The Genetics of Brain Performance: Decode Your Brain's Wiring to Optimize Focus and Recovery Transcript

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Introduction to Genetic Mind Mapping

Welcome back to the Heal Your Brain Masterclass. I'm your host, doctor David Jockers. And today I've got the honor of interviewing Kashif Khan from Kashif Khan.

Official.com. We're talking all about genetic mind mapping. So understanding your genes and how to find your superpower. And that's what we're going to go through in detail.

Kashif Khan is a bestselling author of the DNA. He's a celebrity longevity coach and two times TEDx speaker. He is a pioneer in driving the functional approach to genomic interpretation, overlaying environment, nutrition and lifestyle, and genetic blueprint to create personalized longevity plans.

And he has developed DNA 360 and the Gut 360 microbiome tests. You can find out more about those at Cash Khan official.com. His website. And we're talking all about genetic mind mapping and how to really understand your DNA, your unique genetic blueprint to find your superpower.

You guys are in for a treat with this interview. So without further ado, let's go right to it. Well, here I am with Kashif Khan from Kashif Khan official.com.

We're talking all about genetic mind mapping and finding your superpower. And Kashif, how did you get into this? How did you get into functional genomics and really understanding how genes impact our behavior, our mood, really everything, every every element of our health.

So it wasn't your typical path, right? My, my, my path into it was actually from being ill myself. And I think a lot of great functional medicine stories have the same story.

Somebody was struggling, couldn't get a solution, made their own solution, and now wants the world to know.

Kashif's Health Journey and Functional Genomics

And that was sort of me. I had a lot of, inflammatory issues like eczema, migraines, etc. I had autoimmunity, psoriasis, all sorts of stuff all at once.

And it didn't add up. Like, where did all this come from? And never been sick. And then all of a sudden, everything right? First time I ever needed medical intervention didn't give me what I wanted in terms of the why behind what I was feeling.

And so I started to dig in, including genetics. And that's where I learned that there seemed to be some answers, but even that wasn't so clear. And so I dug in and kind of built my own interpretation around what these genes actually mean, including what you suggested around mine.

The things that we talk about weren't really taught academically, so we kind of had to build them. Yeah. Yeah, absolutely. And so what did you learn about your own genetics?

Like what did how as you were learning this, what did you figure out, that you were able to biohacking your own health. So if we start with the mind, the thing that hit me was, you know, there's this belief that there's opinion that there's right and wrong.

And what I didn't know is that we each see the world through a unique lens that our neurochemicals create, and the

genes determine how you process neurochemicals, how you bind them, how you make them, how you clear them, the duration of the intensity of the moment.

And so what? That was one of the things that actually made me very sick. There's a neurochemical called dopamine, which allows you to experience pleasure, but also reward.

So both sources of satisfaction ultimately, and whether you're achieving pleasure or reward, your brain doesn't necessarily need both, but either will give it to you and the way your body processes it.

There's a bit of an anticipation. And so the dopamine gets released, and there's receptors in your brain that start to activate to bind that dopamine, in order for you to have that euphoria in the moment.

Then there's breakdown and clearance and removal, which determines how long did that experience last. So there's proteins that get it out of the receptors.

And if you look at my genetics I have the lowest possible density of receptors. The D2 gene determines that. So my over the worst version of the D2 gene.

So the intensity level for me is way down here. And I have the best possible version of the clearance gene. So it's really fast. So the way I experience the world is I can't get no satisfaction.

Right. It's like it's it's felt way down here and it's gone way too fast. So at the time I got sick, I didn't know I was living in burnout and my nervous system was completely overwhelmed and fried because my brain was so able to say yes and seek more because I just couldn't get satisfaction.

But my body was no different than anybody else's, and it couldn't keep up. Right? So what I perceived as a normal volume of stress, what I perceived as a normal volume of work.

I was running ten companies. Wow. Right. I had ten different companies that I was building and running. Two of them were doing really well, six were completely failing, and two of them were kind of junior developing. Right.

But I didn't care. It's like warrior spirit. So that's what I learned, that structure and understanding what is actually required is the guardrails. I need to not slowly kill myself. Right.

There's also supplements to upregulate certain, pathways. There's also nutrition and teas. And once you understand the lens you see through it, how is it serving you or not serving you?

Then you can decide how to intervene. And now I don't have that burnout anymore, which was one of the major things. I was sort of slowly chipping away at my biological age.

Yeah. And that's because it takes a lot of stimuli to, to produce the amount of dopamine you need to kind of feel like a win, right? To feel pleasure and then you're clearing it out quickly.

So it's like you get once you get enough stimulus to get that win, it's gone pretty quickly. And so you're just you're just working, working, working to get that next, that next hit.

It was always the what's next syndrome, right. Every shiny object was exciting. And that's why it was. Why not do really well in one business instead of run ten different ones?

Because I couldn't say no to the opportunity. But what I've learned. And now here's what we teach people. How do you take that Kryptonite, that crippling Kryptonite, and turn it into your superpower?

Right? Right. And I've learned that there's equal satisfaction in saying no to a distraction as there is, and saying yes to an opportunity if it is aligned with the outcome.

So what I've learned is the person like me, who has a low dopamine brain really prioritizes by outcome. Show me the shiny object and I'll find my way to get there.

The person with the high dopamine brain with the higher intensity and slower clearance prioritizes by process.

Dopamine, Burnout, and Finding Your Superpower

Give me an instruction and give me a deadline. I the outcome isn't such a big deal. I need to know what to do and what to do it by. And if you understand the nuances of how your brain works and what drives you, you can start to structure things to get the outcome you want.

As opposed to force pigeonholing yourself into a structure that doesn't work. Yeah that's good. Now what you mentioned the DRD two gene. Yeah. What are some of the key ones.

Obviously it's a dopamine receptors gene. What are some of the key genes you're looking at there as you're mapping out somebody's super power. So the pathways you would look at and I'll talk about the genes are the dopamine pathways or reward seeking adrenaline.

So let's call it emotional impact and emotional intelligence. We look at serotonin. So mood regulation and propensity towards detail. So the brain's ability to filter and then brain drive neurotrophic factor.

So neuroplasticity. And you can take all these pieces and understand what each piece does. Then you can play this game of moving the pieces around and understanding what profile you've created. Right.

And it sounds complicated, but once you learn the pieces, it is so simple and elegant that you can really. If I have someone's DNA, I can describe their personality to a tee without ever talking to them.

And it's like a tarot card reading. Like how did you know that? Right? Because the neural chemicals don't lie. So let me give you an example. There was a project we were working on. So why?

I know what I know is because once I healed myself and then my mom and my niece, I built a research project. So I hired a couple of MDS, a couple PhDs.

They literally sat at my dining room table because I don't even know why I was doing it. And we started a map out, which now is referred to as functional genomics.

So taking genetics, just like medicine, is diagnosed and prescribed and functional medicine is why, why did you get sick root cause the same thing was happening with genetics.

Genes were bucketed into a very disease centric. This is causing this. This is causing that, not the functional. How do these genes equal eventually disease?

What do I do about it. Right. So that's the science. We created functional genomics. And that only happened because I sat in front of people and clinically interacted with them to figure out not only the sick people, but also the healthy people.

Why didn't you get sick? You have all the genes that going through all these problems. What did you do? Right. So we need to learn both, right. So I spent three years, 7000 people, one by one by one understanding their profiles.

And what drove them to the outcomes. Right now we can reverse engineer and teach that. So in that time, one of the projects we did was with the U. S. military.

There's a group called the Liminal Collective that was contracted by the Navy Seals to just optimize them. Bioactive. Right. And one thing they were stuck on was, we don't understand trauma.

We don't understand PTSD. It doesn't make sense. Same training, same everything. Why different variable outcome. As we said, of course, genetically they're not the same person.

How can you expect the same outcome? So we were contracted to do this work. And here's what I showed them is that when you deploy someone into active combat and they're in that intense moment of stimulus, it's an adrenaline rush, right?

Pulling the trigger, seeing the bomb going off, the adrenaline pumping in the chest. We know that feeling, right. And the genetics of adrenaline are driven by the adder to pathway, which determines the regulation or volume of adrenaline causing the upregulation in your biology.

So adrenaline makes you bigger, stronger, faster, right. Superhuman temporarily to give you what you need in that moment. But adrenaline does a second thing because that moment is so impactful and because your body doesn't know that it's the year 2026, your body still thinks you're a cave person.

Your adrenaline pathway convinces your brain, something's trying to kill me. Something's trying to eat me. So I want to remember everything to avoid this mistake again.

So it starts to imprint information. And when somebody has the dysregulated versions of the adrenaline genes, they not only imprint the intellectual information, they also imprint the emotional information.

So some people are genetically wired to remember what things feel like. And some people aren't. And so they actually imprint. And now when they're reminded of that sound smell phase, they feel it like it's happening again, a continuation.

Right. But that was half of the story, because when I looked at the genomic profile of these soldiers, the ones that only had this still didn't really experience trauma.

Yes, there was a recall, but it wasn't debilitating. The ones for whom it was debilitating. There's a second layer. This is what I mean by functional.

That's not this gene. Is this? This is but putting the pathways together into a profile. Right? Yeah. The other half was a brain derived neurotrophic factor, the lack of neuroplasticity because they had a suboptimal version of this gene.

So neuroplasticity is whenever I'm learning something, accepting something, believing something, I need new neurons in my brain to process that new information, to accept and give myself the physical real state to to know that information.

Right. There's a unique place in your brain where you know, whatever you know. So when you have slow neuroplasticity because of a slow version of this gene, that same exact experience, you may experience what we call a shell shock, which is this is a big deal.

Slowly, slowly processing as opposed to moving on. Right. So now when we saw that combination of I have the adrenaline dysregulation. So I remember what things feel like, but I also had the nerve dysregulation.

Adrenaline, PTSD, and Neuroplasticity

So I give that thing more weight and meaning than it deserves because it was it took longer for me to process with the shell shock that combination was a soldier that says, I can't do this anymore, but that was the one that when they were reminded, they're just completely nervous.

System broken. Can't do it anymore. So now what is the answer? Is it that this person should never have been deployed? That's one potential answer. You are wired to be the researcher, the scientist, because you think deep.

You have emotional intelligence. You work with purpose. That was your wiring, your superpower, right? Or we know the exact tools that upregulate your beating off and slow the adrenaline genetics down.

So you have two choices. You've now identified the profile. Step one who am I, right? I am this unique profile. This is how I see the world. This is how I'm going to react.

Now. I have to decide, is this serving me for my purpose? Great. Or is it identifying my purpose? Let me go do that. Or is it? I don't have a choice. I have to do this regardless and I'm not designed for it. Now let me add the nutrients that upregulate those genes to give me what I needed.

That's how to use genetics functionally as opposed to this gene means you have 80% of Alzheimer's. Good luck. Right? Yeah. This kind of outdated way of thinking.

Right? Absolutely. Now, let me, just see if I understood what you were saying there. As far as these people that were more prone to PTSD, they had higher firing, heightened amount of adrenaline response, right.

Some more adrenaline than kind of the average person. And then also they were low in Bdnf, right? So they weren't able to kind of get this positive neuroplasticity change that Bdnf provides where it's like Miracle-Gro for that for the neurons. Yes.

And so and they couldn't clear the adrenaline as well as that. Is that correct. Yes. Exactly. They also you're exactly right. They also took longer to clear, which by the way, is the exact same Carb gene that clears the dopamine.

Right. Okay. So that same protein happened. Exactly. So they're stuck in the moment for longer. And they're also recalling more information because they were in the moment for longer. Right.

So that total weight creates the burden of what looks like PTSD. So do they have a cognitive challenge or are they just genetically wired for a different purpose and they were given the wrong job.

That's interesting. Yeah. Yeah yeah yeah. We'll we'll see. Like the best coaches, the best guides, the best healers. The emotional intelligence there is.

They're wired that way. So when sometimes you happen to land in the right context and you unlock your superpowers, that's the what we're trying to figure out.

Who am I. What's the purpose? It is a serving me. What do I need to add or delete? Right. So somebody that maybe has that high adrenaline, they have more empathy.

Right? Or they're they're actually feeling the pain of somebody that, that they're with is somebody that has less of that. Yes, exactly. And I actually do work on coaching like CEOs for example.

So we'll go into a corporation and we'll help them rebuild their C-suite, the CEO, the CEO, the CFO, because they're assuming what they're good at or what they want to do.

But we can actually tell them from the wiring who should be doing what job, what their capacity is, and we'll rebuild this management team. And all of a sudden they start aligning and working together.

And there's no more conflict, no more friction, because they know their superpower and they know what was blocking them or leading them. We'll do this on sports teams, too.

I work with NHL, NBA where like, why is there friction between players? Right? Why is there this guy doesn't have the clutch. He can't perform under pressure, right?

Why is it that this guy doesn't listen? It doesn't follow the rules. And so we'll actually teach them how their brain perceives even instructions. And it helps them to do a better job as a team.

And the glue come back together right? Yeah. That's that's really good. And so some of the key genes you mentioned the Com gene, which helps clear out dopamine and helps clear out adrenaline plays a role with like estrogen metabolism.

I know a number of things like that as well. You mentioned the DRD too. So that so dopamine genetics. I'm sure you're looking at like serotonin. Yes. Probably endorphins, right.

A lot of things like that Gaba, serotonin, I would tell you, it doesn't matter who we're dealing with, whether it's a NHL hockey player or whether it's stay at home mom or dad.

Almost everybody. We have to work on nervous system first. And most of them don't even know that, right? Most of them come saying, I have pain. I have, you know, breast cancer.

I've whatever. And when we go into their profile, we also tell them you're also stuck in fight or flight. And the genetics of that are some people like me don't know.

You're wired to push through and burn yourself out, which will crush your nervous system. And there's some people genetically that are wired to feel it viscerally, like everything is causing anxiety.

So there's both sides of the scale, right. And I would tell you that if you look at general population genetics, they'll take 10,000 people. You might find that between 5 to 10%.

We don't know the exact number, but it's between 5 to 10% of people have dysregulated serotonin genes. Right. So 90% are doing a good job. And I'm gonna explain what that means in terms of outcome. A profile.

But in terms of the impact, then when I do a genetic masterclass, which I do often, which is like 100 people, 200 people in a room, everybody has their DNA in their hand and I'm walking through what the genes mean, and everyone's being taught.

Given that the genes don't change, it's one of the few things where it's useful for a person to learn, because they can always use the tool right. So we do these classes.

When I do a genetic masterclass, 200 people, most of them are struggling with something, so they're looking for an answer, right? It's like I did everything. I did everything right.

Why didn't it work in that context? Roomful of people where people are struggling. It's usually when I ask about the serotonin genes, around 60 to 70% will raise their hand saying that, yeah, I had the bad version of the genes.

So general population is 5 to 10%. Take a roomful of people that are stuck with their health care issues, 70% will raise their hand. So why? And this is consistent, right? Because I do these classes regularly.

There's consistently 60 to 70% will raise their hand because the nervous system being fried is locking you into an actual context called fight or flight, which is not just woo woo, it's an actual shift in biological priorities.

The energy is moved towards your immune system and shut off. Your gut is suppressed, your inflammation is raised to a very high level. It's very easy to get a chronic disease and recovery is shut off.

So all the good stuff you're doing, if the terrain isn't ready, how well is it going to work? The ROI isn't there. And then you blame the thing the stem cell didn't work, the supplements and work.

Serotonin, Anxiety, and Nervous System Regulation

Or maybe the terrain just wasn't ready, right? So why does this all matter? Serotonin. We know of it as and the genes involved are five http r which determines the length of the receptor.

So how much do you experience how much divine. And then T which drives the tryptophan responses is the precursor to serotonin. So how much do I make. How much do I make and how much do I bind.

That's the total story. There's also clearance but these two are the most important right. So we know serotonin is a mood regulating chemical is does my mood look appropriate for whatever I just experienced.

Or does it appear to be more bipolar more up and down right. The mechanism that drives that, and this is what's missing from the conversation, is serotonin allows your brain to prioritize information.

So as we're sitting here chatting, some people are attentively listening and learning. And some people are like, what are those books behind Doctor Joker's heads?

And there's reading the title some other like A is there's a door behind. Why is that door up in the sky? It should be on the ground and they just can't pay attention.

Right. And that's what it feels like. Can't pay attention. But what really is happening? They're paying attention to more than their brain needs to pay attention to, because their brain can prioritize.

This is meant to be a superpower. Now, when your brain can prioritize and you see the world at an elevated level of detail, everything is irritating. Everything is frustrating, everything is annoying, everyone is disappointing.

And it creates. What if I were to give it a archetype? It's like the helicopter mom, right? The helicopter, like, every little thing matters. No, the card has to be like this and no nuts on this thing and that everyone checkmark and check themselves in versus the other, more loose mom was like, no big deal.

Let's just get this done right. So when you truly see the world at 130% of what's actually going on and 90% of the world, or somewhere between 99, 95% is not seeing the world that way.

Imagine the friction, the constant. You said it was going to happen like this, but then it happened like that. That's not what we agreed to. And they're like, it got done.

Who cares, right? Right. We often see again, someone that's stuck is wired this way, and they're living in a state that we call high functioning anxiety, which is not just the anxiety of like, I don't want to get out of bed, leave me alone.

It's the anxiety of like, there's a fire in my belly, need to get it done. You don't know what you're doing. Give it to me. I'm going to take care of it.

I'm going to fix it. Right. Seeking perfection. Never resting. Resting is a source of guilt, right? Waking up in the middle of the night. Like, what? Was I supposed to be stressed out about?

All that? Okay, now I feel normal again, right? And then not sleeping the rest night so that high functioning dry, which again was meant to be a superpower when it was engaged acutely and temporarily in a some sort of calamity.

The cave person, everybody had their day looks the same every day, and once in a while bad weather. Hey everybody, I see this turn around once in a while.

Bush rustling. Hey, everybody! Animal over there. Let's go this way. And you're the first to see. It was not meant to be engaged. Every day, all the time, which is now the amount of stimulus we experience.

Right? This crushes the nervous system. It leads to cortisol addiction. It leads to like the high stress of cortisol feels more normal than rest and recovery.

And when you bundle this up, no surprise, 6,070% of the people that are in our programs that are stuck, stuck,

stuck are wired this way, right? So work to be done.

First of all, like directly addressing it is not difficult. And then also unwinding the habits and even just the the knowledge of knowing how somebody is wired and then coming back into the room with the other people and finally saying, oh, I get it now.

They don't even see what I'm seeing. It's not about they're lazy or aloof or don't care. They're just meeting me where they're at and the volume of detail they see.

So it's finding that gap, right. And knowing that this is a super power that's not meant to be engaged all the time, only in a time of calamity helps calm things down.

But there's a lot of supplements and nutrients and vagus nerve stimulation and things that can be done also to help mitigate it. All right. Yeah. I think that's so important that I know, the bagel bagel nerve stimulation as well as, like, heavy balancing, strategies and everything like that can be really helpful for those, those personality types of people that are struggling with with that magnesium.

Also, are you seeing magnesium help a lot of these, personality types, for sure. You know, magnesium before sleep, even in the morning. Everybody needs more, you know, that's a very.

Yeah. So for sure, we find that there's definitely the vagus nerve like you're talking about, just stimulating it. There's devices like the the Polo Neuro.

They're great for vagal tone. Right? People said, oh, we've seen all these devices. Right. Even something as simple as breathwork and meditation, you know, the, I would say the fastest way to rinse the inflammation of cortisol off of your cells is just meditation is the opposite, right?

It's just sitting there and disconnecting and and giving your mind rest and recovery, giving it to the locking yourself in a room and just breathing. Right.

If somebody were just sit there and for a minute. First of all, you would learn how minute how long the minute can actually be. Right? You may have forgotten in second what that does for your nervous systems.

We just don't do it. We don't rest. And so supplement five Http five FTP is the fuel that gives you the tryptophan to feed into serotonin l-theanine Gaba.

Calm those nerves, get your brain into a sort of a more theta state as opposed to an alphabet, on state. Right. So the good news is the solutions aren't complicated or they're fairly simple.

It just identifying the right problem to solve using your genes. Yeah, it's really good. Now how about Gaba? You mentioned that, obviously it's a calming neurotransmitter.

Are you seeing certain certain genes associated with, like, low Gaba signaling. So not necessarily the signaling. But then the need for more, especially when it comes to the dopamine.

So people that are wired like me, one of the best tools is Gaba, right. Yeah. You'll find that you start using Gaba all the sudden I'm sleeping. You didn't have a sleep problem. You had a fight or flight problem.

You had a high cortisol problem, right? And Gaba 30 minutes before sleep. And all of a sudden your brain stays in theta. It isn't interrupted. You know, when people say, I can't sleep, it's not that general.

It's like, can't fall asleep or can't stay asleep. Those are two very different problems. Many people fall asleep, but then they wake up at 2 or 3 a.m.

and the quality is not the same anymore. They get rather deep. Their body is trying to get into REM and it's just not

working right. And if you went into sleep with high cortisol and your brain's confused, the circadian rhythm still thinks it's nap time and not sleep time, right?

And there's genes around that, too, around circadian rhythm genetics, where we can be more precise, than yeah, give was a great solution. Another very simple one.

Just temperature dysregulation that, you know, if somebody has doping issues, just getting some ice cold water on your face before going to sleep, upregulated.

You don't even need to full cold plot. It's just your your face, your forehead. Right. So like I said, the solutions are simple and elegant. Just knowing what to solve.

Yeah that's good. And so they can get the DNA 360 test which actually maps all this out. You actually have like a whole section based on, you know, brain and neurotransmitters.

Yeah. And it's I would say I would start there neurochemicals. Here's a process. We would typically walk people. So suppose there's the test which is reporting.

Then there's the classes I teach or support. Suppose somebody was in a class with me. The process we would go through is to first work on neurotransmitters and neurochemicals, to work on the nervous system and get the terrain in a state where it's ready to repair.

Then we would work on the genetics of the gut, because that's another terrain consideration. It's very difficult today to not have dysbiosis, leaky gut, which is again, directly connected to brain health.

You know, for every one signal the brain is sending down to the Got, the gut is sending eight signals back is overwhelmingly more influential to the state of your brain than the brain is of the gut. Right.

So the the second thing we work on his gut health, there's genes that tell us. Let me give you an example. So we're all familiar with glutathione, right?

Glutathione is master antioxidant. The body uses to sort of clear and neutralize toxins. There are genes that tell your body how to utilize glutathione for different threats, for example, sometimes you breathe the toxin, sometimes you put a talk on your skin, sometimes you eat a toxin.

So there's a gene called g stem, one that is responsible for glutathione activity in your gut. So whatever you eat, the toxins, chemicals, plastics, mold, pesticides that come along with it, the detox response which is supposed to immediately happen right there. Then this gene Gstr one I am missing.

So when you open up my human instruction manual, it's not about a version or variant. There's a phenomenon called a copy number variation, as opposed to like a snip or a variant in a gene, a version of a gene copy number variation means did you even get the gene, a variation in the number of copies?

And for me, my answer happens to be zero. It doesn't exist for me. So this instruction to attack, neutralize, or remove torques in the gut for me doesn't happen.

So one of the reasons I was so sick is me and my business partner used to eat out almost daily because we were entertaining clients and we thought we were doing a good job eating this Mediterranean food.

Right. Quite regularly. Right. Lebanese, Mediterranean, Greek food, that type of stuff. What I didn't know was in Canada, where I live, that there's chemicals used to dry grains and then reconstitute grains because we have long winters, we need to store stuff.

GABA, Magnesium, and Calming the Brain

And those chemicals are tested as safe by the FDA and Health Canada. People seem to not react to them, but they weren't tested on my genetic profile, where I have zero capacity to detoxify it.

And so I didn't know that the eczema I had wasn't a separate skin issue. The migraines and brain fog that I had wasn't a brain issue. It was severe neural inflammation from leaky gut that led to leaky brain because I was lacking this genetic instruction.

And so the second place we go is God. Because, again, a systemic terrain consideration, nervous system and gut are the foundations for is the terrain ready for the other healing?

Then we get into sleep, then we get into the detox pathways. Then we start looking at disease markers like do we see cardiovascular issues in your future kidney issues?

And let's address those. Then we get into hormones, the genetics of hormones. And none of these are independent of each other. Inasmuch as we're hormones is the last step.

Hormones influence the mind, right? Why do we see that 80% of dementia cases are in women? Why is it so much more in women? Because you get into menopause is a drop in estrogen is protective hormone, but also the estrogen metabolic pathway.

It doesn't end at estrogen. You make estrogen metabolites two hydroxy estrogen, four hydroxy estrogen and 16 hydroxy acid. And two out of three of those are inflammatory in nature.

And some women genetically are overwhelmingly produced to producing too much others, and they're estrogen dominant. We can predict it with DNA, and they're filling a bucket of one of the toxic metabolites.

Now take that into menopause and the constant trickle of now my estrogen they're drop. But I'm still making the toxic version causing inflammation to my cardiovascular tissue my brain, etc.

then all of the things that equal bad brain health are amplified by this internal toxin. Right. And so I would say here's a flow. But there's these are not standalone independent.

They all entered. They're all redundant right. So understanding how they overlay interact gives you a more wholesome answer. Yeah that's interesting. And how did you isolate the chemical to what was being sprayed on the wheat to help that help it, help it have, I guess, better shelf life or be able to drive better as opposed to maybe pesticides or herbicides that were on chickpeas and hummus that you were eating or, you know, anything else.

So you know what it actually was the hummus. That's what it was. Oh, okay. Yeah. Yeah. Because people don't realize that. But chickpeas are one of the highest sprayed against crops out there.

Yes. That's literally what it was. It was the chickpeas. So I was eating hummus 3 to 4 days a week. Yeah. My nutritionist friend told me that's one of the best things you can do, right?

But my intuition, this friend didn't. It wasn't not their fault. They weren't aware of the context. So, so that is what it was. So it wasn't just the drying agent, but it was all the other chemicals too, right?

So what what this did was I learned what my priorities are, right? There's so many things you could focus on. Everybody can't do everything. Yeah. And that's another challenge.

But once you go down that rabbit hole of even being on this incredible summit, that you put together with all these amazing experts, right? There's so much wonderful information and people are going to learn by participating here. Where do you start?

Right. What is the priority? So that's all I'm saying is I now know there's other systems where I'm doing really well. So for example, cellular regeneration, you know, senescence all being cells being the apoptosis of death and

removal and replenishing of new cells.

I do this job a little more advanced than other people, so I don't necessarily need to focus on the nads and names and mirrors and all the cellular health stuff, because my body's doing exceptionally well there already.

So how do I isolated focus on the right stuff for me? Right. That's kind of what I'm saying is like, now to your point, the I know my God does the detox.

So I need to understand all of the additives and chemicals and all the foods and, and what is a threat, not just a fancy picture on the packaging, but how did it get there?

Testing, Gut Health, and Detox Pathways

Right. So that is a major priority for me. And, you know, I literally just went straight carnivore for a few weeks and voila, I don't have a disease called eczema, which a doctor said I have.

Right. Where did it go? It was a it was the outcome of inflammation. It was like a check engine light. My body was saying, dig deeper, something's going on right.

So this is how I would use this information. And it just helping prioritize of all this great stuff you could be doing, what's going to give you this big biggest ROI.

And for some of you, there's things you might be doing that you don't even need to do because your body's already doing a good job with that job. Yeah.

So that's the great advantage of understanding this. And you're teaching courses on how people can understand their superpower. Is that right? Yeah. In fact, I think, in in this context, right.

Just because there's so much information here, I think we talked about hosting like a live Q&A webinar type thing, which we're going to do. Right? So if anyone has direct questions about their own unique circumstance or what this like ALS, Parkinson's doesn't matter what it is, we're going to host a live webinar, live Q&A if we don't get to do this often.

I love doing it because I love helping people get their answer. So we'll talk about that later. You show up and because it's very hard to just get a report and try to interpret it, you know, I make it sound easy because I've done it a thousand times.

Well, many thousands of times. Right. But there is interpretation, there's nuances, which it means. How do we consider your context, your environment, your lifestyle, your age, all of these things matter.

So we'll host our Q&A just to help guide everybody. Yeah. That's great. Now a lot of people have heard of the MT AFA gene. That's probably the most well studied.

Gene can you break that down and the importance of that and kind of understanding all the dynamics here. Yeah. So another example of talk to five different people and they'll tell you five different things about what this gene means.

But it means all of those five things they're not none of them are not true. And it comes down to interpretation. What problem you try to solve and how is the gene related, not what does the gene do.

We look at it the wrong way. It's not prescriptive. It should be a tool to go back to. Right. So first of all, MT how far is the central starting character of a system called methylation and where we get things wrong?

Remember, most of our genetic research comes from pharma research, which the intention is let me isolated gene so I can make a drug. That's the path right?

When really it should be the opposite. Let me combine all these genes to see more of like a chain. And how does this link influence the rest of the chain as opposed to just a link?

Right. That's the pharma way of thinking. We want to be more functional. So if you look at my teacher far is it is surrounded by other genes called HMT one F. U T2, mTOR, mTOR.

There's all these other genes that kind of like button paths job gets done by a gene, gets passed on to the next gene. And that gene adds and contributes more work and it keeps going down the path.

And now the job is fully done. So if you only look at one job, you don't really understand the full flow. Right? So now what is methylation in simple terms I would say the easiest way to describe it is anti-inflammatory response.

It's the thing you're relying on to shut the fire of inflammation off, which is why it's tied to things like autism and neural inflammation and women's health issues.

Because whatever else is going on, the inflammatory outcome might linger and this burden becomes bigger because of lack of methylation. But it does three other things.

It is also a system of conversion. So if you eat a banana and you think you're getting some potassium or some beta carotene from your carrots, how did that actually get into your cell?

They need to be converted into bioavailable forms, and that is a process of methylation. So they get methylated and turn into something your body can use.

It is also a clearance conversion. So things like metals and plastics that are not so water soluble. Your detox pathway is assuming that it can make things water soluble, so that you can pee them out and sweat them out and poop them out.

But we now live in a reality with which our body didn't know. We're going to have to deal with heavy metals and plastics and other toxins that we weren't supposed to.

Right. And so there's some things that are harder to remove, and they need to also get methylated, broken down, convert it so that it can be removed. That's another.

This is also why it's tied to things like autism because of the heavy metal injury to the brain for things like vaccinations, for example. Right. The third thing that it does, and this is perhaps the biggest thing that is the biggest impact, that is also the least spoken a thing.

Methylation is the regulation of gene expression. So you walk into a room and the context change. Suppose you smell some chemicals. Your detox gene should start working better temporarily.

Suppose you eat a meal. Your metabolic gene should turn on right? So your body is supposed to turn up and down the volume of these genes to give you exactly what you need in the moment for what you're experiencing.

So your body will shift priorities. That is a question of gene expression. Temporarily turn on the volume because I'm doing something and I need more of something.

Methylation is what turns the dials of the volume. So if you're not methylated, well, the time it takes you to adapt is longer and so the negative outcome of the things that are bad for you are more exponentially worse.

Right. And so some people that don't methyl well are more sensitive. They take longer to recover. They smell a chemical, don't feel so good. They go golfing and read these pesticides.

And the next day they're exhausted because the things they needed to cope didn't turn on in time. Right. So this is a very important system. And you can't name another system from hormones to neurochemical metabolism that

doesn't touch it affects everything. Right.

So when we talk about Avars as isolated, singular gene, that is such an oversimplified way to look at it, but also the research and information we have came from the desire to oversimplify, to make a pill right instead of empowering us with the full picture, which is so easy to do.

I know I make it sound like it's a lot, but learn it once and you'll see it's actually quite simple. Yeah, it's a really good breakdown. And yeah a lot of people have talked about anti MFR and you know the here's the great thing is you know all of us have DNA snips that are you know different variants that are not the highest form of that particular enzyme.

But we were all built to have a certain superpower. Right. And that's kind of what you what you like to explain is it's really about knowing your unique, biochemistry, right, and understanding and understanding kind of your strengths and weaknesses.

Right. And then being able to kind of balance out weaknesses and magnify strengths, you know, if if something arises in my house and Amazon, I read the instruction manual, a microwave.

Right. I'll read the instruction manual before I turn it on. Something as complex as the human body. We don't even bother reading the instruction manual to understand how it's wired.

MTHFR, Methylation, and Gene Expression

You know, this is why not only genetics, but functional testing in general, gut microbiome neurochemicals, you know, toxin testing, Dutch test, hormone testing, like, where are you at?

Right. And so and what you've put here together today and learning how the body actually works with all these experts. And the knowledge will guide you and direct you.

You don't need to wait for something to break and then call the doctor and say, please fix it right you can with information empower and prevent. You can understand where you can read the instruction manuals and understand how your body works, and know what the right problem to solve is as opposed to this free for all.

Listen to a new podcast every week and just do everything. And some of those things might even hurt you. And I can actually talk about the genetics of the thing that absolutely, we believe to be true is good can actually hurt somebody, right?

Yeah. Yeah, absolutely. Now last question. Like what? What are the top, let's say 3 to 5 things that you see kind of across the board benefit pretty much all genetic types like as far as lifestyle things.

So if we're going through like a class of a bunch of people, the one thing that comes up every for everybody is EMF mitigation. Doesn't matter where you're at, your genetics, we are inundated, it's ubiquitous, it's everywhere.

And if you don't know, like can't sleep at night, sore, can detoxify, can't recover. Yeah. You're also bombarded with EMF all the time right. So that's one area we tell people doesn't matter what your genetics are, you need a plan to mitigate to neutralize turning the Wi-Fi off some EMF mitigating device of sorts.

Right. The other area where we say everybody has to just do the job is your toxic burden. You know, today, your indoor air quality is five times worse, the outdoor air quality polluted.

Right. And I'm sure it's going to come up in all these great conversations you're having, how that affects the brain. You know, it's said that it's one of the leading drivers of Alzheimer's today is inhalation.

Just inhalation of toxins that are causing neural inflammation that we don't even see or feel or taste it just happening. Right. So purging your environment of everything, it is an endocrine disruptor.

Everything that is a fragrance, everything that is synthetic. Because think about not the one simple thing, but the total accumulation of all of it. That's the burn it. So you're toxic. Burn it.

I would say the third thing, is your. The single greatest contributor to the expression of negative disease causing genes is negative emotion, stress, anxiety, trauma, negative thoughts.

Toxic people is the number one way to turn on a gene that causes cancer. Causes the disease, right? The number one way to shut them off and engage longevity genes is positive emotion.

And I'm pointing this out because culturally rest, recovery, joy, pleasure and love to us is like a source of guilt. It's like I need to be on. I need to be working.

I need to be active. I should not be laughing and joking. That is like I'm wasting time, right? It is therapy. It is necessary. You can make your hormones.

Oxytocin is a base love. The love hormone is the baseline hormone for everything else, right? So if you're not, if you've lost the way of how humans are supposed to live, and if you don't have pleasure, joy, love is a daily dose of therapy.

It'll make you sick, right? And I don't need to look at your genes to tell you that this is true for everybody. Now, having said that, do these things.

If you now later a context where everything else you're going to do is going to work really well, right? Because now the terrain is not blocking you for the benefit of everything else.

That's a great rundown right there, you know, so gratitude and, like you said, laughter. I mean, laughter is our greatest medicine. So, so make sure we're engaging and things like that.

So really, really great run down as far as that goes. Now, do you see any of these genes impact, like the foods, the kinds of foods that you should eat, for example, are there are you seeing certain genetics that would, would, would say that this person, would do better on a more carnivorous type diet, low fiber, right, lower fiber diet versus somebody that may do better on a higher fiber diet?

Definitely. I would tell you that any sort of elimination diet, someone's going to feel good in the first few weeks. Yeah, right. But you eliminate ultra processed food and toxins.

Sure. Yeah, right. Keep it clean. You're going to feel good. Now, the sustainability of that choice is what matters, right? Is it something that is a twice a year reset or is it a permanent choice.

So the genetics of fat metabolism, the actual enzymes you need to be a carnivore or a keto for example. It is variable. So some people cannot sustain keto for a long time.

They have to take a break. The thing that we think that sugar causes diabetes in some people, genetically, there's a phenomenon called epistasis where fat will cause diabetes the opposite of what we believe, right?

We actually tell some people that your metabolic dysfunction is more from fat and sugar. So that's one the enzymes for starch. There's some people I was doing some work with the US female Olympic team, but this a few years ago.

And their question was why is it that and training time these, these particular 4 or 5 girls out of 100 do really, really well. But when it comes to competition, they do horrible.

And they thought it was up here. Neurochemical stress clutch. Right. And when I looked at their neurochemicals and stress there wasn't a problem there.

So I dug deeper and I found that all of those girls that they pointed the finger at were really, really good at metabolizing starch. And carbohydrates and turning them into fuel.

And they're the TCF several two gene that drives the insulin response is also incredible. So they were kind of wired to thrive off carbs when they went from practice to competition.

They went from their local private decision making to a team that made the meal plan for everyone and put everyone on this low carb, cutting meal plan.

And it was literally the lack of carbs that made them fall apart. So this thing that we think universal global statement low carb doesn't work for some people, right?

But then there are some people that that's the exact thing they need to do to prevent Alzheimer's or prevent dementia because they are metabolically a disaster if they were to go up a tiny amount of carbs.

Right.

Personalized Diets and Food Tolerance

So plant based, how many people that start eating vegan a year later? Hormones dysregulated, mood is off, muscle is falling off their body. Everything is falling apart.

But they don't blame the vegan diet because as an elimination diet, it felt so good in the first few weeks, right? Yeah, there are specific enzymes for how you break down plant proteins and the ability to actually get the building blocks and the amino acids out of them.

So people don't do a good job there. They're specific. Enzymes are how you break down leafy greens, kale, spinach, broccoli, cruciferous plants. And some people don't do good there.

And some of those foods are oxalate rich or break your gut down. This is why you have that argument over do oxalates matter or not? Because some people genetically plow through those foods really well and don't have the exposure, and some people can't break those foods down to the oxalate exposure is much greater, will hurt them, right?

So yeah, if you give me your DNA, I will say, here's your meal plan, right? And it's genetically designed, based on whatever your ancestors did, you're going to eat that way.

Yeah. So really interesting. So certain genes are going to impact that. You know I always tell people there's like a fiber. It's like a fiber bell curve. Right.

There's some people on the far right that do well on a very, very high fiber diet. And they tend to be the ones that are always telling everybody, you should all be on a plant based diet.

And then there's people that do very poorly on fiber, and they need more of a very low fiber, if not like a full carnivore diet. And, they're often telling everybody they need to be on that diet, but most of us are somewhere in the middle there, of that bell curve.

Right. And kind of figuring out, like where your fiber threshold is for that, where you feel good, where your gut feels good, if you move your bowels.

Well, you have, you know, less gas, bloating, reflux, different issues like that kind of figuring that out, optimizing your protein to start figuring out your fiber threshold and then kind of filling in the gaps with some, some healthy fats up to your threshold as well, because like you mentioned, there's a lot of people that they can't handle a lot of calories in a meal.

There's other people that can handle high amounts of calories, high amounts of fat like I can, I can eat, I can easily eat 1500 calories, you know, if not 2000 calories in a meal and feel great.

My wife, on the other hand, five 600 calories is about it. You know, 800 calories. Maybe, at the max. Right. And that's that's good for her in a meal.

You literally describe me to a tee, and it's just part of my solution, which was I, I used to, like I said, Mediterranean diet. I was eating a lot of salads, a lot of raw plants, and I could not tolerate the fiber.

I could not tolerate the plants. And like you said, I had reflux. Yeah, I had a horrible reflux issue, bloating and gassy brain fog all the time. Right? Pain, inflammation.

Because when you do it every day, over time, the accumulation is going to hurt you, right? And I could not sustain that. My the training I was doing. And when my trainer was telling me to eat in terms of calorie volume, I also couldn't tolerate that.

So I'm literally the opposite. Do I'm your wife, right. So I that one change in terms of diet completely resolves so many things. But you're right that many, many people are somewhere in the middle.

And where this matters the most is for the person that stuck. It's like nothing works, right? When nothing works, you're probably on some extreme genetically, which is the middle is not the right answer.

And that's the person that actually needs the most help. Like me, I needed the most help. I was stuck in the middle. Does not work for me, right? Yeah, yeah.

And that's where you got to figure out the right diet for you. You got to personalize your diet. So that's that's key there. And that's really the best diet is a personalized diet.

And ultimately your best supplement plan. The best lifestyle plan is a personalized plan. And that's, you know, what you're helping people with. And people can find out more information on your on your website as well.

It's Kash Khan. His last name is spelled K, h a n official.com. So Kash Khan official.com. When people go to your website, what should they look at first?

What should they. Well, there's my website. Remember I do private coaching. I have a lot of sort of VIP clients and then we do groups. Right. And so there is an I would say my Instagram account, which is the exact same thing, cash card.

It's the same. I would go to my Instagram account with a lot of knowledge to share there in terms of everything from toxins to food to, you know, everything you want to know.

Given that this group, I think is seeking more, we're going to host a webinar for them. Right. And I between however this happens, they'll be informed on how to do that live Q&A.

So we don't do this often. But, you know, given whoever's here for you guys only this is not for the outside world. Literally whoever's in this summit, we're going to host a live Q&A.

Universal Lifestyle Strategies and Closing Advice

I would say come to that and then we can drill into your personal stuff, and you don't need to feel stuck. Yeah. Sounds good. So we'll be sending out more information as far as that goes.

But in the meantime, check out Kashif Khan on Instagram as well. So you get a lot of great information there. And, Kashif, any last words of inspiration here for our audience?

Yeah, I would say that I did not believe this until I did the work. Remember, I didn't come from the healthcare industry or wellness industry. I, I stumbled upon it to heal myself and then it was so empowering.

I kind of found a sense of purpose. So I just kept going right. So what I've learned is that following disease and the pace of what you age is optional.

It's a choice. I didn't know that. I thought that it's like just like every it's a thing that comes with aging. It's like cardiovascular disease is in my family.

It's not true. Right? The things that my dad had when he was my age, I just watched him sick. My whole I only knew my dad as being sick growing up, right.

I don't have any of those things. In fact, I I'm healthier now at 46 than I was in my 20s. So I just tell you that if you use all this information in this incredible summit, listen to all the experts.

You're you should be able to have a plan for, like how to make chronic disease optional, how to make the the your brains power and strength and longevity optional.

Now it's like, why do I say optional? You have to do the work, right? As long as you choose this path and do the work, it is an option. If you don't do the work, then you may end up like everybody else, which is like susceptible to whatever you expose yourself to.

So learn, do the work and the pace of what you age is truly optional. Beautiful. That's right. So there you go. All right. Thanks so much Kashif and everybody.

We'll see you on a future interview. And everybody be blessed.