Introduction to Genomics and Personalized Medicine

We are all wired for greatness. If I have your hormone map, I don't need to meet you to understand your body type. Androgen or testosterone dominant, estrogen toxic, androgen toxic.

Each one of those has its benefits and its problems. We can take this very gray area and make it very, very black and white, certain precise infertility, fibromyalgia, PCOS, breast cancer even, ovarian cancer.

The why behind all these things. Why do they happen? And then you can be very precise about prevention. Well, Kashif, I am so excited to have you on this show.

I mean, when you're talking about genetics and regenerative medicine, that is the thing to look at because that's the information behind everything. Yeah, it's a pleasure and honor first of all, and first, yeah, you have to put these two worlds together because really all these pieces of this puzzle we're trying to assemble and you're doing such a good job of that.

This is where we got to start foundationally. So excited here to talk about it today. Well, thanks. I want to read your bio. Your chief executive officer and founder of the DNA company where personalized medicine is being pioneered through unique insights into the human genome.

He's also the host of The Unpilled podcast. Like unpilled because we need less pills. Growing up in Vancouver, Canada in an immigrant household, Kashif developed an industrious entrepreneurial spirit from a young age.

Prior to his tenure at the DNA company, and Kashif advised the number of high growth startups in a variety of industries, as Kashift dove into the field of functional genomics as the CEO of the D&A company.

It was revealed that his neural wiring was actually genetically designed to be an entrepreneurial. So that was good luck. Yeah, you kind of fall into, if you're happy and successful and there's fluidity, it's because you are doing what you align to.

And if there is frustration, and we're going to talk about this. Yeah. I'd love to, yeah. Because I know, with kind dopamine receptors and all these things, I'm excited too.

Can I chat a little bit more about it? However, his genes also reveal the particular sensitivity to pollutants. Now seeing his health from a new lens, Kashib, go further.

SRC, the genetic pathways that led to his own family's challenges and opportunities to reverse chronic disease. His measure of success is not in dollars earned, but in lives improved.

I love that. So what drove you into genomics? I mean, that's a, I, mean it's not like one of those things as a kid. I'm thinking, you know, i'm going to work into genetics.

What made you take the plunge? And it wasn't even as a kid, like I didn't know the world existed until I was 38 years old. You know, I'm 42 now. And like so many functional medicine stories, you know I, was sick.

A lot of things hit me at that age. There's two things that attracted me to what I am doing now, one is that I healed myself, and we can get into that if you'd like, from a number of problems.

The number one question was, why? I would ask the doctors, five different doctors for five problems and five pills. Why is this all happening to me now?

And there was no answer to the why. It was more what? No, you have this and here's the pill you need to take. Here's a cream you to rub on your skin, et cetera, etc.

And to me it's like, it did not make sense. My questions were, what did I eat wrong? What did breathe wrong, who did talk to wrong. What's going on here?

And none of that was part of the equation. That's when I sort of self-discovered my own human genome and in that I found that The science and the intricacy and depth that could be gleaned from understanding the genome was so phenomenally intense, it blew my mind, but we weren't doing that.

So we were really only going surface level and looking at direct genetic problems. This gene equals this problem, this gene, equals a problem when the body doesn't work that way.

And so my entrepreneurial mind turned on the one you talked about. But also my, this passion turned on because after healing yourself, the impact of going from sick to healthy and that relief.

It's like, This is my mission now. Like I don't ever want to go back to that. And then I healed my mother and then my niece and my friends. I started to see that this is something that everybody needs.

Why Kashif Built the DNA Company

So. I went from helping startup companies make the best of themselves and grow, which is literally what I did for a while, to saying, I need to build this startup company.

And not only that, change lives. We've been doing that. we've through many, many thousands of people now and it's been very rewarding. So long story short, wanted to fix people after fixing myself and fix the way Genetics was delivered to people.

So the issue, I mean, like in your case, you have somebody, all of a sudden they get sick, they got all these diseases, but the one right by them don't have any issue whatsoever.

So obviously there's a difference between you versus the other individual and what are those differences and who should be concerned about what. And that's where genomics really comes into play to really unraveled that whole story about the individual and where they should focus.

For sure. I think it's foundational. If you, anything you do, you know, if you receive a box from Amazon, and you got something new, You're gonna open that instruction manual and your gonna read it.

And you're going to make sure you don't put it together the wrong way. Even something as simple as Lego. You are opening the book when you are helping your kids and doing it the right way Your DNA is your human instruction manuel.

We have trillions and trillions of cells in your body that make up who we are. Each one of them has this instruction manual in it that's constantly reading the right section.

So each cell, kidney cell heart cell liver cell it knows what page to read to do the job it's supposed to. If you, you and I haven't read our own human instruction manual, how do you know what you're doing well and you are not doing so well?

And it's as simple as that. These instructions drive biological processes. Some of us can tolerate something that somebody else can't tolerate. If you don't understand that innate wiring, what is that wireframe of what your design and what you're living with, then how do you know what choices to make?

And no wonder so many of us are sick and aging rapidly and have chronic disease and migraines and autoimmune conditions because there's so much more threats now today that we have to deal with.

Right. And it's as simple as that. That's what I got out of it is I learned that there was not only what version of what genes and, and what my instruction manual is saying, but there were pages missing from my Instruction Manual.

Those are literal pages torn out that I was supposed to have. It's no wonder that my business partner. didn't have the problems that I had would drive me home with my rehabilitating migraines because he wasn't missing the gene that was causing these toxins in our airway to cause all these inflammatory responses to me that he didn t have because had the genes to protect himself from that.

So it's as simple as that, read the manual, understand what you do well, what don't do, well now you know what choices to make and disease should be a choice.

Yeah. And frequently people, when they think of like eating healthy, they go and yeah, we all should have paleo. We all do keto or we also do vegetarian.

So we get stuck in this going along with what we think is healthy. Not recognizing that. What is good for one individual is not good to the other. Am I metabolizing fat?

Okay. I'm going to have the genetics for that. So it becomes important in your choices of what you're eating. And I mean, it bleeds into so many different things.

Yep. I mean, the opposite of personalization is one size fits all, right? And the truth is that that's, it is conventional because unless you have the technology to understand what is the personalized requirement, then really one-size-fits-all is your best option.

You read a blog, you listen to podcasts and something worked. Let me try it and see if it works for me. Right. Even something like the keto diet, you might actually think that it's working, but it not because anyone that gets into ketosis feels amazing in the first couple of weeks.

It doesn't matter what your genetics say. You start developing ketones, your brain feels, amazing. Your using fat as fuel, Your stomach, You can see your feet again.

And you're like, what happened to my gut? Right? And everything starts to feel good. But then if you don't have the right genes to metabolize fat properly, it starts to counteract and you get sluggish and then the brain gets a little slower and your starting to store fat again.

Are there too many calories? Am I not exercising hard enough? This is exactly why on day one, you could have known what decision to make. Should I have gone on?

The genes and metabolized fats are very clear. The ethnicities for whom fat will actually trigger an insulin response. You know, most of the research is done on white Western European males, not even Europeans, Western Europeans and not only women, men, right?

So there's a very small subset of this planet's population for which most medical research has done. Then you go over to a country like India, where there is one and a half billion people for saturated fat will trigger an insulin response, which is not documented anywhere in the medical literature, right?

This is a genetic phenomenon. So if you don't get personalized, things don' work or they may, it's kind of like rolling the dice is what it is. It's a Russian roulette rolling dice.

Like you said, ketosis is true for the vegan diet. Do I, should I eat carbs or not? It is truth for your insulin respond. I was able to heal myself through three buckets.

Environment, nutrition, and lifestyle. What can I actually handle in terms of exposures? What should I put in here? Right. And what should they do every day?

Sleep, exercise, et cetera. Now that that's all matched and aligned to my genomic legacy, what I inherited, I'm fine. I haven't had a problem in four years.

And, and obviously genes, I mean, you know, people, when I do genomics on, on people they say, well, do I need to do this forever? You know? And then I say well your, your genes never change.

I, mean it's the same genes. Yeah. If you have, if you're poor at metabolizing fat when you were born. You're still going to be like, you know, now and then forever, right before you die.

So it's important then to understand what patterns you need to develop, for the rest of your life that is in line with your genomics. Yeah. It's your personalized playbook.

Here's what you. And what do you need to do? Again, those choices are environment, nutrition, lifestyle. And then when it comes to mood and behavior, how you feel, it also has to deal with context.

This is an epigenetic factor that a lot of people don't consider because it's not science-based. It's more practical. If you talk to people with, why do see these high-performing celebrities or entrepreneurs, CEOs that are at the top of their game that all of a sudden are suicidal?

that all of a sudden are addicts or they're hiding the addiction because the same neural pathways, the responses lead to both.

DNA as the Bodyu2019s Instruction Manual

The context that you're in determines the outcome. If you're wired like me to be entrepreneurial because I seek reward, my ability to feel reward is slim to none, where there's certain genes and chemicals that drive that.

If I'm not doing that, you know, what we call warrior genetics, My ancestors were constantly in battle fighting. And so I am designed to do the same, to being in the front lines, thriving and striving.

if I also decide to sit back, well, What happened when I was in my early thirties? I got depressed because i had achieved some level of satisfaction at work.

And I had a team and I felt like, okay, I can take a break. And just didn't really want to get out of bed. I was depressed because that normal, these normalcy, that level of satisfaction and pleasure was far, far below the threshold I needed to be at.

Right. So, and that's where that context also becomes important and we can dive into that if you like. But these are the areas where, again, going right back to you said, if, you know, what choices to make.

that are personalized to you, things get so much easier and so better and you feel so healthier. Yeah. Talk to me a little bit about, you know, the personality of your genetic personality.

Cause I know when people, when they take your test and obviously they can consult with somebody, but you have very extensive AI that interprets the test, and gives you a huge amount of information and tells your whole life story pretty much in that booklet.

But in regards to then, how you should navigate life becomes really important then to understand who you are genetically, what you're good at, and what type of tasks you could tackle and how should you tackle them based upon your genetics, dopamine, serotonin, all these kind of things, right?

Yeah, so there's a lot of neurochemicals that drive your behavior. But we try and focus just like we do with everything else in genetics. You know, what does everybody want?

They want outcomes. They wanna change. What's wrong and how do I fix it? If you break it down to the simplest

terms. For that, you don't need the big data dive, that finding that needle in the haystack.

You need that actionable, let's deal with the 90%. That 10% nuance isn't going to push the dial so much. And it really comes down to a few neurochemicals.

So dopamine, your pleasure and reward pathway. Adder2b, which drives your noradrenaline response, Which is more about how you deal With trauma and negativity It can lead to things like anxiety, et cetera.

And we'll talk about that serotonin, which is known as your mood regulator, but it does so much more. Uh, and then brain drive, neurotrophic factor, your ability to deal with neuroplasticity and brain connection and, And what does that all lead you?

So now if I pick on some of these things, like seratonin. The thing that it's most spoken of is mood. How do I feel? Right? There's a supplement that some people take called 5-HTP for things like anxiety, whatever, because it balances your serotonin uptake.

So the gene, 5HTLPR, determines the length of your receptor. To what degree do you experience and balance and regulate your Serotonins experience? Not the deployment or creation, but the binding and actual moment of that seratonin.

So the in-depth explanation goes beyond just mood. It's the reptilian response of prioritizing stimulus. That's really specifically what it does. And that's why the outcome is mood, the symptom is mode.

So we think about it as a symptom. But the biology is when you think of a snake, A snake doesn't have a maybe, it has a calm and attack, right? You bring your finger, finger finger that snap, because it literally doesn' have maybe it is completely zen calm until it's triggering attack.

So that serotonin pathway is what triggers stimulus. Pay attention. Do I prioritize this or not? Right? So, so what we now experience is some people that are dysregulated for seratonin.

It's kind of like, can you stop chewing your food like that? I can't focus because that clock's ticking too loud. Right? You're distracting me. Please, I need to go in another room.

I can't work with you here because you can, your brain can prioritize. Some people I'm working and I don't hear anything. Right. And this is literally driven by multiple things, but mainly this.

So now if you even just understand this one thing about yourself, even if it's just that one, then all of a sudden the way you perceive the world and like, that person irritates me, That person bothers me.

and the people looking at you, like I have to be careful and walk on eggshells how I say it. Right? That perception gap. It's driven my one neurochemical.

They may be experiencing the whole world completely different than you. And all of a sudden relationships, coworkers, things become a lot easier. And then the outcome of anxiety and irritability and distraction and the symptoms go away because you start to understand it's a perception problem.

So that's one. So we can talk about others, for example, Andrew2b. Yeah. It seems to me then that these are like the survival mechanism. This is kind of how the individual is then wired for survival.

Like you're talking about, when should I focus on this threat? Or when I should focus such and such? Which obviously becomes really important for like a snake or any kind survival?

Living then in society, then, you know, obviously we don't need to fight for survival as much. Yeah. And that's true of so much stuff that one thing we didn't realize, we think of our ancestors as grandma and grandpa.

Our DNA is 200,000 years old. So the way we're wired today, we are of like people of 200,000 years ago. The reality of our current environment, lifestyle, chemical exposure, social media scrolling, all that stuff is a blip in time versus what our true ancestors lived through.

So what we were wired for is what happened in the last 200 thousand years. Industrialization is one, like two or three centuries old, right? But the modern technology era is, what, 50 years old?

versus 200,000 years and why are so many people sick and having mental health issues and mentally crashing because of the overload? So yeah, if you're wired to do one thing cognitively, and this is why today, literally today I read news that Spider-Man, Tom Holland, canceled his social media accounts because he said it was causing him a mental mental-health crisis.

Why? Because our brains are not designed for that much stimulus. And if your serotonin is dysregulated, it's too much.

Neurochemicals, Personality, and Survival Wiring

It's to much and if you're dopamine pathways are off, then you become hooked on that stimulus and stimulus, and then when you move away from them and put it down, no wonder the children are irritable and people don't have good relationships anymore because your brain is now craving that hit and hit, that's the way the dopamine pathway works.

And what you are now coming back to, which would have been okay for Your parents who you're wired to do what they did, isn't okay for you anymore. Right?

So that genetic expression also gets affected. Even though you have a poor dopamine pathway, you are over burning it, over burdening, burden in the pathway.

And I'll come back to reality. Your brain is already for that. It's like, just like training other, any other muscle it's now wants to pump 300 pounds instead of 20. Right.

Yeah. And, and dopamine, if you just kind of search for that stimulus, I mean, it's like any kind a nutrient, you're going to burn up your, your reserve and then you need a higher stimulus in order to be able to trigger a dopamine response.

So all of a sudden you'll just become this thrill seeker and you'd just need more and more in or to able. to kind of feel satisfied. So the serotonin, we have that kind happy hormone, but it is specifically what should I pay attention to?

And that's kind like the survival component of it. Dopamine, what was the purpose of dopamine? So dopamine, so everything about our wiring, if you truly look at it in the right context, it's for us to evolve and become better, to make the planet better to, evolve the species.

We all move ahead and forward. So we're designed to want more in everything. And dopamine is one of the key things that drives it. It drives the sense of pleasure and reward.

And the way you experience dopamine, is in three stages. First, there's the anticipation. I smell some tasty pizza and I know it's coming and i start to feel the vibe.

Then the actual sensation, I bit the tasty Pizza. Wow, dopamine has deployed. That pleasure is a response. then there is the clearance. i need to get back to normal, i have to go back work.

So there are enzymes and proteins that get rid of dopamine. Right? So now in that cascade, To what degree did these things happen? It's determined by the genes that instruct each step.

So the density of your receptors, to what degrees do you actually experience pleasure or reward? Dopamine pleasure is both, or sorry, power is, both. It could have maximum density or very slim density.

And so all of a sudden you're always feeling good, which means you don't really care. You're not that motivated because everything's good. Or you never feel good.

So you're constantly looking for the next opportunity and the Next reward and your ADHD. And, you know, then on top of that, how long did it last? Did it Last a really long time where you get stuck and you end up binging?

Right? Because the pleasure response doesn't go away. So it's hard for you to shift gears or does it clear very quickly? In which case you didn't get enough satisfaction and you're ready to move on to the next thing, which may be the swipe or the meal or next drink or whatever.

Right. Because whatever you just did wasn't enough. That's one layer. Now, if you layer on top of that, a noradrenaline, the adritob gene, which drives your nor adrenaline response.

There's some people who are deleted. So it's not about a snip or a spelling mistake. You literally can be deleted for part of this gene. It's there's a chunk missing, removed a paragraph in your page, right?

They, they don't do a good job of responding to trauma, PTSD, negative stimulus. So if you are the low dopamine, you know, reward seeking, thrill seeking person, and you also bind trauma because you literally imprint.

so there's some people for whom they experienced something bad and they intellectually captured it. And the next time they're in a similar scenario, They can think through it, there are some that did something and imprinted the feeling.

And that's genetically determined. And if you do imprint the feeling, the next time you have that fight with the hubby, or you'd have to go into that building again, where you see the same color car again that you had an accident in, it's trauma.

It brings back the feelings and that becomes your primary filter. That becomes the way you would now perceive that person or that house or the car. And this is if you have a dysfunction in the noradrenaline receptor, so to say, for somebody like an individual that is a thrill seeker, maybe he likes dopamine and then he's out there to go and he thinks, well, I should be a warrior.

I shouldn't go to war. And then they have dysfunction and the, nor adrenaline receptors, the genetic that that makes them. then they will come home with the PTSD.

They will hold on to those memories and they're not able to clear up. Yes. And now remember there's a variability in how much. The gene has three possible outcomes.

Optimal, no deletion, single deltion because either mom or dad gave me the bad version or full delation. the person in the middle has a highly functional relationship with trauma and pain.

Meaning that they're imprinting, but they are using it as a tool. The third person who has a double deletion, it's a burden. That's PTSD. that's where they clinically like, I can't ever hear that noise.

I, can go to work anymore. Right? The person in the middle is more emotionally intelligent, reading the room and understanding what people are feeling before they even say anything.

So it becomes a primary tool for them in a filter. And that adds to that warrior genetics. That makes that person now able to lead and be emotionally connected with people and understand what people are feeling and thinking before anything even starts.

Right. So, so it's a difference of, you know, the same thing that may sound bad could actually be a superpower if it

is used in the right context. then we move forward to BDNF, brain drive neurotropic factor.

So with this though, you can then really learn as to in what kind of environment and in, what kinda work and what pursuit you should do, depending on your genetics, saying that, yes, I should be an intelligence officer because this is what I can do or, Yes, I can operate as an EMT or no, i should be an accountant because I should not be dealing with any of those things, because all of that will stick to me like Lou.

So we've done this work. It's been really fun. I really enjoy it because we get to go into organizations like C-suite, all the executives and say that you actually shouldn't be the CEO.

Right. it's the wrong choice. And you two people, we already know that you always have trouble working together like they're hiding and all. What are you talking about?

We know and this is why. And I'll use myself as an example. So I am that person that has the low dopamine response and the fast clearance. I don't feel much and when I do feel it, it's gone quick.

and I have the slight deletion in the neuroadrenaline response, and my serotonin is a little off. My personality, if you want to coin it into an avatar, is high functioning anxiety.

I'm constantly thinking and wanting to cross every T dot, every I, and like never let things ever good enough, you know, in every little detail matters.

When I met a meeting, I talked to someone a week later and they're like, no, we never discussed that. I say 50 page two of your notebook and look at the third line.

And they like. Oh yeah, it did write that down. Yes, who did? I saw you write it down because every detail of matters and I can't let it go. It's burning in my gut till it's dealt with.

Then you have our co-founder. who has the maximum dopamine receptors and a very slow clearance. Right? So all of a sudden this, we leave the room, I got my 10 action items.

I can't even think until I start working on them. He's on his laptop looking up vacations to Fiji because it's so easy for him to get satisfied that the meeting was enough.

That was the work. Right. And not to say that we don't achieve outcome. We both achieve outcomes. The difference is I'm constantly chipping away at little things and just getting everything done.

Whatever the next thing is, he will dive deep and binge on one thing and do it better than anyone can do. But the other eight things on the list never get started.

So now that we understand this about each other, we are complimentary as opposed to the friction we used to have. There was constant fighting, challenging, like you're doing it wrong.

No, you are doing wrong, no, your doing your wrong… We just perceive the world entirely differently. He focused on priority and quality of work. I focused sort of on vision and all the little pieces of the puzzle that all needed attention to make sure nothing was ignored.

Right? So if you understand about yourself, We've done this work for Like Black Ops, military, Navy SEALs, who should actually be front lines pulling the trigger that can make that fast decision without any hindrance?

Who can come back without shell shock and PTSD and trauma? You know, we've done this work with athletes and professional sports teams. Who should, actually lead the team?

who Should be that anchor in the background? That's the sort of dependable, reliable person, right? So it becomes very easy. I would argue that if I have your DNA.

I don't ever need to talk to you to understand your personality with tea. I'll describe exactly what your problems are with your wife or your husband or whatever, you know, how your kids think of you, what happens at work.

It's very, very black and white. it's just new information. So this just isn't common, right? We've been doing this ourselves. And just one last thing, the reason why we're able to do this uniquely, because you won't often see this as a part of genetic reporting is because in our research model, we can clinically reviewed 7,000 people.

So we literally sat in front of 7,000 people and interviewed them one by one, by clinically with their DNA in our hand to understand why do they behave like this?

Why do their eyes move like? This? why?

Context, Roles, and Genetic Superpowers

Do they not comply to what we said to them? And why does this person overdo it? and we started to make these sort of call them avatars or buckets that people fit in and the strength trends started become obvious.

And now we know what to a T that you're in this bucket. This is how you behave. and it's very, very clear. That's fascinating. And that's, you know, like you're talking about your, uh, your partner yourself.

I mean, now you understand your superpowers instead of being agitated because that individual is not behaving like yourself, so then you can respect that.

Individual because you, know that this is how he operates and, and that way you. Can just utilize that to a max. Exactly. That the same thing that could potentially be a crutch could be superpower.

And this is where the thing I said earlier, context is key to that, right? Are you in the right role in a right room? So if I speak to this clinically, You know, I remember the first thing that comes to mind is this young lady in New York who was a friend of a friends and she was on multiple pills, did not talk to the family, could not go to any family party without there being a blow up.

Right. And this type of, you understand the sort of profile. So we discussed her profile and it was very, very clear. When I first saw her profiled, by the way, i thought she would some high performing artist, executive, somebody who had achieved something great.

Instead, she literally was, you know, borderline barely surviving, right? And clinically representing anxiety, depression, uh, She would eat her breakfast at three in the morning and then not like her entire day was just disrupted.

So what we realized is she was wired for greatness, Right? She was hired to just do amazing things, but her family was extremely conservative and her Go get married and give us grandchildren.

This woman was designed to go build amazing things and change the world. Right. She was a visionary. But in the wrong context, that didn't fit. You know, it's like putting a lion in a box.

You know, it doesn't work. And so now the context is so important because when we coached her through it and the family was listening, and when I started to understand the contexts, then I starting talking more to the, family than I watched her.

I was like, I guess at dinner, she behaves like this. When you talk to her, It's more like. Yeah, that's it. That's her problem. As I said, That is not her problems.

that is you boxing a super power. You need to open it up and unleash it, And this person should be leading the. family. not being a drag on the family.

And when they started to see that, she started making changes and the families started, making change. We had a few calls and she's thriving. She's striving because you have this person who imagine taking someone that's wired to be the greatest athlete and chaining them up and not letting them run.

That's what her brain was wired, to do a mental athlete. How cool, what a gift. I mean, to really then understand that this is who my daughter is or my spouse or, and also obviously myself, but then to give them by understanding, then give him that freedom and that right to be who they genetically are designed to.

Yes, exactly. We are all, when it comes to mood and behavior and mental health, I don't believe so there's some clinical like, you know, chemical imbalances.

That's a mental health problem. That's somebody who was born with a genetic condition. And this is true, by the way, for most systems in the body, cardiovascular hormones, everything.

The majority of it is chronic in nature. You weren't born. It's not part of you. you made the wrong choices, probably not your fault because you weren' t taught otherwise.

and then it led to you crossing a threshold that your body couldn't cope with and it expresses now into some symptomatic condition that's 85% of what we're dealing with in health.

The 10 to 15%, yeah, there's innate genetic deficiencies which cause a problem. That's not what were talking about. Those people need medical attention.

the majority of we suffer from, we don't have to have. It's just us being misaligned to our genomic legacy and other legacies too, our gut microbiome legacy, and our environmental legacy.

And there are other systems in the body. When you start to understand what you're made of, and what you were designed to do. We are all wired for greatness.

Right? Our ancestors all struggled. Constant stress, constant problems. They all struggle. And everybody in the tribe had a different role. and they all did their role well.

they had no choice. It wouldn't survive if they didn't. right? And now we're all sitting with our fog lights and our swimming pools wondering why we don't feel right.

You know? Exactly. we think we are suffering. Yeah. Or a spider man deleting his accounts because he thinks he is suffering So what was the last? We had one more.

Yeah. Uh, BDNF brain drive neurotropic factor. So this is a gene. And by the way, just to go back to all this stuff in, in relation to regenerative medicine, medicine.

This is all super important because if you're going to do something and invest in something, and not first understand how you perceive the world. Right.

How you perceived the treatment, how do you comply to the treatments and what changes you need to make and how those changes are going You've added a piece, which is a very important piece.

This is the tool. But you need to create the terrain for the tools to work. And a big part of that terrain is up here. How you think, are you ready to heal?

And people like yourself do this work, you're obviously a phenomenal clinician, but the challenge is, a lot of people don't. Right? So a lot of clinicians don't think about that.

It just, you know, prescribe and treat and just stick the thing in them, inject it and done. My job is done, there's a whole lot more that needs to be wrapped around that and that's why we're talking about this stuff.

So, okay, so going back to BDNF, brain drive neurotropic factor, the primary thing that it's sort of spoken for and studied about is neuroplasticity and concussion.

How well do you take a bang on the head and how quickly do recover? But that is a very sort elementary version of what it actually does. So when you talk about neuroplasticity, how well do you develop neural connections in the brain?

The outcome of that is multi-fold. If we talk of our mood, How much meaning do give things? So if your BDNF is off, so you have the person that binds the trauma, right?

They experienced additional stimulus because their serotonin is also that thing that was traumatic also was a little more stimulating, or so they experienced more nuances about the thing.

And they may give it a lot of meaning, right? If your BDNF is off, there's also a weight on your shoulders. There's a burden to that trauma. That's shell shock.

It's literally the shell. So there is trauma and then there are shell shocks. I remember the feeling, but it's like, I can't handle seeing it again. Right?

So now that's where you get that clinical, like this person needs a lot of work, which is that that girl, by the way, that we were working with. Then there's a flip opposite.

They could have the optimal BDNF. And now you have a person that doesn't give enough meaning. Right. That is able to like myself, I have that optimal VDF so I can go fight and do things and be on the front lines because it, again, who's that person?

That can pull the trigger. Right? Repeatedly. That has to do their job over and over again. This is the work we did for literally Navy SEALs. Right. And both of those, that's just mood.

How much weight, how much meaning, the drama queen responds, crying over spilled milk. It's very easy to predict even just with this one gene, but there's other nuances as you've been hearing.

Then there is, you know, applying it to like work and lifestyle.

Hormone Genetics and Female Health

how well do you develop skills? If you don't do a good job of neuroplasticity and developing new synapses and neural connections, then you probably aren't the doctor that also writes a book and also hosts a summit and, also speaks on stage and helps with the legal and the marketing.

I just do this. Right? Think about asking, walking into a primary care clinic and asking the average clinician, can you go host a Summit and interview 40 people?

Like, no, it's a very straight no. Right. But the thing that they do, they so well with those blinders on. And they're subject matter expert. So picture the author that all they will do is write.

They won't even shoot a video, right? They're a researcher, their author, but the in-depth level of information they are going to give you because the way their brain is wired, But then they can develop new skills at that same masterful level.

It's that person that's great specialist versus the generalist. Both are valuable, depending what context you're in. Right? And now again, that young lady who was this great specialist who designed to do one thing really well and be a scientist and discover something at a level of research that nobody else could possibly dive into, was being forced to be the specialist.

Go work on the family farm, go do this, Go do that, stretching the brain to a Level that was not meant to stretch to. And all of a sudden there's a misfit.

Oh, you can't learn this. You can do because they're not designed for that. right? Give her one job and make her be the master of that and she'll do better than anybody.

Give 10 jobs, she will fail at all 10. Right? So the, the NDF, I mean, or brain, brain BDNF. So if you have a dysfunction in it, you, have, a lot of meaning and whatever it is that you're doing, which mean obviously meaning brings emotion and that kind of hard wires it into the brain.

You'll, remember that forever. And you'll be able to talk about it in details and so many different ways. So it almost like it becomes the dysfunction of, I wouldn't say that it's a dysfunction, but it is just how genetically you are made.

You will have that superpower, which obviously is really, really important. And then, like yourself, you're saying, it functions optimally. Yeah. It doesn't, yeah, you don't bring a lot of meaning into it.

So you can, it doesn' stick as much, even though you're detail oriented, so you, can still kind of say you wrote that on such and such page because of other components, your dopamine and yeah.

I remember every detail, but I never write an email more than two lines. Right. Versus our, our science team where I asked one question and the answer is an hour long.

And really it could have been 30 seconds. It would have drive me crazy. Yeah. I'm sorry. Right. So now, but there's a place where that's purposeful and meaningful.

And then you start to see the, these, the profiles that fit in academia and why all these people behave like this and the profile that fits in entrepreneurialism and, and when these two groups speak to each other, they both say you're crazy, right?

Because this is what you, you you doing and you are wired for the job that you meant to do, which is why you were doing a good job. Right. You're, and this person's good at this.

This person is good. At this, some people can lift 300 pounds. Some people. Can run 10 kilometers. What are you wired for? And even that hormonally, we can determine by looking at your hormones, innate body type, in a capacity.

I mean, there's so much more you ask a question about the human body and DNA can inform the personalized answer for you. That's really what we're saying.

So let's go. I mean, brain is so fascinating because obviously that is what drives our direction. It drives us in so many different ways. Without the cockpit, the plane wouldn't fly anywhere.

So we kind of need the brain, but then hormones is kind like right up there. It guides all the functions throughout the whole body. So genetically, you can then look and see in regards to thyroid disorders, estrogen, progesterone, testosterone, adrenals, pituitary, all of those kind of things can also be looked at through the genetics.

Yes. If you ask me of the 7,000 people, where did I feel we had the most impact? I would say it's in female hormone health. And not because we're the best at it, but I, we, do do a good job.

We've understood it well. And we'll talk about that. It's also because the current model suck so bad. Right. You're a woman, you're supposed to have hormone problems.

You're supposed to worry about fertility and menopause and PMS and all this stuff, which is absolutely not true. The reality is that the way we look at medicine, it's a chemical business, biochemistry.

We're measuring things symptomatically after they've already happened. The cholesterolemia is the response to endothelial inflammation, the real disease is inflammation.

Cholesterolemia's your body's response. So you're measuring something way after the disease started. Same thing with hormones. We're only looking at the symptomatic expression and then measuring hormones today in a woman's menstrual cycle.

you measure on 30 different days, you're going to get 30 numbers. It's a complete circadian rhythm. So what you need to understand genetically, your innate capacity to produce hormones.

What do you actually do? The genes are very black and white. This very grey problematic business can be very Black and White. so what does it look like?

Progesterone converts to testosterone, converts the estrogen. There's the gene that does each one of those. Slow, medium, fast. You know which version you have.

Then all of a sudden, how heavy is that testosterone pot being filled? I now know how many hormones I made. Did I then convert it into estrogen and how quickly?

Or did I clear it? There's a gene that gets rid of the testosterone before it gets converted into estrogen. How well did I do that? Or you can convert it into DHT, which is the manly man version of testosterone that gives you ripped, jacked muscle where you see every striated fiber and it's hard to add belly fat, but your hair falls out, cystic acne and other problems, right?

So with this map, you can be very, very certain about problems and solutions. So for women specifically, and I'll focus there for a second, if you are estrogen dominant, You're filling that testosterone bucket and you're very quickly filling the estrogen bucket.

And you also estrogen toxic. Like when you have your menstrual cycle, first convert into a metabolite. two, four, or 16 hydroxyestrogen. Those are your three options.

Two is great. Clean stuff. Four and 16 are toxic, potent toxins. And a lot of women are on these two buckets. So if you are estrogen dominant and you're estrogen toxic then you month over month creating this toxic metabolite and causing inflammation to your body.

Okay. Why then do some women have a problem and some don't? Well, some woman are also taking a birth control pill for 10 years. And fueling that estrogen bucket.

This is why I said environment, nutrition, lifestyle. These are the loads that you have to add on the genetic profile to get to certainty. Some women go on BHRT without knowing which part of that cascade to intervene, right?

Where do I need to actually block or change or turn the dial? It's just a random, take some estrogen, all turning into estrogen toxicity. Then you start to look at the detox pathways.

And how well do you get rid of that estrogen toxicity? There's very clear paths of what we call glucuronidation, glutathionization, antioxidation. These are the three pathways that are involved and COMT.

By the way, the same protein that clears the dopamine also clears estrogen toxicities. So if I, and this is where I can even ask you a question about your personality and start to predict things about how you feel hormonally.

Now you can, again, you see there's a lot of sort of nuances that you start to very precisely predict what's happening in that woman's body. If again just like your brain map, if I have your hormone map I don't need to meet you to understand your body type.

Can I see your abs or not? How nice is your hair and skin? Has cystic acne been a challenge? Is PMS a horrible

roller coaster? Right? is menopause going to be a disaster?

Or do you literally go through menopus and not even notice? Some women are blessed, but that comes with its own suite of problems. So estrogen dominant, androgen or testosterone dominant.

Estrogen toxic, Androgen Toxic. Each one of those has its benefits and its problems, so we can take this very gray area and make it very, very black and white, certain precise and all of a sudden infertility, fibromyalgia, PCOS, you know, breast cancer even, ovarian cancer, the why behind all these things.

Why do they happen? And then you can be very precise about prevention. And that's the thing is that once you then know what your weakness is, there are plenty of tools out there that can then support these different pathways.

I mean, if you easily become estrogen toxic, I then that you need to continually support that pathway and obviously You need to stay away from plastic and all these Xenoestrogens like the plague.

But then you know that and you can take those action steps in order to be able to, and then minimize the risk that comes along with being estrogen toxic and estrogen dominant.

Male Hormones, Training, and Practical Applications

And you also know precisely where to intervene, right? So you know, okay, here's my threat. So I have to remove, cause when it comes to resolving things at a genetic level, what we're saying ultimately is you don't do a function well.

The instructions broken or you're doing a little too well, like maybe you convert too many estrogens, so we are doing it either. There's two dials you can turn.

I can look at genetic expression. so there's foods or supplements I take that turn that dial in whatever direction I want it to go. Or I have to eliminate the things around me that I do not have the capacity to deal with.

Those are the two dials you turn. Now the question is, where do I start? So if you have that map, you know exactly and precisely where to intervene. I am highly estrogen dominant and I'm highly oestrogen toxic.

Okay. So do you need a supplement to slow down that estrogen conversion? But wait a second. Right. So you can intervene at the right place, get to the outcome you want without the trial and error, without one size fits all, the pain of trying things that don't work and then you lose your motivation.

No, here's exactly what your map is saying is broken. And if you plug this gap or hole, things are going to change. It's very clear biochemistry and DNA just doesn't lie.

Right? It hits clear. And we can translate, I mean, we're talking about the females, but this can obviously be translated into males as well. I means, people that are wanting to take testosterone, they wanted to get ripped, you know, what kind of impact does that testosterone?

How well are they building it up? how quickly are getting rid of the testosterone. How effective is it? So we've been, that way you can do the same for a man as.

Well, exactly. You know where we are in Toronto. which is the hub of hockey training. A lot of the great trainers are here because Canada is where hockey sort of comes from.

We have a long winter. I'm from Sweden, I love hockey. And I loved it every time Sweden beats Canada. But it's just so awesome that rivalry isn't existed forever.

Yeah, don't get it. So what ends up happening here is we get a lot of NHL players that come to us through their

trainers and their doctors with unique problems.

It's kind of like they've seen every best doctor in the world, but there's still one thing they can't fix. That's when they get to their genetics and let's try and figure it out.

And we had this unique scenario, I would say like 2018, 19, around that time, where a number of players were sent to with gyno mastia, man boobs, right?

And libido problems, They had beautiful skin and beautiful hair, but they had libido problems and gynecomastia. So what we saw happening was the trainers were saying, Hey, you, don't recover as fast.

You get more injuries. Your, and you don' have that sort of velocity. you probably need some more testosterone. So they will give them what's called an androgen gel pack.

You put it on your stomach, your skin absorbs the androgens, gives you more testosterone. If you have the fast version of the gene that converts testosterone and estrogen, all you did was give that person more estrogen.

But I also understand that in a practical sense, I need testosterone, take testosterone. It makes sense. Right. But you don't know what your genes are doing with what you just entered.

There's an instruction in your manual saying, find testosterone converted to estrogen. Find testosterone and convert it to estrogen all day long. So add more testosterone some people convert all the estrogen and then all of a sudden it's not working.

I don' feel good. Give them more. That's the answer, even more, right? That when they came to us with the gyno master and the libido problems and we had to turn it off and intervene in a different place.

Instead of give him testosterone, why don't we just stop the clearance of the free-flowing testosterone he has? So he just happens to have a fast version of a gene that gets rid of testosterone.

So it's not there for long enough. It's thought that he doesn't make it, it just escaped. Then we also had tell him, you need to work out at this specific time.

For you, there's two, so women have a menstrual cycle monthly. Men have menstruation cycle. We do it every day, right? So every single day we make and get rid of our hormones.

The same thing that women do monthly and the peaks are at six to eight AM if you sleep at sort of a regular cycle and four to six PM in the evening. So for men, like myself, they clear your testosterone quickly.

You'll notably feel stronger during these times. Your notably have less injury at these time, notably feel like you need to go home and visit the wife at these times, right?

Because the testosterone peaks and that's when you feel the most manly that you'll feel during the day. So there's, and this is why I say intervention isn't always a pill, it's lifestyle, environment, nutrition.

Lifestyle might mean this, is the time of day where you, need, to work out you. But for other, another guy, may not matter because his testosterone doesn't clear.

It stays throughout the, day And that's what's so cool with genomics. I mean, we can go in, yeah, into digestion, vitamin D. All these different things.

You learn your immune system and all of this, you can then learn in regards to your genomic manual that you get. That's also cool what you're doing. Well, Kashif, it's been such a pleasure.

It's such wealth of knowledge. It's so incredible what you're doing and the problems you are solving and guidance

that you giving people. It is really amazing.

Thank you so much. No, it's a pleasure. What you putting together here for everybody is amazing, like people need this information and education. And it is hard to find.

You know, and it takes people like you to bring us all together and share. So this is awesome. Thanks. Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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