

Self-Care: The 4 Pillars to Personal Optimization

ANDREA JIMINEZ: Good evening, everyone. Welcome to self care-- the four pillars to personal optimization. My name is Andrea Jiminez. I am the program coordinator at Global Connections. Presenting this evening for us today is Ramon Sodane.

He is the coordinator of fitness, services, and education at URec-- University Recreation. His presentation will be about 45 minutes long. We will have some time for Q&A at the end.

But if you do have questions during the presentation, please feel free to leave those in the chat, as well as if you have any technical difficulties, just let me know. And I'll be happy to help you out with that. So with that being said, I'm going to pass it over to Ramon. Thank you.

RAMON SODANE: Thanks, Andrea. So like Andrea said-- and she actually is one of the few people to say my name absolutely correctly. That was awesome. Thank you for that, Andrea.

So I do oversee the coordinating for fitness services, training, conditioning, all that, at the rec center. So what that means is I oversee the personal training, strength conditioning, weight room, small group train departments as well as well-being online. So well-being online is where I have a lot of interaction with Global Campus students.

It's our main focus actually. And we're actually starting to build more and more items that we're all able to do with you. This presentation was actually supposed to be given at the Global Campus summit, which unfortunately, got canceled this year as I was literally driving to it. But I'm very happy that I get to present it again.

And I had a little bit of time to think about some things to throw in there. So it is concerning, though, what I consider the four pillars to personal optimization. The whole concept-- I think about pillars is I'm a big Game of Thrones fan. And they say that the two pillars that hold up the world is the crown of the Faith. So I put that little spin on here. So I thought that was fun and cool.

But each one of these pillars that we're going to talk about are very symbiotic. Each one of these things is going to actually act as in relation to one another. And it's all about a balancing act with these items. And this we'll talk about at the end, again, of the presentation.

But you'll see there may be some overlap as we're talking while they are four distinct different items. The first two pillars that we're going to talk about I have in depth other webinars considering those topics that I will refer you to when we are in these, if you haven't seen them before, because you want to get more information on those.

We do have a series of webinars on different types of physical activity, nutrition related subjects, which you will see are the two first pillars. The other two, I haven't done webinars on.

We'll have some fun talking about those today. And I'm sure, later on down the road, we'll do some more specific webinars or informational sections on those.

So we are going to try to keep this to 45 minutes. If any of you have come to my webinars before, you know that I'm a little bit long winded. And I take a little bit of time.

So I'm really going to try to keep it at that 45 minute time frame. I do have a Dungeons and Dragons game to attend virtually after this. So hopefully I can get to that relatively soon or in time.

One more thing I do here at Washington State University just to let you know that I don't-- I'm not going to-- blindly, I don't not research this. I don't have journal backing or a national governing bodies that are also suggesting the same items that I am.

I am also an adjunct faculty instructor here for the kinesiology programs where I teach two different classes. One being essential to strength conditioning, and the other being nutrition related to fitness and sport. So with that, let's move on to what our agenda is going to look like for the day. So pretty short agenda, right?

We're going to go over each one of the pillars where I think each one has anywhere from three to four slides. We'll discuss each one, and not in super depth. Again, this is the birds look, the bird's eye view to all of these. And again, we have other webinars that go into very much depth about definitely the first two. And then we will have some type of questions at the end.

So let's just dive into it, right? Let's get into the first pillar. Well, I guess let's look at what the pillars are first.

So the four pillars that we have are exercise, nutrition, sleep, and then adversity, as in facing and overcoming adversity. And you will see that each one of these things are interrelated. And honestly, you can face and overcome adversity with exercise, nutrition, and sleep.

So it's obvious how these things will already blend and ebb and flow with one another. So these pillars are-- another way you can look at it then is at the base of the pyramid of personal optimization. It doesn't mean that there is not other facets that you also can attribute to personal optimization or to benefit your personal optimization. But getting these things down are really going to help facilitate everything to optimize afterwards.

And these are what I consider the most important variables to get down pat, to get regulated, to get into some sequence with and to consistently stay on top of to have the best personal optimization possible. And again, we slip here and there with some. We may not be exercising much.

We might not be getting as much sleep. But we're doing good things here and there. But these all affect each other as well.

So they are imperative to be able to get you to your maximum human potential. And I think it's maybe evident that these things are typical of human nature, not of human nature. But they're of human biology that we need to be able to consistently stay on top of our personal optimisation and human potential.

But a lot of time, especially things like sleep, are very much overlooked. So with that, let's dive into the first one and start talking about physical exercise, or just exercise in general, moving this meat vessel that we have, OK.

So like I said earlier, we have plenty of webinars that are going to look at in-depth about how to build a program, benefits of exercise, and all those kinds of things. So if you want to go look at some of those, like one we have called beginner's guide to-- how to build your own program, beginners edition. Look at that stuff.

You'll learn from those how to build your own at-home program or your own workout program and those kinds of things. This again, is the bird's eye view of why is exercise essential to optimize my human potential. And some of the things that I always bring up to individuals is, well, there's definitely a bunch of different areas that are going to be optimized from exercising. But the four that I usually narrow it down to are physical benefits, neurological benefits, emotional benefits, and social benefits.

Now first and foremost, I'm sure a lot of us are aware about many of the physical benefits that come from regular exercise. So it's going to have a huge drastic effect on our cardiovascular health. It's going to help prevent the build up of plaques and atherosclerosis within our arteries and things like that that can lead to heart attack, stroke. Any chronic inflammation honestly is one of the main precursors to most modern day diseases. And that consistently having some sort of exercise is going to help clear up that chronic inflammation.

It's going to reduce the metabolic markers, help with type 2 diabetes, and all those kinds of things. So we know that there is large benefits to our health that come from regular exercise. Also, just by adding on some skeletal muscle mass on the body, you're not only going to be able to help prevent yourself from overuse injuries or recovering from injuries at a faster pace with extra muscle mass and more dense bones-- like again, physical exercise doesn't just get your muscles stronger.

It gets your bones stronger. It gets your organs working stronger, all that kind of stuff. But by increasing that muscle mass, increasing that bone density, you're going to be able to avoid injury, or not avoid, but mitigate the chance of injury's taking place.

And also your recovery from injury is going to be sped up because you have all this muscle mass and bone density on your body to be able to help you through these processes. With that, just by increasing your muscle mass on your body, increasing more muscle on your body, will lead to an increased metabolic rate, or what we call your basal metabolic rate. That's going to dictate how many calories you burn each day just by sitting around doing nothing.

An individual-- say, we have two individuals. One weight-- both of them weigh 185 pounds. One is 185 pounds of 30% body fat. And one is 185 pounds of 10% body fat.

That individual who has 10% body fat has more muscle mass on their body. That more muscle mass is going to call for more energy production. So it's going to call in more calories to be burned each day.

So one way just to actually get leaner to be able to drop body fat is by having more muscle mass on your body because that muscle mass actually calls for more energy. And it just naturally increases your basal metabolic rate. So those are some of the very, again, bird's eye view that we get to see of some of the physical benefits that come from regular exercise.

Now, the whole-- what a lot of people don't realize is the neurological benefits that come from exercise. And this isn't just dealing with like synaptic connections and stuff like that. I actually wrote a paper in my graduate career called The Deaf and the Dumb Jock.

So everybody-- a lot of times when we were going to school when we were younger, we look at those individuals that were playing three sport athletes, just the jock kind of guy, just that blocky of individual that only focuses on sports and stuff like that. I wrote this paper because there is a myriad amount of evidence that shows that regular physical activity actually benefits academic performance.

The reason why we have so many rec centers at different college campuses is because the research that shows this. Rec centers, and especially we got Washington state, or if you go to Ohio State, they have three gigantic rec centers at their campus. They were as abundant as they are now before the 2000s.

So it definitely wasn't earlier 2000. But after the 2000s, once that research really started coming out, they started blowing up all over the place because there is a solid direct connection from physical activity and academic performance. This is why we offer the UFIT 4.0 program that maybe some of you were involved in with the Global Campus.

Global Campus paired with UREC to do a nine week long fitness challenge where you would have to write an essay at the end and maintain a certain attendance to be able to do it. And you could win \$1,000 scholarship. Two separate people won \$1,000 scholarship.

That is for the fact that we know that by-- that's why it's called UFIT 4.0 because it's going to help you get to that 4.0 grade. And it's because we know that exercise can benefit this academic performance. Now how that happens is a bunch of different ways that take place in the brain.

The one way that I always like to talk to people about is this item or this neurotrophic factor called brain-derived neurotrophic factor, BDNF, OK. When we talk about BDNF in the brain, BDNF is essentially what we like to call miracle grow for the brain.

So when you exercise that being aerobically or anaerobically, your body produces BDNF in a central nervous system. What BDNF does is it aids in neurogenesis and neuroplasticity. Neurogenesis is the birth of new brain cells and neurons. And neuroplasticity is the protection and the remodeling, the ability to take your current neurons, brain cells, and make them work more optimally.

So a long time ago, we thought that you couldn't-- that the brain cells that you had were the brain cells that you were going to have until you died. We now know that's false. You actually can gain more and more brain cells. And you can actually strengthen the current ones that you currently have through both anaerobic and aerobic exercise.

So when exercising, there is a large amount of BDNF that is produced in the brain to help drive the birth of new neurons and the protection of current ones. OK, so BDNF, essentially, if you want to think about it-- and this isn't how you would do it.

But the easiest way to think about it, I have a bunch of brain cells in a petri dish, take my little beaker, or pipette or whatever. And I pour it on a BDNF. And I pour it on these brain cells. It's going to help them grow. That's why they call it miracle grow for the brain.

This aids and helps memory retention, memory recall, and just overall academic performance. And we see this time and time and time again in the research. There's other neurotrophic factors that take place in the brain that aid in memory retention and memory recall and academic performance. But BDNF really is the big one.

Other things that we see in the brain from exercise is a reduction in oxidation. So those reactive reactive oxidation species. We also see increased heat shock proteins not only throughout the body but in the central nervous system as well.

Heat shock proteins are going to be able to assist you in recovering from damages. So any damage that has been done to the muscles, cells, or brain cells helps clear them out. It also helps benefit the immune system and things like that. And we also have that production of [INAUDIBLE] like norepinephrine and epinephrine, which give you that sense of feel good and get you moving and get you going.

So definitely lots of benefits neurologically that come from physical activity and exercise. We also see that there's huge emotional benefits that come from this. People first think of this, oh, well, I'm starting to look better. So I feel better.

Well, that may be true. And you do get some self image adaptations and feeling better about your self-image from the changes that take place in your physique. Working out-- and it's something I'm sure any of you have experienced before after working out, it just makes you feel better afterwards. I guarantee you there's been times where you were like I just don't want to work out, I don't want to do this.

And 15 minutes into the workout, you're like you're in a better mood. You're feeling better. Those endorphins-- everything's pumping through you. And you feel better.

So not only are you going to start getting more emotional security and emotional help that's going to come from maybe shaping your body in the way that you want it to be and things like that, really those are secondary to what actually takes place in my opinion. But you are getting this rush of dopamine and serotonin in your body from physical activity itself that emotionally makes you feel better.

And also we're going to talk about it later on down the road when it comes to the adversity section. Working out regularly is a difficult thing. And each workout that you do and you overcome and you push through is another goal that you set for yourself. It's another thing that you overcame. And it's another thing that you're going to make yourself feel good about.

You're going to feel worse if you told yourself you were going to work out and you don't than if you told yourself you're going to work out and you did. It's a mini goal. Every single one of those things, every time you make it to the gym, every time that you get in there, get in the locker room, change up, do your workout, that's a little goal that you've accomplished each day that's going to emotionally make you feel better. It's going to help with that mental health. And we'll talk about that stuff a little bit more in the adversity section.

So that goal setting and overcoming is huge for emotional health. And then there's social aspects that come along with it, too. Obviously, you're going to meet a new group of friends when you start going to the gym more often.

Maybe you were never an individual who worked out that often. You're going to get a new subset of individuals that you're going to be able to interact with on a regular basis to be able to help your social health when you go to the gym. I promise you, if you go to the gym at the same time every single day or throughout the week or your different times, you're going to meet your crew that's there.

And it's another just relationship that you have with individuals. And when you're working out and you're working hard next to them, you all feed off each other. It's very good for the social health and the social aspect.

Another thing that comes from outside of the gym-- and I explained this to my girlfriend a lot. We say like, OK, if you ever have a friend, and he's got a boyfriend, and we meet each other, and he knows about sports, or he knows about Olympic lifting, or he knows about Game of Thrones or something like that, we have something to talk about. So it's going to help bridge the barrier or bridge that gap of unfamiliarity with each other to be able to start conversation going.

Working out is the same thing. If two people are regularly exercising, they're going to be able to talk about that and be able to relate off that, which will help-- that may be the surface level

conversation. But it helps to get to those deeper levels of getting to know somebody. It helps that social fluidity take place. So we see that exercise can definitely benefit these four aspects a lot, but many others as well.

So with this, this is something that I love to tell people. And this comes straight up from Grey Cook, who is the founder of Functional Movement Screens. But what they have this quote that says move well and move often. We do have this meat vessel that a lot of us aren't using to the capability that we should or even to the bare minimum that we should, especially right now in the quarantine.

Everything's crazy. And then we've got Uber Eats coming to our house. Everything is being delivered. And sometimes like right right now, that's out of our hands. It's hard.

But even outside of that, we aren't putting this thing to use like it should be. So I don't care what your type of exercise is. It can be dance. It can be ballet.

It can be hiking. It can be skiing. It can be snowboarding. It can be jujitsu or other martial arts.

Just do something with your body to exercise. There is this quote that I love. And it's that motion is lotion.

If you wake up in the morning and you are stiff every single day, and you don't do any kind of physical activity, you're going to feel stiff like that throughout the day. I promise you, if you go through some yoga routine, you go through a little bit of some cardiovascular training, you just get that moving. You're going to lubricate those joints. You're going to start feeling better.

You're going to start noticing that oh, I can actually move around better. So move well and move often and remember that motion is lotion. And it doesn't matter what that motion is. Just move your meat vessel.

So going on to the second pillar, so nutrition. This is a huge one that is often overlooked, especially in Western civilizations. So if you've ever-- other webinars I've done-- so I've done like nutrition made easy-- the three principles to healthy eating. We've done introduction to intermittent fasting.

We've done introduction to ketogenic diet. We've done a protein one. We have a ton of webinars on the intricates with nutrition. It's one of my passions.

I actually want to get my PhD in exercise physiology nutrition. So this is the route that I like to go. And I find that nutrition is a huge component of self-optimization and an increase in our human potential.

So if we want to go back all the way back to Hippocrates, he knew it way back in the day. Let food be thy medicine and medicine be thy food. This is one of my favorite quotes of all time.

If you are going to think of health care, you should start thinking of it in the preventative standpoint. Typically, in Western societies, we don't do anything about our health until something bad happens. We're always feeding the symptoms.

We're letting something go wrong. And then we fix it. Why not be preventative about it?

Don't let these things take place. And the first step in not letting all these different disorders and diseases and metabolic syndrome and all these things that are super prevalent in Western civilization is by putting good food in our body. What you put in your body is going to dictate how your body works.

OK, and there's a lot of things that it makes it very difficult right now with just how our general food intake is and what our distribution train looks like and our supply chain looks like that take us out of how our body naturally processes food and the types of food that we are meant to process and utilize for energy. And we're going to about that here in a second.

But the first step-- honestly, the first two steps in this preventative health care medicine paradigm is going to be proper nutrition and proper sleep. These are things that you can easily do. They may take a little bit of effort to do, face adversity, overcome adversity. But they are easier than you would think to be able to do.

Because once you start getting them down, once you start eating well and eating well often, and sleeping well and sleeping well often, you're going to feel better. And it's not going to be as hard to do anymore once you get in the swing of those things because you're going to be like, oh, I can't-- because maybe you're going to eat something that isn't as healthy. And you're going to feel like trash afterwards. And that's why I don't do that anymore.

So you have to think about if you don't want to be going to the hospital, you want to do all that you can to prevent this buildup of those possible damaging disease that take place, put good things in your body. Again, what you put in your body is going to dictate how your body works. And then this comes to a little quote that I put down here.

So everyone's like you are what you eat. And in all actuality, you are-- you're not just what you eat. You are what you eat, eat. And that goes for animal products and just how your food is grown.

You need to look into these things and see how it is being grown, how it's being fed. Are you getting a cow-- your ground beef that's grass fed all that kind of stuff, free range, all that kind of stuff? Or are you getting a cow that is in some factory farm that's only eating leftover corn and other high grains, being pumped full of antibiotics and hormones and those kinds of things?

Those also have effect on your health. Same thing with how certain foods are grown. Those are going to have little contributions to how your body is going to dictate and be able to utilize

those items. So you aren't just what you eat, but what you eat, eat. So it's important to take that into consideration as well.

So this brings us to the concept of JERF. So if you want to go down the rabbit hole with this concept, please go check out nutrition made easy-- three principles to healthy eating. It's on the Global Connections video vault under the Health and Wellness videos.

It's the first place I tell people to start when it comes of learning these basic tips and tricks of how to eat healthier. It's like you don't have to track all your calories. You don't have to get exactly this and exactly that. Essentially, you just need to JERF.

And what JERF stands for is Just Eat Real Food. OK, this concept really came out from other individuals in the health and wellness field talking about eat real food. And I'm calling him out. My best friend and I-- I'll say he actually did.

I think he came up with JERF honestly. Don't ever tell him that. But he put the J there. Just eat real food, right? So we always call it like JERF shopping, all that kind of stuff.

So where we came up with this concept is we first got introduced into our undergrad about these blue zones in the world. Blue zones are areas where the population lives a lot longer than what the average age of dieing is. And we're like, why are they living that long? What is dictating these individuals to have a longer lifespan?

And one of the things that we saw was a commonality amongst all these civilizations was they were consistently eating real foods. OK, so a lot of people are like, oh, should I eat high carb and low fat, low protein? Should I eat high protein or low fat, low carbohydrate? Should I eat high fat like a ketogenic diet? What do I need to do to be healthy and stuff?

Well, I'm here to tell you that it's not really about your macronutrient distribution. OK, you can-- and this is what we saw from these civilizations was there is cultures that were predominately surviving off carbohydrates like many of the Asian cultures. There was also Aboriginal tribes and hunter gatherer tribes out of Australia, South America, Africa that were predominantly living off of protein and meat.

And then there was Inuit tribes and other Eskimo like tribes that were surviving predominantly off fat. And we did not see, or you do not see in these civilizations the same metabolic markers, metabolic syndromes, cardiovascular diseases that take place in our typical Westernized society. And that's the fact that they're getting their carbohydrate source or their protein source or their fat source from real food.

They're not getting it from what I like to call cardboard carbohydrates, prepackaged foods, lean cuisines, Hot Pockets, all that stuff that you see in the center aisles of the store. All that stuff-- and we're going to talk about the evolution of human nutrition here in a second. Our body has

not had a long amount of time to be able to evolve and know how to handle those foods, break them down properly, and utilize them as energy.

And for the most part, a lot of those foods are just energy dense. They don't come with the same amount of micronutrients and phytochemicals and vitamins and minerals, and all that are going to help optimize how your body works, how your metabolic functions take place.

So it was very interesting to see that it wasn't the macronutrient distribution that was leading these individuals to longer lives and lower disease rate of what we see of typical diseases in Western society. But it was the fact that they were getting their food sources from real food sources. So when I give some ideas like, OK, well, how do I identify what's real food?

Well, I tell people typically it's going to come from the earth. It's grown from the earth. It's animal products, meats, all those kinds of things. If you're going to look at the label of something, it has minimal to no ingredients in it.

It's not going to have things like food dye number 6 or highly branched like the dextra or all these crazy things that you can't pronounce. So minimal to no ingredients is a real way, a good way to identify what we would consider real foods. Does it rot?

If it rots, it probably is a real food. The one thing that we've seen, it's very important for our civilization to survive is we have all these foods that essentially can last for years, years, and years. But what makes those chemicals that go in there, those substances that go in there, we don't really know if they're beneficial for the body, if they're harming the body, if they're indifferent to the body.

But what we do see is that with the drastic intake of food that has been starting to develop after the Industrial Revolution and especially the distribution of the food supply chain is that we've been drastically sicker with these maybe not such acute disorders that kill us right away, but with these chronic disorders that kill us over time and really lower the quality of life that we have.

And then if we're going to identify foods that are unnatural, think of things that have tons of ingredients. They have a bunch of additives, food colorings. Added sugars is a huge one. Trans fat's a huge one.

Trans fat is actually not even a real fat. It's a hydrogenation process where I can't remember if they even remove or add hydrogen to it. But it allows fats that are typically liquid at room temperature to be solid at room temperature. And it's directly correlated with developing atherosclerosis and plaque in the arteries and stuff like that. Just really not good for you.

And then foods that have super long extended shelf life are typically not real foods. So being able to JERF is absolutely essential to try to maintain that preventative health care model and stay out of the hospital. Some other things to think about with the JERF concept-- and these

are, again, go check out that nutrition made easy webinar. But certain other components I have, too, like eating from the rainbow.

So eating fruits, vegetables, and meats of all different colors. Foods have different colors because they have different micronutrient profiles and different biochemical profiles. So things that have a bunch of B and C vitamins or this color, or things that are A and D have this color.

So if you eat a big distribution of different colored foods, you're going to get a good distribution of micronutrients. And micronutrients are going to be able assist in your body's function to be able to break down and utilize the energy. They don't give you energy. But they help your metabolic processes take place. So they're absolutely essential.

And I tell people shop the perimeter of the store. Typically the perimeter of the store is where all the fresh foods are at. And as you can see in that webinar as we talk about the 80-20 rule, I get that you don't need to-- if you have a doughnut one day, you're not-- you shouldn't be like, no, no.

Don't give up. It's like the 80-20 rule that you're doing, more often good than bad, you're doing better than honestly most of the core population. But we no longer, again, live to survive. We live to enjoy and learning how to have some self-discipline with that. So go check out Nutrition Made Easy-- Three Principles to Healthy Eating if you haven't because it'll go into that JERF concept a very much deeper concept.

So what we have here is essentially this concept that I like to talk about with nutrition that is the evolution of human nutrition. Let's see if I can move this because I'm-- OK, cool. So what I was referring to earlier was that we've only had a very small amount of time for our body to adjust to the regular food supply that we are consistently eating now. OK, so this quote up here--

So I'm just going to read this one. And then I'm going to chime in with how I actually think about this. So this says our genome was probably selected during the late Paleolithic era during a time when humans existed as hunter gatherers. At that time, there was no guarantee in finding food, resulting in intermixed periods of feast and famine.

In addition, physical activity had to be part of our ancestors daily living as forage and hunt for food must have been done through physical activity. So what he is stating right here is we've had essentially our genome of how we are able to develop our digestive system was developed a long time ago when we were often in a fasting state. And now we're consistently in a fed state.

It's very rare that we're not having some sort of foods inside of us where we're getting a lot of physical activity. And our body was evolving over a long period of time to handle this. And also in that time, of that paleolithic era, the late paleolithic era, we were surviving off what I would call real foods or natural foods.

So where I argue with this quote is, I actually back it up even way farther than this with the evolution of human nutrition. I go back to our earliest ancestor, who is Australopithecus. Australopithecus is the first bipedal hominid that ever was on planet Earth. And he was alive. And she was alive around 3 million, seven, or about 3.9 million years ago.

OK, however, if you want to go back to our very first, direct human ancestor, that individual was considered or called Homohabilis. And they were around about 2.5 or 1.7 to 2.5 million years ago. So in my opinion, where our digestive system in the way that we evolved to eat food, the way that we evolved processed food, the way that we evolved to be able to obtain food and utilize the energy from it, started all the way around over a million years ago at least.

OK, so what has happened is we had all that long period of time to evolve to be able to digest and utilize that food for energy, to be able to use it to build muscle, to conserve fat, all that kind of stuff. And only, honestly, if you want to give the advent of massive agriculture, that's about 5,000, 10,000 years ago when we started seeing like local farms and stuff start building up to where you're actually harvesting more food and things like that.

But again, all natural foods, doing a lot of physical activity to get those foods and things like that. But really, it wasn't until the Industrial Revolution-- so I think around 1760 to 1840-- that we had a drastic change in our food supply chain. The distribution of food is much more widespread.

And there's much more processes into making food and making foods. They're moving away from this natural real state of food. With that, it was like in the mid '50s, maybe late '40s, mid '50s when high fructose corn syrup and added sugars were developed. And then trans fat was developed around the 1970s.

And then I mean, in the last 10 years with the Uber Eats and all the delivery and all this stuff that makes food so easily attainable, especially this energy dense food so easily attainable, that we've only had, let's say, 200 years if we're going to go back to the Industrial Revolution at the start of it, compared to a million years of evolving in a different way where there was natural foods being eaten and physical activity to get those foods. And now we have 200 years of a bunch of not natural foods that are consistently being consumed without ever reaching a fasting state with minimal to zero physical activity to be able to obtain that food.

And this is why you have seen a drastic change in the physique of humans, in the metabolic disorders that we're dealing with, and a lot of the chronic diseases that we're dealing with. We also-- I mean, the food abundance that we have-- the USDA creates about enough food for each American to intake about 4,000 calories a day. That's twice the amount of what the typical American needs.

We have already talked about this lack of physical activity. We also have this thing that I like to call the hedonic hunger. Essentially, we never knew when the next famine was going to come as

we were hunter gatherers, or we were roaming the Sahara plains. We never knew what was going to happen.

So our body got smart and was able to pack fat on it because if we have fat on it, then when the next famine comes, we're going to be able to use those calories to be able to maintain our energy supply. So we naturally gravitate towards energy dense foods.

So even the thought or the look or the smell of energy dense foods gets us hungry even if we already are fed because our ancestors were like that's energy dense food. I don't know when energy is going to come again. I need to have that right now even if I'm not hungry. So I can put this fat on me right now to be able to have it for when the next famine comes.

We don't need that anymore. There is no real next-- well, who knows what's going to happen. But for the most part, especially in Western civilizations, we aren't having to deal with that. So we still have this innate inclination for energy dense foods. But they're readily available.

And we're consistently eating them over and over and over again. So the presence of this desirable food-- just the anticipation of it makes you hungry. And so this susceptibility to these food cues can lead to over eating in a society where readily available calorie dense foods are very inexpensive.

So this overrides the body's ability to regulate consumption with the feeling of fullness. And then finally, it does not behoove the food or diet marketing campaigns to try to promote not eating as much. There is no money in not eating food.

So instead, eat this food to lose weight. Eat this food to gain muscle. There's not like hey, maybe you should just take a break. Maybe you should just not eat until you feel like you're going to explode.

There's no money in that. And that food marketing industry, I think, is about a \$10 to \$15 billion a year industry. So with the relatively rapid dietary changes that we've gone through, this is likely produced a nutritional environment that is not in accordance with our natural genome. So more on that in the Nutrition Made Easy. Check it out if you'd like to.

OK, going into the third pillar, all right, sleep. This is probably the most often overlooked. This is one that I am absolutely terrible with.

My sleep habits are not where they need to be. And it drastically shows. And this is something that I'm definitely going to start working on.

So first off, I would highly recommend this book. It's called Why We Sleep-- Unlocking the Power of Sleep and Dreams by Matthew Walker. He's a neuroscientist from UC Berkeley, who has done, I think, 20 to 30 years of research with how sleep benefits the body, how lack of sleep is negative for the body.

If you want to just dip your toes with it, he was on the Joe Rogan podcast one time. So if you want to go on YouTube and search Joe Rogan and Matthew Walker, really good podcast. That's where I got introduced to the book.

And the book absolutely blew my mind. So before diving into this pillar, I wanted to give you two quotes from this book to give you an idea of where we're coming from. So first Matthew says, or Dr. Walker I should probably call him. The shorter you sleep the shorter your life.

The leading causes of diseases and death in developed nations, diseases that are crippling health care systems such as heart disease, obesity, dementia, diabetes, and cancer all have recognized casualties links to a lack of sleep. Secondly, he says that sleep is as universal in animals, even in insects and worms, despite its apparent drawbacks such as vulnerability to predators and loss of time of productivity.

So if you're asleep, you're not moving. You're much more likely to get eaten by a predator. So when a biological feature is preserved so deeply in evolutionary history, it is usually a critical function. This must mean sleep is a critical function. And it's important to understand why it is important.

So a lot of people think, I'm going to be way more productive if I just do five to six hours sleep a night. I'm going to be awake more often. I'm going to have more time of things to get done.

It is very much proven, not just by this individual, but by many other articles I went through that your performance and your ability to complete tasks is very much reduced with a lack of sleep. And we're going to talk about even what the hours of sleep is that you should be getting. And it's going to be more than you think to be able to optimize your human potential.

But if you're one of those individuals that I'll sleep when I'm dead, I want to be awake more often to be more productive, I promise you that the research is showing 100% the opposite. So let's first dive into some of the negatives with a lack of sleep, some of the things that take place.

I broke these up into physical, cognitive, hormonal, and then just other, or various. And this is by no means-- this is intense because this is by no means comprehensive. These are just some of the things I pulled out.

So there is much more things that are going to be negatively affected by a lack of sleep. Some of the things that we see that are going to be negatively affected with our physical abilities is our time to exhaustion is going to be reduced by 10% to 30%. So if I typically am able to run 10 miles, I'm going to be-- that's going to be reduced by 10% to 30%.

My time to exhaustion drops with the lack of sleep. I'm going to have a decreased aerobic output. I'm not going to be able to produce as much aerobic capacity right. Muscle force is going to be reduced.

So my ability to contract a muscle or to create power in a muscle to utilize strength-- what's it called-- graphs and then also vertical jumps to identify power and strength capabilities after a lack of sleep and the forced production drastically reduced after just even less than seven hours of sleep. We see an increase lactic acid buildup. I'm going to hop on my high horse here real quick.

Please do not think that lactic acid is what makes you sore. This is a whole other subject that I go over with my kinesiology students. But when there's a buildup of lactate, and it's not even lactic acid, when there's a buildup of lactate in the blood, that's correlated with a buildup of hydrogen protons. And when there's hydrogen protons that are a buildup in the muscle cell, that leads to something called metabolic acidosis, which decreases the pH of the muscle, increasing the acidity, and that's what makes you feel sore and like the burning sensation when you're doing a bunch of curls and stuff like that.

So if you're having an increase in lactic acid and lactate build up from a lack of sleep, you're going to have that increase of hydrogen protons at a quicker rate. You're going to reach metabolic acidosis quicker. And you're going to have peripheral fatigue take place sooner than it typically would.

You have reduced blood oxygen saturation, meaning that your red blood cells will not have as much oxygen in them, which is going to be related back to that decreased aerobic output. To be able to utilize your aerobic capacity, you need oxygen. So if you have less saturated oxygen, or blood with oxygen, you're not going to be able to utilize oxygen at a cellular level to be able to produce that aerobic performance of the same capabilities as you would if it was more saturated.

We see that there's an increase in blood carbon dioxide. This is due to the inability to exhale it. And there is the decreased ability to cool. Your sweat rate is actually going to be damaged.

Some of the cognitive functions that we see with damaging cognitive functions that we see from a lack of sleep, you have impaired rational decision making. One thing that Dr. Walker says, if you take one thing away from his book, please do not drive when you are drowsy. Your reaction time, your rash in decision making is drastically impaired even just from a less than seven hours of sleep each night.

It impairs learning and memory retention and recalling. It's very interesting in the articles of what you see happens to your synapses and your neurons in your brain cells due to a lack of sleep. But it essentially just completely mitigates and hampers and inhibits your learning abilities, memory retention, and recalling. It impairs concentration.

Again, we see that with our impaired reaction time. And it actually overall impairs your creativity. So this is where I'm going to get more work done when I sleep less and awake more often. You're going to work better in a shorter amount of time if you get more sleep than working crappier for a longer period of time. Remember, quality is much more than quantity.

Some hormonal factors that we see. There's a big one for our boys out there. We see large decreases in testosterone levels. I mean, large decreases.

See decreases in growth hormone, which is essentially the anti-aging hormone, the thing that's going to make you actually have lots of regensis and all that stuff taking place in the body. It impairs your immune system. You're more likely to get sick more often when you are lacking sleep in a time, especially right now when we need a strong immune system. Lack of sleep is going to damage that.

We see that can lead to type 2 diabetes with glucose intolerance and insulin resistance, increased cortisol, which is a stress hormone, increase gremlin, which is the hunger hormone. The more gremlin you have, the more hungry that you feel, which could lead to weight gain.

Decreased leptin levels. Leptin is-- there's all kinds of things that go on with leptin. You go to my intermittent fasting webinar that we talk in-depth about leptin. But one of the things it does is helps with calorie output and calorie production, or not production, but calorie utilization.

And if that's decreased, and then you're eating more, you're just going to gain more weight, which we see in [INAUDIBLE] the first one is increased weight gain. Then we see increased risk of cancer, heart disease, Alzheimer's, increase in chronic inflammation. We know that inflammation within the body is actually one of the precursors to most modern day diseases.

It impairs your social fluidity. You're just not going to be as sharp in conversations. Another interesting thing that I thought was really interesting is that it actually limits the efficiency of vaccines. So if you got your flu shot and you're not getting enough sleep throughout the year, you're effectiveness of that flu shot is actually going to be minimized due to the lack of sleep.

So some things with sleep to add on to, so you see I have at the bottom here, is six hours enough? So actually six hours is not enough. And I was in the firm belief about this, too, because I read some stuff that talked about that.

Oh, you just get six hours of sleep. And it's all right. That research came from many hunter-gatherer tribes. Our ancestors we're getting more around 6 to 6 1/2 hours sleep. And their cognitive functions we're just fine.

However, fasting and starvation will actually reduce the time that you need sleep because there's other attributes that come in with fasting that are going to aid in those cognitive functions. However, in a society where we are plentifully fed, essentially, we just have everything plentiful to us. That six hours of sleep is actually not going to be beneficial.

So humans actually need more than seven hours of sleep each night to maintain cognitive performance. So one thing that was said is even after 10 days of just seven hours of sleep a night, so 10 days in a row, just seven hours sleep a night is equivalent to the brain being as

dysfunctional as it would be after going 24 hours without sleep. So we see that consistently just getting seven hours of less is actually drastically impairs our cognitive performance.

Also, three full nights of recovery sleep, so trying to recover from not sleeping a bunch, so more nights and even a weekend is insufficient to restore performance back to normal levels after a week of short sleeping. So the human mind cannot accurately sense how sleep depravity even is. So that's why I say down here is insidiously you're very bad at objectively assessing the decrease in your performance under sleep deprivation when sleep deprived.

Since you are sleep deprived, you are actually thinking you're performing just fine. But you're thinking this way because you're sleep deprived. It's like a vicious cycle.

So you don't realize how much you are actually losing when you're sleep deprived because you're sleep deprivation is impairing your perception of your performance, which is just a vicious circle. Now everyone's like will naps helps? Will naps help?

So I'm a big napper. I take a nap every single day. So power naps may momentarily increase the basic concentration under conditions of sleep deprivation.

However, naps cannot salvage more complex functions of the brain, including learning, memory, emotional stability, complex reasoning, or decision making that are done during full sleep. You have to understand when you're going through that deep slumber, you're going in and out of these cycles of sleep.

But you want to go through at least five of them where you're going through a non-rapid eye movement and rapid eye REM sleep. And there's all kinds of different cognitive processes that are taking place during those sleep times, which you're not going to get a nap. So to be able to have those functions take place and be able to have all those cognitive reconnections and building up and pruning of memories and storing here and moving this there, you need full sleep for that, OK.

So one thing that should be mentioned, there is people out there that are called true low sleepers, who can actually sleep less than six hours a night without impairment. However, these true low sleepers only make up less than 1% of our population. So this is just really to kind of not to scare you, but to let you know that sleep is absolutely imperative and getting more than seven hours of sleep is absolutely essential.

And how do we do that? It's hard to sleep. I've got all this stuff going on.

Well, I've got the National Institute of Health 12 sleep strategies. And this is what Dr. Walker actually recommends. And there's all kinds of other things that go with this, OK.

So first and foremost, follow a regular sleep schedule. This has an asterisk next to it because it was stated by Dr. Walker that if there is anything that you put into play from these 12 steps, get this one going. Go to sleep at the same time and get up at the same time.

Create a sleep schedule. Have some sort of thing. If you're going to read your book, don't read your iPad. We want to avoid that blue light and stuff like that. Read a book.

Have your system where you're doing that and then you brush your teeth. Have your system where you fall asleep. My girlfriend-- I think she's here right now. I'm not sure if she still is.

I'm so jealous of her because when we are going to bed at night, she does her thing. She has a beauty routine that she does. And then when she lays in bed, she'll look at me. She's like, I'm not tired.

I'm like you are going to fall asleep in five minutes. And I'm going to be awake for 40 minutes. And it's like that. She's out like a light.

And I think it's because she has that sleep routine down. She's got it going. It's the same process. And it puts her to sleep. So having a sleep routine is going to help you get to sleep.

We also want to exercise regularly. That's going to help our sleep patterns. But we don't want to exercise within three hours of bedtime. This is one of the things that I'm not great at.

We want to avoid caffeine and nicotine. And if we are utilizing caffeine or stimulating or things like that, we want to have it 8 to 10 hours before we're going to sleep. So you can see the stimulating effects of caffeine lasts for about eight to 10 hours.

So avoid alcoholic drinks before bed. A nightcap may help you get to sleep. But it affects the quality of your sleep.

So you won't actually get any of that deep REM sleep. Actually, the same thing with cannabis. Cannabis use right before bed actually does not allow you to get in that deep REM sleep. That's why a lot of people who are typical cannabis smokers say that they don't have as many dreams when-- or they have a lot of dreams when they stop smoking and that's because that they actually are entering REM sleep again.

Avoiding large meals right close before bedtime is another one that I'm bad at. Avoid medicines if possible that disrupt your sleep. Avoid napping. So after 3:00 PM.

So my nap time should start being before 3:00 PM. I'm not great with that. So again, boost brain power. But it can take it longer to fall asleep later at night.

Then again, so develop that bedtime routine. So that's the thing I was talking about with my girlfriend. And then have a good sleeping environment.

So limited distractions in the bedroom-- computer, cell phone, tablet, iPad, all that kind of stuff. Keep your bedroom as a comfortable temperature, not too hot, not too cold. Get sunlight during the day. Actually try and get at least 30 minutes of natural sunlight a day is going to help you sleep a little better.

Taking a hot bath or shower right before bed can help drop the body temperature, which makes you feel sleepy. And try not to lie in bed awake. That's one of my bad ones. If you catch yourself staring at the clock, try to get up and do something that makes you sleepy and get back to bed.

OK, so the final pillar, facing and overcoming adversity. I see that we're at 7:20. So I'm going a little bit long. But we started at least probably like four minutes late.

So I'm going to keep trudging through this. We're getting close to the end. But this is something that I find absolutely imperative to be able to optimize your human potential. And it's something that we don't utilize that much anymore because a lot of us have it very, very, very easy.

It is absolutely essential and imperative and it is in your human nature to develop self-worth and self-efficacy from trying challenging things, failing at challenging things, and then overcoming these challenging things. If you do not consistently face adversity in your life or develop certain ways that you can overcome certain tasks that are difficult at first that take time to overcome, when you do have a difficult thing take place in your life where you do have to face adversity like a freaking quarantine, you're not going to be able to handle it as well.

Because when you are consistently putting yourself in situations where you have to face something that's difficult, you fail at it, you fail at it, you get a little bit better at it, you get a little bit better at it, you finally start to overcome it, you consistently do those things, you're going to know even if something's in a complete different context, that if you put your mind, body, and spirit to something, you will be able to overcome it. So it's absolutely imperative to do things you suck at.

This is what I tell people all the time. Do things that you suck at. And most things that you try for the first time, you're not going to be very good at them. You're going to be embarrassed.

You're going to feel like you're stupid. You're going to feel like you're all over the place. And if you just leave it right there and don't come back, you're never going to have that sense of self-worth or self-efficacy that comes from overcoming that.

Failure is a huge thing. Failure is a part of life. You should not try to go through life without facing failure. You need to learn how to take failure as a lesson and to be able to work with it and understand that it doesn't denounce who you are.

So face and overcome adversity, do things you suck at. So self-efficacy is this concept of an individual knowing that they can overcome an obstacle. I'm sure a lot of you heard about Bender's whole self efficacy concept.

But the way to build this self-efficacy in yourself is by consistently doing things that are difficult and then overcoming them because then you know oh, if I just put in the time and work, by putting in the practice, I'm going to be able to overcome it. I'm going to be able to get it down.

And this can be all kinds of things, just like, for instance, I took up snowboarding a couple years ago. And I was absolutely terrible at it. But I had known from other things that I've done that if I just stick with something, and I just do it over and over and over again, I'm going to get better at it. Well, I can say I'm pretty good at snowboarding now honestly, not the best obviously, but I mean, I can hit jumps.

I could do things. I can be a missile down the mountain, all that stuff. And it's also a humbling experience. Doing things that you're not good at, it reminds you that you're human and that you just can't take on everything. You need some help sometimes.

You need to work at things. Another one that I like to utilize, things like jujitsu. Jujitsu is super humbling. You'll have somebody that's half your size on the mat. And you might be a big, strong guy. And you're going to go get work if they just even have the most little bit of technique.

It doesn't have to be physical things. It could be public speaking. It could be doing puzzles.

It can be anything that is hard and you have to put your mind to it. And you have to embrace with what Joe Rogan calls embracing the suck. Embrace that it's terrible. And then overcome it. And then you will feel much better about yourself.

And you will develop something inside you that you're not going to get from anything else. So it's absolutely imperative to face and overcome adversity and learn how to deal with failure. I'd go off on this more, but we're running out of time.

So with this, you got to remember that all these things, they're a balancing act. And they are a symbiotic relationship with each other. You see the little birdie down here, picking the stuff out of the deer's head, right? That's a symbiotic relationship.

Then you see this elephant obviously isn't really doing this. But these things-- adversity can come from trying to develop good sleep habits, or good exercise habits, or good nutrition habits. It's a symbiotic relationship. Good nutrition leads to good exercise. Good exercise leads to good sleep.

Good exercise leads to good nutrition, and so on and so forth. These things all are beneficial to each other. But they need to be balanced. I was going to talk more about this slide. But we're running out of time. So just understand that these things are fluid with one another.

And finally, this is one of my favorite I think you can tell that I like quotes. But this is one of my favorite ones. So we are what we repeatedly do.

Excellence then is not an act but a habit. You have to consistently do something to be good at it. You aren't just born with it.

Sometimes you get lucky and strong and you can just shoot a basketball right away. But for the most part, you need to consistently do something. So excellence is not an act. It's a habit. It's from our boy Aristotle.