



EPISODE 816

Use These 5 Exercises for a Better Brain

With Guests Louisa Nicola & Dr. Daniel Amen.

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SHAWN STEVENSON: On this episode, we're going to be talking about how to think faster, smarter, and build a better brain with five specific forms of exercise. And for this episode, I've brought some friends along to really help illustrate how different types of exercise can truly not just build a better brain, but to prevent cognitive decline, to be able to improve things like our memory, our reaction time, our ability to problem solve, and so many other facets. So we've got some experts in neuroscience, and also experts in various forms of exercise. But also experts in various forms of exercise the what to do. These are the specific things to do that you're going to hear from today. And to kick things off, we've got the amazing Louisa Nicola who's a neurophysiologist and founder of neuro athletics. And in this first segment she's going to teach you how exercise doesn't just build your body. It builds your brain. Check out this segment from the amazing Louisa Nicola.

LOUISA NICOLA: Let's look at exercise as a whole. So exercise, we're going to 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, you know, 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.

That's how we get blood flow to the brain. We've got three main arteries. We've got an, we've got arteries, we've got veins, and we've got little capillaries. The capillaries are one cell thick, so they're tiny, but they're still doing their job. They're delivering a lot of the, 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 a lot of oxygen and nutrients to the brain. So we know that we need that. 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're getting a more efficient heart. What we're looking for is we want to increase stroke volume. So meaning, so we want to be able to, we require that our entire body requires a certain amount of blood to keep us alive and so our blood pumps.

With every pump, that's stroke volume, how much blood is being ejected per pump. With every pump, we're 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, you know, 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, you know, mine is in Australia, it was 45, but if you've got a resting heart rate of, you know, I would say 55 to 60, it's okay. 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 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're going to 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 going to tell you something really amazing with this. First of all, it's a growth factor for the brain. It helps with signal conduction, but also helps with the growth and proliferation of neurons in the hippocampus. So deep within the temporal lobes, we've 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.

Because they think, if we inject BDNF, 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. So, there's a lot of, you know, there's a lot of studies that are being done on the relationship between BDNF and depression. But I actually want to go back to the cardiac system because there's a wonderful cardiologist named Ben Levine and his group, they produced a landmark study back in 2010. And this one makes my, Oh, I'm like, I've got, I'm going to 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? It means less stiffness, less they had more ventric 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've got to get your heart rate up, your brain and your heart needs that pumping. You need to be huffing 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 do it. Just, you can be jogging on the spot for all I care. Your body doesn't care. Your brain's not Oh, she's on a roll. No, it just knows blood flow. So that's that. Then we move on to where my primary area of research is, and that's resistance training. And this is where my, 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 going to do a bicep curl, I don't want you lifting two pounds that, you know, you got, it's got to 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. 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 Benta Peterson, she saw, she actually coined the word myokine. She found out that when my, 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 inflammation 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. We're showing that 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 for 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 think 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, you know, How much exercise have you done this week? That's not enough. You will die. You are dying. Exercise.

SHAWN STEVENSON: All right. That was an amazing summation from Louisa Nicola. And again, keep in mind, she's talking about the two primary forms of exercise in that segment. Cardio or cardiovascular exercise that we lovingly refer to as cardio and also strength

training. All right, so two very remarkable forms of exercise for building your brain But there's one specific that was pulled out of that segment. That was our first exercise to do which for a lot of us. We've got some allergies towards this form of exercise. I know I do, Cardio. Alright, the reason that we need to do some cardiovascular exercise is because based on the data, it's not very effective for fat loss which is what we were indoctrinated with.

If you want to burn fat, do some cardio. But we found that through many years and the accumulation of data that other forms of exercise are far more effective for burning fat. Including obviously strength training, but not to say that cardiovascular exercise isn't effective for that. But high intensity interval training. Absolutely more effective, but a general kind of that moderate pace steady state cardiovascular exercise. It's not about fat loss. It's potentially more brain building than other forms of exercise.

That's where we really get the benefit. And so to stop looking at it like something to do to try to "get fit or to burn fat", but to look at it as a form of this is regenerative for my brain. This is protective and supportive for my brain. So the message from this one and the number one exercise is to do some cardio. Now, again, I'm allergic. All right. I've got some allergies towards conventional cardio. All right. Former track athlete, but I did the sprints hundred, two hundred. I'll even do the four. But in certain practices we do long distance running, you know one practice. We didn't just use a track. We had a great track at the school I went to but we run several miles to this particular road.

It's called Strecker Road. Strecker road. I still remember the name because it was so unpleasant. So we run all the way to this damn Strecker road and run back. Ah, man, I did not enjoy the long distance cardio, but I kept that with me in my utility bank of different exercises to do over the years. And just because I thought that this was a great way to, you know, "burn fat". I would add in some long distance running. So I was running around the streets of Ferguson, Mo. I'd run to the park from my apartment complex, run all around the park a few times, and come back. You know, get a mile or two in and, you know, but since that point, you know, just finding more effective forms of exercise that I actually enjoy. I enjoy sprinting, doing high intensity interval training. I enjoy lifting weights. I enjoy it. Competitive sports and those kinds of things. I just took the cardio and do it out the window or I don't need it. But

thanks to this data, this is something that I can look at incorporating. So, but finding a flavor of it that I don't mind. So what does this look like for you with this cardio exercise?

This could include, obviously, a nice moderate pace jog. This could include cycling, right? Whether it's out there on the streets or whether that's a stationary bike. This could include a rowing machine. This could include a ski erg. This could include swimming, you know, just that again, moderate pace, continuous swimming. There are so many different forms of this type of cardio. And by the way, with that jogging, this could be a treadmill. This could be on a track. This could be around your neighborhood. This could be using an elliptical machine. There are many different versions of this kind of moderate pace cardio, but this is where we find the benefit for building our brain, not necessarily as being the most effective.

And I didn't say not effective, but effective. Okay. It does support fitness and fat loss, but there are other forms of exercise that are more effective for that according to the data. So with this said, let's look at cardio as beneficial for building our brain. So that is number one. And moving on here again, I said, I brought some friends along. Okay. So Louisa already shared her insights, but you got me here with you too. And, sometimes nobody can do it like you do it. All right, so now I'm going to share with you number two and how exercise instantly makes us smarter. All right, number two. And let's do a recap of a little bit of what Louisa shared and affirm it with some data.

So looking at the aspect of strength training and building our brain. Our muscles are literally an endocrine organ and they release myokines and anabolic hormones when you use them. The key is you gotta use your muscles to secrete the good stuff that we're looking for. A recent study cited in the journal brain plasticity details how myokines released from muscle Contractions have the potential to stimulate the nervous system Neurogenesis, the creation of new brain cells, when we contract our muscles.

That's so profound. And The most remarkable way of contracting our muscles is through strength training. A randomized controlled trial published in the Archives of Internal Medicine found that resistance training improves cognitive function and brain plasticity. This is the ability of our brain to grow and adapt and make changes throughout our lifetime.

Super powerful stuff, but the key is, are you doing it? All right. So again, affirming that affirming the strength training portion, but at this point that should be a given. All right. That should be a given. If you're listening to the model health show, you gotta be straight training. You gotta be about that life. No lifts, no gifts. All right. So this one is a given. So reaffirming what she shared. Also the cardio tough pill to swallow for some of us. And now let's get into the second specific exercise for building a better brain. And it's the one that we are designed to do as human beings, and that is to walk.

One of my favorite reports on exercise and cognitive function is from researchers at Stanford University. Their analysis found that the simple act of taking a short walk increased creative capacity, something called creative inspiration for study participants by an average of 60 percent versus sitting. And the effect was evident while and shortly after walking anywhere from between just five and 16 minutes. Now, this is the key. The enhancement was specific to a flavor of creativity called divergent thinking. So this was increasing their capacity, their ability to think outside the box, to think more creatively, to find more solutions that already exist.

But we tend to get tunnel vision when we're working on certain things, especially, again, I love that quote. That's attributed to Einstein. Never talk to the guy. All right, but attributed to Einstein that we cannot solve a problem from the same level of thinking that created the problem, but often that's what we're trying to do. So simply going for a walk is for centuries. It's documented that some of our great thinkers were regular walkers. They go out and walk around the garden. They go out and go on these journeys and go walk. And this is how they would process things. This is how they would have thought experiments. One of the things that Einstein would do.

There's something about going for a walk that helps us to think as the data indicates divergently from the way that we were thinking previously, thinking outside the box, finding new creative ways to solve problems and to just be creative to create good stuff in the first place. Now, a study conducted by researchers at UCLA and published in PLOS ONE found that long stretches of sedentary behavior like spending all day at your desk in your chair each day and then plopping on the couch for the rest of the day and sitting in the car, of course, or the

public transportation on the way home, of course, but this is what happens when we're not walking. The researchers found that this was linked to loss of brain thickness in the part of the brain that's critical for our memory. Listen, if you don't use it, you lose it. It's not just about the ability for us to use our muscles, but if we're not using our muscles, we're going to be losing our brain volume.

It is that serious. The solution here, the medicine, the treatment, is to simply go for a walk. Set aside some time or just build it in. The great thing about walking is that you can do it and do other things. All right, you can walk and talk. You can walk and listen to a podcast. You can walk and connect with your spouse or a family member or your friends. You can walk and have business meetings. All right. There's so many different things that you can incorporate and still walk at the same time so that's one of the cool perks about going for a walk, but what the data indicates. Again, there's these ranges that are being studied and affirmed in the data right now. But four thousand steps appears to be that minimum effective dose to really get some notable endocrine system improvement and improvement for our brain and nervous system is 4,000 steps.

That's that low bar. All right. But stretching our way up 8,000 steps. Superb, all right. 10,000 steps is that moniker that you know is now affirmed in the data, but it was a general thing that was thrown out there in regards to the creation of the pedometer, right the step counter. But there's data not to affirm like there's a really great sweet spot around there eight to ten thousand steps all right, so this isn't just about this aesthetic aspect.

This is about building a better brain. And that number two exercise so we got cardio that Louisa talked about which is that moderate intensity steady state cardio. All right, we've got walking, which is number two and of course strength training is a given we've already touched on the benefits there. That's a given but specifically I want to make sure that you add and sprinkle in a little bit of cardio, all right. Again, just for the brain benefits, walking really should be a given too, but it's so beneficial. I want to give it a special spotlight. And we're going to add in, we're going to bring in another special guest.

But by the way, before we get to our next special guest to share another form of exercise that you're probably, you might be guessing, what is it? What is it? I don't think you're going to be able to guess what it is. All right. I want to share with you, if you need a little boost, a little extra support to get you behind up and active and to really support your exercise performance. One of my favorite things and what I utilize on a regular basis, pre workout affirmed in numerous studies, including a study published by the Federation of American Societies for Experimental Biology. They found that exogenous ketones have up to 28 percent more efficient in generating energy than glucose alone.

Plus studies have found up to a 15 percent increased mean power output after recovery when utilizing ketones. And if you want the straight, pure cognitive benefits with ketones, a recent study published in the journal of physiology found some remarkable results on improving brain activity and cognitive function. This was a randomized, double blind, placebo controlled, cross over study. Gold standard. And it was found that there was a near 10 percent improvement in cognitive function very quickly after utilizing specific forms of ketones. Where do you find these specific forms of remarkable ketones? There's one source of ketones that stands head and shoulders above the rest.

And that's ketone IQ. Go to ketone.com/model right now, and you're going to get 30 percent off your first order, try out ketone IQ for yourself. And if you don't notice the difference, you can get a full refund with their 60 day money back guarantee. So truly you have nothing to lose and better energy to gain. That's ketone.com/model. K E T O N E dot com/model for 30 percent off your first order. Now, moving on again, getting more specific on specific forms of exercise to do to really ramp up your cognitive function. We have my incredible friend and mentor. He's the author of, I believe, 13 New York Times bestselling books.

He's accumulated the world's largest database of specced imaging, brain scans, and actually looking at the brain. the form and functionality of the human brain under different conditions. And so when he talks about what is supportive of cognitive function, what's supportive of building our brain volume and building a better brain, we should definitely be perking up and listening closely. Next up, you're going to hear from Dr. Daniel Amen.

DR. DANIEL AMEN: So people play racquet sports, live longer than everybody else. Isn't that interesting? Because there's a part of the brain I call it the Rodney Dangerfield part of the brain. And I'm horrified that so many people don't know who he was. He's a very famous comedian who said I get no respect.

SHAWN STEVENSON: And I quoted him in my last book.

DR. DANIEL AMEN: Thank you. Thank you for that. Because it makes me feel old. People don't know who Neil Diamond is. It's really? Anyways, the cerebellum back bottom part of the brain. It's 10 percent of the brain's volume, but it has more than half. Of the brain's neurons. It's critically important. And one of its main functions is coordination, physical coordination, but also thought coordination and how quickly you can process information and you table tennis. And the reason I like it better than pickleball. It's faster. And there's a lot of spin and a lot of thinking that when you play at a high level, It's a strategy game.

So reflex, fast reflex, very aerobic and it's strategic. So it's working out your cerebellum. It's working out your parietal lobes in the top back part of your brain. They see where the ball is in space and it's working out your frontal lobes because you are always creating strategy. And so it's this great whole brain exercise now. It's not beer pong. Let's just be really clear. It's not beer pong and it's not just, you know, hitting the ball back and forth. It's like. Thinking about it. So I teach my patients go get a coach, get good. This will help rehabilitate your brain.

SHAWN STEVENSON: So awesome. I love that. This is happening because of this moment right now, I've been wanting to get a ping pong table in my basement for the longest. And so I'm going to make that happen within the next week because of this conversation.

DR. DANIEL AMEN: Send me a picture.

SHAWN STEVENSON: Oh, done, done. I get to, you know, go in my kids and also, but you mentioned racket sports overall. So I would imagine again, tennis there's Badminton. Plus you've got a shuttlecock. With that, which is like the most gangster of all names of sports pieces. And then again, pickleball is rising in popularity. So, and it just makes sense. There's the coordination piece. There's a looking at, it's like you said something about it being related

to chess. It's aerobic chess. Yeah. You said that. I was like, ah, that's amazing. It's a weird way to think about it.

DR. DANIEL AMEN: You know, a funny story. My grandson and I have five grandkids and adore them all. The oldest one, he, when we play, he wants to beat me. And I'm way better than he is. And I'm like, you need to stop that. And pay attention, because I'm going to teach you how to beat all of your friends. And every time you make a mistake, because he tended to be hard on himself. It's no, we celebrate mistakes. Because then we learn. So, we win or we learn. We win or we learn. And I think that mindset is so important. As you take bad days and you turn them into good data. So, win or you learn. Win, or you learn and it's public knowledge. Alicia Newman's one of my patients.

She's a Canadian pole vaulter. And she was in the last Olympics and had a head injury and didn't do well. She ended up with something called Irlen syndrome, which I talk about in the book. It's a visual processing problem. And she's really negative and hard on herself. And we do this mantra of when, or you learn and then visualize. We don't visualize any negativity. We visualize a lot, but we do it on what she does right. And it just came out, I think, two weeks ago. She won the world indoor pole vaulting championships for women, and I'm just so proud of her and we win or we learn.

SHAWN STEVENSON: So awesome. So awesome. So we've got, and also I just want to mention this other point, which is with table tennis and with. Tennis, we have something that is great for our brains in a variety of ways. Plus we're avoiding things that are not great for our brains, which is the contact. You mentioned the NFL study that you participated in, and really, you were such a guiding force of it and also you know, MMA fighting and whatnot. And you mentioned to me in another conversation about what the actual worst sport for your brain is. Can you reference that? I think you said soccer.

DR. DANIEL AMEN: Soccer is not good for the brain. If you look at all of them, what's worse, probably boxing.

SHAWN STEVENSON: Oh yeah. Yeah. Yeah.

DR. DANIEL AMEN: And I'm blessed to have Muhammad Ali's brain and Mike Tyson's brain and I have four world heavyweight championship and they're hurt. You know, just saying, yes, people don't get it. But they think, you know, the headgear protects them or the helmet protects them and it's a lie.

SHAWN STEVENSON: Or the cushy glove is punching you in the face.

DR. DANIEL AMEN: Because your brain is not anchored in your skull. Your brain floats in water. And so even if you have a helmet on and you get whacked, your brain shakes just like shaken baby syndrome. And we know if you shake a baby. It can cause long term learning problems and cause damage. It's clearly an abusive act. If your helmet is hitting somebody else's helmet inside, your brain is shaking. And Joe Louis, the famous boxer said, it's not the big hits that cause dementia. It's the thousands of little hits, the sub concussive blows.

And would I let my children play football? Absolutely not. If I love this child, why would I increase the risk of him having multiple concussions? On average, people who play football have a concussion every year. And it's like you're not taking the long term view that when you're older and your children might need to care for you. You want their brains to be okay. So I always take the long term view.

SHAWN STEVENSON: Now the thing about learning from experts like Dr. Daniel Amen, sometimes they hit differently. You know, I was never really interested in playing a racket sport, right? So maybe play a little ping pong at the rec center when I was a kid living in the city. But other than that, you know like playing tennis we didn't really have access to that. It wasn't a part of my reality, my culture. But you know maybe you might come across a little badminton, a little badminton, at a family get together at the park or something like that.

So that's technically a racket sport as well You got the shuttlecock All You Probably the most wild, wildly named. I don't even, it has an origin. All right. It has an origin. I'm sure it's probably different from what I'm thinking. But, you know, now we have the emergence of Pickleball. Pickleball is hot. All right. Pickleball is the Zoolander of our time. Respectfully. Okay. It's hot right now. It would be technically Hansel. But. Keep this in mind. If you haven't played

pickleball, I'm telling you right now, once you get pickled, wait a minute, once you, and nevermind, once you play pickleball, you're going to love it.

All right. So I just actually, again, just knowing that this episode was coming up and my focus being on it the situations tend to manifest, right? I leisurely didn't really know what we were doing. Played pickleball before with my kids. And also I got my assistant tech in here as well. And we just played pickleball at this kind of random Airbnb. But now I found out how to play it. And the rules I learned about the kitchen. All right. If you don't know about the kitchen and pickleball, I was playing with my friend, Lewis house. Now, Lewis house. He'd been on the show multiple times.

Incredible guy, New York Times bestselling author, all the things, one of the most incredible podcasts out there, the School of Greatness. Went over for a holiday, get together, play a little pickleball and Louis is competitive, all right. He played professional arena football. He made the U S handball team. We've hooped many times. All right. He don't want to lose. And so he knows, I don't know how to play this and I'm playing with Matthew hussey is on my team. All right. So he's also been on the model health show. The most viewed relationship expert on the internet. Billion plus views of his videos and incredible guy as well. And my guy is from the UK. All right, so he's got a Really amazing British accent. He just makes everything sound better. All right, so, you know as we were talking about You know, hitting the pickleball around getting warmed up. He was like, Shawn, have you played tennis before? I was like, no, I was like, why do you ask?

He's you have a really great natural swing. I'm like, of course I do. I'm just kidding. I'm just kidding. He did say that, of course, I'm playing around. I didn't know that I, Was able to pick up what you should do as your you know, the forehand backhand that kind of thing. Maybe it's just from watching tennis on tv like Serena shout out to Serena. But you know with pickleball, it's really about what you can do with the ball placement. Putting a certain spin on the ball that kind of stuff. So lewis knows those kind of things So as i'm going off my pure athleticism. He's doing these little things, he's doing these little things and he had, my oldest son was on his team, Jordan was on his team and man, it was a battle and it was a hot one, it was a hot

day in Cali, in LA. And but it was a ton of fun and we all had this side benefit of being able to build our brain, being able to improve our cognitive function.

And being able to improve our connectivity, not just with each other, but within our own amazing brains. So just to be able to learn from Daniel Amen, this incredible information that, Hey, this is a primary form of exercise. And also what exercises to not do. If we want to protect our brains, that's one of the gifts of being able to learn from someone like him. And, you know, by the way. One of the things that Daniel helped to affirm, and he actually wrote the cover quote for one of my recent books, Eat Smarter. And really helping to affirm the power, if we're looking for a drink that really supports cognitive health and in particular helping to reduce stress and anxiety and really helping us to be sharp.

Look no further than green tea. Green tea has a very. Remarkable compound called L theanine. Now L theanine is able to cross the blood brain barrier just gracefully. It's one of those things that gets an express pass into the brain. And it's been found to increase the activity of the neurotransmitter GABA, which helps reduce anxiety and make you to feel more centered and relaxed. Another way that L theanine is noted to improve cognitive function is reported in the journal brain topography. The researchers observed that L theanine intake increases the frequency of our alpha brain waves indicating reduced stress, Enhanced focus and even increased creativity. Now there's green tea.

Then there's the Superman of green tea, which is matcha green tea. Matcha is shaded 35 percent longer for extra L theanine. And this matcha that I drink is crafted by a Japanese tea master. And there are less than 15 Japanese tea masters in the entire world. It's the first matcha that's quadruple toxin screened for purity. No added nonsense, no preservatives, no sugar, artificial, anything, just the very best matcha that you're going to find. And this is from the folks at Pique Life. Go to piquelife.com/model and check out their sun goddess matcha green tea. They've got some other award winning teas there to check out as well.

And they do this incredible extraction process. to provide the very best, easy to use teas. And just check them out. You're going to love what they're doing. Truly, pique is at my house all the time. It's here in the studio for our guests as well. Absolutely love Pique Life. Go to

piquelife.com/model. That's P I Q U E L I F E dot com/model. And not only are you going to get up to 15 percent off of your order, you're also going to get hooked up with things like free shipping, free tea sample packs to try out some of their other award winning teas. And other goodies as well, go to piquelife.com/model.

And now moving on to number four. So we got moderate intensity cardio. We've got walking. We've got racket sports. And number four, we're going to pull up on Louisa Nicola again. This was another, this was a separate conversation that we had. And this one blew my mind. And it's something that, again, after this conversation, it changed my life.

Because it became something that I incorporate in my life on a regular basis. And it's just, again, affirmed with all of these, I'm talking world class actors. athletes that she works with, but also she works with some of the greatest minds and, you know, most successful people in the realm of business as well. And just being able to really affirm that neural connectivity, the reaction time, the ability to support your memory and recall. And again, just overall building a better brain. Check out this segment. With an incredible exercise again, this is something that a lot of people don't know about or don't think about and it's very simple Check out this next segment from Louisa.Nicola

LOUISA NICOLA: I call that my neuro athletics training really. We formulated this method back in 2016 And let me just do a quick recap of neuroscience. Okay, so People think that it's just about the hitting the ball. Let's take tennis, for example. So many things happen in your brain for you to be able to just swing the bat and hit the racket, I should say.

So many things happen. So what happens? You first have to perceive a ball coming. Okay. You perceive that with your eyes. The ball is coming to you depending on how well your vision is. If you're 20, 20 vision, if you're 20/20, how well you then are able to respond to that stimulus. Neurologically. So, your eyes, obviously, two pieces of the brain that are connected to the brain via the optic nerve, so your eyes, the retina, sees this image, it shoots a message down the optic nerve, this then travels through the cortex all the way back to the brain.

to this area in the back of the brain, and that then says, okay, this is a ball, and it's coming to us at this trajectory. And then that then sends a signal down into the, whether it's the leg, if you're going to kick something, or if it's the hand to say, hit this ball like this at this angle. So, so many things happen. This pathway is getting stressed. And we don't see it this way, but we can train that pathway. We can train the stimulus where you can see a ball coming to you to how it goes through to the occipital lobe at the back of the brain and sees that message. So that process there, we can train that and I can record it.

And I can say you're now reacting at a stimulus, you know, at a reaction time of 0.5, for example, let's get you down to 0.2. And it's about how we can train those connections to fire faster. And that's what we're about. So the way we really say that we work with a margin of error is very small. Which is why it's, I spend my time with, you know, You know, very elite athletes who, you know, like formula one. For example, if we can get the fifth person that if you look at the top five, if I can get maybe shave 0.2 seconds off his reaction time, he may be third place. So the margin of error is very small.

SHAWN STEVENSON: I would imagine that just some of these drills would be just great for our Longevity of our brain, the cognitive performance, two things. Can you give an example of what one of these drills would look like that you do with an athlete? And also would there be any benefit that I could extract, for example, with just throwing a tennis ball at a wall and just working on catching it with different hands?

LOUISA NICOLA: It turns out, yes. So whereas when it comes to the brain, okay, and physical activity, we have three different segments. We've got resistance training. We've got aerobic training. And then we've got this subspecialty. It's called neuromotor training. I now call it neuro athletics training. And this has been printed in, you know, in journals such as nature.

So there's a wonderful study that's done in nature, showing that individuals who do juggling can grow the gray matter of their brain. And that is wild to me through juggling. So once I got this skill, this neuromotor training, literally motor, body and neurology put together. Then you've got the coupling of open skilled for example movements such as juggling You're juggling two balls What we can then do with two tennis balls, for example. This is like a very

easy basic program at neuro athletics. Get two tennis balls. You stand a meter away from the wall and you're just throwing them. Let's just say you start with one you throw with your right hand. You catch with your left hand and then you throw it back and you're catching. What's that doing?

First of all, you're taking hand eye coordination into perspective. Okay, especially if you line it up with your eyes and not do overhand throw, you know. far up to make it very hard. Line it up with yours. That's very hard to sustain for two minutes if you're not used to it. So you've got hand eye coordination, you've got vision training happening, you've got stability, you've got concentration, focus. You've got so many different cognitive processes happening with such a simple task. And going back to growing the gray matter of your brain, it turns out that weight. 80 percent of brain gray matter is modifiable by physical activity alone.

SHAWN STEVENSON: Incredible.

LOUISA NICOLA: It is incredible. So if we now have studies in clinical studies, RCTs, in humans, of course, and in mice, that we can grow our brain structurally, we can change the functioning of our brain through physical activity, then why wouldn't we be doing this? So then we can go a step further, okay? So you've got the ball, okay? Let's think about how the brain is. We've got two hemispheres. We've got a left hemisphere. We've got the right hemisphere. And they are put together by this thing called the corpus callosum. It's like a little bridge between the two.

The left side of the brain is responsible for the right side of the body, and the right side of the brain is responsible for the left side of the body. So the next step up from this might be, if you're throwing a tennis ball to the wall with your left hand. Maybe just stand on your right leg. You know, we change it up and you've got this balancing act.

SHAWN STEVENSON: That's so cool. So what about juggling? I think you mentioned having two tennis balls. It sounds like, yeah, super complex.

LOUISA NICOLA: So Then we can go a step further and you're throwing the one ball with the right hand Then you're throwing one ball with the left hand and then you, so you're catching

with the same hand. And that becomes even more difficult. And we always have a rule at neuro athletics. You're always throwing overhand and you're always catching overhand. So you're cupping the ball and then we can move another meter away. It makes it even harder. And then if you are, you know, if you're a, if you're a veteran and you're athletics, we are doing many things.

We are using lights. We're using fit lights. It's a reaction training light system. We're using strobe goggles where we're literally making our athletes blind in one eye and getting them to still perform the tasks. Blind so when they take the goggles and goggles off their VA, they've got enhanced vision. So we do vision training like that. There's just so many different variations that way. I think we're up to now. I think 550 variations

SHAWN STEVENSON: Oh my goodness. This is some straight up ninja training. Yeah

LOUISA NICOLA: Yeah, it's a brain ninja training if you will

SHAWN STEVENSON: All right. I hope that you enjoyed that segment from Louisa Nicola, Neurophysiologist. And again, this is something so simple. All you need is a tennis ball and a wall. All right. Or a couple, if you get, if you got two balls, you could do a whole slew of other exercises that she noted, but one of the most effective and simple ones to start with is just throwing the ball against the wall and catching it with the opposite hand. Just working on that and trying to throw the ball more eye level, not throwing it up too high.

Okay. And not necessarily right at eye level, but a little bit higher than that maybe, and just working your way to be able to. Throw the ball at one hand, catch it with the other, and do that for a set amount of reps or a set amount of time. Really great for that whole brain learning, whole brain connectivity.

And as she mentioned, we can get more fancy and creative. She's got several hundred different exercises that utilize this simple object. Again, just a tennis ball or two to extract some incredible benefits for our brain and cognitive function. And so go balls to the walls. You know, it's as much as you can, all right, and with that being said, so that was number four on our list of these five specific exercises to help us to build a better brain. And we're at

number five here. And this one is something that I am very passionate on. I'm very bullish on this form of exercise because you just get so much from it. And it's so, the opportunity, the ease of access is greater than so many other forms of exercise as well. This is working and training our balance, our coordination.

And our jumping ability all at once and being able to move our bodies through space and the spatial awareness. And this is through jumping rope. A study titled Cognitive Enhancement Through Differential Rope Skipping After Math Lesson. Published in the International Journal of Environmental Research and Public Health found a dramatic improvement in math skills and memory retention for students who incorporated short bouts of jumping rope between assignments versus the control group.

Yes, the general exercising itself is going to be helpful improving cognitive function, but there's something exceptional about jumping rope. Several areas of the brain, like the posterior parietal cortex that control things like spatial awareness, being able to manage and modulate and to distinguish our bodies from other things. To be able to manage and to understand our body in space and to move our body throughout our environment.

This is getting direct training when jumping rope in areas of the brain that control prediction and timing and creativity and responsiveness and more are all working in sync to do something that may seem very simple on the surface. Now, how do we get the most out of jumping rope? First of all, get a jump rope. All right. There's all kinds. There's the beaded jump ropes. There's the fancy pants you know, the Swiss jump ropes. Matter of fact, I'm going to put a link to one of my favorite jump ropes for you in the show notes. All right. Now, number one, get a jump rope right now. You might have a nostalgic connection to jumping rope.

You know, if you grew up like I did, this one of the things that people was just doing in a neighborhood, but a lot of times it wouldn't be a jump rope. It would be extension cord. All right, especially the phone cord seemed to work pretty well and they'd be doing a double dutch. All right, you jump in like this. They was doing a double dutch. All right, but then I also grew up watching And Daniel Amen wouldn't like this but different forms of boxing for example and seeing those professional fighters utilizing that jump rope. But there's different

kind of nostalgic connections for us when it comes to jump rope for some of us but what we need is a good jump rope for One on one skipping. But also the data indicates there's some other studies showing that you know, two people working.

There's this cooperation, right? So if you're turning the jump rope for someone else And everybody participating in jump rope like that again It would be a minimum of three people or two people in a tree, all right. But being able to have that add that to the mix it's enacting other aspects of the brain as well but we're talking about Solitary single jumping now just because it's solitary and you're jumping with the rope in your hand doesn't mean you can't do this with friends and family as well with their own rope. All right now So, what are some of the best practices? Taking your jump rope and doing a basic jump, which is, you know, both feet leaving the ground and contacting the ground simultaneously while you're turning the rope under you, right? So, that's the basic hopping. Now, with that, we can add in other components like changing speeds.

We can add in other components like changing the height at which we're jumping. And from there we can get into as this study that we mentioned indicates rope skipping, right? So being able to skip rope, right? So there's different kind of dance moves when it comes to skipping. All right. So skipping rope as well. Then we've got high knees. And if you're watching the video version, by the way, we're going to have some examples for you to see. We're talking about these different exercise that we can do with a jump rope. So basically running in place with a jump rope. If we want to add in another mental component as well, but also we're getting all this physical benefit would be a backwards rotation of the rope.

All right, because your brain has to predict a different timing right if you're going back behind you like you're seeing the rope leaving and going overhead. You know versus coming overhead in front of you. So it's a different predictive capacity. Then we've got, now this is where we really get spicy, is doing lateral movements. So side to side hopping, it's going to be really good, and again you can do this with both feet, but when it becomes truly exceptional is single leg bounding, right? So bounding is jumping from one leg to the other, right? So you can go from one leg to the other, but in particular, single leg on the same leg. Going laterally

side to side on one leg or forward and back with one leg as you're skipping you are jumping over the rope, right?

This is enacting so much brain activity, but it is incredible for Your physiology overall. Alright, so really helping to support and build and create so much more capacity, you know, with your ankles, with all the bones of your feet, with all of these different muscles, whether it's your calf muscle, whether it's, you know, your glutes, all this stuff is enacting and working in synergy and you're really becoming much better at being on a single leg and being explosive, being active. And then of course you shift over and do the other foot, single foot on the same foot, jumping side to side, forward, back. All right. There's more you can get even more spicy with the jump rope, but these are just some of the basics. But if you can just do a basic hop, and by the way, you don't even have to jump over a rope.

All right, if you're not even a place at a place where you want to get some of these benefits But you're not comfortable per se with jumping over a rope. Which again, we've got to honor people at different levels of fitness. There are actually tools today where you can basically you're swinging a rope that's not connected, essentially. And they still function and having this kind of resistance or force that it's pulling away from you as you're swinging them around.

And you can just get comfortable and just move up and down. Like you're standing on a rebound or where your feet don't even have to leave the floor. All right. And you can build up from there. But this, once you get it, especially with something like jump rope, once you get it, it's riding a bike, right? Once you get the jump rope and whatever form of jumping that you are, training for it's just locked in and it becomes like breathing, you know, but it's incredible for your brain, your nervous system coordination, the spatial learning, the list goes on and on. And so I hope that you enjoyed this special compilation and new information on thinking faster, smarter, and building a better brain with these five specific exercises.

Now, you don't have to do all five, but you definitely need to do at least one or two. But if you could find ways to integrate some of these, so for example, on a strength training day when I'm doing, focusing on leg training, for example. Nine times out of ten almost ten out of ten.

I'm gonna incorporate some jump rope, you know it's just another way to get it in. But then also for me personally because I love it so much and I get some so much from it just athletically I add in On some other days of the week as well, you know, so and obviously the walking portion this is mandatory.

If there's one to take away from this today. It is the walking. But the one that I got a reach for. The one that I got to stretch myself, I got to change my thinking personally, is that moderate intensity steady state cardio for those brain supportive benefits. And so for me being able to just add in, even if it's one day a week and adding in that extra support for building my brain, for supporting cognitive health for many years to come. These five different forms of exercise. are absolutely again, science backed. Absolutely. But also these are very accessible. They're very accessible. All you need, for example, is a tennis ball or a jump rope, or just being able to put some shoes on and get out the door. I hope that you got a lot of value out of this.

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