Ep 608: The 10 Hz Edge: Performance Neurohacks with Dr. Izzy Justice Transcript

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Podcast Introduction and Guest Preview

Welcome to the Health Fix Podcast where health junkies get their weekly fix of tips, tools, and techniques to have limitless energy, sharp minds, fit physiques, or life.

Hey, health junkies, on this episode of the Health Fix Podcast, we're gonna be talking about neuro hacks and talking how we can get your brain into a state that slows it down so that you can better focus, better inputs from the universe, but also if you're an athlete or have circumstances in which you need to be at your peak performance, you could slow down the world around you and the thoughts enough to be able to think clearly, to perform more effectively.

And so today on the podcast, I'm joined by Dr. Izzy Justice. He's a pioneer in the world of neuroscience and human performance. of pro athletes to perform at optimal levels, including a ton of golfers.

Being an athlete himself, he truly understands what it takes to achieve peak performance and what happens when the brain starts to get a little loopy, kind of like at mile 18 or 19 of a marathon.

If you've ever done one of those, you know what I'm talking about. But you don't have to be a marathoner or even a golf player to enjoy this podcast because he is going to talk about what happens when we have all these mental distractions that we need to put to the side so we can sharpen our mental focus.

But he's also talking about being more present in life. And gosh, I love just listening to his experience and what he has learned with over 20,000 now functional EEGs of athletes and his clients to see what goes on in the brain when you truly get yourself to a 10 Hertz state.

And we're going to be talking about his current interest in helping folks to really be more present in life by bringing the Brain into a ten Hertz State.

So I can't wait for you guys to listen into this podcast. It's a fascinating one. Let's introduce you to Dr. Izzy Justice. Dr. Izzy Justice, welcome to the Health Fix Podcast.

Janine, thank you so much for having me. I'm looking forward to this conversation. Well, I've been looking to it for a while since my husband was like, do you know who you're interviewing?

And I was, like… Well I researched him and he's like no. He's known to help golfers do amazing things. And my husbands is like maybe, his big dream, in his mid-40s, maybe I could win one of our local competitions.

Maybe. If I had my brain straight. So nevertheless, I'm excited to chat further, but also really to dive into what makes us tick a little bit when it comes to work, when comes the competition, to really reaching our goals in life, because it seems that Really, everyone these days is talking about get in the flow state, right?

Get into that state of the zone. And we'll talk about your book, of course, later that will bring us to that. But I always kind of like to go way back in time, because I know that you are a lifelong athlete.

Obviously, you've dedicated your life to looking at neuroscience. Sometimes I like always like go the brain. When did you first think, I want to go after neuroscience and I wanna know about what makes people tick?

What happened in life? Wow, okay. So Janine, at a point where I've become and continuing to become very comfortable in my own skin and The truthful answer to your question is a lot of trauma, a lots of childhood trauma.

I was the sixth out of seven children and I grew up in Africa in a, you know, Asian culture in African. And when

you're six out seven, You're very low on the totem pole.

Izzy Justice's Personal Backstory and Neuroscience Journey

I kid you not, not more than a thousand square foot home. And, you know, most of my childhood experience was, was observational. I just, I mean, it's such a small house and I had three older brothers and two older sisters and a mom and dad.

My father was a physician. Um, my mom was this amazing, eclectic, spiritual sort of lady, just full of love and kindness. But I suffered multiple traumatic events as a child.

That was abused by my father almost on a daily basis. You know, it's one thing to suffer trauma at the hands of people that don't know you or circumstance, but when you know the people are supposed to love you are the ones that are that are inflicting pain on you, then it becomes very difficult.

And so you start this exploration of how is that possible? And, so many answers were presented to me by amazing people, by books, my life experiences, but they were all insufficient.

There was always something about them that just didn't make sense. It wasn't logical enough or not rational enough, at least not for me. So it wasn' until I stumbled upon neuroscience.

I mean, frankly, very late in my career. That was a good 25 years into my professional career, now I was alway into human performance and human experience.

My work with EQ, I've written 10 books, three of my 10 earlier. or had EQ, emotional intelligence in the title, but I've since pivoted. And, you know, I tell people that when it comes to understanding the human experience and a small part of the experience is human performance at anything.

It might be athletic human, performance, or it might personal. I want to be present at lunch or dinner with my spouse or my child. So I wanna brainstorm a really good idea about this challenge or problem that I have, or in your world, uh, in the athletic world.

I want to make this pot. But I mean, I've made this five foot pot a million times. Actually what it does, but how come when I'm over the ball, like I haven't million thoughts going through my head.

Or if I was a swimmer, you know, and I am on top of the pool, getting ready to go in. And suddenly my last thoughts are don't screw this up. You know?

Or they become very technique oriented or you start to think about the person on the other lane that you think can beat you and those kinds of things.

So I pivoted towards neuroscience, Janine, a long answer, because I've been on this lifelong journey to make peace with my own brain. And to try to convert my human experience from one of constant challenge, constant uphill battle, feeling like the world is against me and life's not fair, to what an amazing gift it is.

And it's just a static gift. It's an exploration. That exploration starts and almost entirely is in your brain. and it pains me, it really does, that we have so much learning and education, formally and informally, from our moms, our dads, uncles and aunts and neighbors and formally from teachers and kindergarten teachers, professors.

But somehow, nobody taught us about our brain. The one thing that we are going to use for everything forever, that somehow was left out of the curriculum.

We learned civics and math and trig and algebra and all kinds of stuff, all good stuff. Chemistry and biology and we name it, home ec. but like the one thing that we're going to use for everything forever, like that's left out?

It doesn't make any sense. So that is why I found neuroscience, again me, just an N of one, to be the most truthful lens to which to experience. the human experience.

I couldn't agree more. And something that you mentioned, you were talking about this, anyone that's in any type of sport and has been can really understand or resonate.

When you said swimming being on top of the water, I haven't went in yet and they say, take your mark. You go to take a mark and thousand thoughts go through your head.

you had mentioned your situation with their father. It brought me back to thinking about when my parents would be like, well, someone sells racing xd today you know you've trained really hard don't disappoint yourself and and it was like to me it's like i don' want to disappoint my parents and so we take these experiences as young adults and no one or even just children and nobody tells us that these experience shape how we think going forward so that take your mark has now been every single adult experience where I need to perform, right?

Whether it's speaking in front of an audience, whether it seeing a patient and getting results with them. And so I want folks who are listening to really be thinking about like, okay, what in your life and so as Izzy talks today, What in life has maybe shaped to you to the way you think about life, but also the ways you about certain things that you're going through.

Now, you've performed, was it over 18,000 EEGs? Yeah, functional, yeah. So not a clinical functional. I don't know, maybe it's worth just making that distinction for your audience.

Yes. So, you know, looking into the brain live is not new. We've been doing it for several decades, but I would argue strongly that almost most, if not all, of looking in to the human brain has been on the clinical side, not functional side.

Clinical means something is broken or damaged in the brains. I have Alzheimer's, I've dementia, epilepsy, Parkinson's. There's a neurological disorder of some things or even trauma or just a concussion.

And so when you're looking into the human brain to see where something is broken or malfunctioning, you know, it gives you a target. It's, clinical and that kind of research is done typically in a hospital setting, some mostly in psychiatric ward, but also, in neurology.

That's not what I did. I'm not a medical doctor. Mine has been on the functional side. So what's the difference between clinical and functional? Functional is nothing's broken, but I still want to use the brain to the best of my ability.

And I want understand how the brains works. The brain doesn't work. When the brainstorm is three and a half pounds caged in a skull and mostly fluid, it's an incredibly small organ, an incredible complex organ.

And it's very easy to get lost in the neurobiology or the neural chemistry or even the neuronatomy of the human brain. And I give the analogy to Janine of a car.

I mean, I've been driving her car for, i don't know, 40, 50 years now. i still don t know how a carburetor works. I couldn't tell you 90% of parts that are in engine, but guess what Janene, I don' t need to.

I know enough about the car to get me from point A to point B safely and efficiently. And so I think from a neuroscience perspective, it's very easy to make something that is complex, complex.

And so, you know, part of my job in the neuroscience world and with my research functionally is to focus on, 95% of us that are just nothing's broken, nothing is damaged, but by golly, we stress.

We have anxiety. we exhibit behaviors and thoughts that we don't know where they come from and we wish they were different. And, at its simplistic level, We want our brain to be our ally and not our foe.

We don't want to be sabotaged by ourselves. I work with dozens and dozens of professional athletes and head coaches in so many different sports. And when my text messages and phone blows up after a meet or an event or a tournament or something, it's not so much that the athlete or the team lost.

That does happen as much as it is that they beat themselves. There's a difference. When you do your best and someone beats you, you don't feel great. But I find that the human activity, the activity in the brain is far more calmer than when you lose by not doing, not even performing at a high level, just by now doing what you're capable of, but what You've done a million times in practice.

And when You can't take what, You know, your capable off to the quote unquote field. of play during competition, which is where, you know, magic happens.

That's what eats at people. It really bothers people and athletes especially, but people in general too. When you, so I would call it when you underperform, You know you're capable of doing something.

You've done it before, But somehow in the moment that required your best, your sabotage by yourself. You know, I think this relates to so many different things, even when we look back at health too, just being able to take the steps to eat well, make choices around your health.

Functional EEGs and the Brain as the Upstream Driver

And I'll see that also for a lot of folks where, you know we call it the self-sabotage when they're not doing what they know they are supposed to do, let's call that, in terms of choosing an apple over chips.

Let's go with that for example, something simple. And it's such a fascinating factor where a lot of folks are like, why can't I make the right choice, you know, for my health?

Just as much as, Why can I seem to put five feet into the hole and get it right in there? What is going on? Yeah. Let's take a step backwards, if you would, before we get into, because I do want to share some actual tactics and tricks that I think we can do.

But, you know, part of my pivot into neuroscience was understanding the human brain from the role that it plays with the body. So I'm going to give you an analogy, if you don't mind.

And the analogy is, imagine that you or anyone in your audience has a beautiful cabin up in the mountains somewhere. This cabin is right on the edge of a river, and every morning you wake up You take your favorite beverage and you go to the deck and, you watch the sunrise come up with the mountains and can hear the river flowing through.

But every morning there's a bag of trash that somehow comes from upstream and it lodges into like a rock right in front of your deck. And so there is a problem there.

So you walk out there, pick up the bag, put it in the trash can in your cabin. and then you enjoy the rest of your beautiful day. So there was a problem and you solved it.

Would you agree, Janine, that maybe the better solution is maybe walk upstream, see where it's coming from every single day and stop it there? So you don't have to do that.

In this analogy, what is upstream of so many disparate parts of the human function, like you just mentioned diet or this performance, there's sleep, all these kinds of things.

Upstream of all of them, is the human brain. So understanding the brain, you know, when we do feel stress, all the studies show this, every single one of them, is that when there's certain neurochemicals that are higher in your body, or when the electricity in you brain is higher, then we tend to not think very clearly.

We want to, basically, relieve that stress. And so we'll make poor decisions, one which is to eat bad food versus eating good food. So I find that, you know, I can come up with solutions, one solution for one problem, but it's so much better to come with one solutions that can impact many problems.

So understanding the brain. That's point number one, if you'll just let me continue for another minute or two. I feel like around the year 2015, which is only 10 or so years ago, so plus or minus a year depending on who you talk to, our understanding of what's happening upstream in the brain fundamentally changed since the beginning of time.

Now, I know that's a bold statement. I hear the words that are coming out of my mouth and I've said them before when I speak. But it's a bold statement to say that our understanding of the human brain and human experience fundamentally changed around 2015. So what happened?

Well, for the first time in human history, we were able to look into our brains wirelessly. Now, let me tell you why that's so important. Even though we've been able to look into the human brain for decades since the 1950s, number one, like I said, it was in a clinical environment, typically a psychiatric environment.

And the technology that was available to see what's going on was very unsophisticated. You have to stay very still, in the horizontal position. Sometimes you have a big old helmet with about 50 wires coming out of your head.

So how many things, functional things can you do when your body has to be in that state? Even MRI machines, you have to very still. So around 2015, we could look into the human brain wirelessly, meaning that I can stand 10, 15, sometimes 20 feet away from you.

And I can observe you do all kinds of human function. Like what? Like trying to make a putt, like trying kick a ball, trying make basketball. And so when this technology became available like I shared with you before the call, I was already 20-25 years into my consulting business, into coaching business and I jumped on it.

And I didn't know the answers to some of the questions that I started to ask. And so I try to make it simple. So the first question that i started ask is, in the seconds, this is very important Janine, In the second and maybe a minute or two before we want to do something to the best of our ability.

Now that something can be anything. It can a motor function, like I want to stroke a putt or make a golf swing or shoot a free throw or have a good swim stroke.

Like before in the seconds that I wanted to do something that i'm capable of, is the brain in a certain type of state? I did not know the answers to that question.

There was some research out there, but I didn't know that the answer. And then also equally, if I missed the putt, If I miss the free throw, or if i miss hit the ball or whatever it is, is the brain a certain state?

And the Answer is yes. Not only is it yes, it's like heck yes! So I was in, I mean, i was In my late 20s, Janine, get this, before I even, some, read that The brain has electricity.

That blew my mind because when we think of electricity, we typically think that it's wired into something. No, not wired in to anything. We don't have a plug that we plug in every night.

So where is this electricity coming from? I found that to be one of the most fascinating questions. How can we generate electricity but we're not plugged into anything?

And I now understand it and I'm not going to explain it on this call because it is about ions going into a cell and sodium and potassium and calcium cells.

They get polarized and that's what creates that. But even those, it's a pretty complex process. Then I started to ask Janine, why electricity? Why not light?

a miraculous design, whoever designed us, whatever you believe in, that we have electricity. So I give people this analogy all the time that imagine that you're taking a walk at a park somewhere, and about, I don't know, 15, 20 feet in front of you, you see something black.

Now, the photons of that black object through light travel from that object, through your eyes, to your retina, and now you label it. And the label that you give it is, it's a snake.

There are features about that object that say, It's snake, not a giraffe, and it not stick. It is a Snake. So you labeled it and then you gave it a threat rating.

Snake, ooh, Not good. In other words, by that label, we then started a search engine. Not wirelessly. Our brain didn't wirely connect to Google and say black object, snake give me all of the pros and cons of it, no we did that on our own based on own experiences.

And then we initiated a mode of movement where we turned around and ran the other way. We didn't run at the snake and try to jump over it because that would be silly.

All of that, recognizing of the snakes, the labeling of it, interpretation of as threat, initiation of very quick, this surge of you know, glucose and glycogen in the body to turn your body around and bolt the other way in a second or two.

What else could facilitate the speed with which all of this cognitive and motor function can happen? So when you're looking at the human brain and you say, wait a minute, all these cliches that we're using, so use the term flow earlier of being in this zone.

Now, don't throw anything at me, but those aren't real things. They're terms that have come up with. But we've come up with terms like that since the beginning of time, and we're going to come with up terms even more, I imagine, like empowerment or confident or happy.

You're describing the same thing. So I look into the brain, these functional scans, in the seconds and minutes before and I said, okay, where is the electricity?

And it turns out, this might be the most important message and then I'll pause and let you probe deeper. Turns out Janine, that every higher human ability And every higher human experience for things ability, what I want to do experience.

I'm experiencing it like an amazing lunch or a conversation. Every higher, human ability and every high human, experience seems to be happening around 10 Hertz.

So on a scale from 0 to 100, and it's not entirely accurate, but for the purposes of this podcast, let's just go with that scale. If I measured your brain and the electricity was between 0 and 5, so very low on that 100 scale, more than likely you'd be sleeping or trying to go to sleep.

Now, it is low because what is the brain doing when you're sleeping? Not much. You're not reading anything, you're in danger, not moving your body anywhere.

You are in a horizontal position, so nothing is holding anybody else. So you can imagine when you are sleeping, because you aren't doing anything. The activity in your brain is going to be low.

Not zero, but low!

Why 10 Hertz Matters for Focus and Performance

So what's a hundred? If sleeping is zero to five, what is a 100? But 100, I'm getting ready to throw something, yell, scream, panicking, full anxiety, anger mode.

And so on that 0 to 100 scale, the claim I am making is around 10, again, which is low, is where the magic happens. So one last comment and then I'll pause.

The next question, logical question would be, well, okay. What, why 10? Why not 20? why not 80? So at 10, so think of the brain as having traffic. We have 80, 90 billion neurons in the and all of these fire together based on the experience that you're having and the stimuli that your brain is processing.

And the traffic or the activity is low. When the Activity is Low, two magical things happen. One, there's room in for sensory input to be amplified. So we say things all the time like, I just want to present.

I want be in the moment. Again, these are cliches. They're not real things. But if you think about it, when you say I wanna be present, i wanna in a moment, what are you really saying?

You're saying in this moment I would see as many things, feel as may things hear as maybe things as possible. So when you go above 10 to 20 to 30 to 40 to 50, there's more competition in the brain for that sensory input, which is always open.

A good analogy to have in your mind is imagine you've had a long eight to five work day. Like it's been crazy, one bad email and meeting after another.

It's five o'clock. You're ready to go home. We've got 30 minute drive home, you put the radio on to your favorite playlist and you're driving home when.

When you got home if I would ask you, Hey, what music did you listen to? Odds are you probably couldn't tell me. The music was there, the auditory stimulation was their, but your brain was processing so many things.

So there was competition in the brain for sensory input. At 10 hertz, because the traffic is low, what we're seeing, feeling, tasting is amplified and it feels amazing because it's a low frequency.

Low means low everything, low stress, lower thoughts. Then I will pause for sure. That happens around 10 Hertz is our access. Access is a very important term that I'm using, not creating something.

I am just saying access to existing inventory in our brain. So as an athlete, we've done a lot of training. We've been coached by our coaches. we have read the books and seen the videos.

That inventory, all the work that we did in practice, Where is it? It's not in a hard drive or a thumb drive in your desk, it's in you brain. So what we want is in the moment that matters, over a pot on top of the pool, getting ready to go in, listening to those whistles, and you know, in that next whistle I've got to get in.

In that moment, I want to access the right inventory. Because the traffic is low, our access to our existing inventory is much significantly higher. And not just that, but it's also access to the right inventory.

When the frequency is high in the brain, I'm also accessing inventory but they tend to be more negative because we're in fight-flight mode. Don't make a mistake, your parents are watching, you better do well.

All these thoughts that all of us have had, done all these Ironmans that I remember before you jump into the ocean or the river or lake because in an Ironman it's open water swimming.

You have to wait for your wave to get into water and the worst thoughts in the race happen while you're waiting. Did I really sign up for this? Why am I here?

This is not fun. I don't want to do this. you know, even though I trained for it for seven, eight months. And so, like, where are these thoughts coming from?

And, so the magic that happens at 10 Hertz, Janine, is my sensory input is amplified and I get access. When those

two things come together in a given moment, I'm experiencing the moment and bringing with it the most positive inventory of my memories.

Well, that's the human experience. That's rich. That is the ultimate wealth, that in any given moment you are immersed in the now. And you'll bring to it the relevant context, the good context of your human experience, is the memories.

You're thinking of what your mom said to you when she walked to in a park somewhere, as now 30, 40 years later, you're walking your kid in the park. And instead of walking you kid to the parking, thinking about the 10 emails that you got to do afterwards, your thinking your Mom holding your hand.

That's a rich human experiences. So it turns out that life is So much simpler, and this is why the title of my book is Life Explained and the subtitle is Chasing 10 Hertz.

That should make sense now. I'm making an attempt to explain the human experience, which I've been searching for since as far back as I can go, 60 years.

But using much more simplistic terms, you know, not cliches and, but really understanding how the Human Brain works. So I find that if I could get myself or my athlete or frankly any human being to 10 hertz, In the seconds before they want to do something amazing, not the whole day, just in the second when they would need to something then magic happens.

Their sensory input gets amplified and they bring, they associate that current state sensory with the best version of themselves. That's magic. Pretty impressive.

It's pretty impressive, I mean, your description is so great because I think for a lot of people, you know, we hear things like alpha state, which is more or less, you know, what I hear you talking about, but at the same time, like you're saying cliches and all these things, What does that really mean?

And I think a lot of people can resonate with the traffic, stop the the brain, the noise. I, think it could be quite impressive of what we could do to take this to regular life, not just in the athletic life but in life of like you were saying, having, and here's another cliche because just like having the experience of what your mom said to you in park when you are a kid, you know, the folks call it downloads, right?

We got the download from the universe, alright? And so sometimes we're searching for ideas. Sometimes we are searching insight. sometimes were searching an answer.

And sometimes it's in the form of a voice, sometimes in a form a feeling, however the body wants to present it to you. Would you say that that's also the possibility at the 10 Hz?

You know, slowing us down to do incredible things because the traffic slows down, but is it also slowing down and this is where we can get the insights and messages?

Yeah. Again, whether it's inside messages or whatever you want to call it, for me, I have found it easier to experience the human experience when I'm using very simple terms.

Mm-hmm. And, you know, so again, I'm going to go back to if we can amplify sensory input and we have access to our inventory, magic happens. Now that magic can manifest in all kinds of ways.

I am not a prophet. I'm just a regular guy. When we are at 10 Hz, when we're in that magical state, I can understand how my ancestors that lived hundreds and thousands of years ago would feel like some god was talking to them.

Because at ten Hz there's a purity. I think magic happens when you make sense of your past or you bring the best version of the past to the present moment.

And I don't agree with, you know, entirely with, you know, people like Eckhart Tolle or with this whole power of now. The idea that the power now is that I'm now and nowhere else, like that's not humanly possible.

I had a mother, my amazing mom, who I adore to pieces. And I am alive because of her. She passed away four years ago and she passed way of Alzheimer's.

it progressively got worse. And my mother is such a good example of she had no access to her past or the future. So in other words, she was processing the now, but it was miserable, because there was no context for the Now.

Like she would look at me, especially those last year or two, and not know who I was. But she saw my face and my eyes, And she heard the words that were coming out of my mouth and she understood the word, She understood that language.

but I wasn't her son. That instant smile that moms and parents have when they see their kids, you know, like, I don't know if you're a mom or not, Jenning, but if your are, especially, my kids are grown now, so I dont see them very often but when I do, just like my gosh, ya know my face just lights up and I can't wait to hug them and kinda kiss them 50 times on their forehead and hug and touch them even though they want me to.

do that. So she didn't have that, so this concept of let me be in the now without the past or the future I think is short-changing. The real magic is I want to be present now, yes for sure, but I wanna bring the beauty of my past.

I want to recognize that it's my son or it is my child or I wanna remember when I was walking what it feels like to be a child, even though it has been a long time since I've been child and feel the joy of curiosity of a Child, the wonderment that children have with everything that they're seeing.

If you raise kids, I mean those first 10 years, it like, you know, Why? What? Why, why, you know, like, how is this? Tell me more, and it's amazing to live, to re-experience the world through your children's eyes because they trust you, they love you and they want an explanation to that.

So I'm giving you a long answer, but I am generally, the brain doesn't work that way, by the way. The brain does not process one experience independent of everything else.

I know your audience probably doesn't want to hear this, but it's the harsh truth that the most biased organ in the universe, in my opinion, is our own brains.

When a stimuli presents itself, either a person or an event, like a meat on a pool or a certain type of a race, our brain needs to make sense of it. Not just does it need to, it is going to give meaning to that.

And that meaning is not objective. It's not going to chat GPT and saying, okay, I'm at a meet, doing the 250 butterfly or whatever the case may be. Tell me what I should be thinking.

No, you're thinking of your mom and dad. You're taking over the people next to you. This is day number three and I am tired. the pool is getting hotter and blah, blah blah.

So I think the real magic is to train your brain so that despite all of the organic context and the bias context that your bring is giving a given moment that you can switch that.

And so there are many philosophers throughout time, you know, the Stoics that have argued that the greatest intelligence of all is the awareness of our thoughts and the ability to convert them.

Neurohacks: 10-10 and Finger Climbing Exercises

I mean, that basically means no matter what situation I am faced with, like literally whatever human experience I'm faced, I will accept the fact that my brain is going to give it a biased context.

But despite that, I will find a way to bring my best version out. And so that only takes seconds, by the way. I know we're almost running out of time, but one of the things that I want to do with you and think your husband will like this too, and all the athletes that are in your audience, the moms and the runners, whoever they are, they can appreciate this.

In my discovery, during those 18,000 plus brain scans, that was last year, so I'm close to 21,00 now, it doesn't matter. But I find that in those seconds, seconds not even a minute, leading up to the moment that you want to be the best version of yourself, which by the way again means that, in the moments that's about to happen, I want my sensory input to amplified and I wanna bring the right memories to it, right?

That you only need a few seconds to get the brain to 10 Hz. In other words, We don't have to be in 10 Hertz all day long. We have been 10 hertz when what we call our brain is spiking, when the surge of the electricity is very high.

So I started to then explore these things called a neurohack. A neuro hack, and I wish I could have come up with a better term. And I want to do two with you if you don' mind.

It'll take just a few seconds. First of all, what is a neural hack? All of us already do them. When we are stressed, for example, What do most of us do?

So that list is long and old. We go for a walk, we work out, listen to music, cook, watch a movie, go on vacation. The list of things that we do to de-stress ourselves, which again, stress is not a real thing, it's a label.

What we're really trying to say is to get that frequency down towards 10. That is what that means. So even though we've been doing those kinds of things, those are not typically the kinds because of time and logistics that we can do in the flow of a day.

So when you're on top of the pool, for example, or if I'm over a putt and about to make a run, whatever runner and suddenly I feel pain somewhere or someone's passing me in that moment we can't call timeout and say yo yo let me go do 30 minutes of yoga or meditation or listen to my favorite food and then I'll come back wait for me so we need a different set of skills and tools sort of like an on-the-go like in the moment what can I do so these neuro hacks use the very things that I talked about earlier which is our senses now we only have five That's good.

Not 50, not 500. So let's do a couple of those and then I'll connect them to what I've been talking about and your audience can follow along. The first one that I want to do with you is called 10-10.

Now, I don't want you to start doing it until I say, go very loudly. I'm going to make that motion. And the reason is because I, want, you, to understand it first.

Then I wanted you experience it. Don't do it as I am explaining it, just let me finish explaining. It won't take long. and I then want. you. to, do, it so when I said go, very, loudly, which is not now.

In your mind, with your mouth closed, just in your minds, I want you to count from 1 to 10, Janine, as fast as you can. As long as we can say the numbers, and not mumble, we don't want to mumbo the number.

Say the Numbers, but go from one to ten, literally as FAST as possible. AS SOON AS YOU GET TO TEN, then I WANT YOU TO GO BACK TOWARDS ONE, BUT AS SLOW AS POSSIBLE.

Go from ten to 9, to 8, back all the way down to 1, as literally as slow as you can. As slow your mind will let you work your way back towards 1. When you get to one, give me a thumbs up that way I'll know that you're done.

Ready? Okay. All right. This is the 10, 10 neuro hack and go. Okay, what is going from one to 10 feel like fast? It felt super amped up. I felt myself go like, okay, do it.

And then. Like, and then going 10 to one, What did that feel? Like I thought myself come back down. So. Coming down a little bit. So if I was measuring you, and my team and I have done literally thousands of these, when you

went from 0 to 10 fast, you were spiking.

And then when we went 10 to 1, we were going towards 10. You were lowering the electricity in your brain. This is a way to trick your brains. If I told you…

Well, first of all, how long did it take for you to do that? Probably 25 seconds, maybe. Not even that. It was probably more like 10, 15 seconds. What if I told you that the cognitive equivalence of what you just did is anywhere between 5 to 20 minutes of traditional meditation, mindfulness, yoga, a walk, or a stationary bike?

That's cool. That is very cool! So, do you need any equipment to do the 10-10? Do you have to go somewhere specific like a gym or yoga room or… to do it?

Nope. You need to buy something to it. No. So you just use a way, a technique, to get your brain to its 10-10. When I work with swimmers, I will have them do 10 10 in the 30 seconds before they walk up towards the edge of the pool.

If I work with a professional golfer, for example, and they're waiting for their turn to putt or as they are over the ball, I might have them do a 10-10.

Because as soon as I do it, somewhere between zero to a couple of minutes after that, their brain will still be at that lower state. And that's all you need.

So it's a much easier ask of self to say I don't have to be perfect all day. I just need to be perfect what I need be. So Janine, this is a fundamentally different way to think about our cognitive and mental wellness.

The way that the brain works in terms of a cognitive load, so we have this thing called cognitive loads, meaning what is the cognitive of each day? And unfortunately, This is not good news.

Your cognitive, load or your stress levels or lack thereof of, each, day is, not the average of the good things and the bad things that happen to you.

I wish it were your cognitive. Load is. Biggest spike of your day. So sometimes when a golfer gets done after a round, I'll say, hey, how was your round?

You know, the first thing is that they'll tell me. I can imagine. The bad shot, right? Yup. Yup, they're going to tell you the worst part and how they feel bad about that.

And they were thinking about it. When I would finish these Ironmans and would go to the tent afterwards and you listen to people talking, I mean, you can just hear it.

Everyone's talking about, oh, yeah, at mile 18, this happened and this happen and that happen. It's all this. But that is what the brain is designed to do.

That's not a flaw in the. Brain that's that a really good design because, thousands of years ago, when I was a caveman living in Serengeti in Africa and I.

Was out in. The jungle with my little kids and we saw this beautiful animal come with all. This hair and it said, Oh my gosh, let's go pet it and as when we go.

Pet it, it ate one of my kids because it was. A lion. Well, I need to remember for the rest of my life that if I ever see that creature again, then I better run.

That's not a friend. So, the cognitive load of each day is not the average of good things and bad things. It's the biggest spike of your day. And if you take each and not to a week or even a lifetime, The cognitive of load your lifetime is the not average your good experiences and your bad experiences.

Its the bigger spike which for most of us is our trauma. Because that trauma gives us context. So I will always be, there's a philosopher from Belgium who I read in a book, said every human being is the same age inside.

And I am always, I would always an eight-year-old boy in Africa scared, scared of living in my own home. That will be always me. Now I don't let that fact now impact my life now.

But it took a long time, good decades, to say, okay, that's the initial context that my brain is going to give to situations, people that I need to trust, just good people.

It's not fair to them or to my human experience to bring that context, even though my brand is designed to do that. I actually acknowledge that and say okay what's what the beauty of this moment that i bring?

And so in order for me to access that part of my Brain, I can do the 1010. Let's do another one, shall we? Yeah, let's do it. Take your left hand, take both your hands and put them face-to-face palm each other.

Again, don't start until I say go very loudly because I want you to experience it your. Your left-hand is not going to move, Janine, right? So I wanted you imagine that your, the fingers of your right hand are legs and your lefthand is, no, and you are going do six of these.

Okay. So the first three, you're going to climb this mountain, your left hand with the fingers of your right hand, very fast. First three. One, two, three very, fast, the next three we'll only do six.

You're gonna climb it very slowly like so, but as you climbing it, I actually want you to feel the sensation in the tip of the your fingers, of you right-hand as well as your palm.

All right. Ready? Go. Three fast three slow. Okay, what did three fast feel like? Fast. Yes. What did three slow feel like? Almost. I felt like I was going almost too slow for me.

Yeah. Could you feel your hands more? Mm-hmm. It could. Yep, I could feel my fingertips. So your sensory input was amplified. Yes. So if I measured your brain and I measure the brains of people coming out of a yoga class or a meditation session or mindful session, it would be identical.

You would both be at a significantly lower state. Now, how long did it take to do the mountain climbers? That was probably like a little over 10 seconds.

Correct. In 10 second, we got you maybe not at 10 but close to 10. Now in the next minute or two that you need to do something to the best of your ability, you've increased the odds that can do that.

And what does that mean? Again, it means that for the minute of two now in this experience right now, I'm talking, right? So you did the direct, but I am talking.

But in real world, do you do before you want to something like reply to an email or over a putt. So sometimes I have golfers do with their hands with the putter in their hand.

or a golf club in their hand. It's very easy to do. Sometimes even basketball players with the ball in there hands, right?

Measuring State, Heart Rate, and Performance Adjustment

So how often do you have your hands on you, Janine? There you go. So the magic of our senses is that they're free. They're on us wherever we go, and what we need to get to 10 Hertz is not some bank or some building somewhere else.

it's our own brain, which is also on of being human and having a very rich human experience is that somehow we have the tools, our senses, and we what we need to modify on us, on our brain.

There's nothing else that we needed. And so in the book I go through many, many more of these and I try to explain a little bit more Because I was duped.

I thought that I needed a certain amount of time, money, resources, geography, access to all kinds of stuff for me to experience the best version of myself.

And I regret my twenties and thirties deeply. Deeply. If I could literally change my 20s and 30s, I would in a heartbeat. to the school of thought that says, oh, you know, if I didn't do that, I wouldn't be where I am.

No. I spend my 20s and 30s, and even early 40s chasing things. Bigger things, more of things all to try to get to 10 when all I needed was already on me.

It takes infinitely less to have a rich human experience. And I wish I could convince your audience that they don't need much to Whatever you are doing, if you amplify sensory input, wherever you.

In that moment, you're seeing more, feeling more and you bring to it the magic of your past. That's a rich human experience. Love many things about this statement on it's free.

that is something that, we live in a society and I know you don't love your neuro hack term, but biohacking, for example, has all kinds of things that are looking for.

solutions outside of yourself. And I think the most important thing that you're stating here is that, you can get you to a state of Hertz in electricity, in your brain, on your own, that's free, On Demand.

Take seconds. Yeah, yeah. This is impressive. I've used other tools, like things that someone else called NeuroReset, different things where you're rubbing your hands together, things of this nature.

But it's all been the same motion. So the speed up and slow down component, to me, is fascinating. And does that seem to be that's the key, the Speed Up, Slow Down, To try to flip this?

No. Or no? OK. The other thing, and this is sort of level two now, The reason I prefer something that's actually factual, so 10 Hertz is a real number that you can measure.

Flow is not. Zen is NOT. Right? Being empowered and confidence is Not. Because if you're at 10, if 10 is where you want to be and you are at 20, then the amount of work that needs to go from 20 to 10 Is far less than if your at 80. So the good thing about electricity is that it gives you a scale.

I don't like flow personally, for me only. Because you're either in it or not. Whereas in reality, you might be closer to it, or further away from it.

So the different neural hacks that we have, there's a taxonomy to them. Meaning, if I'm 80 or 90, I need to do things that are going to work faster and more powerful.

So I find that if I'm somewhere between 20 to let's say 30, 35 hertz, I can get away with low grade neuro hacks, such as breathing. But if i'm at 60, 70, breathing is not going to work.

It'll bring the hertz down, but not fast enough and not low enough. Breathing is not new. I mean, our ancestors, the yogis, and so many different types of breathing.

But over and over again, not just my own research, but others, we find that the spike down of breath work is low. It's three, seven, eight, nine hertz, as the 1010 is somewhere around 15, 20 hertz.

So if I'm at 10, I am sorry, if i'm in 2025, i might do a breathing technique. which doesn't have a fast slow to it. There's box breathing, there's triangle breathing.

They're all kinds of ways of breathing but it's so much better and empowering to have scale to work with to know what adjustments you have to make. So I teach my golfers and my athletes that, hey, if I miss a two-foot putt, you know, that spike is really high.

If I missed a 20- foot put, That's not a big spike. I'm not supposed to make that. So, missing a 20-foot putt, I might make a different adjustment versus making a two- foot adjustment.

If I miss a 2-Foot put, the odds that the next tee shot I am going to hit in the hole are going be really bad is very high. Because my brain is saying, oh my God, can't believe I've not made a million of those!

If i miss the 20 foot put I don't have those thoughts. Right? So I prefer, that's why I'm saying neuroscience was finally the framework that, gosh, not only is it accurate.

So in other words, it's not, what I am talking to you about is not Dr. Justice. This has nothing to do with me. That's the beauty of science is that 20 years from now or other scientists around the world today can replicate what i'm.

Go challenge it. And parts of what I might be saying might right, and parts might become outdated in five years because there's no research. You know what?

Good. That's the beauty of being a scientist. We are slaves to knowledge and the human experience, not to our egos. So I'm kind of thinking of a lot of different things.

Of course, now we're going through my head, so I know I am not at 10 hertz. All joking aside, I was seeing, you know, on and so folks, Dr. Izzy has a lot of different programs, but Neuro 580 is another one that where online you can see the different, the neuro hacks on the left-hand side, how many seconds, and then even the change in the heart, the hurts, but also heart rate is on there too.

And something you had mentioned, and this is something that is very important to me, is having a way to measure the tools. Because yes, like you said, flow, what does that mean?

I don't know. I think for a lot of people, it's just a contextual word that we hear. But if we have a ways to measures, so we've got now heartrate. HRV, yes.

but HRRV I thing is too long standing. You can't get it in a moment. A lot people can look at their heart-rate if they don' have way of looking at the hurt.

So what would you, how would do you incorporate heart rate in for someone who's like, I want to test these out and then, you know. What a great question.

So there is a flaw. There is correlation, but not a causation. As a runner, there have been times when I'm at the zone three, zone four heartrate running.

I might be doing some work or a 10K and I'm doing seven minute miles or something like that. So even though my heart rate is whatever, 150, 160 BPMs, my EEG is 10. That's why we call it the runner's high.

There's a misconception, again, that low heart rate translates to, you know, better performance. Conversely, I could be sitting at a desk, my heart could very low, 80-90 Hz, at 80 Hz BPM, and I'm sitting on the desk doing an email.

And suddenly I get a nasty email, now my heartbeat would still be low. But my EEG is going to be through the roof. So I don't know that heart rate, because we use heart because it's easier to measure.

We can measure so many different places in the human body. Our wrist, our chest, or neck. There's so different place of fingers that you can measured heart rates.

But I think heart is good for training, like zone training. Which zone you want to train and building endurance and

your aerobic engine and you speed work.

I dont know the heart necessarily is correlated to the EEGs. So there's a company out of Canada. They use their own device and they use the term flow, but they actually have three biomarkers associated with flow.

So one is the heart rate. The other is oxygen level in the brain, they have an oximeter. And the third one, is EEG. But generally speaking, again, I think we need to be careful to associate low heartrate with low stress.

or vice versa high heart rate with stress. Now, sometimes that is the case. If I'm sitting down on a couch and I met one, whatever, 40, 50 BPMs, well, that's not good.

You know what I mean? So the heartrate is a heart. Your heart great is your heart pumping oxygen and blood into the human body in anticipation of something or to do something.

That context is set by the brain. If my brain labels something as danger, and it might be philosophical danger like the person, abstract, or it may be I'm on mile 18 of my marathon, I am really tired.

I can feel pain on my knees and my hips. So my heart rate is going to work there.

Trauma, Self-Trust, and Closing Thoughts

I would encourage people, I know you have many athletes there, to not be a slave to the biomarker of heart rate, especially when it comes to correlating that to stress.

Nice. So then instead, we're looking more at performance as our gauge. Are we getting into a state with our brain activity that is slowing us down effectively?

And you can do this subjectively, like you don't need a, you know, a fancy EEG device. Like ask yourself, am I calm or am i agitated? Are my thoughts going at a million miles an hour or are they calm?

are you fast or slow? Am I having good positive thoughts? I'm I remembering the good things that my coach or from a practice or I am remembering bad consequences of what could happen in this moment.

It's not that hard to assess where your brain is, this self-awareness, that's what I'm saying. The highest form of human intelligence, in my opinion, is the awareness of where you thoughts are and to be able to give them some type of a number so that you can make the adjustment.

I've worked with enough professional athletes, we've won major championships, Olympic medals. And I know millions of books have been written about what makes a great athlete.

And my view is that the athlete that can make the right adjustment in competition more often than not is going to win. because you could have an athlete that has much more talent than another athlete.

But if both of those are facing, to use a cliche, some type of an adversity, whichever one can make the adjustment, like an average athlete making the right adjustment is going to beat a greater athlete who panics every day.

And I see this in junior athletics all the time. You'll see a kid playing very well in whatever sport and then something bad happens and they're done.

They're cooked. For the rest of whatever the holes, the game, or the tournament, it's so predictable now. My son plays golf in college and for over a decade, I would take him to a lot of junior tournaments.

I saw it firsthand and I see it even at the professional levels. The talent differential between a great athlete, which typically we all know by just their first names, and a good or average professional athlete is Miniscule, miniscue.

If you look at Michael Jordan, for example, arguably the greatest athlete of all time in any sport, he wasn't the tallest. He wasn' the fastest. he was not.

You didn't have the best jump shot. But somehow, you know, He always made the right decisions. And when he took those game winning shots, You could see it.

He was in a calm state. In the documentary, The Last Dance, this got missed. A lot of people didn't talk about it because there were just so many juicy parts to that documentary.

But one of his people on his team said, you know, what nobody talks about was that the term that he used in the document was Michael Jordan was a mystic.

And so the guy said, well, what do you mean he was a mystic? Says, Well, every time he played, he wasn't nowhere except there. And again, that's a cognitive function.

I don't know that the greatest athletes or the great artists or their greatest performers. Another thing that I see that they have in common, and this is sort of sad and tragic in some ways, is that some of the greater artists, philosophers, inventors, athletes, since the beginning of time, I'm sorry, not some, most, suffered trauma.

Michael Jordan was cut from his high school team. At his Hall of Fame speech, he brought that up. He literally invited the God that got picked over him.

And his hall of fame speech he said, you see that guy sitting over there? He got chosen and I got cut. So in a weird way, Janine, weird away, if we can figure out how to use our trauma, we could do great things because it's the ultimate piece.

We don't have to be slaves to our drama. I've written 10 books because I suffered horrible trauma. To be abused by your parent, imagine how much faith a child is going to have in people when the very person that's supposed to love you doesn't and abuses you.

And 10 books came out of it. So we shouldn't be, you know, if you're lucky, unbelievably lucky you have no trauma, but most of us are not that lucky. But even if he have trauma I think finding ways to use it is the ultimate neural hack.

It's your why, and it brings peace to your brain. But I talk, like I literally have a whole chapter in my book, again, the name of a book is Life Explained, Chasing 10 Hertz.

I have a whole chapter on trauma, but it's not a clinical and it is not psychological chapter. It's a neuroscience one. I'm trying to get people to embrace their trauma Janine, which is weird.

Sounds like an oxymoron, that's what I am trying what we're lacking a little bit. I'm going to turn it over to you now. Well, thank you. Again, Janine, Thank you for having me. I always enjoy having these kinds of conversations.

So you can find basically all of my social media handles at drizyjustice.com. My books are there and the app that has a lot more of these neuro hacks I just shared too with you and there are other versions of it.

Those are the physical neurohacks, but there other types of neuro-hack. that your brain can consume in just a matter of seconds that can help you get to that same 10 hertz.

But DrIsItJustice.com is where everything is. The name of the app is Neuro 580. It's available on Android and Apple. And my parting thought would be that You know, no matter what human challenge you face for the rest of your life, I want to convince you that the first thing that you need to do, irrespective of what challenge, you have, the 1st thing is get your brain towards 10. Don't worry about step 2, don't worried about Step 3, because once you get to brain to 10, or close to ten, a ten hears ten brain will figure out the right step too.

And it's a very inspiring and empowering to say, okay, No matter, what happens to me, my first response will always be the same. It's learning the art of self-trust on these ones.

Yeah. Dr. Izzy Justice, thank you so much for all of the work you're doing and bringing us some enlightening things to ponder going forward. I really appreciate you coming on the podcast today.

You got it. Thanks for having me, Janine. Hey fellow health junkie, thanks for listening to the health fix podcast. If you enjoyed tuning in, please help support me to get the word out about the podcast, subscribe, rate and review and just get that word.

Thanks again for.