of helped me unpack and understand root causes.

Kashif Khanu2019s Personal Health Journey

And I'm not talking about genetic conditions like sickle cell syndrome, like diving deep into cellular function and truly understand what's going on. And I was able to resolve everything that's so incredible.

So today we're really going to get into why do we age at different rates. We're going to talk about how genes drive cellular function. We're going to talk about the science of genetics and longevity.

So why don't you start by really telling us the story of how the DNA company was formed? What happened there? Yeah, sure. So there's a brilliant scientist in Toronto named Sir Mohammed who was sitting in a clinic dealing with sort of, Canada's wealthiest people at the genomic level, helping them solve their problems.

A lot of it was wrapped around breast cancer at the time. And so I, like I said, had issues myself. I had, you know, skin issues, migraine issues, which was probably the worst of it.

Digestive issues, even mental health issues sliding in and out of depression and all of this stuff kind of seemed like

it didn't it didn't add up. Like, why all of a sudden I've been healthy my whole life.

Why all of a sudden, what's going wrong? And so I learned through him and another friend named Bryce, who was a functional medicine practitioner, that what I was doing to ask, you know, sort of clinicians, doctors, like, how do I deal with this?

Which was a pill for this. So scan for this. So, you know, literally an MRI had to figure out why you get migraines. This type of behavior was only ever masking the symptom.

And so what I discovered in my genome that I hate was literally forget about snips or variations that you hear about, like, mutations that people talk about.

I was entirely missing very specific genes that that instructed core detox processes. So that innate cellular health, like the beautiful thing that you just said about, you know, the energy that you can derive from having healthy cells, like kind of the message I got from you, that's what I was missing.

My cells were under heavy, heavy load and the pressure of all the environmental toxins, the food I was eating, everything that I was doing wrong because I didn't know what the right choices were for me, were once I unpacked that and understood how it was wired, what to do about these genes that I was missing, what to do about other genes that were overcompensating.

All the symptoms started to go away. Eczema. Psoriasis. Migraines. All these conditions I had, which were just the outward, you know, last step of this cellular health failure, I was experiencing.

Right. Once I started to unwrap all that onion and get to the root, this hub that drove everything or everything right away. And I haven't had these things in years.

Right. So from there, I started to unpack. Well, why was my dad so sick? Why was my mom so sick? I just grew up watching them and know that's what I started to learn about female hormone health and how it's so very deterministic versus the gray area that we think it is.

And you're supposed to have problems with your hormones. That's kind of what we have in here, right? And then my yeah. And my dad with heart disease and with diabetes.

And I started to learn that that doesn't have to happen if you understand why it happens. And that's when I literally walked away from my business and said, I have to do this.

And I funded it and put took a full time focus. And we built into what it is today. That's incredible. I mean, really, this is it's so remarkable when it was your own health and your family's health and the people you love and the people around you and this huge.

That. Wait a minute. It's not the way Western medicine is telling us. It's not the way we've been instructed. There's actually more to it. And we can solve our own problems if we know more about our DNA.

That's what I'm hearing you say. Yeah, I'm in Western medicine. You know, when it comes to acute, like, I feel very blessed to be in Canada where I can go to a hospital if I break my arm or if I have a terminal condition, they will help me, right?

Yeah. But why did I get that terrible condition? I won't get that answer right if it's not genetic in nature. Meaning there's a switch that was turned on or off that directly equals the problem.

There's certain diseases that that's true. And you now have to manage it. And you have to find a therapeutic that will help you sort of maintain good health while you have that condition.

But that's a very small slice of health care problems, 90%. According to the CDC, the center for Disease Control

says that 90% of America's $4 trillion health care budget is spent on chronic disease.

You are not born with any of those problems. The nature of being chronic, meaning that you took seven, ten, 15 years of wrong choices misaligned to your genomics to eventually caused that level of inflammatory load that a disease expressed, which disease depends cellular where you're doing wrong, or it was driven by hormones.

If it was driven by toxins, you can try to figure out which disease. But you didn't have it. It wasn't an eat. You weren't born with diabetes, right? It's it's it's something that happens over time for making poor choices.

So what I understood that that's what I understood that not that Western medicine was failing, but it was taking that acute toolkit and applying it to chronic disease.

When we have to look at cognitive very different ways, we get see why and then not treat it, but prevented or reverse it, which you can do.

Founding the DNA Company and Root-Cause Medicine

Yeah. Preventing and reversing the name of the game. And I know that's why so many people here are watching because they haven't fix their health yet by being in a model of care that's just sick care instead of care.

So a moment ago you mentioned a switch, and I want to get more into that because I think that that's a really good way to wrap your mind around what's happening with genetics.

But and I think this is a segue into that. So how much do we really need to know about epigenetics versus genetics. And can you tell us about that switch why you talk about that.

Sure. So, so what is your DNA? It's every one of your 57 trillion cells has an instruction manual inside it, and that is your DNA. It's a genetic code that's literally instructing your cells what to do.

Every cell accesses a different part of that instruction manual that we don't understand yet. How does each cell, the heart cell, liver cell, know what part of the book to read and then what to do?

We we're not quite there yet in science, but we do know how they interact, the cells and the instructions. So in that code you have 22,000 genes that make up your book.

Sometimes there's a spelling mistake, right? Each each gene is thousands of letters long. And there's 22,000 certain genes. We learn we'll have a T instead of a C.

And it's kind of like you're reading a book and there could be Earth air, two different meanings. If you're reading the book, you kind of still understand what it's saying, but you'll catch the mistake.

All of a sudden the function is different. The instruction is different, right? What you meant to say is, is now different because of that one letter.

So that's the switch. And that's where most sort of formal research, genetic research is focused. Let's find what are called the snips and then and SNPs.

These switches where the spelling mistake is there. And now this gene does something different. And if we can study a thousand Alzheimer's patients we might find a gene that tells you you have an 80% chance of Alzheimer's.

All that does is give you anxiety that you're going to have Alzheimer's for the next 30 years, waiting to see it doesn't tell you why or what to do about it.

All we found is this switch right now for genetic conditions. It literally turns the condition on, meaning something like sickle cell syndrome. You are born with it.

There was a genetic switch, this letter that was spelled wrong. Turn that condition on. You have it from birth and you have to live with it. Right down syndrome.

There was a switch that was turned on or off. You now have it. You have to live with it. So what we're talking about chronic disease, which is the majority of what people deal with, there's no switch for that.

What there is is switches or instructions that are pointing to poor cellular function. And if you start to understand which cellular function, you now know what you pointed out, which epigenetic choices are going to take you from.

I was born with bad genes to I was sick. And I'll give you an example of that. And using my father's example, I mentioned his cardiovascular disease. Right.

So when we look at heart disease, it's usually not in the heart. It's usually in the arteries around the heart. Right? You the calcification, the blockage, the, you know, the postural buildup that's eventually gets so bad that the blood doesn't flow to the heart.

Heart attack happens, but the heart was healthy up until that moment, usually. Right. So why this happens is and now there's some geneticists out there trying to find the heart attack gene, which is not the way the body works.

Right. What's actually going on is we know in biochemistry that the root of the cholesterol limit, the calcification. The blockage is inflammation, the arteries, which is where the disease happens, get inflamed.

Very specifically the inner lining. That's called the endothelial that gets inflamed. Why are the inner lining and not the outer? Because the inner lining is where your blood flows through and touches, and sometimes your blood is delivering toxins, heavy metals, things that this cellular structure was never designed to deal with.

Right? Right. Especially given the way we live today, the way we eat, the what we have to breathe, the chemicals we use to clean our house and make our garden so beautiful when we're bringing those into our system.

Some of us, like myself, like my father, are missing the genetic code to clear those. So there's a police force that's supposed to be in your blood, directed through the GST family of genes.

There's several genes. Under the GST family, it's possible to not only have that snip or spelling mistake. There's something called a copy number variation.

The whole page is torn out of your manual. You don't even have the gene. There's there's no error to look for because you don't even have the gene. So imagine you're reading a book and there's a page missing, versus a spelling mistake, which is what most genetic testing companies look for, right?

So now, if that's the case, and you have this missing code and you're working in an office building and there's chemicals to spray and clean the washrooms, and you're walking downtown and there's pollution, and all of a sudden your body cannot clear that stuff.

So it's free flowing in the blood, causing and wreaking havoc to this week, which why by the way, there's different quality versions of this hardware.

Your genes determine are you resilient stainless steel or more paper thin, which is possible if you have the paper thin version and you're missing detox genes like me, and you're going in the wrong environment bringing them in, that's the epigenetic part.

You're going to cause inflammation here. The body will then use cholesterol as a hormone to reduce the inflammation. That's why the cholesterol is deployed in center.

It's not a disease. It's a repair mechanism. It's a hormone sent to repair inflamed tissue. It's when that cholesterol meets the toxicity. Or there's certain genes that instruct the transport of the cholesterol what you may have the bad

version of that.

All of a sudden it starts to build up.

Genetics, Epigenetics, and Chronic Disease

And then eventually doctor says, oh, there's a biomarker that looks off, your cholesterol numbers are high, and that's the root cause of heart disease.

But what we're saying is heart disease isn't a disease. Arterial disease is a disease. And it's rooted in inflammation caused by toxic insults. There's multiple combinations of why you could get there.

I don't detox, I have bad quality hard work. I don't deal with inflammation well, which is methylation suppressing the inflammation. There's many reasons why it could happen, but they all point to the same thing that it was the inflammation.

Here was the start, the beginnings of the disease. That was the sort of impetus what we're now treating is 15 years down the road of a trigger of your cholesterol numbers up.

Start taking Lipitor. Yeah, I can if I can still remember working in, you know, I worked in Western medicine clinics for 20 years prescribing cholesterol drugs.

Yeah. And I can remember somewhere in the early 2000, the concept of inflammation is a problem, right? The vessels and I remember the studies that were coming out about statins and oh, maybe they're reducing inflammation, that maybe that's why they're working.

Anyways, I'm really glad you're talking about this. And the thing that I would love to highlight is something that you said, and I want to make sure the audience catches this because it's so central, I think, in functional medicine and the type of practice that that I now have, which is toxins cause inflammation, heart disease.

Right? Or I mean, the problem is a toxin problem. And that is if if your functional medicine practitioner is most people watching this summit are going to be savvy about functional medicine, naturopathic medicine or some alternative, which I even hate to say alternative, but some other form of medicine other than than Western traditional medicine.

But if your practitioner is not looking at, toxins as a source cause of problems, we have a problem. Problem? Yeah. If you ask the question, like when you look at it from that perspective, like, well, you just laid out the evidence is right in front of us.

You look at things like autism, where a couple generations ago it was 1 in 10,000 children. Then a generation ago it was 1 in 500. Now it's 1 in 58, right?

The kids haven't changed our g. Our DNA of today is the same. For the past 250,000 years, the genetics haven't changed. We had the same people, same type of structure.

Yeah, we're all a little different, but the overall manual is the same with a quarter million year old manual. Why all of a sudden did we go from autism?

Didn't even exist five generations ago. Tell it's 1 in 10,000. It's now 158. What change is our environment? The exposure to chemicals, the food that we eat that's laced in pesticides?

Even something as simple as a natural flavor, which seems simple. The processing required. The heavy metals used 75 to 100 chemicals used to take that natural flavor, which was from a natural source.

It came from a plant or an animal. That's why it's called natural. But to get it into your food requires literally 75 to

100 chemicals, right? You're also ingesting that, but those are not required to be listed because they're not ingredients, right?

Those are processing chemicals to get the ingredient into your food. And you wonder why all of a sudden, so much chronic disease, so prevalent starting at earlier ages, kids are doing well.

Childhood obesity, all this stuff. We haven't changed as people. Our exposure has changed, and it largely has to do with the environmental toxins and the toxins in our food.

Absolutely. People are genetics, which we're talking about right now. It doesn't change that quickly. It takes thousands of year evolution. But what is rapidly occurred is the change in the in the Industrial revolution and the amount of chemicals that we do use.

And something else I want to highlight shift that you just said, make sure everybody gets it. Natural flavoring is code word for chemicals. Yeah. Any time I pick something up and see natural flavoring, it goes right back on the shelf, become a label reader.

Natural flavoring is, it's actually criminal that it's called natural flavoring because it makes you feel safe. And it's really unfortunate. It's a marketing marketing gimmick.

So thank you for unpacking all of this. I'd love to know when we're time together. Genetics with mitochondrial health, because we are all about fixing mitochondria little powerhouses of engines of our cells and boosting energy.

So talk a little bit about how genetics is tied to our mitochondria. Yeah. So there's like the straightforward how is it tied. And then we can spend another two hours on, you know, all the different ways in which your body is affected by your genes and your mitochondria.

So the basics of it is that, like you said, your mitochondria stores your powerhouse. It's where the ATP and energy is produced. The process of creating energy, which all your cells do is let's take in some oxygen, let's take in some nutrition and convert that to energy.

So these are these are the source. This is the wood that you're burning to create that energy. But anytime you burn any kind of fuel there's always a byproduct.

There's always smoke. Right. So just like your fireplace, when you're burning those wood logs, the soot has to go somewhere. Your cells. There's a gene called solid to which determines how well you do with antioxidants.

Remember, taking an oxygen creates oxidants. So the irony is, the thing that gives you life is slowly aging you and killing you. Right? If you don't have a good relationship and don't know how you deal with this stuff.

So if you are that person that has a suboptimal version of the solid two gene and you're running on the treadmill, you're doing high intensity training, you're not sleeping properly.

You know, too much stress and that oxidative stress load is high. Well, then you're burning all this fuel to create energy, to not be able to deal with the soot.

So it's like your fireplace doesn't have a chimney and it's piling up on the cells. And this is why you look at kind of, you know, marathon runners that are sort of older.

And there's a few that look amazing. You know, they've been running all their lives. Heart health is waiting. But for the most part, they're all like haggard and wrinkled and white hair.

And, you know, they're they're thin. There's no fat on them, but they look like they just like a candle melted. Right? I don't know how else to explain it because they've aged themselves so much on that oxidative stress load.

So the cells are unraveling. The hair's unraveling inside. They can't feel it. But the amount of inflammation they've caused themselves, so this is where, for the most part, we are not wired to do the one size fits all recommendations.

Heart's not good. Go run on a treadmill. Well, that might actually make your heart worse because you're going to increase inflammation. You're going to crease free radical activity in the blood for which this bad endothelial was.

Well, that was a source anyway. Was the toxins you were sending here that caused the inflammation for some people? Great. There's some people that have the optimal version of that.

You know, they do really well, but for the most part, no. Then you look at mitochondria is not just an energy production. Sort of powerhouse like you described it also a signaling system.

Right. So it's that communication system. You, you know, I touch my, my head and instantly every single cell in my body knows exactly what happened instantaneously.

We have no human capability of communicating at this level. You know, at 57 trillion individual cells instantaneously. No. What just happened? That's that communication, both external and internal, is the mitochondria is highly implicit in that.

So when we look at the genetics of, you know, female hormone health, we look at the genetics of oxidation, glucose ionization, methylation, all these loads.

And we start to see that it's not just energy production, it's also oxidation. But overall biochemical function starts to slip because that communication gets blocked.

Imagine if this is your you have 57 trillion cellular phones that are talking to each other. And all of a sudden they're trying to get through the smoke and all this other stuff, you know, sorry, I can turn that off.

Very. Then all of a sudden you have these failures and you start to see that other biochemical, biochemical processes in the body start to fall apart, and you can't find the root cause, like, what's going on?

Well, there's a heavy, heavy load on your mitochondria. Everything's struggling. Amazing. I'm going back to what you said, like three minutes ago. I just got the biggest smile because I knew there was a good reason for me not to be a marathon runner.

Well, that was faster.

Toxins, Inflammation, and Environmental Exposure

That's actually. The interesting thing is, any time we sit with someone for like a clinical review and we tell them that they they know it, or they say, I, you know, I know it, I hate running, I hate cardiovascular exercise, I hate it, they feel it because you can't recover the next day.

You feel horrible, right? But some people don't. Yeah. So I bet I have that gene because I hate it and everybody else says no. You can build yourself up to it.

You can do it like you don't understand. My entire life, I can remember in high school having to run in a class, right? Having to run. And I am not a natural athlete.

It is literally torture for me. And it's like, I don't want to. Yeah. It's not. I've just always felt lousy. So I can't wait to run genetics and find it.

And I would tell you from our research, there's more people that are suboptimal than optimal. We don't find that many people that we as humans, it wasn't normal activity, and we didn't run around and put ourselves under these

high cardiovascular.

We lifted heavy things. We still exercised, but it was more like moving, lifting, pushing and short term. Right? Not yes. Prolonged. Right. Oh, I'm so glad to learn that this is why I'm going to stay youthful forever.

Because I'm not going to my my my, my I'm not going to melt off my, yeah. No, I'm not going to age and melt away. Yeah. Oh my gosh, I love it. This is so fascinating.

Thank you for tying in the mitochondrial piece. It's so important. And I think, you know, the first person that's really talking about the communication, the mitochondrial piece of being, a network of communication, right.

That happens instantaneously. Yeah, it's really cool. I mean, your mitochondria is constantly sort of looking outwardly to understand what's happening in the environment around you, you know, so there's your, your body gets signals from a few things or emotion like what are you feeling.

So your body knows what to prepare for. Temperature, you know, volume. You're responding to all this stuff in your mitochondria, these little sensors that are understanding what's going on in the environment around you.

And again, going back to toxins, going back to the things that we weren't meant to cope with interrupts the signal. Right. Things like 5G. And you hear all the conspiracy theories that there was no Covid, there was 5G.

They gave everyone all the, you know, a good going there. But I was saying that there's definitely a disruption in human function because we were not designed to cope with these interruptive signals.

I have to tell you, I'm not looking forward to upgrading my phone ever, because I have the last 4G phone. Yeah, someday it's going to die. Don't 5G phone.

And that's the challenges you have all these emfs that are out there that are like, right now we're on two devices talking to each other. You know, we're gonna probably be on TikTok or Instagram at some point tonight scrolling or just go at it this constant this.

Right. And we were not designed for this. So if your mitochondria is supposed to be that source of understanding what's going around you and you're constantly sending disruptive signals, right?

It's like being in manic anxiety or in anger. It's not healthy. Your body doesn't understand the signal. It is. And unfortunately, we're going to have some EMF experts come on this summit as well and talk about that.

So make sure that if you're viewing now that you listen to those interviews because, it's all tied together, everyone, if you aren't figured out already.

Right. So important it is. So can you, tell us a little bit more about. Really? I'd like to know what are the biggest areas of impact that you've seen in clinical practice by using, the DNA companies testing what?

Why why do we want to get this done? Really speak into. So when you I mean singling us out there's I can tell you what we do different and uniquely. We figured so one thing we did, by the way, is we understood.

And this was from my own personal experience, that genetics itself didn't. It was underwhelming unless you had one of those rare genetic conditions we're talking about.

If you had diabetes, breast cancer, fibromyalgia, menopause problems, all the big things that we have, we have to deal with. Yeah, we weren't really getting it. Outcome.

It was well, that's not genetics, that's lifestyle. That's what I, that's what I want to know. What lifestyle is my genetics telling me to have. Right.

So what we ended up doing was we said that there's enough data on genes. What do they do? There isn't this sort of filling the gap of here's human biochemistry.

We already know how the body works as a cardiovascular system, a hormone system, neurochemicals of the brain. We don't know what how the genes mirror those systems in that context.

Not this gene means this. This. You mean this? But here's a hormonal system. Now tell me what genes drive all this, right? We already know how the body works.

So that's what we did. We we we studied 7000 people over three years, one by one by one by one. All end of one. Because we said, if we're going to create personalized medicine, it's got to truly be personalized.

We got to get down to the root of each individual's problem, resolve that, that we have something in the bucket, something learned. And we keep learning.

Keep learning until we start to see trends and profiles that also we can help more people and scale because they fit into profiles. So that's the way we went about the research.

And we said that once we identify suboptimal profile, we then need to ask, not the way you're told. This gene means you have an 80% chance of Alzheimer's.

What we need to ask is why did 20% with the exact same profile not get it? What were they doing right? Going back to the very first thing you said of sick care versus well care and health care, like true health care.

Health care is how do I maintain your health? Secure is how do I treat you when you're sick? So we understood genetics was looking at stuff wrong. It was treat.

It was studying the sick only. So they're only ever coming up with solutions to deal with the sick instead of learning the habits of the healthy, the epigenetic habits, environment, nutrition and lifestyle.

What did they eat? What chemicals were they exposed to? How did they exercise? How did they sleep, and what from those for each condition caused them to go from the 20 to the 80%?

So let me just rephrase what I think I just heard you say. You looked at people who had genetic snips, but they weren't sick. They were doing great. And you decided to study what set them apart? Yes.

That is fascinating.

Mitochondria, Energy, and Cellular Communication

Yeah. Nobody does health no good. Because if you're not sick, what is there to study? That's the belief. Now, there's no money in that, right? Like the money is what?

What NIH grant funding? Are you going to get to study these people? Right. Everything is pharmaceutical driven every time. Don't even get me started. But okay, so when we at the self-funded, we we I had meetings with the Canadian government and I showed them some of our work and they said, wow, this is groundbreaking, but we don't know how to deal with it, right?

So we just paid for it. We just funded ourselves and we partner with a bunch of clinics, and we work because we knew this was what was needed. We needed to not tell people, you got 80% chance of this 50%, right.

We need to tell you, how do you stay healthy? That's what your genetics should inform you. And just like the cardiovascular example I give you, it's not the recommendation.

You would typically go run on a treadmill that would have made the problem worse. Right? The the solution is

unique. You need to focus on your glutathione pathway.

That's the cause of your heart problem. So we did this in a few areas. You name a chronic condition. We've studied it. But the six areas that we found that are the if we were to give you your instruction manual for you to become like version 2.0 of yourself.

Optimal version. Here's the areas you need outside of like clinical representation, like actual clinical problems. And those are diet nutrition. What do I eat?

And not only what do I eat? How do I how do I even perceive behavioral genomics? Am I an addict? I'm a binger. Do I graze at the pantry and I don't even know I'm doing it.

So we study the neurochemicals of the brain and how that applies to how you sort of have a relationship with the food and then food itself. So macronutrients like where should I be? No keto diet?

Should I be vegan? Do I actually have the genes to metabolize fats and have the enzyme activity to break down beans, lentils, or glooms where I would be a successful vegan?

That's all genetically driven. So diet, nutrition, hormones and fitness. So when it comes to body type, you know, hair, skin, acne problems, I'm going to the gym.

Am I meant to do, be doing deadlifting or running on the treadmill? All of that is directly driven your success comes from. Yeah. So what you're telling me is you can look at my DNA and you can tell me you're fit to be a vegan or you're not.

You're fit a carnivore or you're not. Yeah, I can tell you that. There's doctors that we've talked to where we've told them that the, the root cause of their illness that they can't figure out is the day they became vegan.

Right. And I can. Yeah. And there's there's one particular doctor who that was the one thing she would tell every single patient. Become vegan, become vegan, become vegan, become vegan. Right.

If it works for you, great. It's the best thing you can do. There's way more people for whom it doesn't work that it works. I can't wait to do this. You know, I feel like crap if I don't eat meat.

If I try to be vegan, it's ridiculous. But I have that too. Yeah, it's actually a methylation gene. And you're familiar with methylation? Yeah. Methylation is your anti-inflammatory response.

So break down inflammation. Break down methylation for the audience really quick because I know they hear that word a lot. Let's make sure that everybody understands what that is. Yeah.

So the outcome of methylation is reducing inflammation. What it's actually doing is it's the your body sends what's called a methyl group to bind on to a toxin.

So there's some liver, some sorry, some toxins that are cleared through glutathione, where glutathione goes to the liver, gets through the toxin. Some are cleared through methylation, which is methyl group attaches to whatever you're trying to clear.

It becomes water soluble. It kind of converts it. And then you can you can peel it out or get rid of it. Whereas that thing you weren't able to clear it.

So what the, the misnomer or the myth is that for that gene is methylation. It's the most studied gene, but it's a cascade. There's a system. It's it's not this gene does this, this gene does this.

No. There's a whole process. And systems you have to understand from step one till seven, of which there's seven steps you could have the best for. But if everything else sucks, you're really not doing a good job or vice versa.

All right. So so going back to that, there's the first gene fact too. It's called effort to also determines how well you produce the enzymes to break down beans and lentils and chickpeas.

And this is why so many people have hummus and they get all bloated and they can't eat their next meal. They're not even hungry for their next meal because they're just so bloated, and their stomach is so irritated from not being able to break that stuff down right.

So that's the second area is hormones. Fitness. We talked about diet nutrition. Right. Then we look at sleep. And this was unintentional, by the way. We never set out to say, hey, let's look at the genetics of sleep, because nobody believes that there is an there is even a genetics of sleep.

What we learn is that there's some people that can't fall asleep, some people that can't stay asleep, they sleep okay, but then they wake up in the middle of the night.

Then there's some people that sleep through the night, but they wake up feeling like garbage, like I didn't get quality sleep. Those are genetically three very different things.

Your internal clock, your circadian rhythm is driven by two genes. One of them is actually called clock. The clock gene actually. Yeah. Regulates your internal rhythm.

And then there's your beating heart for brain derived tropic factor gene which also works with clock to set your circadian rhythm. You may not do well there, which means it's hard to fall asleep with the light.

So the Instagram with the blue light and the laptop and some people, no problem. Some people completely screwed them up. Serotonin is. So when it comes to sleep, most people think I'll take a melatonin pill, right?

If your problem was I can fall asleep, great. If your problem problems, I can't stay asleep. It's not going to help you. The problem with waking up in the middle of night is your serotonin is produced in your gut while you sleep, and is triggered to react when you wake up, which is meant to be first. Sunlight.

Which means if your serotonin is dysregulated, your body doesn't know when how B pulls on the blanket, when there's a weird smell, when there's noise.

Was that sunlight? And I'm supposed to get up? Or was that just something I'm supposed to sleep through? So that stimulus after the first sleep cycles, we sleep in cycles, right?

The first cycle, your body knows I'm asleep after that, any stimulus, a noise, dog jumps in the bed, whatever. It's very hard to convince your body that it's still sleep time.

And there's ways to deal with that, right? Then there's environmental things like, for example, how many people sleep on a memory foam mattress where every time you roll over, you're popping little bubbles of off gassing, you have chemicals that are in there and you sleep through the night, which is the time you're supposed to recover, but you're exposing yourself.

So to so many toxins, your body can't even get to what you were supposed to do during the day, and you wake up feeling not recovered. Right. So when we look at the genetics of sleep, we can get very specific about why you can't sleep, not why people can't sleep.

Right. Then we look at cardiovascular health. So you know what we talked about. Cholesterol limit hypertension diabetes all the big stuff that fits in that bucket.

Why what had happened to you? What can you do to avoid it? And if you're sick, how do you reverse it? Then we look at innate cellular health, which is what we're talking about here today. Mitochondria.

How do you deal with detox inflammation?

Personalized Testing for Diet, Hormones, Sleep, and Behavior

How do you maintain vibrant cells, which is really the hallmark of anti-aging, right. If you want longevity, your cells should be healthy. And the last one, which is probably the biggest report, is mood and behavior.

So because we uniquely met with these 7000 people that I told you about, we didn't realize how much we were going to learn about their behavior and how that's connected to the genes.

So let me give you an example. Using myself again is the guinea pig. So when it comes to your pleasure or reward response, dopamine is a chemical that allows you to experience that.

So when you either eat something tasty or do something, go to work. Pleasure reward. Dopamine is deployed and you have to bind it. And then you experience that feeling.

Then you have to get rid of it to go back to normal. So the gene that determines how well you bind do it actually determines the density of the receptors, how many receptors you have.

I have the least possible density. Then there's a gene called Meoh that breaks it down. I have the fastest Emil. Then there's a gene called Comt, which comes in sweeps away the broken out stuff.

I have the fastest call, so I feel a way down here and it lasts a long and it's done. So there's three outcomes for me depression, addiction, achievement, depression because I just don't get to feel.

And I'm in a context where there is no pleasure or addiction because I find something pleasurable and I pursue it and chase it, or achievement because I feel the reward instead of feeling the pleasure because it does both.

This is driven a lot by context, you know, if I am, you know, striving r three, sorry, struggling because I need cash or somebody needs help or, you know, I need a new car or whatever I'm going to achieve and work and work and work.

But once I get to the point where I feel like I don't need to work anymore, I might get depressed because I'm going to stop trying, right? And if I then get depressed and feel like I need to be happy, I might need something else that makes me addicted.

The same pathway leads to all three things. It just depends on the context. That's the epigenetics, what choices I make, right? So when it comes to the neurochemicals of the brain, I don't ever need to meet you or talk to you to know exactly how you behave.

Your personality. Do you procrastinate? Are you irritable or are you a drama queen? You know, are you going to slam the door and walk out of the meeting?

When I tell you that I forgot to do something, it's all driven by the neurochemical pathways of your brain. All the neurochemicals are driven by your DNA.

This is so interesting. You could really, really run this on all before. Like, I could just imagine being in the dating scene or before I get serious with you, let me run your.

Yeah, let me run your DNA test. I can't tell you how many, including, by the way, earlier today, I can't tell you how many sort of family reviews turned into couples counseling.

Completely unintentional. But when they start to hear things that makes so much sense. Like, for example, this afternoon we were talking to a couple two CEOs, right to high power high.

And the husband because his serotonin is optimal. He's very macro. He doesn't really concerned himself with details because he's not responsive to stimuli.

So he's used to thinking on a macro level the wife higher serotonin is more dysregulated. So she's much more sensitive to stimuli. So when they're trying to make decisions together, he's like, yeah, it's okay.

She's like, no, we haven't even looked at this and this and this thick. It doesn't matter. It's fine. And she's like, no, but what about this? And what about this?

He said, I understand it all and I'm fine, right. But she needs to think about the details. The wheels need to spin, or she feels like she hasn't done the same thing that he just finished doing. Right.

So we can really start to understand how to help people cope, whether it's teams, relationships, dealing with your children. You know if you understand that this is who you are, it's not just a reaction to something, then you know how to cope with the people around you.

And some of this stuff can be shifted right once a shift in terms of. So for example, the same thing of her being high attention to detail is also when she goes to work.

It's a superpower because she's seeing all the nuances that her peers don't see. It's also she's highly irritable and she's she reacts to everything. And people are like, we got to walk on eggshells around her.

So if you start to understand the context, drives the outcome. Then you can start to control where what when they say it's not that bad, maybe it actually isn't that bad.

You know, I just feel it a little bit more and you can start to come at people and sort of meet them where they're at. Right. So I think of all the personality matrix, you know, tests that are out there trying to figure out, are you analytical or are you controlling?

Are you promoting or are you supporting? Are you or any Enneagram or and I'm saying that. Right. Or all these different ones, they just need their DNA.

Just. Yeah, yeah. You don't need to guess. It's wired into your brain, the chemicals, you know, there's there's a gene called add or to be that drives your noradrenaline response.

So here's the literal PTSD response. So there's some people, there's you remember the Rwandan genocide that happened. The I think it was called the Hutus and Tutsis, these two tribes that were killing each other like massacre it. Scientists went there to try to understand why the second one of the war was over.

These are people that were chopping each other's arms off at the elbows on a regular basis. They were right next to each other in the market like it never happened.

Best friends again because they had the optimal version of the additive gene, which means they actually had difficulty and experienced PTSD and trauma.

Wow. They can't imprint negative stimuli. Oh that's fascinating. We can talk for hours on this. When we started this talk, we could talk for a really long time.

I mean, I have so many questions. Yeah. I'd like to know what the DNA is of serial killers. Right. Like what you know what's happening. Yeah. I mean, we've looked at that kind of stuff.

We work with the US military and the black cop Special forces to understand who's a killer who should be deployed in active combat, who should be back in, you know, who should be the source or the engineer.

We when you when you understand the outcome, this person needs to be able to kill. I mean, that's not something we like to be working on, but really that's what they're saying is who can go into active combat, do their job and come back mentally healthy.

We had to do that work for the literally the, the black ops, right. The Special Forces. And it was very interesting work because we actually did find that there's people that needed to be pulled from their positions, that literally so much dollars are spent on training for the wrong job.

Yeah, that would have been highly traumatic and devastating and probably ruined their life. Yeah, yeah. I mean, this is this is a really good thing that they pulled you in.

This has been amazing. Can you can you wrap up by, speaking a bit about how when people have this kind of test, how do you secure their data? I think that's really important right now. Day and age.

Really important. Yeah. You know, that's a big, It's not just about the data. We'll get into that. But this is also. Excuse me. Why the genetic test that people have been using up until now?

Haven't given them an answer. So the genetic. And here's a dirty secret. The genetic business sucks. Why? Because your DNA doesn't change. So if I run a DNA test on you, we're done.

I never need to sell you anything again. So when all these research companies came about to learn and work on something called the genome, which was such a wonderful thing, their investor started to realize the business model is no good.

It's one DNA test per person, and we're done. So they said, well, what else can we do? They realize, well, we have all this important information, we can start to sell it to people.

And so they all became data selling machines. If you look at, you know, I think it was 2019 or 2020 when 23 me raised their big $300 million funding round.

Who gave them the $300 million? Was GlaxoSmithKline SmithKline. Why? You know, one of the biggest pharma companies in the world because they had a standing offer for everyone that's going to pay you $200 or $300 for a test.

We'll pay you $5,000 for the data. So now if that's the disparity between what the data is worth and what the test is sold for, is this like infotainment tell.

So iMessage, the product is being designed for that guy, not for this guy. Right. The product has been designed for the guy paying 5000. What they want is a data dump.

Give me all the genes with all the snips. That thing we were talking about earlier, right. Those switches, they want to know all the switches, because if they find enough, they can now make a drug for this and make a drug for this and make a drug for this. Right.

So they needed mass data. The problem with that mass data, it's not actionable for the person. So they're getting reports that are like why here's connected or not connected, what you can see in the mirror, you know, or you have you do have sickle cell is a number you don't think that may conflict.

So it's stuff that really you can't act on. And it's also a slice 2% of health care where 90% is probably disease. So what we said is there's a huge opportunity here.

If we are the guys that do what people intended, I give you my DNA, go mine it, and tell me everything that I need to know. That's what people want. So if we do that properly, then we will be the sort of the leading company in terms of outcomes, right?

That actually helps the buyer the task, not the buyer. The data. So in order to build it that way, it's not what the data buyer is. What. Right. Because we're testing for far fewer genes instead of a thousand.

We're testing for like 80 because those are the only ones that matter. Right. And we're testing different for each

gene. Sometimes we're testing for a copy number variation. The page is missing.

Like I said, sometimes it's a paragraph missing. It's not just a list of snips, like a data dump. Right. And so we put it right into our terms that we never sell data.

It's all an anonymized, aggregated, it's not our business, our businesses.

Data Privacy, Actionable Reports, and Behavior Change

We feel like if we do a good enough job of giving you insights and wowing you, and in fact, for everyone here, we even put a promo code together so that everyone can get like a discount on their stuff.

If they like, they'll go to the website. They retail. Just like you know that right now that you've the experience that you'll have, you will stick with that experience and you'll you'll understand health care from a new lens and you'll work with us long term, which is, we believe, the reward for not selling data.

So that's that's the approach we took. That's amazing. This is how it should be. Yeah, it should be if but it comes down to economics. If the money is dictating the product, then that's the product you get.

Absolutely. And I just love your I really love the foundation of your company which is really helping people get well. Yeah. Stay well instead of I mean you are pioneering well care instead of just supporting sick care.

Yeah, exactly. Yeah. And I when I walked into it like the scientists we were working with, you know, we had to drive that a little bit because it was my personal experience and other people that like we were failed by genetics, I was failed, I took a test and it didn't do anything for me other than literally give me anxiety.

So, it's that personal experience. You hear this so much in functional medicine stories where why did, neuroscientists quit their job to become a functional medicine chiropractor, which, by the way, I met the person last week that literally quit being a neurosurgeon to become a functional medicine chiropractor because he got so sick of just masking the illness.

And he said, this is not health care. So, so many functional medicine stories come from just being sick of that model and wanting to find and learn and like yourself.

Exactly. And then learn a better way. And it is there. It exists, but it's not, you know, for fraud, mainstream. And so we have to dig and find it. Yeah.

So it sounds like when people get a DNA test from you, they're really going to get a deep understanding of what they can do in their lifestyle and naturally, to support them with this genetic snip.

Yeah, there's really three things are getting there. Getting what where to focus. So we're telling them we're not giving you a list of genes where we're speaking to the condition.

Anxiety low medium high risk fat metabolizes. Sure. In the context that you actually need it. It's already been interpreted. It's not a list of science that needs a PhD to tell you what it means, right?

So that's one second. Thing is we're, like you said, including the sort of environment, nutrition and lifestyle thinking. So it's like, here's your suboptimal focus.

Here's where you need to focus, and here's the things that may be a problem for that genetic type. Here are the things that may be beneficial. The last thing is that we know what's wrong.

We know what to how to fix it, what supplements you should take. But how do we actually get you to do the work? Because, you know, even though people learn or, and motivated stuff gets shoved into drawers and never looked at again.

Right. So we actually hired doctor BJ Fogg, who wrote a book, Tiny Habits. I know who he is. Exactly. A amazing he's amazing. He runs the Stanford University Behavioral Change Lab.

He's a guru when it comes to behavior change. We said, here's our stuff. We figured out what's wrong in a way that people will understand in the big problems that they actually care about.

We figured out how to fix it. Here's the supplements and foods and lifestyle recommendations. How do we actually get people to do it? So he put right into our reports the sort of habit change thinking so that you can actually implement the stuff that we're saying to you.

It's like, consider doing this. Consider adding this behavior. Consider stopping this behavior. Consider putting this next to your bed like simple things like what?

Do you read it? It's like, I already knew that, but but you weren't doing it right. So we try to make it that easy. That, I guess I would say in a nutshell, all of this stuff was about making DNA easy, taking this super complicated thing that people couldn't use because it was too sciency, hard to use or to implement it.

Just making it easy, easy, easy so that any person can implement it and feel massive impact. This is fantastic and brilliant that you partnered with BJ Fogg.

I mean, everybody listening right now, if you don't know who BJ Fogg is, this guy is extraordinary and so good that he had a hand in helping you write that report and making it easy for people so good.

Yeah, he is incredible. Just to give you an idea, his students built Instagram, right. So based off of his science and you know how addicted you are to it.

So you know how it works. Yeah. That's behavior change. Yeah. And this has been a wonderful interview. I really appreciative of your time and super excited for everyone to get their hands on a DNA test.

You said that you're going to be giving a discount for viewers. Yeah. Go to our website, the DNA company.com/rms. So it's only for the people that are listening here today.

It's this conference RMS. So the DNA company.com/rms and you'll get, I believe it's 20% off. Amazing. So RMS meaning mitochondrial matrix summit. Exactly. Perfect. So good, so good.

Well thank you so much and really looking forward to connecting with you more in the future and collaborating with you. You're incredible. So pleasure. Thank you.

Yeah. All right. Take good care now. Bye. Right.