

# **THE** MODEL **HEALTH** **SHOW**

**EPISODE 648**

## **The 5 Most Important Rules for Fitness & Functionality**

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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 in today. We don't just want to improve our lifespan. We want to improve our health span, you want to be able to have form and functionality for many, many years to come. It's really what makes life worth living and we've just jumped into a brand new year here, and I wanted to equip you with some powerful information to really help you to not just uplevel your health in the new year but to be able to uplevel your health for many, many years to come. So today we're going to be talking about the five most important rules for fitness and functionality for a lifetime. And we're going to kick this off with number one. This is the number one principle in fitness and functionality: Use it or lose it.

The human body is teeming with energy creation and output potential, but it's also primed for efficiency. It's not going to waste excess energy on tasks, movements, and functions that are not being utilized. We have a symphony of mitochondria, neurotransmitters, hormones, muscle fibers, and more that become attuned to operating with a particular energy budget. In essence you have a biological energy budgeter within each and every one of the cells in your body. And they share one master accountant and do everything they can to never go bankrupt. And so, they have to work together intelligently. Now at its core your biological energy budgeter is always asking the question: Is this movement capacity useful? Is this movement capacity useful? Does my human that I'm managing need energy to do a particular movement, or can we siphon that and direct that somewhere else?

Or can we down regulate energy expenditure because again, we all have a certain allotment of energy, potential energy output based on what our physiology, our biology is perceiving that we actually need. So again, our system is always asking the question is this movement capacity useful? If not, it's going to down regulate the capacity to do that movement to direct energy elsewhere and or to conserve energy. So, with that said, we want to ensure that we continuously have plenty of biological coins set aside to be able to do all the movements that we want to do. I'm thinking about Sonic the Hedgehog. I'm thinking about Mario hitting his head on the little the blocks and then the coins coming out. We want plenty of coins on tap to be able to do the movements that we want to be able to do for a lifetime.

Now the rub is if we're not doing it, we're going to lose that capacity over time. Now the question should be how quickly can things start to atrophy? So that is the dissolving or the degradation of that movement capacity? We often think about atrophy in terms of our muscle but overall so many things more beyond our muscle. And our muscle is even just an out picturing or side effect of some other underlying things, various functions with proteins,

protein synthesis, various neurotransmitters, and their association all this stuff operating together different types of muscle fibers and their genetic precursors. So, there are root things that are going to then kind of blossom into a muscle capacity. But all of these things can get degraded or downgraded, downregulated over time if we're not utilizing them. So again, when we're not utilizing our bodies, how quickly do we start to lose fitness and functionality?

Well, an extreme example of this might be when a limb is placed in a cast and inhibited from all movement. Now if you've ever seen someone freshly have a cast removed it really has that puffed marshmallow man vibes. The limb looks very soft and kind of pliable and just lacking density and muscle tissue, and it can happen in a relatively short time. Having a cast blocking movement for a leg injury can be around two months. And again, if you see one limb compared to the other, one arm or one leg compared to the other, it's shocking how quickly things can atrophy. But here's the good news on the other side, the healing oftentimes, and we've got some clinical data to affirm this, it can heal back stronger in some ways than the leg that wasn't injured. But also, in many instances we can lose some functionality, we can lose the ability for nerves to fire efficiently and effectively and we've got to retrain our system to be able to do it.

So again, having a cast blocking movement for a leg injury can be around two months but significant atrophy actually happens much quicker than that. Take for example the absence of resistance through movement and gravitational forces overall, like what happens when astronauts are living in outer space. After conducting MRIs and other tests of six NASA astronauts' scientists at the University of San Diego found that the disk, because... Oh by the way, astronauts of any field have the highest rate of back pain and back problems, but they found that their disc didn't change their shape that much while in space. Instead, it is the paraspinal muscles which connect the bones of the spine together and control their movement shrunk by almost 20%.

And this again according to NASA sanctioned research and this was published in the journal Spine. Now leg being the cast, upwards of two months you could see the atrophy. Being in space for only a couple of weeks and lacking that resistance from the atmosphere from gravity astronauts can already be 10% weaker. If you don't use it, you lose it. Now again if we're not utilizing movement capacities, our bodies are constantly asking, "Does my human need to be able to perform this particular movement? Do I need to have energy reserved for this movement capacity, if not down regulate?" So, the question is where are we creating outer space like bubbles in our own lives or pseudo-casts that are inhibiting our health and functionality? Well, I think you might have a glimpse into what this can look like.

Our desk jobs, sitting at our desk and sitting in a chair for hours on end staring into a screen that is a glorified pseudo cast that we're creating where we're limiting movement, movement

capacities. We're also training our biology to be very good at sitting in a chair and staring at a screen because that is what we're demanding of our bodies to be able to do. And so, as we're becoming very good at sitting in chairs, we're becoming less good at making a quick movement to avoid an accident, or to avoid a problem, or to lift a heavy weight off the floor. We start to have less capacity to do those things because we've trained our bodies to be very good at chair sitting. Again, so if you don't use it, you lose it, but also what you're overusing is going to dominate. So, add that in this dictation a little parenthesis a little bubble itself. Now if we're not sitting at our desk for hours on end we're sitting in the car or public transportation for additional time. Again, outside of the office we're doing more sitting, then we get home, we're sitting even more. We might try to hit the gym and get 30 minutes or an hour workout in but even our population of folks who go to the gym or workout for an hour a day are still sedentary for the majority of the day.

So, whether it's from the desk bubble, to our couch bubble, to our transportation bubble, to our bed bubble if we were laying back in bed watching TV... Being in bed of course getting high quality sleep super important, but spending time laying down watching television that's adding again to that lack of capacity to live life to be functional to do movements. Now again, we can do all these things, we can dabble in any and all of these things, sitting at our job, kicking back on our couch and watching TV, whatever the case might be absolutely. But it's when it becomes the dominant thing that we're doing That's when processes and functionality starts to get downgraded. I remember the first time I went to my grandmother's house when she had got a new couch. So, she always had a couch but now she got this brand new couch and I was just sitting back on it and you know, kids be messing with stuff; I was messing. And I found in the couch there was like a handle under the arm of the couch, and I pulled it and the legs shot out from under the couch. It was like a recliner couch.

I was just dumbfounded. I just sat there like I was scared. I thought I broke the thing. We just become better and better being comfortable and that's all good. That's all good. We can have comfort in our lives is not about that. This is about what are we doing the majority of the time? We've literally got chairs called lazy boys. Now there's a time to be lazy but we also have to remember keep this mantra in our mind use it or lose it. Say it with me, use it or lose it. All right. So again, number one here use it or lose it, but we're looking at really keeping our movement capacity channels open. I want you, number one, to make it a mandate to use your body. To use your body in a variety of ways to keep those channels of function open and available for a lifetime. We've got to proactively use our bodies in a variety of ways to keep those functional channels open and available. If we're not doing it, it's going to get downregulated. So, we need a variety of movement. Nutritional inputs think about this as having a well-rounded nutrient diet for our body, for our movement capacities.

So, it's movement nutrients. So, we need a little bit of this a little bit of that and we're going to go through some specifics today to really lean into what those look like but whether it is the ability to get off of the couch, i.e doing a squat, box squats or squatting in general. Being able to get into a resting squat position. Whether it is being able to walk to walk backwards, to be able to balance on things. Just yesterday, I went to the store. I went to Erewhon. I'm here in LA. Erewhon, all right, Erewhon, if people haven't been to Erewhon before it's like Whole Foods is kind of like a state school. Nice! Credibility Erewhon is like Ivy League. That's the perception here. Okay I'm not saying that I'm not going to confirm nor deny any of these things, but I stopped by the Erewhon. And there was like a couple of cars, parked in interesting ways, and a truck was like dropping off some stuff because it's like a strip mall situation where the Erewhon is. And by the way shout out to everybody at Erewhon so many of the folks that work at Erewhon! Listen to The Model Health Show, baby! Let's go!

And of course, a lot of folks that shop at Erewhon come up to me. I've probably been there, I don't know maybe 15 times and probably 14 maybe one of those times somebody didn't come and say, "Hello," you know, that listens to the show. So, it's pretty cool. It's pretty cool. But anyway, so there was a part of the curb that was kind of separating the parking lot. The curb is obviously elevated and then there's like some grass, but there's this little space, it's kind of like a balance beam to be able to walk on the curb. And so, I just went right into play mode, seeing the world through a lens of play. And I was just balancing walking down that curb, walking to Irvine.

And I might have looked to the outside world like, "What is this grown man doing balancing, step on the crack breaking mama's back-type vibes?" But I don't care. I'm having fun. I'm seeing the world through a lens of play and also again getting that opportunity, getting a movement nutrient in for myself for my body for that capacity, to be able to balance and to be able to, you know, all the different things in my gait and to press off and the muscles firing and so many cool things are happening underneath the surface that we have no idea about the depth of how much that nutrient mattered. But again, taking the time, seeing our world differently, seeing our bodies differently and providing different movement nutrients whenever we see an opportunity; and or making it a must making it a mandate to do that.

So, and the same thing happens like when we're in the gym. We don't want to get caught in these, up-down push-pull robotic things like life doesn't come at us like that. We can do some of that stuff. And so, I'm grateful that we're now seeing a shift over in more unconventional movements and more functional movements. And people are utilizing the squat rack for sure, and also the hip thrust, hip thrusts are out here. Okay, they're out here heavy now, okay. People are getting the bar on the legs and thrust in big way. You want to be able to thrust? All right. That's another thing long term: Where's your thrust at? But some of it's ridiculous. Like we don't need 1000 pounds Hulk smash-type thrust. We're not trying to break nobody's hips out

here. And I'm not talking about you breaking, "Oh you have the muscle to break somebody else hip with the thrust." All right. So, but then there's even machines where you could load and then to do the hip thrust. But again, another movement input, movement nutrient to add to our repertoire so we can continue to do that movement long term. If you're not thrusting, you're not...

You feel me? All right, so that is number one here on our list of the five most important rules for fitness and functionality. Use it or lose it. All right. Now we're going to move on to number two on our list of the five most important rules for fitness and functionality. Number two is don't skip the small stuff. Don't skip the small stuff. There's a popular mantra in our culture now, which is: "Don't skip leg day." It's become a cultural shift. And it's amazing. I've seen it firsthand. For years, I can go into the gym, prior to recent, you know, maybe the last five years been a big change. But I would go to the gym squat racks always open. Nobody's using the squat racks. I always had... I could walk right up to one grab a squat rack. If there's two squat racks in the gym generally one is going to be open forever until about the last five years, maybe five to eight years has changed. Or somebody's in the squat rack doing curls, which is... That's kind of a... It's a little bit of a blast for me, but you know what he's using it. All good.

So, we've got this don't skip leg day. We understand the importance of having symmetry, of having upper and lower body that complements one another. Nobody's trying to have the whole you know, the chicken leg jump off. We're not trying to have it right. And what historically would happen it's the fellas who are utilizing the gym and the heavyweight and not putting as much effort into because they just want to have the guns. Sun's out guns out. But being able to have a proportioned physique that's the superficial part. The fitness and functionality come from having a lower body that works in symphony, that works in cooperation with the upper body to live a life and to do movements, and to express yourself. The superficial thing is not having the Popeye the Sailor Man-vibes going on with the upper body is jacked, the forearms are swole, and then the lower body is stick figure vibes. That's a superficial thing.

The real thing for our biology for our physiology is having a body that is capable of working together; that's strong throughout. Strength throughout... A chain of strength, an unbreakable chain of strength, from top to bottom and so that's what it's really about. So again, we have that don't skip leg day, but to add this to the mix equally is important and if not more important. When I say don't skip the small stuff. I'm talking about mobility. I'm talking about intentionally, purposefully focusing on making sure that your body is mobile, and you can take it through a variety and ranges of motion.

And this is so important mobility, we know that that translates to better performance. Yes. But even more importantly than that it is creating the condition so that you're training your body

in a variety of ranges, so that it's never caught off guard. So if you're in a situation where your arm goes back, whether it's like something accidental happens in your day-to-day life, or while you're competing whatever the case might be and your arm goes at a crazy funky angle, if your arm has been there before it dramatically reduces the risk of an injury occurring because there's a neural association, because there's a nerve pathway that's been established between that movement in the real world. Then whenever the thing happens it dramatically reduces the risk of an injury occurring. Now we talked about use it or lose it, where we have to do that thing consistently even if we're doing it super occasionally, we're still keeping it open. We're still keeping that nerve pathway alive. Now of course the more the merrier. If we're doing some mobility drills daily it's really dramatically helping to keep that capacity for functionality of fitness open much, much longer, more robust. And that's what we really want. So don't skip the small stuff. This could be super easy to do. I'm telling you this from experience.

I know! I know because we want to do the big things. And if we enjoy lifting, we want to do the stuff we enjoy that we want to do the big stuff. We're going to do the deadlifts, we're going to do the bench press, we want to do the you know, the pull-ups and the things like that. And the mobility stuff which we tend to do after, the "Stretching." If you're running short on time that's going to get forfeited.

So, what I've done is I've built it into my life. Every single day, multiple times a day now, I'll just take 3-5 minutes and run through a few mobility drills. Every day, if I'm... Especially if I'm sitting for a while, even if I'm kicking back with my wife and you know watching a movie or something, I'll get down on the floor. Even spending some time on the floor is a movement capacities and movement input that helps to keep our bodies more resilient over time; being able to move around on the floor. So, I might have my knees tilted in one way then another way or out in front of me, have my feet out in front of me, or doing a couple of you simple yoga poses, getting into the baby pose. Whatever it is just taking a few moments and doing a couple mobility drills.

And we'll put in the show notes a couple of links for some mobility drills that I like that I utilize. And one of them is coming from my really good friend coach Luca Hocevar, that's my guy and he's been on The Model Health Show two times now and if I'm having somebody a repeat guess, it's Familia, it's the family vibes. But also, just because they have such a wealth of knowledge and more things to explore and unpack. And so, we'll put a couple links for you. And again, if we're talking about fitness and functionality long term for life, these are the steps to get there don't skip the small stuff. We want to train our bodies so that they're not going to be caught off guard. Specifically we're training our brain, our nervous system, and our musculature, so they're never going to be caught off guard.

We stay ready so we don't have to get ready. And this becomes more obvious once you've experienced an injury. Then you realize how silly it can be we're not preparing our bodies for things. Now, of course there's certain things that are just kind of outside of our control right now. And things can happen, but there's so much we can do proactively to prevent the typical degradation and increased risk of injury that many people see as they move on in age. And unfortunately, this has happened to people younger and younger in our population. Their bodies, they're not taking care of the small stuff. And it's pulling them off of the football field or the track whatever their particular sport might be. There's a reason behind it. And this is also why some of the best programs out there are now incorporating movement practices with their students, with their student athletes. So, they're doing yoga practices, they're doing mobility drills. When I was playing football, we did static stretching.

Now, this is not to get into a this or that or that's bad, this is good. There's a place for all of this stuff. Sometimes you are in a static position and so static stretching is not bad but when there was a movement that really demonized static stretching saying it leads to increased risk of injury. There's some data that affirms that and there's data that disproves. It's really sketchy to consider that. I really feel that it's overall lacking in actually doing mobility drills, mobility exercises being able to take our bodies through a variety of movements and ranges of motion. And thus, being able to have that movement capacity available when you need it.

So again, we're going through the top five most important rules for functionality and fitness for a lifetime. Now don't skip the small stuff. That's number two. And by the way, we're talking about these connections whether it's with our muscles our various muscle fibers, neurotransmitters, even nerves being able to talk to themselves and even our brain cells. We've got these axon terminals and we've got these dendrites and we've got this gap of cells being able to send data back and forth. And there's this kind of information superhighway, like light speed processes, trillions happening every second in our body, this really remarkable communication. But here's the thing, all of the things I just talked about, all of these processes our bodies themselves are largely made from proteins. So, we know we have the cognitive connection with our muscles and protein but so often we don't realize hormones are proteins, enzymes which essentially these are kind of lock and key components; like enzymes have to be present for your body to do pretty much anything. Enzymes are proteins. This speaks to how important protein is, but protein has been so stigmatized in our culture. And it's really largely unwarranted because we don't understand how much the quality matters and how much it really matters to build healthy tissues. Again, emphasis on the quality.

We need quality amino acid's ability blocks. All these things are not created equal, period. The problem is we get into this lens where we're seeing this tunnel vision of okay an amino acid is an amino acid and there is... Even with when I was in my university classes, talking about need to make sure to let people know that clients know patients know to get in a multivitamin, so



they get their vitamin C for example and their you know vitamin B12. Today we know that there's not just one form of vitamin C. There's not just one form of B12. There's not just one form of vitamin D. There's not just one form of the list goes on and on and on. There are multiple forms, and these various forms are found in various foods. You're not going to find all of them in everything. And so again this speaks to the quality and the sourcing of where we're getting our proteins.

Now obviously real food has to be the basis has to be the basis but to hit that metabolic mark for many of us... Which I'm going to grab a copy of my best-selling book Eat Smarter, national bestseller off the shelf right here in the studio for you. And I want to share this insight. So, this is from researchers at the University of Kansas Medical Center. They used fMRI and discovered that adding more protein specifically for your first meal of the day literally decreases the signals in the brain that stimulate appetite and lead to overeating. And another study, and this one was published in the Journal of Nutrition showed that increasing protein intake led to enhanced weight loss and reduced blood fat levels in study participants. While yet another study and this was published in the American Journal of Clinical Nutrition, this was conducted by Danish researchers at Copenhagen University Hospital. And it revealed that over the course of a five-year study no macronutrient reduced the amount of belly fat for study participants more than protein had.

Now what about the hit campaign against protein and it increasing the risk of cardiovascular disease, for example. Well, I went through and really, really dug. And I ended up highlighting a study. This was published in the peer-reviewed Journal of Nutrition. And it revealed that despite the generally accepted belief that protein intake above the RDA increases cardiometabolic risk. Higher protein diets are associated with lower BMI, lower levels of visceral fat, and improved cholesterol profile compared to protein intakes at the RDA levels. The scientists found surprisingly higher ratio of protein can actually lower your risk of developing cardiometabolic disease. Now that was from the treatise Eat Smarter. I'm going to put this back on the shelf.

Again, if you're listening to the audio version of the show, make sure you come hang out with us in the studio. Come hang out on YouTube and check out the show. But the bottom line is this protein is critically important. We are a protein being. Not only we're talking about the structure of our cells themselves, but also communication between ourselves is deeply dependent upon high quality proteins. So as several of those studies indicated we've got to meet the protein needs for us as a unique individual. I didn't say at any point a high protein diet per se but optimizing that ratio of protein. And specifically, especially if we're focusing on fitness and functionality that ratio is going... If we're talking about grams, maybe a gram per pound of ideal body mass.

So, if we're targeting wanting to be 125 pounds somewhere in the ballpark of 100 to 125 grams... This is coming from data from one of the leading experts in the world on protein and muscle-centric medicine, Dr. Gabrielle Lyon. So how are we getting it in? So, when we're looking for a protein snack... So, a lot of obviously whole food, real food high quality meals. But we're going for a protein snack. What do we do? We tend to go for a "protein bar". Protein bars. And the marketing again. There's so little regulation on what that can look like. A conventional protein bar, like a protein bar that I used to get had so much sugar. And I didn't realize this because again, it was low fat. That was the marketing. It's back when I was in college. It was low fat high protein. And I'm not even taking into consideration how many sugars and different types of sugars are in this glorified candy bar. Then there was a movement where companies were like, "We need to lower the sugar just provide that protein," they're using so many highly processed synthetic ingredients and that's not what we really want as well. We want real food. And so time-tested time-honored for thousands of years for a protein snack, but our ancestors were not looking at it as a protein snack.

They were just looking at as a high-quality food source that was normalized in the culture would be something like a beef jerky or what we call today meat sticks. So, you've got jerkies, you've got meat sticks. And then if we are going for a protein bar that is incorporating even a more plant-based version of that, we want to make sure that it's just real food high quality food and being lower glycemic. So, but both of these are going to be found... And my friends, we actually have a table full of their snacks in the other room from PaleoValley. Now their meat sticks are 100% grass-fed beef, truly pasture raised. And also, they're made, because of the quality, they're made in slow small batches, and it actually takes five times longer to make them. But they trust that it's going to provide a better product for our microbiome for our health overall. And it's unlike anything else on the market. A lot of people are unaware that. It's also pesticide free which means a lot because cows that are getting some time outside, they're often grazing in pesticide laden grass.

Pesticide laden environments and we're inherently going to be bioaccumulating passing it on and getting into our tissues as well. So again, they're doing things the right way non-GMO, pesticide free, gluten and grain free. Regeneratively raised as well. They're checking every box. Huge fan of the folks at PaleoValley. Head over there. Check them out. It's [paleovalley.com/model](http://paleovalley.com/model), you get 15% off their meat sticks, their real food bars. Huge fan of their essential C complex real, superfood concentrate for vitamin C. That's [paleovalley.com/model](http://paleovalley.com/model), 15% off. They're incredible foods. And again, they're doing stuff the right way. We want to support companies that really care about what they're doing. And when you pop over there and check out who they are and what they're doing, you're going to love them, too. Again, it's [paleovalley.com/model](http://paleovalley.com/model). So, as I said protein is critical in all of these processes we're talking about especially as we're getting older. And for that point, we're going to look at a study conducted by researchers at the Ohio State University. This was published in

the Journal of Nutrition Health and Aging. Looking at our protein needs as we move on in our lifespan.

In their study revealed that as we age our protein requirements are even more important. The research spanning nearly 10 years found that approximately 46% of the aging participants in the study did not consume enough protein on a regular basis. This led to higher rates of muscle loss, increased risk of fractures, and higher levels of other nutrient deficiencies. The study also reported that people who didn't eat enough protein were also less likely to get in sufficient amounts of key micronutrients; micronutrients, proteins our amino acids are coming hand in hand and it's essential for our functionality, for our fitness long term, especially as we're aging our body's ability to process protein efficiently can decline. What's going to help with that? Actually, using our muscles actually eating real high quality food and just again checking the boxes of things that our genes expect from us To keep our ability to utilize protein efficiently long term.

We've gone through two of the most important rules for fitness and functionality moving on to number three. And number three, the most important exercise for function and fitness is walking. We're bipedal. We're bipedal. You're not going to find too many animals out here walking around on twos. They can hop up for a moment, a bear can hop up for a moment, but generally he's roaming around he's doing this bear thing. We're bipedal. We're designed to walk and for us to be able to utilize that capacity, we have to utilize that capacity. Our genes expect us to walk. It is a huge determinant of overall functionality because when we're walking our bodies are working in a symphony. We might not think that it's an upper body exercise, but we have studies affirming that there's even tonality and improved health upstream with our muscles when we're walking. And we're going to talk a little bit why that is but the bottom line is this is an incredibly important and environmental input. When we are walking consistently, it's an environmental signal that's influencing our genes epigenetic influence communicating with our genes and our genetic expression. And it's informing our system, our biology throughout that this person is needing to be able to move and operate in the environment.

This person is being useful this person is doing movements and we require energy to be able to do these things. This person is living, so let's keep energy pathways open. Let's help to support functionality and fitness because this person is being active. It's a signal and if we're not signal... Life is movement. Life is movement, if we're not signaling to our DNA to our genes that movement is important, we cease to have capacities. Those movement capacities start to go down. When we lose our lives cellular senescence, when, when things stop happening, it's a lack of movement. That's when life is over. Life is movement and so providing this movement input through walking is critical to the expression of our genes. Again, our genes expect us to walk. We're designed to do that far more than any other exercise. We could do the other

exercises. We can do some cool stuff. We could deadlift We can do the hip thrusts. We could bench press. We could throw stuff overhead, we could throw balls, we could you know hit balls with golf clubs, the list goes on and on. All the movements that we can do, the thing that we're designed to do is walk.

Are we hardwired to hit a golf ball or to do a static back squat for 10 reps? Is that in our genetic blueprint, like this is a required movement by humans? Hmm. We can do those things and we could do them to great effect but it's not a requirement. Walking is a requirement. Our genes expect us to do is. No disrespect to hitting the golf balls and squatting by the way. Again, these are all cool things that we can do. And do it to great effect however, we are designed to walk. And this is why it is in the top five most important rules for fitness and functionality for a lifetime. Now walking is also a huge driver of hormone health that helps us to maintain our muscle mass, functionality and more. Let's talk about testosterone specifically. This might be the first time that you're hearing about this because unfortunately our dominant education and health is often short-sighted or black or white, this or that.

In the context of our hormones this couldn't be more true. Testosterone is often framed as "the male hormone." While estrogen is often framed as "the female hormone." We already have established most people are well aware men and women have both estrogen and testosterone high ratios of testosterone in men, high ratios of estrogen in women, comparatively to each other. But this again, what I'm about to share with you might be the first time that you're hearing this, because yes men have a higher comparative ratio of testosterone, but testosterone is the most abundant hormone in both sexes. This isn't black or white.

This isn't male versus female. This hormone has been put into this pithy box and has been disregarded in how important it is for human health. Human health overall not just one sex or the other, for human health overall. Again, contrary to popular belief testosterone is actually the most abundant biologically active female hormone. And the information on this is detailed in a 2013 study titled Testosterone Therapy in Women: Myths and Misconceptions. And the researchers again comparatively yes, men higher ratio of testosterone women higher ratio of estrogen, but testosterone is incredibly important for women. It's incredibly important for all of us. Now the problem is of course if it doesn't fit into this black or white narrative that keeps us separate, by the way keeps us ignorant keeps us disempowered. We miss out on how important this is and what we can do as a species to protect and cultivate this primary driver of human health. Here are just a few things that testosterone is responsible for. It's involved in the production of our red... It's involved in the production of our red blood cells kind of important. You need your blood! If you don't have blood, you don't have life, it's the river of life itself.

So... Who knew? Again, black or white, this male female hormone no. But is needed to make our blood cells. Body fat distribution and utilization, testosterone is a primary hormone involved in body fat distribution and utilization. Testosterone goes down body fat starts acting up. It's like, "The parents are gone we're going to throw a baby bash. Okay, we're going to throw a bash at the house. And we might not like the outcomes." It's also involved in our bone density. It's so important again, as we age this conversation becomes more and more important. We don't have to have that stuff happen. We've got to protect and cultivate testosterone to support our bone density, also involved in muscle growth and strength. You know this one. This is important for everybody. This is important for being human. It's also involved in sex drive. Do I need to say more about this one? Kind of important, you know, especially again moving down the line, we still want to have that capacity. Also, it's involved in fertility itself keeping the species going. Yes, super important. Not so fun fact human fertility and including in that the rate of miscarriages and the decline in sperm motility, all of these.

So, for the past approximately 50 years, and we'll put the study up for everybody to see, the ability to reproduce has gone down about 1% every year for the last 50 years. One year doesn't sound like much but when you compound this, when we start to get into 50 years, it's a shocking decrease in our ability to reproduce a species, which at the same time we see this new benchmark hit with the global population. But the biggest part of that equation is people are sticking around longer but there are sets of populations already seeing this decline and affecting their population numbers.

We stretch this out over the next 10, 20, 50 years and we've got a serious concern on our hands. And we've done episodes addressing this. We'll put one for you in the show notes the most recent really looking at fertility rates and the influences on what's happening with our ability to reproduce as a species. And by the way again testosterone is a key player in this because guess what? Testosterone has been plummeting in our species the last couple of decades. But it's not for us. That's what this is about getting this education awareness. It's that first domino. Becoming aware putting some things in place. Also, testosterone is involved in breast health for women. Again, this black or white thing who knew. Testosterone is important for the health of breasts, also for sperm production in men. Testosterone is critical in that, it's also critical for our mental health. It's generally protective against depression, anxiety, and lack of motivation in both sexes. This is how important testosterone is. And we're weaving in this particular hormone because we're talking about this important connection with walking and how it affects our hormones that affect us system-wide. Now, let's tie all this together. A recent study published in the Journal Endocrinology analyzed the connection between testosterone levels and the amount of steps people were taking each day. We're talking about step count here.

We're talking about walking. In this particular study. They were looking at a set of middle-aged men. In this particular study, but again this affects all of us, but to actually look at step count

and the impact on testosterone the researchers stated, "Percentage changes in serum testosterone levels were significantly correlated with the total number of steps taken per day." In the study they found the most notable increase in testosterone happened at 8000 steps per day or more. 8000 steps per day significantly higher testosterone levels than people taking less. And by the way, they also had a subset that was doing 4000 or more and even in that those folks had higher testosterone than people doing less. So even with 4000 steps per day, but in that the researchers stated, "Total testosterone increased 7 nanograms per deciliter for each additional 1000 steps taken." You're just stepping in the name of love. You're just stepping up to the plate. You're just stepping over the haters. This is how important taking those steps are and directly increasing your production of testosterone. The power is in your feet. The power is in your hands to be able to utilize this is free. It is free.

You don't have to buy a course. You don't have to buy a supplement. You don't have to hire somebody just walk. And you get all of this benefit. All right, but the question is are we doing it? And as you know as a species today, we're not doing this. We're not getting these steps in, and it is something vital our genes expect us to walk. Side effect and we don't do it. We see alterations in how our biology is working, i.e the onset of disease diagnosis, which these are just symptom clusters. Down regulation in our ability to produce various hormones that keep us vital and young and functional. Insulin resistance leptin resistance reduced cognitive function all the things these are symptoms. This is feedback from our bodies that something is off. It's not indicating that we're deficient in Lisinopril. It's not indicating that we're deficient in Zoloft. It's not indicating that we're deficient in a drug. When we're not doing the things that our genes expect us to do our bodies make adaptations to function under unideal circumstances. 8000 steps a day. We're Luke Skywalking on these haters. Luke Skywalking!

Make it a mandate this year. This is the year. Get your steps in. Targeting between 8000 and 10,000 steps a day. From time to time if you don't hit that mark all good but generally that should be the minimum effective dose to protect your hormones. 8-10, we can get diminishing returns far down the line. We don't talk about is it because some people like, "How many steps can I take? What if I take 25,000 steps? Is my testosterone... Am I just going to walk around and just be walking... Knocking over like bookshelves and things like that just walking around because the testosterone is just so robust, and my pants are getting tighter." Will that happen at 25,000 steps? No. Okay. No, that will not happen. You're not going to get Pinocchio going on. But you will have an increase in your testosterone levels. Absolutely, but we can reach a place where we get diminishing returns, we're just walking ourselves into the ground, but that is so difficult to do. We're talking about tens of thousands of steps, of course. Yes, but even an occasional input like that, that's all right. For most people it's just getting to the place where they're getting the 8-10, the 8000-10,000 a day.

And that upper cap, is 20,000, 30,000 it's way down the line. All right, so we don't have to worry about that. But you're not going to keep walking to the point that testosterone is just oozing out of your ears, and you grow some antlers, and you got the Pinocchio. All right, that's not going to happen. All right, this guy's got so much test. All right, he needs to stop walking tie him up. All right, that's not going to happen. But overall, again, this is a vital input for all of us. We got to stop with this black or white thinking with testosterone and so many other things in our reality because it's about human health. Additionally walking significantly improves our insulin sensitivity, increases lipolysis, which is the release of stored fat to be used for energy, and improves overall metabolic health. Now we're going to move on to number four on a list of the five most important rules for fitness and functionality. Number four is grip strength. Grip strength. A study published in clinical interventions in aging titled Grip Strength an Indispensable Biomarker for Older Adults. The researchers... Actually, I'm just going to go ahead and read directly from the summary of the study.

It states, "Grip strength has been proposed as a biomarker. Supporting this proposition evidence is provided herein that shows grip strength is largely consistent as an explainer of concurrent overall strength, upper limb function, bone mineral density, fractures, falls, malnutrition, cognitive impairment, depression, sleep problems, diabetes, multiple morbidity, and quality of life." Again, grip strength is one of those things that helps to protect our body from all of these breakdowns. To continue on with what they shared in the study, "Evidence also provided for a predictive link between grip strength and all-cause and disease specific mortality, future function, bone mineral density, fractures, cognitive and depression, and problems associated with hospitalization. Consequently, the routine use of grip strength can be recommended as a standalone measurement or as a component of a small battery of measurements for identifying older adults at risk for poor health status." Grip strength is one of the primary simply tracked biomarkers for how long we're going to live and how long we're going to live healthfully. There's something about that grip strength that's really telling the story of our fitness and our functionality.

Now let's look specifically at one of these connections between grip strength and one of the leading causes of death. A study published in the Lancet in 2015 determined that weak grip strength is linked with shorter survival and a greater risk of having a heart attack or stroke. And this is according to an international study involving almost 140,000 adults from 17 culturally and economically diverse countries. So, no matter where you're at, you can't run from lack of grip strength. Now the question is what? Just like start there. What is... How... Grip strength? How is that determining my lifespan and my disease risk? Well, is it just specifically about having a strong grip? That's the question. Is it just is it something about the grip? Should we just be out here, just like, "Just grabbing stuff, just let me just grab this. I'm going to grab this potato. Grab this banana. Grab you!" Should we just be using our grip strength?

Well, what it actually means physiologically, it means that you can do more things that are useful for your survival. That's what it really means. Again, we're talking about an environmental input in our biology; this interaction. Grip strength is an indicator that we can do more things that are useful for our survival. Being active in general and occasionally lifting weights, you're going to have better grip strength. That's a given than the general population. But specifically, we want to focus on improving our grip strength. The grip strength is indicative that we are being useful and functional in the environment. We are able to do more things that are useful to the evolution or expansion of our species. We're giving input, we're getting this kind of interaction between our environment and ourselves that we are capable of being of value here on the planet of our species.

So, this is why it tends to keep us around longer and keep us more resilient when we have good grip strength this means we can do more stuff. We can be more useful. Now with that said what are some things that we can specifically target moving forward? Again, on these five important rules for fitness and functionality to improve our grip strength directly. Again, just strength training from time to time is going to be very, very helpful but in particular doing some farmers walks or farmers carries. So, this is where you're picking up a heavy implement in one hand or both hand and just walking and guess what you're doing? You're, you're doubling up. Okay, you're double dragoning. You're double teaming. Shout out to Jean-Claude Van Damme and Dennis Rodman. Bet you didn't know they had a movie together or I bet you did because you're about that life. All right double team.

Now, this interaction walking and grip strength, carrying a heavy implement we're getting a lot of bang for the buck here. So, a farmers walk. And so, with the farmers walk you, you want to pick up something that's pretty heavy, comparable where your grips... For me when I'm doing a farmers walk I generally it's my grip that starts to give way before my ability to walk and carry. I feel like I can keep going but the grip is like, "No, no, no, no, no, no, no, you got to keep on." But it just gets easier and easier the more that you do it, to the degree I'm able to just like pick up stuff or hand me a jar. Hand me a jar! I got that. I got you.

But just being able to have that grip strength... And by the way, there's a skill set to opening jars sometimes by the way. It's not just about the pure strength. You've probably seen there's viral videos of guys who, you know big muscles trying to open a bottle or a jar or something. You know what I mean? So sometimes there's a skill set involved but also grip strength might not be there. We can be superficially strong and some people that don't carry a lot of muscle mass have incredible grip strength. They're doing cool things. Maybe they're like rock climbing and things like that and they just got that grip. So, farmers walks. Dead hangs so just grabbing a bar and just hanging, just hold on. Like that's one of those things where you go to the carnival or whatever. They'll have those little things where you can win a prize by being able to hang on to the bar. They just if you've never done it by the way the bar moves. That's why it's hard



to do. So even doing that, having a little bit of movement, or finding a bar somewhere that has that movement capacity. But generally, just grabbing a bar or maybe a branch, a strong branch.

This is not we're not talking about a jackass episode here. I'm talking about strong reliable branch and hanging on. Just using your environment being creative and finding something to just grab a hold to and just hang there for a while. And in addition to that obviously with the grip strength and then being able to do a functional movement a pull up. It's going to be very helpful. Another functional movement that's going to incorporate the grip strength is rows. So, you could do seated rows. You could do one arm rows. You could do single arm bent over rows. There's a variety of different rows. There's so many different ways that we can get our row on. But again, it's the heavy implement. So, in addition there, of course, they're like handheld grip strengtheners, they're little tools like that. But generally, what we want to do is use our grip through dynamic movements. That's really the key here.

And this is why I also love steel clubs and maces. I have these two small steel clubs. There are five pounds each and I just hold them in my hands, and I could do these like little movements with them. And of course, I have larger steel clubs as well and I'm able to do all these different exercises. So, I could do a squat with it, with them holding it in front of me and I could squat and like drop it back and like go from arm to arm and also just being able to drop it from arm to arm doing a lunge. The same thing with my maces and of course with the mace with a steel mace... By the way, if you're like what is a steel club or steel mace?

These are tools that we've utilized for centuries, or similar tools that have a instead of being kind of this very superficial implement it's uneven throughout. So, it might have a staff portion and then there's like a big ball at the end of the steel mace. And so, like doing a mace 360 like behind my head and pulling it around and doing a variety of lunges and swinging motions with it. I mean nothing's better. Like there's nothing better and these are why... Over time I've added up my repertoire of tools that I have steel clubs, steel maces, kettlebells specifically my primal bells. I mostly have primal bells and they're all from Onnit. You can find all these tools at Onnit. Go to [onnit.com/model](http://onnit.com/model), you get 10% off all their fitness equipment including their primal bells, steel clubs, steel maces. They've got some incredible sandbags and hydro bags and things like that. They're always cutting edge, the primal bells that have the faces of these various primates on them which are really, really cool just to even look at you just want to just pick them up and play with them. Like the gorilla for example is like 72 pounds. So, if you if you want to play then you. you got to play.

But Onnit is a company that really put these things into the market in the first place. And so, I love these guys so much, go to [onnit.com/model](http://onnit.com/model). That's [onnit.com/model](http://onnit.com/model) 10% off exclusive with them for their fitness equipment. That's something that I hooked up and that's what you get when you go over to [onnit.com/model](http://onnit.com/model). So again, grip strength is critically important to

fitness and functionality for life. Now we're going to move on to number five on our list of the top five most important rules for fitness and functionality. Number five is muscle or die. Muscle or die. Now when I say this in my mind I'm connected to skate or die. There's this video game back in the day, skate or die. Die, die, die. That game was hard man. It was hard, but it's also cool. You got the skater; you got the little obstacles all the things but truly in our day and age today if we are lacking muscle we're setting ourselves up for so much metabolic chaos. Here are just a few of the benefits of building muscle seen in peer review studies.

Muscle significantly improves our insulin sensitivity. This is one of the hallmarks with reducing our amount of belly fat that we're carrying having a healthy body weight, and just improving our metabolic health overall. Muscle has also been found repeatedly to improve our overall hormone health. It's been found to improve our cognitive function; the brain muscle connection is phenomenal. We've done a masterclass on that which we'll put for you in the show notes. Muscle has also been shown to improve our immune system performance substantially. Muscle has been found to protect our bodies against injuries and also to speed recovery if we ever experience an injury. That cannot be stated enough. So important for that. Muscle has also been shown to defend against age-related degradation. Muscle keeps us younger, longer; muscle keeps us functional longer. It's one of the keys to not just improving our lifespan but improving our health span. We got to have muscle and it's something that we have the capacity, we can actually make it. It's amazing muscle in many ways functions as a reservoir for hormones that protect us against age-related degeneration. We can put, put them under the umbrella of "anti-aging hormones" but still that's getting into this black or white thinking.

It's so much more important, it's so much bigger than that. But if you just want to look through that lens, yes when you build muscle, you're creating a reservoir to use when you need it. And in particular again, this is part of the reason when you have muscle and if you experience an injury, you recover faster. You got a reservoir you got a bank account to help you get better faster, to help you to heal. You get to build up that bank account by building up your muscle. All right, muscle or die. Now, how do we do this? You already know this what we're about here, but at minimum, let's give a minimum effective dose. I want you this year strength training at least two times per week, make it a mandate. Whatever flavor you like or that you'll do, whether it's body weight stuff, whether it's going to a gym. Whether it's doing some stuff in your garage, whether it's getting a couple of these cool tools from places like Onnit and doing strength training exercises at home, whatever flavor it looks like at least twice a week it is a must. We are here to change the paradigm of health and fitness in our world today.

We have to be the model. Two times a week minimum effective dose. Even 20 minutes twice a week. Give your biology these inputs so that it is informing your genes is informing yourselves that I am a person of value, I'm a person that's being useful on this planet. This isn't

about superficial sh\*t out here in judging ourselves. This is about what we're telling ourselves to do, what we're telling ourselves to be. And if we're not giving these environmental inputs things start to rapidly degrade and decline and atrophy. We have to do this to be here, to be healthy to be able to live our life. The way that we want to live it. To spend time with our families, to travel to experience life to play, to love, to enjoy. This is our home. This is the only place you truly have to live that is yours and yours alone. That body of yours is priceless. So, let's take care of it. I appreciate you so much for tuning into the show today. If you got a lot of value out of this, please share this out with your friends and family. Sharing truly is caring.

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