THE MODEL HEALTH SHOW

EPISODE 767

Shocking Truth About Fitness and Brain Health

With Guest Louisa Nicola

You are now listening to The Model Health Show with Shawn Stevenson. For more, visit themodelhealthshow.com.

SHAWN STEVENSON: Surprising new data is affirming that we can actually train our brains to be functionally and structurally younger now if you're interested in living a longer healthier life increasing your lifespan and your health span, then it starts from the top down. Our brain is controlling so much about us. So many aspects of our downstream physiology are going to be controlled by this master commander upstairs. And now again new data is affirming that we can train our brains to be not just functionally younger. But structurally younger as well and that's what we're talking about on this episode. Today more than ever we've got a choice to make we can be in the guild of those that are becoming the walking dead. And you see it, you see it out there. It's a cultural phenomenon, the walking dead I think it has like 13 seasons, a bunch of spin-offs it's because is it life imitating art or art imitating life? We've got that whole paradigm that's taking place right now. But we also have this emerging paradigm of people who are more dedicated to their health. To their performance to living their best life living the best life possible and we can choose which path we're going to make.

SHAWN STEVENSON: Based on our own decisions. We have so much power in this equation and we're gonna be talking about that as well. Is it our genes that are controlling our destiny when it comes to our brain when it comes to our cognitive function when it comes to things like Alzheimer's which has now become the sixth leading cause of death in the United States. Is it just in our genetic cards or is there a much much bigger story? So this episode is our pact. Today's guest is Neurophysiologist and human performance coach Louisa Nicola and she's the founder and head performance advisor of Neuro Athletics, a human performance coaching firm. That boasts the highest performing athletes and executives in the world. Neuro Athletics brings science-based solutions to elite performers who want to perform at their peak. Louisa graduated from the University of Sydney Medical School and specializes in Neurophysiology and without further ado, let's dive in this conversation with the amazing Louisa Nicola. Alright, I want to start off by talking about Neuro Athletics. This is a new concept for a lot of people. So can you share what Neuro Athletics are and also what are some exercises that we can do to get the benefits in our own lives?

LOUISA NICOLA: Yeah, so Neuro Athletics is my company. We're now a 10 person team, which is so exciting and the term was actually coined from Neurocognitive training. So when you look at exercise, right? We know aerobic exercise, we know resistance training, but then there's this little bucket, which is predominantly in the scientific literature coined as Cognitive training which is how do we train our brain? So that's when I started my company about 10 years ago 24, yeah 2014 I thought Neuro Athletics. How can you have an athletic brain and apart from everything else, the sleeping, the exercising, the eating well, there are other things that we can do as well.

So Cognitive functions represents things such as your ability to think processing speed reaction time decision-making memory these all. I won't say deteriorate as we age, but they become slower. You can probably think back to maybe your early 20s when maybe you were a bit faster with your thoughts. Maybe not the best with your decisions as you are now, but as we get older these things decline so we can train them.

LOUISA NICOLA: We can do things that can actually train these areas of the brain. We can do things such as really simple exercises like throwing a tennis ball to the wall. You're getting hand-eye coordination reaction time speed, you can do memory tests. You can do vision, within the vision field there's like 20 different exercises and tests that you can do, you can do, put an eye patch on one eye, throw the ball stand on one leg. Yeah.

SHAWN STEVENSON: We just actually and funny enough you didn't know this. We just put together a show where I was sharing some of the weird or stranger benefits of exercise, and one of them there was so many studies on this. Affirming how the act of physical activity ourselves our whole body improves our vision, but within that I've made a little caveat that there are certain exercises that we can do with our eyes themselves. Every part of our physiology can be exercised in a way and this is why I'm so excited about Neuro Athletics because it's just like when you said they have an athletic brain. I'm like, I want that.

LOUISA NICOLA: Yeah, exactly.

SHAWN STEVENSON: And so can you articulate this a little bit more because I love this. I do this exercise for me. I want to do it more frequently, especially now talking with you. I got to get my stuff together. But at least once a week, I'll tennis ball outside of my house throwing tennis ball alternating my hands changing speed where now I'm pretty fast at it, and can you give a little bit more detail on because you just said throwing a tennis ball against the wall.

LOUISA NICOLA: That's your starting point. Yeah, but you can do anything. There is like the sky's the limit because if you're getting faster right? You can start to add things in like put an eye patch on your eye. Stand on one leg and throw the ball I'm sure it will be a bit more demanding then or give yourself cues like you can get an app right? The app I don't know what it's called but it shoots out different colors red, blue and you can develop or have somebody else develop different cues for those colors. So when the red occurs, maybe you do a burpee when the green light comes on maybe you throw the ball twice when the yellow light comes on maybe you stand on one leg turn around throw the ball in the air catch it things like that and there's like the sky's the limit and I would say generally one day a week is not enough. You want to be doing these? So we have all of our clients doing it at least four days a week. We really want them to be strengthening those neural patterns and it actually relays into the corporate world. We've got a lot of non executives at Neuro Athletics that

come and see us for performance coaching and optimization and they're seeing the results in the border and they're seeing the results. The ways are I'm able to just think faster and think clearer.

SHAWN STEVENSON: Got a little usher confessions here about what I've been doing in place of because I was doing it at least every other day for a nice stretch there and alternating hands, I'll throw one hand catch with the other throw with the same hand catch it and then recently, I started gaming with my youngest son. So I started getting back into it and I haven't gamed in years. I used to be pretty avid and him and I've been playing 2K so NBA 2K. And he's really into basketball, but also I've noticed that there are certain things that with my cognitive ability, my reflexes, reaction time all this stuff is improved by playing these games.

LOUISA NICOLA: Yeah, and the thing is. I get asked often, can we do video games? Is that going to strengthen? I always say no 'cause I would rather you be doing it when you're actually your heart rate is up as well and you're getting blood flow to the brain because that's going to actually provide a better environment for your brain to strengthen these pathways but anyone can do it and it doesn't matter what age you are and prevention is key which we're going to talk about a lot today. But prevention is key and you want to basically build up what we call cognitive reserve it's like building up a bank think about these exercises as money that you're just putting into your bank putting into the cognitive reserve bank 'cause as we get older that cognitive reserve depletes and we need a lot of it to just do basic tasks, when you're 75 it's gonna take a lot of cognitive reserve from that bank as what it would to do the exact same thing at 25.

SHAWN STEVENSON: With this obviously technology is a huge part of our lives today and it isn't going anywhere and we had in Dr. Adam Ghazali and he has a first FDA approved Video game as a treatment. It's been approved as a treatment for ADHD.

LOUISA NICOLA: Oh wow.

SHAWN STEVENSON: And he acknowledged that the fact of like we've got this really interesting ability to work on things like hand-eye coordination and focus and things like that. That sedentary lifestyle is a big lacking aspect of the gaming culture right? And so I'm wanting to kind of inspire folks that are gaming like to be some of the fit like be the fit gamer, somebody who's very physically active and because that translates over into the other things that you do as well with gaming when you're able to actually get your heart rate up as you mentioned to actually move your body and with that being said I want to ask you about this is really fascinating that we're just now having this be a big part of the health conversation. How much does our metabolic health? Overall impact the health of our brain?

LOUISA NICOLA: Oh gosh. Immensely, and I just can't wait to get into it because you think about metabolic health you think about insulin resistance you think glucose. And then you think about Mitochondria and so many people often neglect the brain when we're talking about Mitochondria. Have you had Dr. Chris Palmer on the podcast?

SHAWN STEVENSON: Yeah.

LOUISA NICOLA: And he speaks a lot about mental illnesses being a metabolic health issue. I think that that's really profound. But when we're talking about even energy we require Mitochondria. So metabolic health as it relates to brain aging is astronomical. We know that our brain ages as we get older pretty much predominantly at the age of 30 with our brain starts to atrophy and with that comes lower energy. We need more cognitive reserve and more energy to do several tasks just like walking and talking and the Mitochondria is a huge player in that.

SHAWN STEVENSON: Can you talk a little bit more about that? Because you said it, when we were in school. We were... When we talked about Mitochondria. It was really kind of relegated to a cell. I think we think in our bodies kind of downstream we don't really think about Mitochondria in the brain.

LOUISA NICOLA: Yeah, and this is why I'm a big proponent of creatine. So we have around 87 billion neurons in the human brain and a neuron is just like a cell in the body except it possesses something called an axon and that's how it communicates with the nearby cells and it creates, size, would say transmission propagates down that cell and communicates with the other one and that's how we think and do and act and speak and produce actions. So these 87 billion neurons has a cell body and within that cell body are all of the nucleus, the organelles it also possesses our Mitochondria and the Mitochondria is the site of ATP production where we're producing all of our energy. The sad thing is sometimes we can have maybe 10,000 30,000 40,000 Mitochondria in a cell and we think, we know that more Mitochondria is good. We can produce more Mitochondria to produce more energy to have a better functioning cell, right? But sometimes we may have damaged Mitochondria in that cell meaning that the little factories inside our cell and not producing energy effectively.

LOUISA NICOLA: So for example when we eat, just to be really simple we eat and then our body figures out. Okay. How are we going to use, how we're going to make energy from what we've just eaten and then your Mitochondria if it's dysfunctional it might not be able to produce the energy that is needed and required for that cell to stay alive to propagate to talk to other nearby cells and eventually we get the degeneration of these Mitochondria and then the degeneration of a cell, cell death apoptosis.

SHAWN STEVENSON: That's fascinating. There's two parts, two big parts of this the Mitochondria themselves being able to do what they're designed to do efficiently, and that can become dysfunctional in of itself. And so again, we can be bringing in all the good fuel what we think to be with our diet. But if our Mitochondria aren't able to do their job properly some things are gonna be wasted on us essentially. But you also said that we can make more Mitochondria and this goes back to exercise being one of those proven ways that we can make more.

LOUISA NICOLA: And that's actually one of the many benefits of exercise as it relates to the brain. Because we do get, we induce mitochondrial biogenesis the creation of new Mitochondria through vigorous or moderate to vigorous physical activity. So HIIT workouts and this has been proven in the scientific literature that it can induce mitochondrial biogenesis. We want that it can also clean out dead cells that are no longer there. This is actually why a lot of people fast, but you can get a lot of the benefits from exercise and then what you're doing is you're placing stress upon the Mitochondria. Because we need the Mitochondria to produce energy so when we're working out evidently we have a large energy demand. So our Mitochondria go to work. They get a bit stressed. They're like guys, guys, I'm a bit stressed out. I need to get real strong and also, why don't we just create new Mitochondria? This is what the all the other little Mitochondria are saying, why don't we create more so she can have, we're too stressed out.

LOUISA NICOLA: There's not enough of us. We need to create more so let's grow more so she can have... We can meet the energy demands. So that's how it pretty much works And the fun thing is you can also get this from cold water immersion. So cold water immersion and we don't even need to get into temperatures because I know many people are like, well temperatures timings. Really to the point where you're starting to shiver and that's different for me. It's different for you. So getting into cold temperatures is also going to create this shivering response. What that is doing is your body's shivering to try and warm yourself up. So what happens is you vasoconstrict your Mitochondria. Obviously the site of heat production of your Mitochondria are like “guys, she's freezing, she's dying, she's out, she's in the wilderness”. We need to make her warmer. Let's get to work. So the Mitochondria go and get to work. But guess what? They're like guys, there's not enough of us. She's too cold, we need to create more Mitochondria. So then it creates more Mitochondria to keep you warmer.

SHAWN STEVENSON: Our bodies are truly like adaptation geniuses.

LOUISA NICOLA: It is unbelievable when you really understand the mechanisms of action of like. Or even cell biology when you really get to the crux of what a lot of people are talking about on social media. It's a really beautiful thing.

SHAWN STEVENSON: And it, here's the thing though it goes in both directions, we can adapt to what we would call an ideal Circumstances we can become we're talking about Neuro Athletics. We can become a chair athlete and our bodies can become very good and adapted to chair sitting.

LOUISA NICOLA: Oh, yeah.

SHAWN STEVENSON: And if we try to do other things this can dramatically increase the risk of all types of problems and not to mention just blood flow and cognitive function all this stuff because we're marathon sitting in our culture now. So we have a choice. We get to choose the adaptations that our body is going to do and with that being said. I want to ask you about this as well because metabolic health impacting our brain health. What about certain biomarkers like maybe our body fat percentage or if we're carrying excess weight, is that affecting our brain?

LOUISA NICOLA: Yeah, and actually obesity is a very, very big risk factor for Alzheimer's disease so you think about obesity BMI a lot of the studies that are being done on the correlation between fat mass and Alzheimer's disease really comes down to body weight around the visceral organs. So we really want to be making sure that we don't have visceral fat. That's fat that is surrounding our organs, which is quite. Is, when you think about it, it's like oh I'm scared like the thought of me having fat around my heart or my liver is really scary to me. Or when you think about it as in it's penetrating the muscles you think about the difference between a really. Like a fine cut steak or a highly marbled wagyu steak. That's what you're, sometimes that's what your visceral organs can look like if you've got visceral fat around them. So we know that it can affect our brain in many ways.

SHAWN STEVENSON: Yeah, we've got a few studies looking at our gray matter being affected by the weight that we're carrying. But also we've got some data showing that as we're losing excess weight. Our brain is getting healthier. So it's just one of those things again this exercise isn't just about vanity metrics. And I know that that's a big passion of yours is to help to reframe this.

LOUISA NICOLA: Yes.

SHAWN STEVENSON: Because obviously it's not enough it's not enough to motivate us as a culture when there's on the other side so many different entities that are profiting from our ignorance and kind of creating a culture where we're not moving our bodies and taking care of ourselves in the way that we might aspire to and with that being said I want to dig more into this incredibly like people don't understand just how much Alzheimer's is affecting our

culture right now and this is according to the CDC. It's the sixth leading cause of death in the United States and it's just one form of dementia. So let's talk a little bit more about this epidemic of Alzheimer's.

LOUISA NICOLA: Yes. And before we do, I was actually going to mention a statistic I believe, 'cause I posted this not long ago. 47% of US adults are actually meeting the guidelines of exercise, which I don't even agree with the guidelines, the CDC, the guidelines, which state that you should be doing at least 150 minutes of moderate physical activity per week. I think it should be raised to at least 300, but only 47% of US adults are actually meeting that. So that's a scary thing. There's a lot of people who are just not meeting the exercise guidelines. And there's some nomenclature, mishaps I believe in there as well, because physical activity to a lot of people can mean I'm doing the washing. I know that's what it means to my parents, and I have to reframe that. I'm like, that's not it. Like exercise is what it should be, not physical activity.

LOUISA NICOLA: So that's a big thing. But definitely, as it relates to Alzheimer's disease, my big passion is, I'm basically here to say that we lose our identity to Alzheimer's disease. Unlike the other diseases, cardiovascular disease, cancer, diabetes, you've got so many diseases that are killing us, but none of them allow you to lose your mind like Alzheimer's disease. And I don't think people really understand that. And so I'm here to say that Alzheimer's disease isn't something that we should be fearing, because we now have substantial evidence to show that lifestyle interventions, especially exercise, can really help prevent and delay the onset of this disease. So what is it? You mentioned dementia. And dementia, you can, it's not so much a disease, as it is a set of symptoms where you lose a lot of your cognitive abilities, which we spoke about. Your executive functions, your thinking, your memories, processing speed, etcetera.

LOUISA NICOLA: And it sits as an umbrella to represent other disease states such as frontotemporal dementia, Parkinson's dementia, dementia with Lewy bodies, and of course Alzheimer's disease, which is actually now classified as Alzheimer disease named after Alois Alzheimer. And why do we know about that one the most? Well, because around 6 million people in the US have Alzheimer's disease. Approximately 50 million people worldwide have Alzheimer's disease, and that number is said to triple by the year 2050. So it's creeping up to us, and we're getting there. And unfortunately, in the US, we don't have a lot of people helping us as it relates to marketing. The pharmaceutical industry is actually banking on you getting Alzheimer's disease, so you make more money for their investors.

LOUISA NICOLA: In fact I think it was January 10th, JP Morgan held their healthcare conference, their annual healthcare conference, where they stated to their investors that this year, in 2024, they're looking at getting around $20 billion to $25 billion in Alzheimer's

disease, that space looking for a cure. So they're pretty much, the investors are banking on you not knowing that there is not a cure, but there is a prevention and it's free, and it's exercise. They're not putting that into that. They're not telling you that. There are saying, guys... JP Morgan is basically saying, Hey team, investors, pull all your money into the Alzheimer's disease space, because a lot of people are gonna get it. We know that, because people are getting fatter, they're getting more sedentary, they're not exercising, and we're not gonna go and tell them that. We're not telling anybody to go out and exercise. We're just banking on the fact that they're gonna get Alzheimer's disease, and your money is gonna triple.

SHAWN STEVENSON: So by you, not exercising, you are paying for investors' children to go to private schools. You're paying for their cars, you're paying for their yachts, and who loses out? You. You lose your mind and you lose your brain. So I'm really passionate about this. Like, imagine look yourself in the mirror today. Literally look yourself in the mirror and say your name, say your address, say who you love, say what you love, say everything that you're thinking, because if you get Alzheimer's disease, I've gotta tell you, it's a very sad case, because you can stand there and someone can say, oh, who am I? Where am I? What am I? What, who, what? That is so scary, because they say, you're born into this world alone with your mind, and we die alone, but you die with your thoughts. But imagine if they're not there anymore, what do you die with?

SHAWN STEVENSON: That hits different.

LOUISA NICOLA: Yeah.

SHAWN STEVENSON: Got a quick break coming up. We'll be right back. Do you ever feel like your brain is running on low battery? Well, batteries themselves provide energy from chemical reactions that involve electrolytes. Electrolytes are minerals that carry an electric charge, and electrolytes play a major role in providing energy for your brain. Take sodium for example. Sodium is an electrolyte that actually enables your brain to maintain proper hydration. Our brains are mostly made of water. It is so important for the form and function of our brains, but we can't maintain that hydration to do all the things that our brain does without an adequate supply of sodium. Not only does sodium help to maintain proper water balance. A study conducted by researchers at McGill University found that sodium functions as a "on-off switch" in the brain for specific neurotransmitters that support optimal function, and protect the brain against numerous diseases. That's just one important electrolyte for the brain.

SHAWN STEVENSON: Another critical electrolyte for your brain for providing that electrical energy for your brain is magnesium. A fascinating study published in the journal Neuron

found that magnesium is able to restore critical brain plasticity and improve cognitive function. In a double-blind, placebo controlled study published in the Journal of Alzheimer's Disease, found that improving magnesium levels in adult test subjects who were in an at-risk population for Alzheimer's, these folks were between 50 and 70, improving magnesium levels was found to potentially reverse brain aging by over nine years, getting a functionally and structurally younger brain. Electrolytes are that important. Now, there's one company that has hundreds of thousands of data points for the optimal ratios of electrolytes. And that company is LMNT. Go to drinklmnt.com/model, and you're going to get hooked up with a free gift pack, a free sample pack with every single electrolyte purchase, hook yourself with any of their electrolyte flavors, and you're going to get a free bonus pack.

SHAWN STEVENSON: It's an awesome opportunity to get the very best electrolytes in the world without any artificial colors, without any binders and fillers, no nefarious sweeteners or anything like that, just the highest quality electrolytes on the planet. And by the way, LMNT is actually fueling athletes in every single professional sport. Many professional sports teams from the NHL, the NBA, especially the NFL, have now switched their teams over to utilizing LMNT for their teams electrolytes, even though they might have NFL contracts to have those other brands like the Gatorades, the Powerades, the haterades, they might have contracts to have their containers on the sidelines, but many of these teams are now utilizing LMNT. Again, go to drinklmnt.com/model and with every electrolyte purchase, you're going to get a free sample pack. Head over there and check them out. And now, back to the show.

SHAWN STEVENSON: Until somebody experiences this with somebody close to them, again, this, it seems very like notebook-ish. You know what I mean?

LOUISA NICOLA: I know.

SHAWN STEVENSON: And the reality is, it is a terrible, terrible way for us to die, to suffer. And here's the thing. And for me, this is an overall statement, but there's so much unnecessary suffering in our world today.

LOUISA NICOLA: Unnecessary.

SHAWN STEVENSON: We have all of this apparent innovation. We know this stuff. It is very elementary when it comes to, for example, exercise. Like your body requires that in order for healthy function. Your cells, your DNA, all this stuff. But we are existing in this paradigm where we have this pharmaceutical model that is banking on. It's like in our culture, in our economy, it's a big part of our GDP as well. Banking on American sickness. Like it is arguably the most profitable thing to invest in, because we just keep getting sicker and sicker and sicker. And a part of this goes back, and I wanna ask you about this piece, to something that

has long been disproven, but even when I was in college, this was kind of the top tier belief system, which was genetics. This is based on our genetics. We're genetically predisposed to having Alzheimer's. Let's talk about the genetic connection.

LOUISA NICOLA: Yeah. And that again, is another myth. And people, when I say I'm in this world, I'm studying, I have a review paper coming out soon, which I'll send to you, you'll love it, I'm in this space. I often forget that a lot of people just believe that you just get Alzheimer's disease when you get older. It's just normal. No, it's actually not normal. So there is, so we know this from GWAS analysis where we get a large population of people who have Alzheimer's disease and those who don't, and we look at their genetics. So we know that there's around 30 genes involved in this specific disease. I'm not talking about dementia, I'm talking Alzheimer's disease. Out of all of these cases of those who have Alzheimer's disease, only around 3% possess the genes, which you would classify as 100% penetrant. Meaning that if you've got these genes, you will get the disease. Only 3% of the population. So why does the other 97% have it?

LOUISA NICOLA: Why? Is it because we're just not smart enough that we just don't know? No, it's because of lifestyle factors. We have three genes, right? If you get it, that's it, you can't help it. Okay. It's presenilin-1, presenilin-2, and Amyloid Precursor Protein, that's APP. So those are the three. The other ones that people associate Alzheimer's disease with is called the Apolipoprotein E4 gene. If you have one copy of e4, it raises your risk four times of getting... Raises your risk doesn't mean you're gonna get it. They are lifestyle genes risk factors. Again it's just like if I walk across the road with a blindfold, I raise my risk of getting hit by a car, I may not get hit. Okay, but I'm not gonna walk across the road with a blindfold on, I'm just not gonna do it.

LOUISA NICOLA: If you've got two copies, one from mom, one from dad, e4/e4, if you're an e4/e4 carrier, it raises your risk by 12 times. So that's still scary. But guess what? People who have the e4/e4, only 50% of them will get Alzheimer's disease. So you can get, you can still have e4/e4 and not get it.

SHAWN STEVENSON: Yeah.

LOUISA NICOLA: So the Apolipoprotein E gene, so we've got APOE 1, which really is, I haven't seen really a... Very extremely rare, maybe 0.1% of the population has that. You've got an APOE 2 and this APOE 2 is actually thought of to be protective against the disease. Then you've got e3, which is just a wash, meaning it doesn't raise your risk and it doesn't lower your risk. It's just nullified. And then you've got the e4, which raises your risk by the times that I told you. I myself am an e3/e3. I've been tested and I wanted to get tested because it's A, it's my space. I like to be aware. I do my bloods like religiously just to see how I'm going. So I'm an

e3/e3. I'm envious of people who have got e2/e3 'cause they're a bit more protective. But basically, what you're doing is, you're protecting your brain against lipid metabolism, which we'll get into when it... As it relates to cholesterol, saturated fat, LDL. So pretty much protects the arteries of your brain with metabolizing that LDL. And if you've got the e4/e4 pretty much doesn't help you. It doesn't help you break down amyloid, which is one of the biomarkers of Alzheimer's disease.

LOUISA NICOLA: And what I think is really fascinating is the fact that we still in 2024, we still don't have a cure. There's been many pharmaceutical companies who have come out with the cure, but they've all failed. And the medications have been around. How can we ameliorate amyloid? So there are two theories. We still don't know what causes Alzheimer's disease, but the theory is it's due to the amyloid cascade hypothesis, meaning that this amyloid protein builds up and it just builds up and it forms a plaque if you will, in your brain. And it affects cell to cell transmission, because it actually builds outside of the neuron. So it affects the communication between cell to cell. Air go, if we don't get communication, if we don't get blood flow, that part of the brain eventually dies. We need blood flow to the brain to enable a cell to survive. So it eventually dies. And so a lot of companies have come in and they said, let's try and target the amyloid, but none of them have made it. So why not think to ourselves, why don't we stop the amyloid from occurring in the first place? Can we do that? Turns out we can.

SHAWN STEVENSON: Is it that E word again?

[laughter]

LOUISA NICOLA: Well, it's that E word, it's many things. It's sleep, it's exercise, it's emotional health. Yeah.

SHAWN STEVENSON: When you said that this promise of a cure, for example, that has been wildly monetized, and we're talking to the tune of billions of dollars. But it just reminded me of an important question for us to ask ourselves. What have they cured? What's been cured? Just looking at the past couple of decades, things have not really gone well. Again, we have all this apparent innovation, hundreds of billions of dollars thrown into cancer research and Alzheimer's research and diabetes, and the list goes on and on. But yet, the reality is, and this is just what is, why would they be in the business of curing something?

LOUISA NICOLA: Yeah.

SHAWN STEVENSON: When our system is much more acclimated to the treatment of symptoms.

LOUISA NICOLA: Yes.

SHAWN STEVENSON: And then that would keep a person logically as a return customer. And that helps to keep the market going.

LOUISA NICOLA: Correct.

SHAWN STEVENSON: Like without sick people, and with people getting cured and not being sick, like then the market fails. So what kind of business model is that? That's just silly business.

LOUISA NICOLA: Exactly. Which is why when you go and do blood work, I'm very like we do extensive blood work at Neuro Athletics. Like I'm talking extensive, we get to know you like so completely. Like it's phenomenal. But when I will look at somebody, I'll say, well, what blood work have you done? They'll show me. And they're like, but my doctor, my PCP said it was fine. I said, of course they did. Because your PCPs are not there to give you optimized results, they just wanna make sure that you are alive right now. They don't talk to you about trends. The two things when it comes to blood work, and we're going on a tangent, but I'll just tell you two things that matter are trends. Where are you trending and ratios, what's your LDL to HDL ratio? So there's many things in the American healthcare. I'm Australian, there's also things in the Australian healthcare system that really, really bug me, which is why I'm advocating for people to exercise. I've exercised my entire life. I was an elite triathlete. I raced for Australia. I love it. I think it just is the elixir for health. And I think that we can all be doing it because it's free.

SHAWN STEVENSON: Yeah. With that being said, talking about optimizing, you mentioned this earlier with the 150 minutes of recommended exercise versus 300. You're saying we need to double that. And when we're talking about the recommended 150, usually, so many of these different RDAs of things are based on this is what to do, so you don't develop a deficiency, like this is the bare minimum.

LOUISA NICOLA: Exactly.

SHAWN STEVENSON: So that you can just get by. When in reality, again, our bodies are so we evolve with a lot of physical activity. And so today, we have to kind of proactively create, simulate that with different exercise movements. And what I'm really into right now, and just passionate about is like, and this is why I'm so happy to have you here today, is just like every part of me can experience exercise and development. And whether it's my neck muscles or strengthening my feet, whatever the case might be, it's like there's so many different cool

things and we would naturally be getting these inputs, but we don't anymore. Right now, we're rocking these shoes, which your shoes are super cute, but also, are we getting that input from the ground that we evolved with for this kind of kinetic chain to have this close connection to what's happening when my feet are touching the ground? And so being able to simulate some of these things and getting in those. I really look at 'em like nutrients, movement nutrients throughout the day.

LOUISA NICOLA: Yeah.

SHAWN STEVENSON: So it's really exciting. And at the same time with Neuro Athletics, we're working on the organ that's responsible for all of it.

LOUISA NICOLA: Yes. And we often fail to recognize that we have a map of the brain, Brodmann's areas, and we've located them all. So every single part of the brain is responsible for something different in your body. They represent different, one area represents language, production, feet, this and that. So what happens is as we get older, we stop doing things, okay, we stop, I don't climb trees anymore. I don't box jump, which I tried to box jump. I met up with some of my triathlete friends from way back when we lived together. We were just a family. And they're like, let's box jump. I couldn't box jump. And I remember just being an absolute power player metrics athlete back then. I'm like, why can't I do that anymore? It's because I stopped doing it.

LOUISA NICOLA: But imagine all of the tiny hundreds of thousands of little things that you're stopping to do. What happens? Your brain says, oh, she ain't doing this anymore so I don't need the neurons responsible for that. Kill, die. And that's how we end up getting brain shrinkage over time. Cerebral cortex thinning over time. So then we think, oh my gosh, I've just gotten my parents to do just basic things every day. I said to my dad, I want you to sit on the floor and stand up without your hands every day. That's it. And I've got my mom just stepping up on a little level. And we're going to get further and further just, I said, if only you're doing one a day, I don't care, what you don't use, you lose. That's what your brain says. You are not going to use me, Louisa, I'm going to, and it's hard because, as you get older, you've got a spouse, you've got work, you've got kids. It's like, Louisa, when do I have time to throw a ball? When do I have time to run? When do I have time to make the food? It's like, well, I know. Just do it as Nike says.

SHAWN STEVENSON: That's one of the biggest messages from today truly, is our bodies, our brains works on a use it or lose it basis. If we're not doing those things, that was such a great example of the box jump. But here's the cool thing, you could train those neurons. You could train those muscle fibers. You could train your body to do that thing again. And grow new branches. But wouldn't it be good if we don't lose it in the first place? Just keep that as a part

of our lives. But our culture, again, is constructed in a way that we move away from all this physical activity. We sit in chair, even as kids. If you think about it, it's pretty abnormal to take a kid who is just full out play, just want to play, and you've got to sit at a desk for seven hours a day.

LOUISA NICOLA: And I don't know if you know this, but younger people now are getting dementia.

SHAWN STEVENSON: Yes, of course. Yeah. The...

LOUISA NICOLA: Younger.

SHAWN STEVENSON: The age is just going down further and further.

LOUISA NICOLA: Which again, at JP Morgan, they did not mention this. They're not, they're out there. They're knowing that. So they're like, guys, $25 billion annually that we can make because younger people are now getting dementia. Put your money in there. It's sickening.

SHAWN STEVENSON: So chronic degenerative diseases have been happening in younger and younger populations. And I'm one of those people. At 20 advanced degeneration of my spine, I was 20.

LOUISA NICOLA: Why?

SHAWN STEVENSON: Degenerative disc disease, which is supposedly incurable and all the things. And my L4 and L5-S1 disc dramatically deteriorated, showed up black on the MRI and also they were both herniated. So I was in pain, and that was just that, I'm sorry, you're going to have to live with this and here's medication. And so the next couple of years, I was always going to the pharmacy, getting my medication when the entire time there were solutions available. But nobody stopped to ask how is a kid experiencing this advanced arthritic condition of his spine? Also, I broke my hip when I was 15.

LOUISA NICOLA: Well, how many kids now are now getting on Ozempic? Getting a lifetime injectable medication to stop them from eating? What are we doing? Where should the public health policy be? Where should the money be going? It should be going instead of, it's so different in Australia. You're watching a TV show in Australia. The ads come on and they're not pharmaceutical ads, not from what I see, but in America, everything is, Hey, have you got a headache? Take this. Oh, have you got IBS symptoms? Take this. Everything is based on medications. It's just like, why don't we spend that money and educate people on what exercise is? And by the way, this 150 minutes, the people, the 47% of us adults that are

meeting it, I would say only probably about 3% of US adults are actually doing the right thing. The other 44% probably walking around just going for long walks. I mean, walking 's fantastic and we've seen that it can improve outcomes in cognitive health, but it's, you're probably still in zone one. If you're not getting that blood flow, which we are going to talk about that, talk about the different forms of exercise, you are not going to get the benefits.

SHAWN STEVENSON: Just to circle back really quickly, as you said, you've already said this multiple times, it's not just the one thing. Exercise is obviously huge. But our sleep quality, our relationships are going to impact our health. For me, my biggest obstacle, or the thing that was probably causing the most cellular dysfunction that was leading to my outcome was I was eating, 90% of my diet was ultra processed fake food. All right. Living in Ferguson, Missouri, just in this glorified food desert. And I'm making my tissue, these are the materials I'm trying to provide my body with to make me. Let alone the energy exchange, let alone all the deficiencies that I had where my body just had to even leach certain nutrients and minerals from my spine and from my hips just to help my blood to clot, for example. These are basic, very simple things to understand if you understand. But in that model, it's just like, I'm sorry that this is a situation. We can't do anything about it. Here's some drugs, when even 10 years later, when I got a scan done, my two discs showed up normally on the MRI, the herniations had retracted years ago when I got a scan done nine months later. After learning about nutrition and movement and all these things, the body can heal very quickly.

SHAWN STEVENSON: But everybody's story isn't going to be the same. But these key inputs were things that were completely removed from my livelihood. I was at the time, this is why I stopped gaming actually, because I was just sitting on this so-called love seat that I had, it wasn't even a full couch. And I just said this the other day, I carried that couch into my apartment myself. If you can carry your own couch, it's probably not a couch. It's a ouch. And sitting there playing video games all day and eating like fast food every day, what do you think's going to happen? Let alone, don't even get me started about my sleep. What sleep? It's just like whenever, if I was exhausted, I would just go to sleep. There was no kind of structure, no honoring of what genes expect from me. And so this is where we get to, and platforms like this are so powerful today because while that is existing, this very powerful pharmaceutical model which there are valuable aspects to it, we also have the opportunity to learn some things. And you said the F word earlier, your eyes, so people can't see your eyes are like, what the...

LOUISA NICOLA: I know, what did I say?

SHAWN STEVENSON: You said free earlier. So many of these resources are free. Just being able to get out and to walk and to move our bodies and to run a little bit and to do some

explosive movements. Not a lot is required for us to fortify our health and also to prevent some of these very serious conditions.

LOUISA NICOLA: But you say that we've got a lot of free, and we do. I've got a podcast every single week I talk about Alzheimer's disease. But you can listen. It's like reading a book, but you've got to actually do it. And it's all fun listening to it. It's exciting. I'm learning. What are you doing today? Ask yourself daily. What have you done today to raise your heart rate? I'm staying in West Hollywood and there's a huge, is it La Cienega, is a huge, I don't know, to get to sunset, there's a huge hill. There's really... And this morning I was just running up and down that hill, like a maniac. So just do what you can with what you can wherever you are.

SHAWN STEVENSON: So our body and brain works on that...

LOUISA NICOLA: Correct.

SHAWN STEVENSON: Janet Jackson formula. What have you done for me lately?

[laughter]

LOUISA NICOLA: I like that.

SHAWN STEVENSON: Shout out to Janet Jackson. I want to ask you about, you mentioned earlier, creatine. Talk a little bit more about that. How does that play into this?

LOUISA NICOLA: Yeah. So creatine's one of the nutrients or one of the supplements I should say, I've got two of my favorite supplements that I think everybody across the board without even looking at your blood biomarkers I can say you should be taking these two things. The first one is creatine. And creatine is naturally occurring. We make little, small amounts of it. And it's involved in cell energy metabolism, cell energy metabolism. We all need more energy. Energy is life. We need it for everything. We need energy, even just to think negative thoughts, you'd actually need energy to stop negative thoughts, or we just spiral into these depressive states each morning. We all have the ability to do that. So creatine has been widely studied for several, so many years. It's the most widely studied supplement on the market.

LOUISA NICOLA: It's the cheapest and it's the safest. And I think that we should all be having at minimum five grams of creatine per day. It helps with neuroprotection, so it can help protect your brain against insults. An insult can be, okay, NFL take a hit to the head. We've seen studies where they're actually dosing NFL athletes with around 20 grams of creatine prior to getting hit in the head. And it's been shown to be neuroprotective, protecting the

cells against the forceful hits. It can be neuroprotective in neurodegenerative diseases. There's early studies now, preclinical studies in humans showing the protective effects of creatine in Parkinson's disease. And I'm telling you, there will be soon, there will be human studies showing the effectiveness of creatine in Alzheimer's disease. The studies are currently taking place we're just too early to obviously state that. But we've seen them in mouse models. We've seen that it can protect the brain against so many harmful effects. Not just that, it also helps at the gym. It helps give you more energy, give you more, being able to pump more, being able to lift more. We know that muscle mass is related to the longevity of our brain, so it helps in so many different ways.

SHAWN STEVENSON: Is there any naturally occurring creatine in foods?

LOUISA NICOLA: Yeah, but we just have to eat a lot of it. It's found in the liver, most predominantly in beef as well, so we can get it. It just means that you, just, the bioavailability of it, you'd have to be eating a lot. Just like Omega-3 fatty acids, which is my second supplement. We can get that from fatty fish, salmon, and mackerel. But you'd have to eat a lot of it. And the bioavailability now because they're all farmed is not that great. So we have to supplement.

SHAWN STEVENSON: And I'm a big fan. I've been talking about this for years, as you have with Omega-3s, huge fan, there's so many benefits. Can we talk specifically about the benefits for the brain?

LOUISA NICOLA: Yeah. So specifically Omega-3 fatty acids, we're talking about DHA and EPA. They're the ones I'm talking about that are really beneficial for the brain. First of all, the most important fat for your brain is PUFAs Omega-3 fatty acids. Our brain is made up, it's a fatty organ. So it's three pounds and it's kind of like hard jello. That's what it's kind of feels like. It's made up of fat and water really and small amount of protein. The fat is predominantly, well, 20%, actually, 20 to 25% is DHA. So you're actually feeding the brain what it's made of. Now, we can just, I can spend an hour talking about it and going really, really molecular, but I'm going to take a helicopter view and tell you a few of my favorite things that it does. First of all, it really lowers inflammation.

LOUISA NICOLA: So the inflammatory response, it can be dampened with Omega-3 fatty acids. It pretty much has a, it should be a pharmaceutical grade agent. That's how amazing it is. But it's not, we can get it over the counter so it can help bring down inflammation, which we all need. I actually did my CRP quite recently, and it's high. I didn't think, I don't know why. I mean, maybe I'm just very stressed, but I've got a really high Omega-3 index. So it's like, okay, what am I doing? But it can really bring down inflammation. The second thing that it can do is it can really help with the blood brain barrier. And we know that blood brain barrier is, we've

got these cells on the outside of our brain and they're basically responsible for not allowing certain molecules to come in. And what happens is we can get the deterioration, that it's actually one of the early signs of brain degeneration like Alzheimer's disease, etcetera. These Omega-3 fatty acids can actually help with the cell membrane fluidity. It can help with the cells on the outside of that blood brain barrier as well. So there's just so many different aspects of it that are beneficial. I would not sleep on EPA DHA.

SHAWN STEVENSON: Facts.

LOUISA NICOLA: Yeah.

SHAWN STEVENSON: Facts. And even part of this degradation of our blood brain barrier is one of these markers for all kinds of neurological problems. And certain fats have been found to actually help to reestablish some health with that barrier and signal transduction in the brain. These are made also partly for structural fats of the brain itself, correct?

LOUISA NICOLA: Correct. Yes.

SHAWN STEVENSON: How important is that? If you're not giving your brain the stuff that it's actually made of, you're probably going to have a problem. And also we've got randomized controlled trials on it, improving memory and reaction time, all this other stuff.

LOUISA NICOLA: Ameliorating amyloid as well. Yeah.

SHAWN STEVENSON: Again, it isn't just a one sided conversation if we're talking about exercise, doing the Neuro Athletics, but also providing the nutrients so that your brain can fulfill the job. Go all the way. And, with creatine with, in particular, when it comes to DHA & EPA, I'm a big fan of krill oil. I've experimented with all kinds of different DHA & EPA sources over the years. And Krill has astaxanthin, which is another antioxidant that's protective of the Omega-3s. And I actually get both of those, the krill oil and creatine from Onnit, which we were talking about right before we got started. And I love Onnit because they use earth grown nutrients for their supplements, and also there's no nefarious stuff coming through, no binders and fillers and all this unnecessary stuff. And so definitely pop over there, check them out. It's onnit.com/model, onnit.com/model. You get 10% off storewide. I actually just got some Krill oil that just came yesterday. I just reordered. So again, we're on the same page. Omega-3s, creatine, if you have just those two supplements, you are straight, in a healthy overall diet that can do so much good.

LOUISA NICOLA: I would also recommend a lot of people doing an Omega-3 index test, which measures the amount of Omega-3 in a red blood cell. It's a pinprick test. It's super easy, super

affordable. And apparently most of the US adults have an Omega-3 index of 4% or less, which actually is terrible as it relates to all-cause mortality. What we need to be aiming for is an Omega-3 index of 8% and above. I currently have 10.5%, which I'm super proud of, and basically decreasing my risk of all-cause mortality.

SHAWN STEVENSON: That's another important thing for us to understand. This is arguably one of the biggest nutrient deficiencies in our society today. It is a huge deal. And if we're wondering why are people, whether we're talking about mental health challenges, whether we're talking about chronic illnesses, some of these things, we're literally not getting the stuff that's making up our brains, which is this is the organ of decision. This is the organ of memory. This is the organ of us being us. And so if we're not providing these very basic things, then we're going to be struggling.

LOUISA NICOLA: That's correct.

SHAWN STEVENSON: And so we've got to reorient ourselves and also have compassion on ourselves and also other people as well knowing, sometimes we're just not well nourished and we know how it is. Even in our culture, we have this hangry paradigm, but some of this hunger can be chronic. The brain can be starving for certain things and it's going to just make you more agitated. It's going to affect your energy obviously. And we can be a better version of ourselves if we're nourishing our brains. And with that being said, going back to these movement nutrients and exercise inputs. I want to ask you a specific about HIIT, you mentioned it earlier, high intensity interval training. So what does that actually look like? How often should we do it? What can we do for HIIT?

LOUISA NICOLA: Yeah. Let's look at exercise as a whole. So exercise, we're gonna break it up into aerobic exercise, and then RT, which is resistance training and how it relates to brain health. What we have to understand first and foremost is our brain is survived by blood because blood flow gives what? Oxygen and nutrients to the brain. So every time our heart pumps our aorta, it comes through the aorta. We have branching off of the aorta. So we've got the carotid arteries, and then we've got the vertebral arteries. They're the two major arteries that go into the brain. We've got branching from there. So that's how we get blood flow to the brain. We've got three main vessels. We've got an, we've got arteries, we've got veins, and we've got little capillaries, right? The capillaries are one cell thick, so they're tiny, but they're still doing their job.

LOUISA NICOLA: They're delivering a lot of the blood flow to the blood brain barrier. We've got veins and then we've got the arteries. The arteries are the ones that have muscles around them, these big tubes that deliver like a lot of oxygen and nutrients to the brain. So we know that we need aerobic exercise enables you to get blood flow to the brain. That's why when

you exercise, you feel good. You're like I just got a rush of endorphins. I'm, you're just, it's because you've just excreted a lot of blood flow. There's two wonderful things that happen during exercise, aerobic exercise. The first one is we get something called cardiac remodeling. As we age, our heart changes. It shrinks and it becomes stiffer. So when we are aerobically fit, when we are constantly pumping our blood, we are getting a more efficient heart.

LOUISA NICOLA: What we're looking for is we want to increase stroke volume. So meaning, so we want to be able to we require, our entire body requires a certain amount of blood to keep us alive. And so our blood pumps, and with every pump that's stroke volume, how much blood is being ejected per pump. With every pump, we are getting out a certain amount of blood. The fitter you are, the less our heart needs to pump. So you've probably heard of resting heart rate, right? Meaning how much blood do we need, or how many times does our heart need to beat per minute just to keep us alive? The fitter you are, the lower your resting heart rate. So we're generally looking at mine is, well, in Australia it was 45, but if you've got a resting heart rate of I would say 55 to 60, it's okay.

LOUISA NICOLA: We've got Tour de France athletes who have got like a resting heart rate of 38. That means that their heart is so efficient, it is so strong that every time it pumps, it pumps so strong that it ejects enough blood for the entire body. So it says, okay, I'm fine. I've got enough blood. I don't need to keep beating. Whereas if you don't have a cardiac system that is efficient and effective and it's weak, you are gonna be needing to pump out blood at rest. And that's not good. We don't want that. So aerobic physical activity not only strengthens the cardiovascular system, but you're strengthening the arteries. So that is one of the good things of aerobic exercise. The second thing is we get a massive rush of something called BDNF when we're doing long bouts of exercise, brain derived neurotrophic factor. Again, I'm gonna tell you something really amazing with this.

LOUISA NICOLA: First of all, it's a growth factor for the brain. It helps with signal conduction, but it also helps with the growth and proliferation of neurons in the hippocampus. So deep within the temporal lobes have got these seahorse shaped structures. That's where I call it the seed of the soul, because that's where our memories are formed, and that's the first thing to go during Alzheimer's disease. We can grow the volume of this hippocampus through aerobic physical activity through the expression of BDNF. Get this, pharmaceutical companies are spending billions of dollars trying to replicate BDNF in injectable forms 'cause they think if we've got the cure, we've got the cure for depression, for Alzheimer's disease, for everything, if we can just inject patients with BDNF, but guess what? They can't seem to bottle up BDNF, but we can get it for free. We just have to run for 20 minutes.

LOUISA NICOLA: So there's a lot of studies that are being done on the relationship between BDNF and depression, but I actually wanna go back to the cardiac system because there's a

wonderful cardiologist. Ben Levine and his group, they produced a landmark study back in 2010. And this one makes my I'm like, I've got, I'm gonna frame it because it's so amazing. What they showed was that over a two year period, they put 50 year olds on an exercise program where they were doing one hit session a week, and then they were doing 30 minutes of vigorous exercise, four to five times a week. 50 years olds for two years. Guess what they found? They completely remodeled their entire cardiac system and changed the age of their heart by 20 years. So these 50 year olds had the heart of a 30-year-old, which is mind blowing, which means what?

LOUISA NICOLA: It means less stiffness. They had more left ventricular volume, less ventricular stiffness, which means, and a more efficient heart. 50 years old with a 30-year-old heart. Unbelievable. Just from exercise alone. Notice I didn't say moderate physical activity there. I said vigorous meaning you gotta get your heart rate up, your brain and your heart needs that pumping. You need to be puffing and puffing, right? So that's aerobic exercise. We love it, we need it. It's fun. Get on a bike. So many people get caught up in, what do I do? Is it Pilates? It's just, just do it. Just, you can be jogging on the spot for all I care. Your body doesn't care. Your brain's not like, oh, she's on a roller. No, it just knows blood flow, right? So that's that. Then we move on to where my primary area of research is, and that's resistance training.

LOUISA NICOLA: And this is where my study with my mentor and colleague, Dr. Tommy Wood, who's taught me so much in this field. He's absolutely phenomenal. What we're seeing is that resistance training is offering a whole host of other benefits, and it predominantly comes down to something called myokines, which are muscle based proteins and we all have them. Your muscles are these tiny biomedical labs and they are there. It's like a pharmacy for your brain and for your body. And these tiny little myokines, they get excreted every time you use your muscles. So every time you contract your muscle against force, meaning that if you're gonna do a bicep curl, I don't want you lifting two pounds, it's gotta be forceful, your muscles, the muscle fibers contract, right? And the cells of the muscle spit out these tiny little proteins myokines, and they go into the bloodstream and then they have an effect on our brain.

LOUISA NICOLA: We've got myokines such as IL-6, which we used to know as a pro-inflammatory cytokine, but it wasn't until a wonderful researcher, her name's Benter Peterson, she saw, she actually coined the word myokine. She found out that when IL-6 is secreted from the muscle, it's actually anti-inflammatory. So you have an anti-inflammatory effect. We've got irisin, or irisin it is getting secreted as well. And that is actually, you know what that's doing, it's actually helping with the expression of BDNF. So it's helping BDNF actually express itself even more. And these myokines actually cross the blood brain barrier and they go into different areas affecting executive functions in the frontal lobe, affecting

eyesight in the occipital lobe, affecting the hippocampus. And not just that. There is now we've got human evidence. It was actually produced in a really wonderful study in cell. It gives me goosebumps talking about it.

LOUISA NICOLA: We're showing that it can actually lower tumor growth so it can actually inhibit tumor growth. There's also another study that was done on breast cancer showing that doing moderate to vigorous exercise prior, this was on women with breast cancer who are actually going in metastatic breast cancer, going in for chemotherapy. You're actually blunting the effects of that tumor growth and helping with the chemotherapy if you're doing exercise like it is the app. It is, I just don't like we don't need to be going with prescription drugs when we have exercise. Exercise should be a vital sign. Your PCP should be checking it, just like they're checking blood pressure. They should be checking exercise. It should be mandatory. It should be in there as a high a, how much exercise have you done this week? That's not enough. You will die. You are dying. Exercise.

SHAWN STEVENSON: You know the other part of this that we didn't mention yet is with this current model, what are the side effects? The side effects with exercise generally are just like, okay, so I've got this benefit to protect me against Alzheimer's, but also protecting against cancer. And also for this and this, all these other benefits. When we look at a statin, for example, we see loss in muscle function. We see issues with the brain. What is the cost of treating a symptom when we have the real solution here for us? And again, largely free, and also you get all these other beneficial side effects. Even the term side effect has a negative connotation rightfully so. But we can get positive side effects by implementing what you're talking about today.

LOUISA NICOLA: Yeah, well, you can get pos... I mean, look, the negatives of exercise may be okay, you're gonna increase maybe your injury risk, maybe, if you're doing the wrong thing. Which actually brings me to my next point. I think everybody really should invest in a trainer, if you will, because not a lot of us, look, I've got great form, but I really can't be bothered. I just, when I go into the gym, I just need someone there or I'll just be on my phone. Okay. So like, it's like I just need someone there just doing, I don't wanna think about that anymore. I've gotten to the place in my life. I've done my time as a triathlete and I'm used to having a coach. Then I did some time of doing the work myself, and now I'm like, you know what? I've got so much going on in my personal life and my professional life when I go to the gym, I just need someone there guiding me and setting the stage, basically telling me what to do. I think a lot of people shy away from getting an instructor. They think they know what they're doing at the gym. A lot of people don't.

SHAWN STEVENSON: Know thyself. Know thyself. That's so important. And also there's group training classes. What you gotta find, what is going to get you up and going give you a sense of accountability. A sense of progression, all the things you need.

LOUISA NICOLA: Workout with friends.

SHAWN STEVENSON: Yeah. Work out with your friends. There's so many different flavors of this, but you must know thyself. Is part of this equation. And as you mentioned, you've got a paper that's gonna be coming very soon. I can't wait to see it, but if people wanna stay up to date with you. And your research, how do they do it? Where should they go?

LOUISA NICOLA: I hang out on Instagram a lot. Louisa Nicola. For any personal trainers or athletic trainers listening, we have a, our biggest thing that we do at Neuro Athletics, we have a six week course for coaches. It's called the Neuro Athletics Coaching Certificate. It's led by me in a live online forum, so it doesn't matter where you are in the world, we have different intakes and different cohorts throughout the year. You can do that. It's, you learn all the pillars of human performance. And I also have a podcast which is literally dedicated to the brain, the neuro experience.

SHAWN STEVENSON: Amazing. And where can people get information about the training?

LOUISA NICOLA: Yeah. Neuroathletics.com.au.

SHAWN STEVENSON: Awesome. Awesome. Well, I'm glad that you could stop by. I know you just came in from Sydney.

LOUISA NICOLA: Yes.

SHAWN STEVENSON: On your way to New York. And so to have you to come and stop by is really, really awesome. It's good to see you.

LOUISA NICOLA: Thanks so much for having me.

SHAWN STEVENSON: Louisa Nicola, everybody. A big takeaway from today is to reframe our thinking about exercise, because we're not just training our bodies, we're training our brains. Literally, we're training our brains when we're training our bodies. With that being said, of course, physical activity, doing challenging things, doing some high intensity interval training, some resistance training, playing some sports and things like that are all gonna be helpful. But there are specific cognitive exercises that we can do as well with Neuro Athletics. For example, as Louisa mentioned earlier, just taking a simple tennis ball and throwing it at the

wall and catching it with your opposite hand, that can help to actually train different parts of your brain. Brushing your teeth with your other hand, we tend to be either right-handed or left-handed. We do have some ambidextrous folks out there on the streets, absolutely.

SHAWN STEVENSON: But brushing your teeth with your non-dominant hand or doing more activities with your non-dominant hand trains our brain in unique ways. Also, just paying attention, just simply being mindful. Mindful, according to the person who really put mindfulness into our popular science lexicon. Dr. Ellen Langer, who's been on the show recently, which after this episode, if you missed that one, you should go back and listen to Dr. Ellen Langer's interview. She's the first woman to receive tenure at Harvard University's School of Psychology, their psychology department. And she's affirmed that this act of mindfulness, if it was boiled down into a simple act, is paying attention, noticing, noticing, just simply paying attention to things. You'll notice that nothing is ever really the same. There's always unique aspects to the things in our environment that we tend to get jaded by. We tend to become desensitized to people, even people.

SHAWN STEVENSON: That's why you've probably had this experience before, I know that I had where certain people, maybe your significant other, maybe they get on your nerves, maybe they get on your nerves, and there might have been a time when you would never think that this person would annoy you or get on your nerves. But over time, because we stop noticing the uniqueness about them, we start to become conditioned because we think, we figured them out, or we see them, we see the same person. There's the same practices, but there's always something new. There's always something else that we can notice and pay attention to. And the same thing holds true for ourselves. The same thing holds true for our environment. And just paying attention to this beautiful life that is happening all around us. It really helps to keep our brains youthful. So being more mindful, AKA noticing is one of those other cognitive exercises to help to keep our brains strong and young and vibrant.

SHAWN STEVENSON: If you got a lot of value outta this episode, please share this out with somebody that you care about. Send this directly from the podcast app that you are listening to. And by the way, make sure that you're subscribed. Whatever platform you're listening on, make sure that you are subscribed to the Model Health Show. I don't want you to miss a thing, whether it's Spotify, apple Podcasts, SoundCloud, whatever you're into Google Play whatever you're into, whatever you're listening on, make sure that you are subscribed. It really does mean a lot to make sure that you don't miss any of this goodness. And of course, you could share this episode out. Take a screenshot, share it out on social media. Tag me and tag Louisa. She would be blown away to see the love. I know she would. As she mentioned in this episode, she does hang out on Instagram for getting her education out to the world.

SHAWN STEVENSON: So she will definitely see that tack. We've got some epic masterclasses and world class guests coming your way very, very soon. So make sure to stay tuned. Take care, have an amazing day and I'll talk with you soon. And for more after the show, make sure to head over to the modelhealthshow.com. That's where you can find all of the show notes. You can find transcriptions, videos for each episode. And if you've got a comment, you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome. And I appreciate that so much and take care. I promise to keep giving you more powerful, empowering, great content to help you transform your life. Thanks for tuning in.