

## **A Root Cause Approach To Migraines and How To Eliminate Them Permanently**

Kashif Khan interviewing  
**Amelia Barrett, M.D.**



### **Kashif Khan**

Welcome come back, guys. We're gonna talk about something that's near and dear to me because I suffered from it for many years. And a few months ago, I was at an event and walked and ran into Dr. Amelia Barret. And she said, guess what? I fixed migraines. I said, no, you don't, nobody does that. And she said, yes, I do, that's what I do. So her BA, I mean, as an MD, she's trained at Stanford, went down the allopathic route, became a clinician. And I'm sure somewhere along the line heard I have a migraine, I have a migraine, I have a migraine. And there was this overall constant, everybody has this problem. Anyone you talk to at one point has, but there's no real solution. And so Dr. Barret went down this rabbit hole said I gotta fix this. And she started researching and learning and bringing solutions and people like myself now can say that, hey, I don't have migraines anymore. Which people don't believe it's possible. So, first of all, welcome, thank you for joining us.

### **Amelia Barrett, M.D.**

Oh, thank you so much for having me here today.

**Kashif Khan**

So how did you transition from I do what I do to wait a second, there's a much bigger problem here, MD aside, this is what I gotta work on?

**Amelia Barrett, M.D.**

I think that the fundamental transition was the recognition that conventional medicine is very much pharma based and does not include the wisdom of so many other ways of healing, whether that is functional medicine or Ayurveda or all the other different things that we have learned about how the body heals. And so it was really a recognition that in order to truly help people heal, we need to include those other modalities.

**Kashif Khan**

And it's challenging 'cause you come from a space where you're in clinical practice, you're doing your thing, you're trained to do something and then you have to kind of step out of that role. And say wait a second, there's more to this, which a lot of clinicians really struggle with because it's counterintuitive to what you're taught.

**Amelia Barrett, M.D.**

Oh, absolutely. So what happened to me is that I had fairly bad migraines throughout my twenties. And of course I was in my medical training at that point and I used medication to fix them to power through. And then when I was about 30, I discovered yoga and meditation and those were the first things I discovered that made my migraines much better. And so I got very curious about it and started looking at other ways to heal thinking, okay, this is my own personal experience here. And number one, is there science about this? It turns out absolutely yes, there is. Number two, are there other things that I can be teaching people that help them heal their migraines in the same way? And the answer to that also was absolutely yes. So there was a period of time where I was at work during the day, treating people with pills. But what I was doing in my own life was completely opposite. And of course there came a time when I realized, all right, I need to start telling people all these other things that help. I don't wanna keep this to myself. I want my patients to know that there really is an alternative that is effective and also evidence based.

**Kashif Khan**

And that discovery that you went through was that intentional like hey I need a migraine solution, let me try yoga? Or was it I'm trying yoga, wait a second. My migraines went away?

**Amelia Barrett, M.D.**

It was the latter. I literally, I tried yoga because my aunt told me, she thought I might be good at it. I'm not kidding you, it was that simple. And then this transition started to happen in my mind and in my body. And that was the spark that really got me curious to say, hey, wait a minute. There's more to this than prescriptions. There really is. There are other effective things that we can bring to the table for.

**Kashif Khan**

So the traditional, so going like the prescription route is it believed that migraine is kinda like one thing. And here's the pill you take or are there, when you look at it diagnostically, we're starting there, like what you used to do, right? Is it here's the migraine bucket, it all fits or are there multiple different types of migraines or how do people think about that at that allopathic level?

**Amelia Barrett, M.D.**

So people do definitely divide headaches into different types. Migraine is one type, but when we do trials with medications, we are trying to find things that help the majority of patients. So we do lump them all together into a single group.

**Kashif Khan**

Okay.

**Amelia Barrett, M.D.**

And that's part of the problem right there, because for most people with migraines, there's not just one thing triggering it. It's not just one food. It's not just a one bad night's sleep. It's not just one stressful event that is causing your migraines. For most people who are having more than a couple of headache days per week, there are probably a dozen different things going on and we need to fix all of those in order to really get you better. So it is taking a step back, digging a little deeper into what exactly is causing those headaches that really makes the difference and gets people to the place where they want to be.

**Kashif Khan**

So it's kind of like the body has some resilience and can handle all these various things, but eventually you cross a threshold where it could have been any combination of things that get you past that line where all of a sudden it expresses as a migraine.

**Amelia Barrett, M.D.**

Exactly, exactly.

**Kashif Khan**

And is it that, when you say migraine, so I feel like when I used to have this issue, there was times where it was debilitating where literally my business partner would have to drive me home and I would be vomiting 'cause the gut and brain are kind of connected and my body didn't know what was going on. And there was times where three, four days in a row, there was kind of like lightweight in my head that I felt like I could be coming, but it didn't quite come. So what's the difference between that like mild irritation versus like I'm in bed, I can't even function?

**Amelia Barrett, M.D.**

You know, I think it's a matter of degree really. And I think that there are so many people out there who do have migraine, but because it isn't that debilitating, throwing up, I can't say at work, they don't identify it as migraine. But almost anybody who's having more than two headache days a week has some component of migraine and will benefit from all of the things that help people with migraine.

**Kashif Khan**

So that stacking of sort of the loads and the problems, is it correlated that the more problems, the more aggressive the migraines gonna be, is it yeah?

**Amelia Barrett, M.D.**

Absolutely yeah, you're right. So if you've got that perfect storm where you did have the stressful event, you didn't sleep well, you did eat the thing that tends to trigger you. Yeah, of course that it's gonna result in a migraine. And so unfortunately what a lot of people do when they're trying

to fix migraines on their own is they spend all of their time and energy trying to avoid anything that ever gave them a migraine in the past. But that's no way to live. That is no way to live. Nobody wants to go through their life only being able to eat the six foods that never cause them a migraine. And there are people who do live that way. What we really wanna do instead is focus all of that time and energy on helping the body heal.

**Kashif Khan**

I remember when I was younger, I would get seasonal migraines. And I was told it was due to atmospheric pressure. When there was high pressure systems and the data actually correlated like the days that I had the migraines, that was it. As I got older, there was more triggers. I guess because I got deeper into that threshold. But does that make sense that the people that say that it's due to high pressure systems, you can cause that load, they'll make a trigger.

**Amelia Barrett, M.D.**

Sure. And so what is typically happening there is that the barometric pressure change is really the tip of the iceberg. There are a lot of things going on under the surface. And so you identify the barometric pressure change as being the trigger. But the problem with this is we can't control the weather.

**Kashif Khan**

Yeah, well I've heard some reports lately that things are going out on in the Middle East where they're taking the desert and turning it into rain. But anyways, we'll talk about that later.

**Amelia Barrett, M.D.**

But for now, that leaves people with migraines in a very disempowered place, you are literally the victim of the weather. There's nothing you can do about that. And so if you continue to focus on just the weather as your trigger, then how are you gonna get better? Because you're not seeing all the things that are under the surface of the water, that big part of the iceberg that is under the surface. And that's where you can put your time and energy. That's where you can do things that really make a difference.

**Kashif Khan**

So that's the trap that people often fall in when they hear from the doctor or whoever that here's what caused it. And then 100% of the focus goes to that thing. And you may only ever chip away at it because you're not dealing with the other 80% of stuff, that's the additional load. And so you might only bring it down a little bit or less occurrence, but it's still there. You haven't really healed yourself. So do you believe in practice, I guess, can you take people from, I have this and it happens this often to fully healed, I don't have this anymore? I'm not a migraine person.

**Amelia Barrett, M.D.**

Yep, absolutely.

**Kashif Khan**

Wow okay, 'cause yeah, sorry, go ahead.

**Amelia Barrett, M.D.**

It does take time and energy, I won't lie. It's harder than taking a pill to figure out how to heal your body and then to actually incorporate all of those changes into your life. I won't lie, it's harder than taking a pill or a supplement. It's not that simple, but it is doable. We've done this multiple times in my work. I do run a course that shows people how to cut their headaches in half in three months without medications. And the data bears that out. I am a Stanford trained neurologist. Science means something to me. I do track results to make sure that what we're doing is really helping people move the needle. And those are the results we get. And that's just in the first three months. So for people who continue on, yes, absolutely that goal of not having headaches anymore is very attainable.

**Kashif Khan**

So it sounds like there's sort of two layers to the work you're doing. One is first of all, you look at migraines differently. It's not about put somebody in a bucket, diagnosing the, what pill matches them. So that's one, understanding the various insults that cause this inflammatory issue, whatever it may be. But the second is the solution isn't a bandaid it's kind of behavioral change.

You gotta spend time and that doesn't happen overnight. So it's reducing the load, healing yourself, truly healing, but also changing behaviors and spending months on becoming a new version of yourself, is that what's going on?

**Amelia Barrett, M.D.**

Absolutely. And this is where I think that your work is so important because it gives people a little bit of a roadmap as to where to start because we can certainly just do everything to try to make the migraines better. But most people who are having headaches more days than not do not have the bandwidth to do that, they don't feel well enough to do that. So I do see that as a niche for conventional medicine, let's use some medications, let's put that bandaid on so that you have the bandwidth emotionally and from a time perspective to invest in your health, to understand how to help your body heal. And then once your body starts healing, we can get rid of those medications and get you to your ultimate goal, which is to feel better without medications and to get your life back.

**Kashif Khan**

Yeah I can attest to that because I went through the exact same journey. I mean, I felt like there was a time where I was getting MRIs, thinking that there must be a tumor in my head, the amount of pain and pressure, it makes no sense. And there was nothing there. So it didn't make, there's no answer. So in that answer, yeah, take a pill to combat but how do I heal this? And if nobody can tell me why it's happening, then the pill probably isn't the solution. I'm only masking something that I don't understand. And so, like you said, it was when I dove into my genetics and finally understood that there's certain things that I just can't handle. I can't handle toxic chemicals and mold. And when I walked into our office and we were renovating, there was epoxy on the walls, 'cause they were putting laminate to build this lab. Those were the things that would trigger it. But I would never think of those things 'cause my clinician never said, that's where to focus. They said, barometric pressure, stress. So I tried to reduce stress when I could, and I do notice a correlation to if I'm in a very high, high level of stress, I'll start to feel the tingle, even now. But it doesn't get to where it used to get to. So once I started to identify, here's the things that I didn't realize were the triggers.

Yeah it took weeks if not months, depending on the various things to sort of unravel, unpack them, change my behaviors, change the way I react with my environment, start supplementing the right way to support where I was suboptimal genetically. Low and behold, I don't have a problem anymore. So yeah. So in the work you do, I understand that most people, bandaid, I have pain go to the doctor, help me now. How do you convince somebody that the bandaid is temporary? And we can actually no longer need a bandaid. You don't need this gaping wound. Do you have challenges like that where people say, well, I have this thing, you're not gonna get rid of it?

**Amelia Barrett, M.D.**

Mm hmm, absolutely because that is what people have been told, that is what they've come to expect from conventional medicine. But I think there are certain subsets of people who are more interested in healing. So for example, yesterday, I was working with a gal who just had her second child, she's nursing her baby. She has tried half a dozen different things from conventional medicine and none of them ever worked anyway. So she is much more interested in learning how to heal her body. She's willing to put in the time and energy to make that happen. So I think that's one category of people for whom this approach makes a lot of sense. And another group of people are the people who just don't want to take prescription medications. Maybe they work but they cause side effects that they don't wanna have to deal with. Mood changes, energy changes, sleep changes. It's just not how they wanna live. They don't want those chemicals in their body. And they would really rather figure out how to help the body heal itself. So I think those are the two people who end up being most interested in this integrative approach of combining the wisdom from multiple different traditions to really move the needle on the health of your body and your brain.

**Kashif Khan**

We've even heard of some people for whom, when they get on certain pills that their condition gets worse because they cause so much disruption to their gut. And this is not everybody, but for certain people. And this is why understanding your personalized gut microbiome could be important that disruption to their gut and that connection, the gut brain literally makes it get worse. So how much work do you end up doing between the gut and the brain?

**Amelia Barrett, M.D.**

A ton. And this is also, it's a departure from conventional medicine, a place where we bring in more of a functional medicine approach, which really views the body as a giant biochemical factory, that you can improve through food and supplements. So I call this process rebooting the brain and there are four steps to it. The first step is to reveal where your body is at with labs. The second step is to revitalize with the brain healthy food and supplement. So it is a slightly different focus, but gut health is a key part of that. And most people don't know this, but the majority of our serotonin is actually made in our gut. And we have to improve gut health in order to move on to the next step, which is to remove toxins from the body. Our gut needs help working well in order to help us do that. And I find that this is an area where people get massive benefit that is completely under recognized by conventional medicine. And I think here's the reason that it's so important for people with migraines.

And it is because many of us have mutations in our detox genes, in particular the GST gene, which helps our body get rid of toxins through our intestines, our gut, and this really needs to be ramped up in order to help us heal. And then our final step is to understand that when we are having headaches more days than not, we are in a chronic fight or flight state. And so I'm not even saying that your life is stressful. You need to change your life. I'm saying having chronic headaches is incredibly stressful for your brain to deal with. And so people end up in this chronic fight or flight state, and we know that we have to intervene and help them move out of that state and towards what we call a parasympathetic state, which is kind of our rest and digest state, because the other thing that's happening here is that's where all of those healing mechanisms in your body turn on. So we have to really teach people how to move their body from the chronic fight or flight over to parasympathetic so that all of those healing systems in their body will turn on and start to heal them.

**Kashif Khan**

So in that first reveal stage, you're thinking about migraines very differently than a typical clinician. So I'm sure you're also looking for things that they aren't typically looking for because they mean things to you. So what type of things are standing out, what are you trying to reveal?

**Amelia Barrett, M.D.**

So first of all, I think it's really important to look at nutrients that affect brain health. So perfect example, vitamin D levels, there's a lot of science around whether or not supplementing with vitamin D helps migraines and while they don't typically show a good benefit in randomized controlled trials. What we know about vitamin D is that it's involved in over 400 different reactions in the body. And I think it's important for us all to remember that the brain lives in the body. And so even though the very few trials that have been done, don't show a specific benefit. Doesn't it make sense that if we improve the health of the body, we are going to improve the health of the brain. And sure, maybe that's not the one thing that's powerful enough to show up in a randomized controlled trial, but there is an overwhelming amount of good evidence showing us that this is still going to improve brain health. So this is how I mean that it's looking at it from a slightly different perspective than conventional medicine.

And we also know that, oh, no drug company's gonna spend a ton of money researching vitamin D, that research may never be done because there's no pile of gold at the end of that. People can go to this drugstore and take vitamin D on their own. You don't need a pharmaceutical company investing in it. So it's really about looking at the science as opposed to just certain types of research. So it's important to look at nutrients that affect brain health. It's important to look at vascular markers. It's important to look at inflammatory markers. It's important to look at those stress markers, those detox markers, to get a sense of where we need to focus first, because people want to get quick results. Nobody wants to do something for six months knowing that they're gonna be better six months from now. You want something that's gonna make you feel better next week. So I think it's really important for people who have been dealing with these chronic health issues for so long to start where they're gonna get the biggest bang for their buck, so to speak. And that's why I think your research is so important.

**Kashif Khan**

Yeah and when you talk about vitamin D, I mean, in our research, it's funny because when, just like you said, nobody's studying vitamin D for migraines, but if someone were to cut the body open and look at it, it's when they would finally understand that everything is connected, we're looking at it from my heart, my brain, my heart, my this because that's how you speak to the

medical system. You speak to this doctor and that doctor and that doctor and the content you get back from them is, has these sort of guardrails around it where you can't go from one to the other. So vitamin D, from what we've learned, of the 22,000 genes in your body, 2000 require vitamin D to function. So yeah so literally 10% of your biochemistry is dependent on vitamin D. So now if something or multiple things are suboptimal below the neck, how is above the neck gonna function properly? It's all interconnected. If there's a stressor here and a stressor here and a stressor here. Yeah you don't need this study to tell you vitamin D causes this, this can't function because everything else isn't working. So we see that over and over again. We actually had a call yesterday with a clinician who, about, I would say a month ago, we went through his DNA with him. And one of the major recommendations was vitamin D. He, by the way, had rheumatoid arthritis to the point where he was using a tool to open a can. He couldn't do it with his hand. He also didn't drive 'cause he couldn't turn the steering wheel. So he actually booked a call with us. So I wasn't sure what the purpose was. And he called to say that I've been a doctor.

I would say he's in his mid fifties. He said, I've been a doctor my whole life. And I've been suffering with these autoimmune conditions and arthritis for the last, I think he said about a dozen years. And he said, guess what? I drove, I'm driving. Yeah, yeah. I said, and I had no clue what he was talking about. I was like, what do you mean? He said, I can drive. I can open a can with my hand. And literally, so there was a bunch of things we recommended to him. He went to see a clinician, even though he is one who's been working with him and he was told that this stuff isn't actionable. So he did only two of the many things I recommended to him, vitamin D and a sublingual B12 to deal with inflammation. He is now able to drive which a month ago he couldn't. So that's just a, there's no study that says, if you take vitamin D rheumatoid arthritis is gonna go away. But it's autoimmune condition where your body is fighting itself because it doesn't know what to do. You're not feeding it the fuel it needs. And this is the work that you're doing to figure out what does that fuel? Yeah, and that's awesome.

**Amelia Barrett, M.D.**

And it changes people's lives. The story that you're telling literally gives me goosebumps. I mean that's just incredible that somebody who was stuck in the mindset of conventional medicine for

so long finally dipped their toe in and had that kind of a life changing response. That's amazing. Just imagine where this person would be if they took all of those recommendations.

### **Kashif Khan**

Exactly. Yeah and now he's starting, there's some stuff where he said as a clinician, that that doesn't make any sense, but now he's going in with, he's going in blind and saying, okay, I can't deny that this is working, so he's gonna do the rest. So now you've worked with this person and you've gone through these steps. Where do you find are the biggest loads that people wouldn't think of, the things that they're doing that are, you'll see over and over again, that's that wow, I didn't think that was it?

### **Amelia Barrett, M.D.**

So I think that really comes into the steps of removing toxins and rewiring the nervous system. So before you can do both of those things, you need to get the revitalize, the supplements and the food on board, and that needs to it be specific to brain health. But I find that there's not a lot of resistance out there to the idea that you need to eat right in order to get some particular outcome in your body. Everybody's on board with that. I think people with migraine are typically in the food restriction phase, as opposed to embrace and love things that are healthy for your body. So there's a little bit of a shift there, but the overall concept, eat this way and you'll feel better, not foreign, not uncomfortable with people at all. I find that I have to do a lot more educating to help people understand how their body naturally removes toxins.

We all know that our world is incredibly toxic right now. I mean, I don't think anybody debates that. Our body does have mechanisms for dealing with that, different bodies do that differently. And we need to incorporate different levels of detox into our lives in order to really tap into those systems and help our body detox well. So I find that there's a lot of learning that goes into that piece of it, but also huge results. Once people get what to do and incorporate those changes. And then I think the other big shift is really that, the ideas about that you can rewire your brain. And I understand why people resist this. Literally when I started off in my career as a neurologist, we didn't not know that the brain could grow new neurons. We thought that was just flat out

wrong. And in the short time that I have been a neurologist, short time in the space of humanity, we have learned that the brain can do this, and that is a fantastic way to heal. And there are a variety of different ways we can trigger that sort of healing in the brain. I'm not saying it's 100%. I'm not saying people who had a stroke can fully recover their brain tissue, but there's more than we can do than we used to think.

### **Kashif Khan**

I remember just coincidentally, I was bored two nights ago, turned on YouTube. And it's this talk that popped up from University of British Columbia in Vancouver about developing new neurons. And I don't know how YouTube knew that that was good for me, but it knew. And I was listening to the talk and I was thinking that, well, we kind of know this genetically because we know what the genes do, but I guess all the science is now emerging and varying. So there's a gene called BDNF, brain derive neurotropic factor, which I'm sure you're familiar with. And literally will determine how well you do that activity of developing new neural connections. And we see clearly the people that have the really good BDNF, they will be multitaskers, wear multiple hats, a person like yourself that can study for this for eight years and then apply it somewhere entirely different. That can go from clinician to podcasting, to writing to, you're able to develop at a masterful level, these different connections.

Then there's people that are like, I'm a scientist. I do science. And they're amazing scientists, put them in a lab and they'll never leave the lab. They won't even leave, go from the lab to the other function of their science. That's how, and we've learned this behaviorally and there's a lot of stress put on people that are forced to work outside of how their brain is wired. And how they develop neural collection. And often they end up leaving their work and they dissatisfied with it. But anyway, that's a whole other topic, but for sure, we've seen this with people. So what then do you recommend to somebody who's challenged there that needs to be able to rewire their brain? What do you do?

**Amelia Barrett, M.D.**

So, first of all, you have to get to a place where you're having fewer headaches. And then the data shows us that some of the more effective tools are things like meditation. So I know that a lot of people hear that word and say, I can't meditate. My brain moves too fast. But so part of the mindset shift for people is opening up their definition of what meditation is and what we have been able to do in neuroscience in the last five or 10 years is put people into a special type of MRI machine called a functional MRI. And this tells us how the brain is actually firing as opposed to a static conventional MRI. That just shows us what the brain looks like. And what we've learned is that there are parts of the brain that literally stop firing and then shrink.

**Kashif Khan**

Oh wow.

**Amelia Barrett, M.D.**

Yeah, in people who have chronic pain disorders like migraine. And then what we have also learned is what we can have those people do in order to get those parts of the brain firing again. And then those parts of the brain actually grow. So we are literally helping people rewire their brains back to a place of normal pain processing pathways. And these are things that the brain does. Meditation is kind of an umbrella term but there are very specific things you can do to start firing these parts of the brain that have been under firing for so long.

**Kashif Khan**

So is it consistently in people the same parts that sort of slow down or is it just random?

**Amelia Barrett, M.D.**

Yes, it is the same parts of the brain.

**Kashif Khan**

So what do they do?

**Amelia Barrett, M.D.**

So what do you?

**Kashif Khan**

What are the functions of those parts that are slowing down?

**Amelia Barrett, M.D.**

So I'll give you one hands on concrete example. There is a part of the brain called the insular that perceives your body, that's its whole job. It says, okay I can tell where my right hand is. I can tell where my left hand is. I can feel my feet. We are typically unconsciously processing all of these sensory inputs in the insular. And so what we see is that for people with chronic migraines, this is one of the regions of the brain that has become small really, it has atrophied. And so the way to stimulate that part of the brain is through a technique called a body scan, which was actually developed by Jon Kabat Zin, who has done a good chunk of the research on the benefits of mindfulness for multiple different medical problems, not just brain disorders, but for heart disease, for diabetes, for weight loss, so many things. And so he is one of the people who developed this whole body of research starting in the 1970s that has continued to this day and given us some very actionable tools. So you can literally Google body scan if you're listening to this and get an example of what it's like, but it is essentially focusing your attention on various body parts. And so the fascinating thing here is that we can put people into a functional MRI machine, have them do a body scan, which is a purely mental exercise and we can see their insular light up.

**Kashif Khan**

Wow.

**Amelia Barrett, M.D.**

Yeah and we know that neurons that fire together wire together. So the more those neurons fire, the more connected they're gonna become, the bigger that part of the brain is gonna be. And then after a period of time, that person is walking around with a brain that has a quote high pain tolerance. Right? Some people seem to feel pain more than others. This is the brain of people who have a high pain tolerance and you can make it happen to yourself through conscious intention, through simply doing certain types of brain exercise. So I just find that to be.

**Kashif Khan**

That's, yeah, it's empowering, it's fascinating. And I feel like I was insular challenged if that even is a thing, because I, first of all do have high pain tolerance, physical pain because of my genetics so I'm wired for what's called warrior genetics. So I kind of drive towards reward. And so the pain is kind of pushing me to do more. And so I powered through my migraines as much as I could, I would stay at work until I literally was on the floor sweating and vomiting. And I definitely found, I don't know if this is placebo or me remembering incorrectly. 'Cause my brain was squashed from the migraines, but I definitely lost my athletic abilities during that time. The sports I used to play when I was, and it's not anything to do with muscle or whatever, I was generally staying fit, but my coordination and my ability to move around the court or ski or, it went down and yeah, so I wonder if those things are correlated, it seems like they would be.

**Amelia Barrett, M.D.**

I mean it makes sense.

**Kashif Khan**

Yeah. Wow so there's a side effect of the migraine. Wow, wow. Yeah. So then yeah so going back, the funny thing is you mentioned meditation as one of the key things that you saw that actually stimulates neural connection, developing new neural pathways. We've learned that meditation is one of the things that boosts your BDNF levels. So your brain driving, yeah, it's really cool. And there's a few things we've learned and you may have seen this also working is for sure meditation, deep breathing, especially before going to sleep, we've learned just sitting on the edge of your bed, little deep breath to bring your heart rate down and you do that exercise for a few minutes, you get better sleep. Your circadian rhythm kind of gets locked in. BDNF levels go up. We find that when you wake up in the morning, a hot shower, for some reason, BDNF goes through the roof and we've studied this where internally we have team members where, we're all genetically tested. So we know who we are, the ones with the poor BDNF we've tested where certain days where take a hot shower, take a hot shower, take a hot shower, the mood is incredible through, and the day that we don't and I'm not included in this, but there's other

people on our team who have low BDNF, their mood is horrible. So yeah, the brain is that sensitive to the changes.

**Amelia Barrett, M.D.**

Yeah. And can I just tell you as a total side note, I am so glad that you're studying hot showers as opposed to cold plunges, because I don't think anybody's ever gonna talk me into doing cold plunges, but hot showers I'm in.

**Kashif Khan**

Yeah, so cold plunges is more for me. So cold actually boosts your dopamine levels up. So it was minus 10 here yesterday celsius and I was walking around in shorts by the way.

**Amelia Barrett, M.D.**

Wow.

**Kashif Khan**

Yeah, there was a lady at the gas station that literally said to me, you're gonna get sick. I said, that's not how you get sick. Cold doesn't make you sick. There's other things that are happening around in the cold that make, this actually is good for me. And she just like, who is this nutcase, she walked away. So anyways. Yeah, and the other thing we found that has worked well is when you have really potent omega threes, not your regular off the shelf, but the right ratios, good quality stuff that's not rancid that gives you the fishy burps, boost BDNF levels. And with high BDNF, you get higher neural connection. So are there any other things you found that have worked?

**Amelia Barrett, M.D.**

Oh gosh, so many things, but I do just wanna echo what you said about fish oil, omega three supplementation because omega threes are in every cell in your brain. And I like to imagine it a little bit like fixing a brick wall. If you want to fix a broken brick wall, you need bricks. If you want to fix a broken brain, you need the raw material that your brain is made of and that is omega threes. And this is one of the areas that I think we really need to focus on in particular when our

intention is to improve brain health, whether we are trying to fix migraines, whether we are trying to fix brain fog, our concentration difficulties or whether we are trying to fix mood problems, anxiety, depression, whatever it is. We need to understand the physical wellness of the brain and promote that, yeah.

### **Kashif Khan**

Yeah okay. I've also found that we put this cocktail together, that kinda boosts BDNF levels. And for the people, again we test ourselves as guinea pigs. The sensitivities to other things, there's a person in our office that when they eat bread, they would get sore joints. And it wasn't the bread, it wasn't the gluten. I think it was the drying agents, the chemicals that were in the wheat, especially in Canada where there's a lot of drying chemicals used to store the wheat. We have a long winter in certain parts of the country, those, call it a comorbidity, whatever you wanna call it, those things also reduced, it's not direct core. And going back to your example of, yeah, vitamin D isn't studied to solve migraines, but all these systems are interconnected. So take the load off one and something else will also be able to breathe and get better and heal. So, okay so we talked about neural connection. What are some of the other things that you've worked on with people?

### **Amelia Barrett, M.D.**

I think we've kind of gone over the broad outlines of how we help people reboot the brain. I guess we haven't talked as much about the detox pathways though, so yeah. Let's talk about that a little bit. So, detoxing really comes down to two different things. It's reducing the amount of toxins that come into your body and then helping your body eliminate those toxins once they're in. So there has been a much greater recognition about the impact of things like mold, as you mentioned earlier on our body, or perhaps mercury either from our fish or from our fillings, infections, so many other things that come into our bodies and our bodies just can't process it fast enough. So I think that there are a couple of ways to handle this. And one of the things that I think is often kind of an eye opener for people is how much our skin absorbs what we put on it and how little attention we pay to what we're putting on our skin. So, I mean, I love scented lotions and having a nice bath and then putting on these beautiful oils that make me smell

good. But the truth is, if you look up what's in there, the environmental working group has a great app and website to help you figure out what you're actually putting into your body. That's not good stuff.

**Kashif Khan**

Yeah, yeah.

**Amelia Barrett, M.D.**

You know, and I think that one thing that's important for people to know is that we give medications through the skin, your skin really absorbs what's on it. And I find that a lot of people just haven't taken a moment to reflect about what they're putting on their skin, what they're putting on their lips, what kind of things are going in their mouth. And I don't mean food. I mean, toothpaste or mouth washes or other things. And so this is a big aha moment for people to realize how easy it is to stop putting toxins in your body by simply switching out your products. Go to [ewg.org](http://ewg.org), figure out what you're putting on your skin and stop putting those harmful things into your body. So that's an easy one that everybody can do. It's kind of one of those, oh gosh, I never thought about it that way, but of course that's such an easy see thing to do.

**Kashif Khan**

I think it also, the people are coming from a place of sort of misplaced trust, where if you walk into a CVS or wherever, if some packaged good is on the shelf, you assume that it's safe. You assume that somebody's out there protecting you when in fact the individual ingredients, if you were to rip them apart and then ask the question, are these things safe? You would be told no, but the consolidated product has gone through some sort of testing. There's nothing longitudinal about the testing. And, let's take a clinical study of 1,000 people using some kind of lotion for the next 10 years and see what happens to them. Some double blind placebo, that doesn't happen. So we actually don't know the answer. So there's this sort of innate trust put into brand products or, must be good. I don't need to ask questions when in fact you do, you need to do your work and research. And I would say guilty until proven innocent. Prove to me that thing's actually safe for me.

**Amelia Barrett, M.D.**

Yeah, yeah. And that is a big shift in how people view the products that they put on their skin.

**Kashif Khan**

Right. And the thing is that the alternatives are there now, so it's not like you're limited, you still look gorgeous today. I'm sure whatever makeup you're using, if there's any, I don't know if it was safe and clean and pure. And a few years ago, that was more challenging. It didn't exist, but now you can walk into any store wherever you would buy your stuff or go online and you do have alternatives that are safe. So there's no really an excuse. You go do it, it's there. And now have you found that, you've looked at genetic variability and you incorporate that into your work. So two or three people doing the same work have different outcomes, or is there variability in the outcome where some people need a little bit more of this, a little bit more of that or is it pretty standard that here's what leads to migraines, pull these levers and people get better.

**Amelia Barrett, M.D.**

So in the work that I do online, I generally do not have the advantage of knowing exactly where somebody's body is at, because the way medicine works in this country is I can't order labs on somebody out of state. So if these are people in my office, of course, I know that, and I can tell them exactly where to go first, either through labs or through your genetic testing. I can give people a really good roadmap from here's what's most useful, don't deal with this now deal with this later, this is a small problem. So a lot of times I don't have the advantage of that. So the way I have created this work is that it will help everybody, no matter what your particular issue is, it will be addressed. You'll probably notice as you go through those specific techniques that, oh, this is helping me so much more than what we were doing last week. And so that's how people find that. But I think it's important when you don't necessarily have the benefit of knowing where an individual person's body is at that you create work that helps everybody. Because you have addressed all of the different things that can go wrong. You see what I'm saying? So, yeah. So, I often have, I run a three month program. I often have the experience that people will tell me you, yeah this week is easy. Nothing, I already do all this or I feel like this isn't helping me. And I'll just say, okay, wait till next week, you may be the person who really needs what we're doing next

week. Because when you're trying to create a program that works for people all over the country. You need to address everything because not everybody is going to be able to get the kind of testing that they need to really hone it down. Because I certainly have had the experience of my students bringing the recommended labs to their doctor and their doctor says, no, that's not gonna help you. There's no randomized control trial that shows that any of this is gonna influence your outcome. And so they have a hard time getting it done. I really feel like this is the future of medicine, this more integrative approach. And I do think that conventional medicine will change probably at a snails pace. But I do feel like part of what, that I literally feel like I have a responsibility to help conventional medicine evolve in the direction that me and you, and so many other people are going. But I do acknowledge that it's not there yet. And so some people it's not possible to be able to personalize it in that way.

**Kashif Khan**

Yeah but in that, sorry, go ahead.

**Amelia Barrett, M.D.**

I was just gonna say, but I think people, everybody can get your genetic testing, right? You don't--

**Kashif Khan**

Yeah, it's open to everybody. Yep, yeah it's open to everybody. There's certain areas where we get into sort of clinical or diagnostic work where it had to go through a clinician, but for the most part, it's available to everybody. And that's what we really appreciate about the work you're doing, because you could have gone on the path of, hey I'm Amelia work with me. And it's me and then the more people wanna work with me, the more your rate goes up. And that's what doctors typically do. But what you said is how do I have impact? How do I reach the most number of people and get this to everybody? And so you did the work of creating all this content that people can spend the next three months on, like you said, and heal on mass, nationwide coast to coast. And that's awesome because a lot of clinicians don't think like you, they're stuck

again in their procedural, I have appointments, I see people and then I go home. You're saying, no, how many millions of people suffer from migraines, I need to help them all. And that's awesome about what you're doing. So we appreciate that about what you're doing. So next step, there's people that go through the program. And I remember jumping into a webinar with you and all these people joined, and you could see this spirit of this is a community where people heal, and this is a community where people continue to learn. It's not like I went to the doctor, got a prescription, take my pill. People eagerly came to say, what's next? What more can I learn? Which was really awesome about that spirit of what you've built. But it also speaks to true healing isn't one and done. It's not, here's the answer, go do it, but it's, you have to continue working on it.

**Amelia Barrett, M.D.**

Oh, so true, so true, yeah.

**Kashif Khan**

Yeah and I kind of got that sort of feeling from your community 'cause they were there to say some were healed, some were still suffering. Some were with you sort of fairly new. Some had been there for a couple years it seemed like, but they all wanted to know more regardless of what stage they were at and that's the spirit you need going into this type of work to say, it's my body, I gotta heal, I gotta protect and whatever software upgrade I can get, I gotta keep getting it. And that's what you provide.

**Amelia Barrett, M.D.**

Yeah, exactly. And I mean, we are continuing to learn new things in so many different areas of healing and science. And so I am trying to really cultivate a community that is empowered, that is interested in healing themselves. So, the posts in our Facebook group, I have a couple of them, but the posts are generally helpful. They're not about, oh my gosh, I feel horrible again today. It's like, hey has anybody tried this new aura ring? Does it help your migraines? Does it give you good information? People are sharing their own experiences and really trying to create a

community of people who are positive, people who are willing to take charge of their health and to invest their time and energy in making it better for themselves and everybody else.

**Kashif Khan**

To that point, have you seen any sort of relevant, useful data from wearables that you would recommend that, here's something you should be tracking on, whether it's your watch or aura ring, or?

**Amelia Barrett, M.D.**

I do think that auras are incredibly helpful for people who are really struggling with sleep because it just gives you that feedback. So in my opinion, one of the biggest underappreciated causes of sleep disturbances in our culture is alcohol. There's all this information out there that a glass of wine every day is good for your heart. But for so many people that turns into two and three and four, and we know that that is going to impact sleep. And so it really helps people to see, oh my gosh, I got a great night's sleep the night I didn't have that glass of wine with dinner. And my sleep was horrible that night that I did have the glass of wine. And I understand how people are in this situation. There is mixed message, mixed data coming at people. But I think when you get that immediate feedback from your body, I did this and that was the impact on my sleep. That's pretty helpful. And I mean, I don't sell auras or anything. I'm purely just giving information away here.

**Kashif Khan**

No, it's useful to know there's a way to track and learn and keep improving 'cause a lot of people metrics can be important, but even myself, I find that if I have a bad night's sleep, it's around 4:00 PM. I get a headache. It's not a debilitating migraine, but it's guaranteed. And one thing we learn. So your example of the alcohol. So most people, when they say they have bad sleep, typically don't have a problem falling asleep. That's usually not the challenge. It's usually they can't stay asleep. And the funny thing is that we've learned that the equal number of people that complain about that genetically have poor serotonin response. So certain receptors are

dysregulated and they don't do well, so melatonin puts you to sleep, but serotonin wakes you up. That's your wake up chemical that responds to stimuli, whether it's light, noise, somebody tugging on the blanket and you start to think like it's daytime. So there's no coincidence that the day that you drink and you destroy your gut, which is where you said your serotonin is produced. That all of a sudden that night, you're struggling with waking up too early or waking up several times during the night, 'cause your gut is trying to heal all the systems that are meant to be firing at that time. That's when you actually produce serotonin at first light when you wake up, but your body doesn't know what time it is. You screwed up your circadian rhythm from falling asleep, drunk and screwing up your gut and having to fight the detox load. You may also be suboptimal in the detox genes at the gut. And that may be another layer that sort of compounds. So we've seen over and over and over and over again, that serotonin is, although we speak to it in terms of mood, it affects your sleep. And there's no wonder that if you hit your gut hard that you're gonna have trouble staying asleep because it's kind of that versus circle of gut and brain, gut and brain, gut and brain, so.

**Amelia Barrett, M.D.**

Yeah, absolutely. I like it that you brought up the issue of detox also because our liver can only detox so much stuff at a time. And if it's busy detoxing alcohol, it's not busy detoxing all of the other things that your body needs to get rid of. And that includes the things that your own body produces that need to be eliminated. So that's another important piece of what's happening with the alcohol is you're really taking away from your body's ability to heal itself.

**Kashif Khan**

That's so true that, so again, taking for granted that I can do whatever I want myself. And if I break myself, the doctor will fix me. But there's so much you can do to manage whether you break yourself or not. That's one simple thing. You're not an infinite detox machine. There's a capacity and a load. You suppress a load, you're gonna get sick. So for everyone that's listening, if they wanna work with you, how do they get in touch with you? How do they join the community and get involved?

**Amelia Barrett, M.D.**

So I think that the best thing to do is to go to [migraineclub.com](https://migraineclub.com) and you can sign up for a short 20 minute video that I created that tells you a little bit more about how all of this works. And if that really resonates with you, there is a link in there to reach out to us. You can schedule a call and talk to me and talk to my team and see if this work resonates for you. That's the easiest way to get plugged into our community, [migraineclub.com](https://migraineclub.com).

**Kashif Khan**

Yeah 'cause anyone like I've been through it myself, I was blessed and lucky that I happened to be in the right place at the right time. And the DNA company was formed and I learned about myself. But if that wasn't the case, I'm pretty sure I'd still be suffering from migraines right now. So for those of you that are listening that have these issues, which we know almost everybody does, especially given the toxic load that we face every day. It's not that migraine as a problem has increased. It's our exposure and what causes the migraines has increased. And so more people will pass that threshold that some are doing the better. They can't do better anymore because it's just too much to cope with. So yeah, I would urge you reach out and join the community.

Start to learn, because this is the path to healing, taking a pill, you're suppressing something that for what your body is screaming, the migraine isn't the problem, the migraine is your body saying, there's so many things going wrong that you aren't dealing with that I just can't take it in anymore. And you gotta, yeah and you gotta, and that's where the kind of work that you do and how you can help people is let's work on those things. That's the true pain point. That's the true problem that who knows what other diseases will express out of that if you don't deal with it. So again, anyone that, the resource is there, go watch the video, go learn, join the community and get better. Amelia, thank you for joining us. This is truly awesome. I've actually learned more today. I'm gonna hopefully to get even 1% better, but thank you again for joining, this is great.



**Amelia Barrett, M.D.**

Excellent yes, thank you for allowing me to be here. And say just thank you to you for the work that you're doing and the change you're making in the world.

**Kashif Khan**

No, thank you.