THE MODEL HEALTH SHOW

EPISODE 659

How Building Muscle & Boosting Fitness Impacts The Rest Of Your Life

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SHAWN STEVENSON: Welcome to The Model Health Show, this is fitness and nutrition expert, Shawn Stevenson, and I'm so grateful for you tuning with me today, we're at a point in the new year where the average person's dedication to their fitness goals is starting to dwindle away. Now, though you are far from average, this episode is here to re-energize you and to give you that mental push to keep moving forward. Now, this is not going to be on a premise of telling you to go and work hard, to keep grinding and to exercise your face off, this is more so about reframing why this actually matters from some of the top fitness experts in the world, from very diverse backgrounds, we're going to be hearing from a neuro-scientist, we're going to be hearing from a muscle-centric physician, we're going to be hearing from one of the greatest fitness trainers of all time, and a health psychologist, and much more, this is a powerful compilation of insights that is here to help you to reframe why your exercise program, why your dedication to your fitness matters so much from different lenses, looking at your metabolic health, looking at your longevity, your form and functionality, and so much more.

And the reason that I wanted to do this right now is because largely our society is still looking at exercise through a very superficial lens. We are just focused on the external results and that's good, there's nothing wrong with that, but it is only a small piece of the story when it comes to exercise and movement. We're talking about deep cellular changes that take place within our brains, within our nervous system, within our endocrine system, within our gut. There isn't a part of our body, there isn't a cell within our body that is not influenced by our movement practices or lack thereof. And so, again, this episode is about reframing things, stacking conditions to really motivate you on a daily basis to use that amazing body of yours.

So very, very excited about this. Before we get to this incredible line-up of experts, one other thing we have to address is the accessibility of exercise, is the fun factor of exercise, because we'll tend to do things that we enjoy and also, we'll tend to do things that are accessible to us. And I found that especially having kids and going through a time period where things were shut down and having different things show up in my life, different projects that need to be addressed, sometimes that travel time, that commute of getting from my house to a gym can just add in time to my day that I don't always have, and so I've made it a mandate to have tools at my home, at my disposable that are simple, that are easily accessible, that are not complicated to use at my disposal at all times, and in particular, I'm so dedicated to functional training and giving my body the opportunity to get stronger in a wide variety of ways. And the way that I do that is through unconventional training methods using things like kettle bells, steel clubs and maces, battle ropes.

Alright, all these incredible tools that have now become popular, but the company that brought these things into popular culture, in particular, they're primal bells, not just kettle bells, but primal bells with these cool phases, I've got pretty much the whole range now. I've got the howler monkey, I've got the chimpanzees, have got the orangutan, I've got the gorilla, right? They're fun tools, they look cool, I even have my son to paint some of them, and so they're really fun, they're really cool, really attractive, they're always right there for me to just pick up and to get to work, do some different exercises with. Whether it's some presses, whether it's some Turkish get-ups some kettlebell swings, doing some 360 mace swings, doing a variety, and also of course, educating and training my sons on how to use these tools as well. And they're just fun to have around and also again, its making fitness, incredibly accessible.

I highly encourage you add one or many of these tools to your families, repertoire. I think you really, really will love it. Go to onnit.com/model, that's O-N-N-I-T.com/ model, you get 10% off all of their incredible fitness equipment. And I just added really one piece at a time, and so, I didn't just get all the kettle bells at once. I literally started with the chimpanzee primal bell and just added from there, then I was just like, "You know what? Let me get the smaller one for my youngest son so he could do some of the things that I'm doing." And so, I just added a piece at a time and over the past few years I've accumulated this incredible collection of fitness tools and also, as you well know, if you've been listening to the show Onnit also does peer reviewed studies for several of their incredible human optimization nutrition. So, their shroom tech sport pre-workout, double-blind placebo-controlled trial, proven efficacy to improve your endurance and strength faster than placebo. Also, their protein is remarkable, they're Alpha Brain Nootropic again, double-blind, randomized placebo control trials proving its efficacy in supporting your cognitive abilities, focus, memory, all that good stuff we're looking for. Head over there, check them out, it's onnit.com/model for 10% off everything exclusively with the Model Health Show that's O-N-N-I-T.com/model.

And now let's get into this master class compilation to upgrade your fitness education and mindset. To kick things off, we've got somebody who is arguably the most iconic legendary trainer in the world, he's the person who really put celebrity training on the map. He's an absolute icon. I've been learning from him from afar for probably about 15 years ago, my wife then girlfriend at the time to help to support my passion for health and fitness, she bought me his book and I utilized his book for myself. But also, I was working at the university gym that we were going to and helping the class that I was working with his insights and it's such an incredible gift to be friends with him now and to have him in my circle is somebody that supports me and loves what I do, and just being able to give him his flowers and to truly honor and acknowledge one of the great thinkers in the domain of health and fitness. And in this segment, he's going to be sharing with you how fitness transfers over into the rest of your life, it's not just about the fitness and doing the thing in the gym, it's something you carry with you,

and I don't think there's anybody better to tell you about this than the one and only Gunnar Peterson.

GUNNAR PETERSON: We have something written in the gym that says, "Everything you do inside the gym makes everything you do outside the gym better." And I see that every day in my own life and in other people's lives, so the take home from that is obviously whatever your physical tasks are in life will be easier, because you're training above and beyond that, whatever you're carrying, lifting, pushing, pulling, handling, whatever in the gym, whatever you have to do in real life, easy because you've already done it and you've done it heavier. It improves your patience, it improves your quality of sleep, you're a better spouse, you're a better parent, you're a better friend, you're more resistant to injury, you're more resistant to disease, illness, your rate of absenteeism goes down at work, you become a better employee or a better boss, you earn more. That's rewarded. That reward, whether it's finance or whatever. People look at you and go, well, this guy is always healthy, always upbeat. Your moods are better, improve moods.

And this is all science, I'm not telling you anything like people going... I don't really feel that way. Scientifically you do, all those are all things that happen at a physiological level, and then your self-confidence goes up because of all those other things that have happened, because of what you did in the gym, and then that just, to me, opens up so many other doors how can you not want to work out, and I'm not saying work out with me, or work out the way I work out, I'm saying, do something physical, you have a brain and a body, you're arguably working your brain every single day, work your body every day.

SHAWN STEVENSON: There's a quote that you share with me, you say that "If it's not sustainable, it's not successful."

GUNNAR PETERSON: Yep.

SHAWN STEVENSON: Let's talk a little bit about that.

GUNNAR PETERSON: I think that applies to everything, from your training to your nutrition, to your sleep patterns, to your workload, to your romantic relationships, to your friendships, it just... It has to be something. However, you structure it and set it up consciously or unconsciously from the beginning, if you can't maintain that it's not going to be as good as it could be. You'll be able to get something out of it for sure, but you have to set it up in a way that you can repeat it, 'cause it's through the repetition that you get the benefits, very few things you can do one off, maybe a bunch of jump one off and you go, Woah, I don't need to do that again", but very few things you do one time and get any real benefit from. It comes down to performance aesthetics and feel, right? And you can shuffle that order anyway you

want. For the athletes, and I see this, having worked with a number of them over a number of years, it's maybe the only demographic across the board that puts performance first. Ultimately, more people should probably consider performance, because you're going to need to perform, and by perform, I just mean move and do whatever your daily life requires, whether it's lifting the sack of dog food out of the back of the car or whatever your thing is.

You have to be able to perform. Look, we're a very visual society, I mean, driving over here, I saw billboards, I saw things on side of buses, I saw people in t-shirts, all on some level highlighting the body, beautiful, whatever that is, from that marketer or that advertiser or that person wearing that shirt, standpoint, that's... So, we can't say, "Oh, I don't care what I look like, I just... " No, we all care on some level, that's why we have mirrors, you do, you looked in that mirror, everybody in here looked in that mirror today, some maybe for a lot longer than others, but you do care about that, and that's not just this. We do care, we may not do anything about it, but ultimately, we all want to look good, we all want to present our best self for whatever reason, and that's a whole another book. And the other one is for feel, not tying, I look good, to I feel good, but tying the exercise made my body healthy and when it's healthy and I do certain movements, I feel better by the end of my day. In the middle of my day when normally I didn't feel as good as I could have.

The gym is probably the most fair place in the world to me, meaning whatever you put back... Whatever you put in, it's equitable in terms of what you get back. I've seen people go in and they give 40% and they want a 100 back, and I'm like, you're going to get 40 back, and when you leave, if you start around with your diet or your sleep or your recovery protocols or your stress levels, that's going to come out of that 40, so you have to... To me, you go in and you give a 100, which doesn't mean every workout, it looks like a rocky montage, but it means every workout, you got to give 100% of whatever you have that day, and we don't all come in at 100% every day that goes from pro athletes to Academy Award winners, so you just don't. So, you have to give 100% of whatever your 100 is that day, and you will get that back every single time.

SHAWN STEVENSON: Alright, up next, in this fitness mindset compilation, we have muscle-centric physician, Dr. Gabriel Lyon. And in this segment, she's going to be talking about the metabolic advantages of building muscle and why it's important for disease prevention, let's jump into the segment from the amazing Dr. Gabrielle Lyon.

GABRIELLE LYON: Muscle is the amino-acid reservoir. Every time you are not eating, your tissues, your brain, your liver, your kidneys, all require amino acids, a steady state of amino acids in a facet state, the place you're going to get that, skeletal muscle. The body is constantly going over a process of turnover, it's not... You don't stimulate muscle and that tissue stops being active, this is a constant process. Skeletal muscle is really what is going to maintain you

in times of fasting, it's going to maintain you in terms of injury, illness, we know... At cancer, we know that survivability of cancer is increased with the amount of skeletal muscle you have, and these are really big factors, and we're totally avoiding the fact that skeletal muscle is the primary organ system of protection.

SHAWN STEVENSON: So, this is looking at what's happening internally, what about externally? If I think about it, when there was a time, I'm conjuring up images of Swords and Shields and these kinds of things, and so when you said body armor, that really jumped out as literally kind of like a protective mechanism, why am I able to grow these pecs to might maybe protect my heart or something like that?

GABRIELLE LYON: Well, I think that the concept of skeletal muscle is really all-encompassing. We can never say... Listen, take out the body building community, which perhaps is a bit at that cusp end of intensity in terms of skeletal muscle, but the body was designed for movement, and right now we have an opportunity to not move, but we're a human machine, the human machine was designed for hard physical labor. Does that protect us? It definitely protects us in a multitude of ways, balance, strength, flexibility, survivability, if you go back to the times of Swords, I'm sure the guy that had the most well-conditioned muscle was the individual that was going to survive. I mean, I of course wasn't... This is just my perspective. I wasn't around during that time, but when we think about survivability, skeletal muscle, while not easy to put on, requires time and attention and dietary changes, when you can't eat the way you did in your youth, when you are primed for anabolic growth, that does transition, which we will definitely talk about.

And that goes to the point of why protein restriction is so dangerous for an aging population, because as we age, as we think about protecting our body, our body armor, that amino acid reservoir and there's so many things that we're going to talk about as it relates to skeletal muscle. Number one, the fact that it allows us to aid in Protein turnover, which is ongoing, but also skeletal muscle, there's so many things, skeletal muscle is one of the primary sites of insulin resistance, and we cannot go one day without hearing about insulin resistance.

SHAWN STEVENSON: Yeah, it's epidemic, absolutely epidemic.

GABRIELLE LYON: And we think about it as it relates to obesity. But insulin resistance, there is evidence that insulin resistance begins in healthy 20-year-olds that are sedentary. A decade before we're seeing changes in liver abnormalities, a decade before we're seeing changes in triglyceride levels, blood glucose, insulin, insulin resistance of skeletal muscle is one of the primary defects of... I don't want to say all, but nearly all the diseases that we're seeing, heart disease, cancer, obesity. Skeletal muscle needs to be our focus as opposed to looking at the periphery, which is adiposity.

SHAWN STEVENSON: This brings us back to; you mentioned cancer earlier being a protective mechanism there. So, I was just wondering in my mind, what are all the pieces that could make that possible? I'm sure that, of course, insulin is going to be one of those factors.

GABRIELLE LYON: Well, obesity is a known risk factor for cancer, and cancer is very broad, cancer is a disease of the genome, they're multiple different kinds of cancer, but the things that we can do something about really relate to getting our body composition in check, not only that, not just that skeletal muscle is going to protect you with cancer cachexia, which is... Cancer can be a very highly catabolic state, and we've seen individuals who are going through chemo or have cancer. In clinic when someone has rapid weight loss, one of the things that you think is cancer, it is a highly catabolic state, it destroys skeletal muscle, and an individual survivability is going to be better if they have healthier skeletal muscle.

I also want to mention something else, not just that skeletal muscle is protective from the mechanical aspect, from the amino acid reservoir, but exercise, exercise is... I don't want to say broadly anti-cancer, but it definitely can interface with the immune system, and it can definitely help protect against certain kinds of cancers, exercising skeletal muscle increases natural killer cell, it increases an interface with the immune system and with the inflammation in the body. It counter-balances inflammatory mechanisms in the body.

SHAWN STEVENSON: It's so powerful and it's so simple.

GABRIELLE LYON: It's so simple. And you know, what we really need to do is how do we bridge the gap between fitness professionals and medical professionals? Right now, when we think about skeletal muscle, oftentimes we think about physical fitness. Physical fitness is incredibly important. And the way I think that we think about it is a bit simplified because we really need to bring it into an interface of medicine. Movement is medicine, muscle is medicine. Do we have an obesity crisis? Yes. But what we really have is a muscle crisis.

SHAWN STEVENSON: Next, in this fitness mindset compilation, we have neuroscientist Dr. Andrew Huberman. Now the Huberman lab at Stanford University's been churning out some incredible signs and incredible insights, and Dr. Huberman himself is just a wealth of knowledge. And in this segment, he's going to be sharing with you the connection between exercise, brain health and longevity. Check out this segment from the amazing, Andrew Huberman.

ANDREW HUBERMAN: If you look at brain function and longevity, it's very clear that the body is informing the brain about the status of your entire being. Okay? And I truly mean that in the non-mystical sense, when we do load-bearing exercise of any kind, it could even be air squats

for some people. But if they're doing any kind of resistance training with weights or machines or body weight, they're actually hormones that are secreted from our bones. This is wild, these things called, like osteonectin is an example of one that are secreted, they go to the brain, that enhance the survival and the function of neurons of nerve cells in the brain. And at first, when I heard this, I thought, this is crazy. The bones are making hormones, but it makes perfect sense. The skeleton is a very important system in our body. How does the... How do the areas of the brain that control movement, how do the areas of the brain that control learning, how do they know whether or not you are still moving or not?

Well, they could know because your heart is beating, but maybe your heart's beating really fast because you're stressed out about something. The only way that your brain knows that your body is being used and that your brain needs to continue to adapt and to stay strong is if you're increasing the load on your skeleton. And if you look at cognitive decline and loss of memory and things over time, and you look at bodily function and the loss of certain functions, what you find is that there are these weird things that are correlated with brain longevity. And some of them include, for instance, the ability to jump and land, right? I was talking to my... My mother's in her... Sorry, mom. She's in her mid '70s now. And we were talking about this because she said, "You know, I want to stay healthy.

I want to keep my brain healthy". And I said, "Well, can you jump up and land?" And she said, "What are you talking about? That's crazy". And I said, "Can you jump up and land?" I didn't want her to hurt herself. And we were talking about this, a lot of people as they age, get injuries, hip injuries that take them out of commission, the ability to jump, not huge distances, right? But to just to jump and land with and be stable doing that. Obviously, you don't want people harming themselves. That's correlated with brain longevity and body longevity. What is it? Well, it's not just about shuffling around. It's because the bones are taking that impact. So, when we weight train, we provide load forces onto the bones. The bones sends signals to the nervous system and to the brain. And so, there's brain longevity.

So that's a kind of a... It's a roundabout, but very mechanistic way of answering your question, that indeed, when our body is strengthened, our brain gets better at the neuronal health level. Now, in terms of resilience, which I think, and our capacity to deal with stress, this is an interesting one. I think there are several places where exercise carries over to an enhanced ability to deal with stress. First of all, is all the indirect stuff, like it improves our sleep. It reduces inflammation in the body, provided that exercise isn't too intense or too frequent. So there's all the indirect ways that it supports us and makes us more capable. But then there are the pain points of exercise. And those come in different forms. One of the less discussed pain points of exercise is the one where you don't want to exercise, and you do it anyway.

That's making yourself mentally stronger. And here I'm sort of paraphrasing in a much less entertaining way than the great David Goggins, right? His whole, not his whole thing. He's about many things, but a lot of what David's about, is about taking yourself from way back on your heels. Don't want to get out of bed, don't want to do something, and getting into that forward center of mass. That is a very valuable brain function to be able to take yourself from a place of, I don't want to do it at all. It's the last thing I want to do, and I'm going to lean into this, that carries over. And then, the other one is the pain that you experience, healthy pain during the exercise itself. The burning of your lungs, the burning of the lactic acid buildup, the straining under a rep or something like that.

And there, your cognitive or your thoughts about what you're doing. I'm here because I chose to be, I might not want to be, but I chose to be. Those are two different things, right? I chose to be here, no one's forcing me to do this, I don't have a gun to my head. I'm doing this and this is going to benefit me, over time that will change your relationship to effort. And the holy grail of life, I believe, is when effort feels good. And no one gets to be in that state all the time. But I think that when we push ourselves physically, we get multiple opportunities to learn, to go from the, I don't want to, and I don't want to, I don't want to, I'm kind of... That's my voice in my own head. I don't want to. And then doing it anyway.

And then you have to remember to reward yourself. And that reward should not be in the form of an external reward. This is very important. It's tempting to say, I'm going to reward myself with the meal. I'm going to... You can still enjoy all the things you enjoy, but the reward has to be one that you give yourself mentally. Because when you start to give yourself external rewards, you're teaching your brain that rewards only come from the outside when you give yourself internal rewards. And you can even make this a one-minute meditation practice at the end of a particularly hard cold shower. Or you get out, you just sit there and tell yourself, "This is good for me. I chose to do this. This is benefiting me". Those messages actually... I know it sounds a little hokey, but those messages actually help reinforce the whole process that you just forced yourself through. And it makes it more, more natural.

SHAWN STEVENSON: Next, in our fitness mindset compilation, we have the founder of one of the greatest gems on planet earth, Vigor Underground. That's up in Seattle. And I highly recommend popping in and checking him out whenever you get a chance. But also, he's been out educating and teaching people online for many years as well. He's an exceptional human being. One of my really good friends, I'm talking about Coach Luka Hocevar, and in this segment, he's going to be sharing why a variety of exercise inputs are important for being our very best, plus a weekly exercise guide for the average person to follow. Check out the segment from the amazing coach Luka Hocevar.

LUKA HOCEVAR: Maintaining and/or building lean body mass is one of the best things for metabolism, right? I sit here, if I have more lean body mass, I'm burning more calories. But it's also, you know, it's connected to so many health markers and not to mention people that have more muscle mass are able to, they have a better body fat set point meaning. So, one of the issues with weight loss is there's something called a body fat set point, which has now been, you know, used to be a theory and now has been more confirmed. So, it just means that if you've stayed at a certain weight for a long period of time, your body's going to have a tougher time moving from that weight, right? Because that's what's safe, that's homeostasis. So, if you go up or down too much, but especially down, it's going to be like, whoa, survival.

This is not good. And then the hormone leptin is almost like a thermostat, right? It's a thermostat in a sense of if you drop, it's going to basically, reduce the temperature so that we kind of come back, right? If we go up, and so, it's going to regulate it 'cause it wants you to stay in that homeostasis. Exercise and strength training has been proven to be able to adjust that, or should I say like, help with that, so if you drop weight and you strength train, your body will have an easier time staying at that lower weight, right? And there's been a lot of studies done around that enough to confirm like, first of all, like this is something you have to do. Right now, what does strength training look like? I mean, it's obviously depends how much do you want to improve your performance and put on muscle.

But any person that wants to be healthier, lose weight, be fitter, long term, should be doing some form of exercise and strength training. Like that's been proven across the board. And a lot of times people say, "Okay, Luka, what if you had a template? You know, and obviously everything's different for everybody, but if you had a template... " I had a great conversation with Dr. Andy Galpin about this, but what would it be? I said, "Well, one, you should strength train two to three days a week, right? So somewhere in that range, you should do something fast one day a week, regardless of your age, what your goals are". And I'm going to touch on that one because I think that's one that's missed out a lot on, right? And it's first of all, the first thing that you lose as you age is not strength, it's power.

SHAWN STEVENSON: Power.

LUKA HOCEVAR: It's not cardio, it's power. And people that, you know, first of all, things like agility, quickness, reactivity, when folks fall and break their hips, which is a huge number, like one out of three people over the age of 50, that's power, right? That's speed, that's reactivity. And it's almost like there's this fear of it, right? Oh, as I get older, I shouldn't be doing that. But it's actually like, no, you should. Now it might look different for... If I'm doing box jumps and full-blown sprints and we have somebody that's 55, maybe even 60, they may not be doing the same thing, but you know what? They could be throwing a medicine ball explosively for them.

They could be pushing a sled fast. They could be... We'll do, you know, card throws, like I'll throw cards and obviously they get all wonky.

They're going to try to catch them, tennis ball drills, speed ladder drills, for them that's going to be fast, and they can still improve that speed and they can still, I would say work on that so that it doesn't, they don't lose it. Like you, you don't use it, you lose it, right?

SHAWN STEVENSON: Right. Yeah.

LUKA HOCEVAR: And it's, I mean, a great example is like my dad has Parkinson's, the onset of it. He goes and he boxes, right? So, he does these speed ladder drills, and you know, the doctor was like, I don't know what you're doing, but whatever you're doing, man, it's like, it's keeping it at bay. And so, that, like, speed is such an important factor of it. So once a week at least, you should be doing something fast. Once a week you should get your heart rate up high for whatever that is for you.

So, think hard conditioning, right? I like to do that heart rate monitoring. So do something, you know, fast, explosive for whatever that person is, get the heart rate high, let it drop back down. I know this is basics, but this is definitely a template of it. Once a week do something for a longer duration of time on cardio, but not as high of intensity. And I would say probably more like once to twice a week on that front. And always making sure that you work on quality movement, you know? And even in the last show, we kind of dove pretty deep into that as far as movement, hygiene, mobility, I mean that's extremely important. 'Cause my philosophy is always move well, move more, move strong, move fast, right? But it starts with move well, if you don't move well and then you add more volume, you add more load on top of that, you add speed, it's going to be... You're just going to speed up dysfunction, right?

So, if I'm... Have a horrible posture and I don't first, you know, improve my mobility, and move well, guess what's going to happen? I'm going to load that and something's going to go off my neck, my shoulder, my lower back, something's going to break down. So when it comes to exercise, I really, really like that template, because if you strength train two to three days a week, you do a little longer distance, or should I say longer duration cardio, which can be a lot of different things, about two days a week, you do speed training once a week, and you do one, maybe two sessions with higher intensity heart rates, that's a pretty damn good model right there, right? And the reason I say this to this many times is because somebody that's just starting off, hey, two strength sessions, you know and one speed session and one cardio session, okay?

And you can do it in the same day. For example, I could do speed training and then afterwards do high intensity intervals, right? Those couple together pretty well. I can do a strength session

and then afterwards do some longer duration, right? There's ways to piece it together. It doesn't have to be somebody's gone like, hold on, so I got to train eight days a week like, no, no, no. Like, but I'm saying that type of stimulus, right? That type of stimulus. We live in a age where you need to... We only have so much time. So, if you have an hour, I could do a quality warm-up for 10 minutes, do strength training for 30 or 40 minutes and finish off with some type of high intensity conditioning for 15, and that's an hour and five minutes. But I've now knocked out a couple of those variables inside of that training session.

So, I think it's important to, just look at, "Okay, what are the things that help us be more resilient, stronger, and longevity, right? We know cardio used to be a thing that we did to lose weight, you know, and we know that's not the most effective thing whatsoever, but it is extremely important when it comes to health, extremely. And I'm glad that, like one of my really close friends, Joel Jameson's done so much research on it. He put HRV on Apple, he's one of the first guys that did that. The correlation of like quality cardio and heart rate variability is... I think that you end up... There's certain markers that show you live 10% longer if you have quality cardio and you have good HRV, that's like eight years, seven to eight years, you know, could I sell you on that? Hey, listen, like, would you like to live 10% longer?

SHAWN STEVENSON: Yeah.

LUKA HOCEVAR: Okay, great. Make sure you do your cardio. And there's, like I said, there's different ways to do it. I think that's a pretty, pretty good template to do that.

SHAWN STEVENSON: Alright, I hope that you're enjoying this compilation. We've got so much more in store for you. But keep in mind, going back to Dr. Gabrielle Lyon segment, it's incredibly important to have those signals to drive muscle growth and development and health. We also need to feed our muscles that primary fuel that really makes the magic happen. And I'm talking about that macronutrient protein first and foremost, having a whole food diet with high quality proteins is of the utmost importance. Now, the issue that a lot of us run into, and even today I was on the move, had a huge workload, and you can get into a situation where you got to grab something, got to grab a snacky snack. So, this is where people fall short of their protein goals and also the quality of the snacks that they're going for. Here at the studio, we keep on tap for our guests or our team, we utilize the high protein snacks from Paleovalley.

Their food bars are made from real food, no nefarious ingredients, no synthetic stuff, no chemical compilation to try to make sugar alcohols, none of that stuff. Just real whole food base bars with a large concentration of protein. But also, if you're a fan of meat sticks, they have the very best meat sticks in the world. They're all organic, they're sourced only from regenerative farms. They're also, even the spices are all organic, they're fermented, there's no weird additives, GMOs and sugar and yada, yada, none of that stuff. And of course, they're

delicious. Alright, they've got a variety. They've got the jalapeno, if you like it, spicy teriyaki, which is my youngest son's favorite, original, and they've also got some pasture raised turkey sticks as well, if that is your preference. Bottom line, they've got the best snacks in the world, and also their supplements are so remarkable.

Definitely check them out. They're some of my favorite people. Also, just their company, their founder, I really love those guys. Go to paleovalley.com/model and get 15% off all of their incredible foods and supplements. That's paleovalley.com/model. That's P-A-L-E-O-V-A-L-L-E-Y.com/model for 15% off everything they carry. Highly recommend having these snacks at your house for when you need them, because that time will come. And also, again, just sticking some in your bag. My wife, even in her computer bag, she has Paleovalley snacks, so definitely head over there and check them out. Now, moving on in our fitness mindset compilation, we have one of my all-time favorite episodes, and this was with health psychologist Kelly McGonigal. And in this segment, she's going to be talking about how exercise makes positive alterations to your brain chemistry, how it sensitizes your brain for experiencing more pleasure and much more. Check out this segment from the amazing Kelly McGonigal.

DR. KELLY MCGONIGAL: I feel like so many people don't understand the effect that exercise has on mental health and on belonging and on resilience, and that it's so profound. I mean, you said it's what our genes expect from us, that when we move on a regular basis, when we are active, we are able to access the parts of our human nature that help us thrive, and that literally produce joy and allow us to experience joy and meaning. So, I just, I decided to leave the whole conversation about weight aside, and say like, it doesn't matter what your size is or what your health goals are, or what your physical goals are, you don't even need to have physical goals. You don't need to have weight loss goals to want to embrace movement as something that is going to truly enhance every aspect of your life.

SHAWN STEVENSON: Right, because the physical aspect that you do talk about is how movement... Physical activity literally changes the structure of our brain.

DR. KELLY MCGONIGAL: I know, and in ways that you... If people understood this, I feel like people would be lining... People don't exercise all day, so there are very few things that can do the first thing which I'll mention, which is that it sensitizes your brain to pleasure, there's like nothing you can do that actually changes the structure and function of your reward system, the way that exercise seems to do it. And that it teaches your brain to expect things to be pleasurable, and it enhances your brain's capacity to enjoy everything from good food and a beautiful sunset to interactions with your kids or with your friends, to anything that we find pleasurable, it actually, it amps up your reward system, it makes it more robust and responsive, like endorphins work better, endocannabinoids work better. And like I said, I literally never seen anything in the research that has that effect on the brain other than deep brain

stimulation where you literally have to surgically implant an electrode into your reward system and wear like a pacemaker for your brain, and that... It's one of the cutting-edge treatments for depression, and it may also help people recover from addiction, because addiction can really mess with your reward system. But other than implanting an electrode in your brain and literally...

Giving your reward system an electric shock continuously to try to wake it up, exercise seems to be the only thing that does this, and think about what that means for your well-being, if everything that feels good feels better, and it does the opposite too, right? So, everything that... So it makes your brain more resilient to stress it's... Exercise is such a powerful anti-depressant, so it works on both levels, and I feel like people have a better understanding of that side of it, at least they've heard, they know that exercise can be an antidepressant or that it can enhance antidepressant medication and therapy, but I feel like this idea that exercise actually makes you better at enjoying things is the thing that people really haven't heard yet.

SHAWN STEVENSON: That's gold. That's absolute gold, it sensitizes you to more joy.

DR. KELLY MCGONIGAL: I know.

SHAWN STEVENSON: Or you can do the opposite, which sounds very archaic, like let's drill a hole in your head.

DR. KELLY MCGONIGAL: Yeah, or do that.

SHAWN STEVENSON: Or you go for a walk.

DR. KELLY MCGONIGAL: But you know, I know there are some people who would rather probably get the implant than go for a walk, but I think that that is often a mindset, so one of the things I don't write about in the book, but... It sticks with me, there's something that I call the joy gap, which is that people dramatically underestimate how good it will feel to move their bodies, if you ask people, how will you feel when you work out? People tend to predict, I'll be tired, it'll be exhausting, it'll be boring, it'll be unpleasant. And when they actually do it, even people who say that they don't like to exercise, what people typically report is, "I feel better, I feel more optimistic. I feel like I can take on the world. I have more energy, not less energy". And so, this is a gap we have where we think exercise is going to be so hard and so uncomfortable and so awful that we might think we'd rather have an implant in our brains that would be easier, but the actual experience people have is so much the opposite.

SHAWN STEVENSON: Yeah. That's really crazy that we do that.

DR. KELLY MCGONIGAL: Yeah, and it seems to be like... It's a human thing too, it's not like if you are somebody who has that, even me when I wake up in the morning, I'm like, "Uh, I don't want to do this," and me, I'm in love with exercise, and it just seems to be part of how the human system works as part of us that wants to conserve energy, and we just need to bypass that and remember what are actual experiences.

SHAWN STEVENSON: I love this because this is giving us more legs to our belief about exercise, we've got it with the weight loss aspect in which this is a game changer because... And I think that this is important for us because for a lot of us that isn't the most attractive point, it's just not enough, and so I'm so grateful to have this conversation. So, another thing, just kind of... Just a small pivot. So, we've got the ability for exercise to remodel our brains, but you also talk about how there's like this dump of hormones into our blood stream.

DR. KELLY MCGONIGAL: Oh my gosh, I'm so glad, yes, that you brought this up. I think this is the most fascinating research. So, I'm interested in all psychology, all neuroscience, and this is the, I think the most interesting finding of the last decade in all of science. And this is the insight that your muscles are basically an endocrine organ that secrete hormones into your bloodstream, that affect every system of your body, and from a health point of view, your muscles will secrete hormones and other proteins that are good, that fight cancer cells and that are good for your heart health, the things that we know typical why exercise is good for your health, but your muscles, they secrete chemicals and proteins when you exercise that are also really good for your brain health, and one of the first papers, almost 10 years ago, and that was published, explaining that when you contract your muscles, they literally secrete these proteins into your blood stream that make you resilient to stress and can protect you from depression, the scientists called them hope molecules, this idea that literally your muscles are manufacturing like anti-depressant molecules, and the only way to get them into your blood stream where they can then travel to your brain is...

You have to contract your muscles, that's it. But your muscles are... It's like a pharmacy in your muscles, and anything you do that contracts them, walking, hiking, running, dancing, weightlifting, like swimming, anything, you are going to be dumping hope molecules into your bloodstream, that when they get to your brain, they work as an anti-depressant and they also help people recover from trauma, like that, that's like a miracle. Because, of course, it's wonderful when medications work for you, but for so many people, medications don't work or they don't do the full job in terms of helping with mental health, and the idea that your muscles could provide you with the equivalent of something like an antidepressant medication, like that is just... I think it's phenomenal.

SHAWN STEVENSON: If we're doing the fitness mindset compilation, I cannot leave out this conversation I had with my friend Ed Mylett. Ed Mylett is an absolute beast when it comes to

personal development. He's also a best-selling author, but he's tremendously successful. That's one of the things that people see about him, but they often don't realize, especially if they don't know him personally, how big his heart is, and I had to include him in this because he said something to me in our conversation that stuck with me, as a matter of fact, that whole conversation was a game changer, it's something I personally refer back to very often. Now, in this segment, he's going to be sharing why movement can be one of the fastest ways to change your emotional state, why movement and exercise can be one of the fastest ways to change your mindset. Let's check out this incredible segment from Ed Mylett.

ED MYLETT: One of the ways I've been able to change my state and change my emotions is how I move my body, the quickest fix for me on changing my emotions is to change my physiology is to work out, is to walk, is to make love, is to laugh.

These are things that quickly change my emotions because the same physiology is required in all of them, so I know you're an expert on this as well, but this is why your show matters so much to me, because it's very difficult if you're not moving your body and using it in an elegant and beautiful way to the best of your ability, that you can generate the emotions on a regular basis that you want. Stagnation, and a lack of health makes it very difficult to feel bliss and peace when you're not moving your body. So, when people ask me, "So what's a change agent for you emotionally?" Move my body, I'll take a walk, I'll take a run, I'll do a workout, I'll do jumping jacks in my office if I have to, but I'm going to change my physiology that oftentimes changes my emotions and my state.

SHAWN STEVENSON: Have you noticed in the last, we'll say last 10 years, an increase in people who are high performers in business really taking their health more seriously?

ED MYLETT: Yes, and this... This sounds funny, I actually take 1,000,000th of 1% of credit for that, 'cause way back in the day, maybe like 30 years ago, I was one of the first people to say I'm a business athlete. I consider myself an athlete. I'm training like an athlete. You look nowadays like LeBron James trains like a businessman, but he's also an athlete, Jay-Z. You know what, I'm a businessman, I'm a businessman. He's a businessperson. I was one of the really a long time ago, it wasn't popular, I was in gyms as a... Gyms were popular, but businesspeople in gyms wasn't really, really popular. I train like I'm an athlete. I think like I'm an athlete, I want to have the longevity of an athlete in my life, now my training's changed, I'm a little bit more delicate with my body, so to speak, I do more stretching and more yoga than I used to. I think the way you train is also a metaphor for your life, and I'll just be candid with you, I've trained heavy, hard, and dispensed violence injustice in the gym, I was a much bigger dude when you and I first met, and I think a little bit of that as a metaphor for how I treat myself.

And so, to some extent, I've altered my training where I still lift and I still train, but I do things that care for myself too. I do more stretching, I'm more hydrated than I was before. I do more yoga, I'm doing things that care for my body as well, and somehow by the way I care for my body, I tend to emotionally care for myself better also.

SHAWN STEVENSON: Up next, in our fitness mindset compilation, we have somebody who's one of the great thinkers, in the domain of personal training and fitness, he's a best-selling author one of the co-creators of the Mind Pump Podcast. I'm talking about Sal Di Stefano. And on this segment, he's going to be sharing how muscle impacts your metabolic rate, and this is one of the overlooked things about building muscle that more people need to understand. So, check out this segment on the amazing Sal Di Stefano.

SAL DI STEFANO: Strength training is the most effective form of exercise for pure fat loss, so when I say fat loss by the way, I'm not talking about weight loss, 'cause you could lose 20 pounds, half of it can be muscle and you end up just being a smaller, slower metabolism, same flabbiness version of yourself, right? Resistance training leads to pure fat loss, and in most cases, you get some muscle gain with that, which we could talk about.

Some people are afraid of that, they think, "Oh, if I gain muscle, I'm a look bulky and big," not true, you're just much more sculpted and have a better shape to your body. Studies on heart health show that strength training is at least as beneficial as cardiovascular exercise for heart health. Now, of course, the best combination, again, I want to be clear, the best forms or way to work out, if you have the time and you are dedicated is to combine a lot of different forms of exercise, but we're talking head-to-head and I'm also talking to you again, the average person that's probably only going to do a couple of days a week of exercise consistently. Cognitive function...

Here's where it gets really interesting, there was a study out of Sydney, Australia that looked at strength training and Alzheimer's, and it was the only... This is one of the only times we've ever seen a non-medical intervention stop, slow down and stop the progression of the beta-amyloid plaques that lead to or at least contribute to the symptoms of Alzheimer's. How is that possible? Probably, and this is a really interesting point here, probably because one of the most effective ways to improve insulin sensitivity is to simply build muscle and Alzheimers and dementia, some researchers will even refer to as type 3 diabetes, you'll see that there's something connected there where... And this is why, when you put people on Alzheimer's on a ketogenic diet, you tend to see some improvements because there's a dysfunction there with utilizing glucose for energy, so you improve insulin sensitivity, you tend to improve cognitive function.

When you gain a little bit of muscle and you see tremendous improvements in insulin sensitivity, there's studies on severely obese individuals where they don't even have them lose weight, they just have them gain a little bit of muscle. And you see these great improvements in blood sugar and in insulin. Muscle is very insulin-sensitive, it's also one of the ways we store glycogen, which is made from carbohydrate, so you got your liver that stores glycogen, and then you got your muscle, so you get more muscle, you have more ability to store, becomes more sensitive to it. Insulins are very anabolic hormone; it actually contributes to muscle growth if you do it right. And again, there's so much more, but we now finally have studies coming out that are showing like, wait a minute, one of my favorites is the strength studies that show how a simple strength test, like a grip test, that simple test right there will predict all-cause mortality better than almost any other single metric. So, you could compare it to cholesterol or blood pressure, or other metrics and a grip test is more accurate in terms of all-cause mortality. So, strength is very important for longevity, muscle is very protective, and thankfully, now we're having these studies. And I named the book The Resistance Training Revolution.

I think the revolution is going to happen anyway, I think we're already starting to move in that direction, 'cause the data now is finally starting to confirm what those of us in fitness have seen for decades now.

SHAWN STEVENSON: Yeah, man, thank you so much for bringing that up, because we tend to put things into isolation. It's just again, another way that we're taught, so we don't really think about muscles connecting to the brain, for example, but this is all happening in one sovereign unit. One sovereign human being, and I love this point because obviously, insulin resistance, type 2 diabetes is beyond epidemic proportions right now we've got about 130 million Americans are diabetic or pre-diabetic right now, it's insane. But we're also looking at, Alzheimer's is now number six, it's the sixth leading cause of death in the United States, and it's creeping its way into the top five, and most people have no idea about this, unless that they've been directly impacted by with a family member, they're not even really aware of this epidemic. And the biggest proportion of these folks are folks who are insulin-resistant and diabetic already, it's like it is the mega risk factor we're not talking about, because the brain itself, there can be an insulin resistance taking place with your neurons, and so being able to improve that insulin sensitivity specifically in your brain by activating your muscles and the myokines released and all of these other metabolic benefits, we're just now starting to understand because...

Thank you for saying this, it's all happening right now, there's so many amazing studies on the stuff you've known for years coming out right now, and it's affirming what we already know.

SAL DI STEFANO: Yeah, and it's... When it comes to brain health, besides the insulin sensitizing effects, there's also a very pro youth hormone profile effect that comes from strength training, and it's a direct one, so first off, if you improve your health, generally you'll see a better hormone profile come out of it, so more optimal testosterone levels in men and in women, better estrogen progesterone ratios, growth hormone tends to get a little better cortisol gets controlled a little better insulin sensitivity, that's just from getting healthier, right. But only one form of exercise has been shown to directly influence hormones to make them look more youthful and that's strength training. Now, why is that? Because the process of building muscle requires a youthful profile of hormones, it's very hard to build muscle as a man with low testosterone, so if you send the signal to build muscle and your body is like, "We need to build muscle." One of the first things it does is it starts to raise testosterone and it starts to increase androgen receptor density.

Now, what does this mean for the brain? We'll look at the studies on high cortisol and brain function, low testosterone and brain function, estrogen progesterone imbalances and brain function, right? So, there's that as well, and then there's a fourth piece, which is the proprioceptive effects of strength training. So, proprioception refers to my ability to navigate through space, knowing where my body is in space. Okay, so like an extreme example would be like an Olympic diver, they jump off the platform and they spin and somehow, they end up diving headfirst. Incredible proprioceptive ability, well, of all the traditional forms of exercise, because strength training encourages multi-planar movements. There's a million and one different strength training exercises, and there's 10 different ways to do each one, it's not like running where I'm going in the same direction or cycling which is the same motion over and over.

SHAWN STEVENSON: Forrest Gumping it.

SAL DI STEFANO: Strength, yes, exactly. Strength training is I'm pressing up to the front, I'm going laterally, I'm rotating, I'm rowing, it requires a presence of mind. When you're doing a barbell squat, it's not like I'm thinking about my argument that I had earlier, like I could when I'm on a treadmill, I got to think about this next 10 reps that I'm doing.

So, it also trains this proprioceptive ability in the brain, so when it comes to strengthening the brain or our cognitive abilities or preventing things like dementia and Alzheimer's, strength training is head and shoulders. Part of the challenge, by the way, 'cause we're talking about how this is all moving in this direction, we have to erase and counter the myths that surround strength training and the way that it's been viewed for so long. If you talk to the average person about resistance training, images of big body builders pop up and Arnold Schwarzenegger and they don't think about this healthy person living a long time. So that's part of the challenge. And then if you talk to women, although this is far less evident today

than it was 20 years ago, still I get women that tell me, "Oh, but I don't want to get bulky, I'm not trying to look masculine you know," as if that could happen overnight. But that's still the case. We're still... It's uphill, but thankfully, I think we're starting to see some headwind. Muscle's very dense, doesn't take up a lot of space. So, if there's someone still watching right now says, "Oh, I don't want to get any bigger though.

I'm trying to lose weight". If you lost 10 pounds of body fat and gained 10 pounds of muscle, you would lose about one-fourth to one-third of the size of your body 'cause muscle takes up less space. Okay, so get that out of your head right now, building muscle isn't getting bigger, you have to build a lot of muscle to really get bigger, you'll just feel tighter, more sculpted. So now that we've established that, okay, muscle makes up in many men up to 40% of our bodies, it's an organ, it's massive, and it's expensive, expensive, it's calorically expensive, okay. For your body simply to maintain a pound of muscle, it must burn more calories than it takes to maintain a pound of body fat and telling your body to prioritize muscle and telling your body that you need to be stronger, moves your metabolism in a less efficient way. So why am I saying that? Because I'll get people that will message me and say, "Oh, but this study shows that one pound of muscle only burns an extra 15 cal, as if that was nothing by the way, but only burns an extra 15 calories, it's way more complex than that. Human metabolism or mammalian metabolism is one of the most complex things that we've identified probably second to the brain. You have a range of calories that your body will burn with your current lean body mass, meaning you don't have to gain more or lose muscle, there's a range and my lifestyle can make it more efficient, burn less or less efficient, burn more.

Losing sleep, being stressed out, my body tends to want to store calories, right? Being more relaxed, getting good sleep, feeling healthy tends to burn more calories. Hormones could do the same thing, optimal testosterone levels, burn more, low testosterone levels, burn less. Same lean body mass, so simply telling my body through exercise through proper strength training, we need strength then we need muscle, feeding my body appropriately, meaning I'm not cutting my calories so low where I can't... Where my body is like, "I don't care what signal you're sending me, we're starving". So, I'm giving myself enough calories, I'm getting the adequate proteins in particular, and fats in particular, those are essential. I don't have any nutrient deficiencies, feeding my body properly, getting good sleep, bad sleep will also push it in the other direction, when I do that, my body becomes less efficient with calories, then you add a little bit of muscle on top of that, four or five pounds of muscle, which you're just going to feel tighter in your body, you're looking at a significant difference in your metabolic rate on average, in my experience, I can get women's metabolism to boost by 400-600 calories a day.

I've had way more than that, but on average, 400-600 calories a day, that's like two hours of cardio.

SHAWN STEVENSON: This is not talked about.

SAL DI STEFANO: No.

SHAWN STEVENSON: This is not talked about because again, going to a conventional university, this calories in, calories out paradigm, which is again, this is very simplistic, we're not looking at all the mechanistic things that control how your body is processing these calories. You just shared an example of literally shifting somebody's metabolism to the point that they're just naturally burning more calories.

SAL DI STEFANO: Like I said 400-600 would be my average with a female client, that's two hours of cardio, and imagine if you burn the calories of doing two hours of cardio every day, but you're not.

SHAWN STEVENSON: Just automatic.

SAL DI STEFANO: You just burn 'em.

SHAWN STEVENSON: Just on automatic.

SAL DI STEFANO: With men it's usually I've seen between 600-800. So, you can do this with yourself, you just have to send the right signals to your body, if you send the wrong signals, you go in the opposite direction. You don't want to be in a position where you lose weight and you're eating half as much as you were before now, you're going to maintain it, plus do all these extra activities, it's not going to happen.

SHAWN STEVENSON: Alright, now we're at our final expert here in this fitness mindset compilation. And this is another one of my good friends, I'm talking about the brilliant Mike Mutzel. Now, Mike is a best-selling author and founder of High Intensity Health, and just truly one of the great thinkers in health and fitness today. And in this segment, he's going to be sharing why exercise is a powerful key for healthy hormone function for a lifetime. Let's have this conversation with the amazing Mike Mutzel.

MIKE MUTZEL: It's impossible to disentangle the decline in fertility with the commensurate decline in testosterone. They are totally related. In both men and women, actually, so fertility is impacted by testosterone in both genders. But yeah, a recent analysis in 102,000 people in Israel, men over the past 16 years found testosterone levels, and this is... It's important to recognize this age and obesity independent, right, that there was a 37% decline in testosterone levels of men in their reproductive years. So, men between the ages of 15 and 30.

So that's almost a 50% drop 37%. And I think it's important for people to recognize, sometimes when we speak of testosterone, there's this association with toxic masculinity in this.

We're not promoting that, we're promoting health for men, testosterone is linked with muscle mass, if you don't have muscle mass, where's the glucose that you're having in your Kombucha going to go. Muscle is a major glucose punch, it's where 80% of post meal glucose is deposited in muscle, muscle's what's going to help you get out of bed when you're older. Muscle's going to help your heart, is a muscle, so if you don't have healthy muscle, you don't have a healthy life for both men and women. And so, I think this is really important. Low testosterone levels are linked with Alzheimer's, dementia in men as they get older, cardiovascular disease all-cause mortality. So, it's impossible to disentangle healthy normal testosterone levels from health, and again, we're seeing this massive decline, and I think part of it, of course, is the environment. A big part of it is obesity and so forth. But there is this other sort of what factor, what is it in the literature? Because again, there's this obesity independent effect, all that being said, obese people, diabetic people, people who unfortunately suffer from chronic diseases like sleep apnea, and sleep disorder, breathing have lower testosterone levels than people who don't. But as you talked about, a simple fix that all of us should be striving for is just walking both men and women, but this study found...

I want to say it was like 400 men, or maybe it was more like a 1000 in that ballpark. This study just came out in the summer of this year. Found that men who walk north of 8000 steps per day, and they are controlled for all these other variables in the statistical analysis, have higher levels of testosterone compared to men who don't walk 8000 steps per day. And there's a linear progressive stepwise increase. So, let's say one day you only walk 4000, but try to get at least 8000 steps per day, and mechanistically, they don't know why that is, is it because walking is linked with less belly fat, better insulin sensitivity. Who cares? But the point is that you need to walk. And that being said, there was another study that just came out in 329,000 people, and they looked at all sorts of diseases and found, again, walking is one of the best ways to prevent obesity, hypertension, sleep apnea, Type 1 and type 2 diabetes. There was... Depression was a big one. So again, people who walk between 8000 and 10,000 steps per day have a significantly lower chance of developing the most common conditions and ailments that people go to the doctor for. It's like How many physicians are writing a prescription.

"Hey, Sally, I know you have sleep apnea, I know you're depressed, I know you're obese. Here, walk 10,000 steps per day." But literally, the scientific research in 320... This wasn't like 30 people, 329,000 people in this particular study and was published in Nature. So yeah, I think my general rule is space out the walking as well, so 2000 steps before breakfast, which is doable, even if you have kids, bring your kid with you. My daughter and I we walk to school and she loves it. She's talking, "Dad, dad," it's just great, you're in training, your body's circulating clock system, getting light into the retina, all of that. And so just space it out, do 3000, oh,

sorry, 2000 before breakfast. After lunch is a good time to walk, especially if people feel that post-meal kind of lethargy and they get tired, part of that is a reactive hypoglycemia, blood sugar goes up insulin goes up, and then blood sugar goes down and you feel lethargic, and so a great way to sort of blunt that is just to take a walk.

SHAWN STEVENSON: Thank you so very much for tuning in to the show today, I hope you absolutely love this compilation. If you did, it would be so amazing if you share this out with your friends and family. Of course, you can take a screenshot of the episode and share this on social media. You could tag me, I'm @ShawnModel on Instagram and Twitter, and you could send this directly from the podcast app that you are listening on as well. And listen, we've got some incredible masterclasses, 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.

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