The Human Upgrade: Episode 1136

[00:00:00] **Dave:** You are listening to The Human Upgrade with Dave Asprey. Today we're going to talk about testosterone. We're going to talk about something called progressive overload and variable resistance training. In other words, how to have muscles that actually look reasonably good without spending more time than is necessary.

[00:00:24] Now, you might be a meathead who just loves to spend six hours a day in the gym, and you could even own with pride the name meathead the way I do. I own the word nerd with pride. So we might come from different cliques in high school, but at the end of the day, even if you are a meaningfully strong power lifter or a fitness competitor, if you can achieve all of your goals in half the time and use the other time to do something you enjoy, even if it's just watching reruns on Netflix, there's an argument that wasting your time doing things less effectively isn't a good one.

[00:01:05] That's why I wrote Smarter Not Harder, and that's why I'm really motivated. I spent 702 hours in the gym over the course of 18 months when I was 300 pounds trying to fix stuff, and I just did things that didn't work. I worked really hard. I didn't get results. So we've got to a guest for you today who has a similar story.

[00:01:25] But he was looking at first to fix a problem in his family and just went really, really, I'm going to say, off the deep end in the best possible way towards exercise, physiology, dedicated years to refining strategies for improving health, building bone density. He actually has clinical studies showing he can put muscle on faster than lifting rocks on sticks, which is what actually barbells are.

[00:01:54] You'll see some of the most elite athletes and Olympians in the world using what he has. And you last heard him on the show in episode number 863 in 2021. He's written a book with a title that makes me happy, Weight Lifting Is a Waste of Time, and a more technical one called Osteogenic Loading. If that's not enough, as an intro, I'm talking about Dr. John Jaquish. John, welcome to the show.

[00:02:21] **John:** Hey, Dave. Thanks for having me.

[00:02:22] **Dave:** Weight Lifting Is a Waste of Time. Now, if you're watching this on YouTube, and by the way, if you haven't followed me on YouTube by channel, I'm putting a lot of shorts

and a lot of good stuff up there to make sure you check it out. But you look like you might have picked up a weight or two. You're one of those guys who, just a wall of muscle.

[00:02:42] People in the field of biohacking, the inner circle people who really are working on stuff, we've been talking for 10 years since the start of the biohacking movement about these things, and Weight Lifting Is a Waste of Time, it's so in your face, and it almost insults a bunch of people. Do you get a lot of haters online because you've literally, you've got your shirt off, you've got your beautiful partner, you've got your sports cars? You're like the '80s poster of success. Right?

[00:03:10] **John:** Thanks, man.

[00:03:13] **Dave:** You get a lot of shit. You'll look great. You'll look [Inaudible] life.

[00:03:14] **John:** Part of what I'm trying to do is explain my lifestyle and how I don't live in the gym. I actually go out and enjoy being strong and super fit. And my wife is strong and super fit. In actuality, I'm in the office a lot of the time, but when I get out of the office, I do have a great time, and I go and see all kinds of beaches and exciting things all over the world.

[00:03:51] And I get a lot of great pictures, me being in shape. What I want people to see, that lifestyle. Most guys past maybe 25 are embarrassed to take their shirt off because they just don't look that great. And also, I'm not a bodybuilder. This is the condition that I'm still basically in. It's on growth.

[00:04:14] **Dave:** If you're just listening, he holds up a book. I'm not a bodybuilder, and he is got his shirt off. he is twice as ripped as I am. I just measure him at 5.4% body fat last night. But you have probably twice the muscle mass I do because you spend more time on it than I do. So you look like a bodybuilder.

[00:04:31] **John:** I I don't think I do, actually.

[00:04:33] **Dave:** Really?

[00:04:35] **John:** Yeah. I got a screenshot for you. In the entire year of 2023, I worked out for 14 hours and 43 minutes.

[00:04:44] **Dave:** There you go. See.

[00:04:46] **John:** That's in a year.

[00:04:48] **Dave:** I'm 20 minutes a week all in on all of my exercise.

[00:04:52] **John:** Yeah. That's right there. It's a very small amount of time. Now, I busted my ass in that 14 hours, but that's spread out over a year. So that's all of the efficiency of variable resistance. And so when I'm able to apply a higher level of force in stronger positions of an exercise and a lower level of force in the more compromised positions of exercise, then I can go to a greater level of fatigue and trigger more growth.

[00:05:25] Now, this is the type of muscle growth that is muscle protein synthesis. I think a lot of people in fitness discussions, they really don't realize that there's two types-- well, there's really three types of muscle growth. One's really hard to get, but there's sarcoplasmic and myofiber.

[00:05:43] Myofiber is where you're basically getting stronger by definition in the moment because you have more mechanical structures within the cell, more actin and myosin that come together. And that's what actually creates the shortening of the muscle, the contraction.

[00:05:58] The other type of muscle growth is sarcoplasmic. So the first kind is more like the engine that is the muscle, and sarcoplasmic is more like the gas tank. So you can have a bigger gas tank too by forcing more blood into the muscle on a frequent basis.

[00:06:18] Therefore, the muscle decides, okay, we're going to store more fuel within the muscle. So that's ATP, glycogen, and creatine, phosphate. So those are the three fuels that sit in the muscle when you compound what's generally known as volume training. And this is not a shortcut. This takes a lot of time.

[00:06:42] So that kind of thing is also amazing with variable resistance. Variable resistance produces the same exact muscle size results that regular training does, but you get so much stronger with variable resistance.

[00:06:55] **Dave:** There's two things listeners are interested in. One is how strong am I, and the other one is, how do I look? How big am I? What's the relationship between the size of your muscles and your actual strength?

[00:07:07] **John:** It is not necessarily one-to-one. Now, if you look at some of the strongest people in the world, it becomes one-to-one because in everything you do, whether it's more

strength-focused or more blood flow-focused, I want to call it blood flow because it's really what's going, with the blood comes the ATP, the glycogen, the creatine, phosphate, and it gets basically deposited in the muscle.

[00:07:31] Some of it's used and some of it's retained. And that compounds over time. So when you're looking at most athletes, basically everybody except for bodybuilders and some fitness people, is really looking at strength because people want to be as highest power to weight ratio as possible. So most amount of strength difference and actually less size. So if you look at lower weight class power lifters or gymnasts, they want to be as explosive as possible.

[00:08:09] They don't want to put on mass. That's the last thing they want because they got to pull all that mass through the air as they're moving. So they're working on things like potentiation. They're trying to get more muscle firing. So that's a neurological difference, also called skill building.

[00:08:27] And they're also focused on very explosive movement, very high levels of exhaustion, short periods of time, not trying to get exaggerated blood flow at all. So that was the X3 programming that you got when I gave you one of the prototypes in the program.

[00:08:48] **Dave:** Yeah. Let's talk about that for a minute. So guys, back when John was on the show, actually before even on the show, you sent me one of the first five X3 bars ever made. And this is something that you become well known for, and this is the way you apply variable resistance. I even wrote about it in Smarter Not Harder.

[00:09:03] It's one of the several different ways that puts muscle on better than picking up rocks. And I think it was probably a Facebook posting or something back then that it totally helped to blow up, but got a lot of attention on it, and you could really feel and see the difference.

[00:09:19] You just came out with a new digital version of the X three bar, which is why I want to have you back on, because this thing is really incredible. I'm all about the data. I don't care what some epidemiologist says, or some super angry men's health exercise physiologist who's basically a troll. I don't care what they say, I really don't.

[00:09:39] All I care about is my data, or your data and your results, or my results. So some clown can tell you that statins work and the only way to live longer is exercise, and there's a

longevity guy out there, a doctor trying to say these things right now. The reality is it's more complex, but show me the data.

[00:09:57] And the data is you. So with the X3 bar, I tried it for a few weeks before I promoted it. I was like, holy crap, this is different. And with the digital version you have, you can show people they get stronger, faster, and you can show them exactly how much they did. I know the value of data for motivation, and I know the value of the X3 bar. So a digital X3 bar, it's so good.

[00:10:20] **John:** Yeah, variable resistance will make you absolutely stronger, so much faster. But the concept of progressive overload, most of the audience probably never heard that term. What it means is you need-- I never liked the term before because when somebody would say, what's your method of training? They're like progressive overload.

[00:10:44] So your method of getting stronger is getting stronger. Because that's really what that means. It's like, kind of dumb. But the concept is if you are getting stronger, you can progressively handle more resistance. So you can go up in repetitions or you can do the same amount of repetitions, and each repetition is done slower, so more time under tension. That's progressive overload. Or you're dealing with a higher level of resistance.

[00:11:13] So all three of those things or a mix of any of those things is greater force created, so you're progressing the overload. You only grow muscle from a protein synthesis standpoint when you best those numbers.

[00:11:30] So if you're not beating your previous, then you're not really doing anything. Now, this is just from a myofiber perspective, not a sarcoplasmic perspective. But for the people who want to be as strong as possible, you want to make sure you're breaking your record every time.

[00:11:47] **Dave:** Is that really true though? If I flew around the planet yesterday and I've got circadian disruption and I'm recovering from a cold and I go into lift, do I really want to break my previous best on that day when my body isn't really ready to grow?

[00:12:04] **John:** I would tell you, sleep today. Let's do it tomorrow.

[00:12:08] **Dave:** Okay. There you go. So that's part of what Upgrade Labs is doing. It's like, hey, let's get your data. And if your desire is to lift heavy, but your body is like, nah-uh, let's not do it. Let's put you in an advanced sleep recovery protocol.

[00:12:21] **John:** Yeah, there are plenty of days where your body says no. You want to create that environment where you besting your previous. So the original program was more like a standard fitness program, but I'm doing something a little different now, whereas we focus on strength. You basically just do one set per exercise per week. And you're fully recovered going in because you had an entire week rest.

[00:12:47] And then in between you just do volume work. And so my approach to this, and I haven't launched the program yet because the number of sets is different per body part and the exercises are done a little differently because it's a little different focus. But ultimately, what we want is just maximum blood flow.

[00:13:10] You could put your favorite Netflix show on Netflix and do sets of exercises, this is critical, not to failure. You want to stop five reps short of failure.

[00:13:24] So you do your strength work and you know what you can do. Let's say it's the black band and you can do it 20 repetitions. Well, that's your strength work. But then when you switch gears to volume, which is what you do for the rest of the week, then it's just like, okay, I can do, let's say, four or five sets or maybe 10 sets, and I'm just going to do 15 repetitions instead of 20, because you're just trying to compound the blood flow into the muscle over and over and over again. And that's where the size comes from.

[00:13:52] **Dave:** So how many reps are you doing, the failure reps, did you say?

[00:13:57] **John:** Yeah. It takes 20 repetitions to just go to absolute complete fatigue.

[00:14:03] **Dave:** And you do that how many times a week?

[00:14:04] **John:** One.

[00:14:05] **Dave:** So once a week you blow yourself out, basically.

[00:14:08] **John:** Right.

[00:14:09] **Dave:** Okay. And then the rest of the time you're doing five reps, blowing yourself out. And you do that every day?

[00:14:15] **John:** No. What I'm doing right now is six days a week, but I split the body three ways. So I do push upper body, pull upper body, and then legs. That's how I split it.

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[00:14:28] **Dave:** Got it. And this is an average of how many minutes per workout?

[00:14:32] **John:** Oh, geez. The actual time under tension might be six minutes per workout.

[00:14:37] **Dave:** Six minutes. Is there a rest between each set?

[00:14:40] **John:** Yeah.

[00:14:42] **Dave:** Okay. So then what's the total time with resting and doing it?

[00:14:44] **John:** Well, it depends. I tell people, do as much volume as you can do. It fits in your life.

[00:14:51] Dave: People will say that what you're saying is too good to be true. And I get this all the time, dude. I have a franchise with 27 locations and more signing up, and we have all this data and we're showing that it works, but it's not supposed to work, therefore it doesn't. And what you do, saying, what do you mean? You're not blowing discs out with 16 plates on each side of something, therefore it doesn't work.

[00:15:14] **Dave:** And the reality is curiosity is okay, and it's okay to be wrong. I've shifted some of my nutritional strategies from when I did 10 plus years ago. I think I'm directionally accurate on it. And we all learn. And you may decide tomorrow that six reps instead of five away from failure works better, and then you'll just change. And it won't mean you're a bad person.

[00:15:39] And this is just for people listening. John has real science, and we're going to talk about stuff in the journals, strength and conditioning research and other things like that. But you see so much garbage out there, some of it funded by big pharma, and there's organized trolls for animal rights terrorist groups trying to get you to be vegan.

[00:15:59] There's probably a farmer's group trying to get you to be carnivore. That's behind the scenes pulling puppets. I doubt it, but who knows? The bottom line is how do you know if something's trustworthy? Sometimes journals help. I think they do. But you got to look at the people who are talking about it and the results they're getting with themselves in their communities. And I've seen some pretty impressive results why it works and how it works, and frankly, your biceps look like they're doing all right.

[00:16:26] **John:** I'm doing all right.

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[00:16:28] **Dave:** I got to ask you this though, and this is something that's tortured me. We've all seen videos of shaolin monks, and they're doing one finger push downs, and they're doing these incredible feats of strength.

[00:16:40] **John:** Yeah.

[00:16:40] **Dave:** And they're small. Why are they so strong when they don't have the bulk that you or I have?

[00:16:47] **John:** There's three ways to make a muscle bigger, and there's four ways to get stronger. So what they're focusing on is the way to get stronger that doesn't make you bigger, which is neurological, getting more muscle to fire.

[00:17:06] **Dave:** Got it.

[00:17:06] **John:** At a faster rate. Most people, when they contract a muscle, it's maybe low percentage, 30%, whatever, of the actual mechanical tissue available is recruited. So a gymnast, they're great at getting almost the entire muscle to fire in anything they're doing with intention.

[00:17:28] So not necessarily reflexive, but more is recruited in their reflexes also, which is why they have such incredible balance. So the shaolin and monks, they also very, very carefully restrict their eating. You never see an obese shaolin monk.

[00:17:52] **Dave:** That's for sure.

[00:17:53] **John:** So very small amount of calories, very high level of potentiation. And the muscle that they are growing, they're not getting a blood flow effect. They're doing mostly what X3 does, which is muscle protein synthesis. So they're just building lean, powerful muscle as opposed to a larger muscle that's capable of longer sustained contractions. That's more like a bodybuilder.

[00:18:22] **Dave:** But they don't get the bulk. So part of what I do is I read your stuff and I look at modern things, and I also look at old practices, and a lot of these guys are practicing something called neigong, which is the redheaded stepchild of Qigong. And they teach that there's ligaments and tendon strength, that there's muscle strength, and that there's something they call interstitial strength or Wong.

[00:18:55] And I don't exactly know what that is, but maybe that's the neurological stuff you're talking about. It's some other factor that we don't look at in modern exercise science, but maybe with what those shaolin masters are doing is definitely tendon, and muscle, and bone strengthening, and neurological strengthening.

[00:19:14] So like you said, they fire everything so they don't need as much. That would be more like driving a lighter car. How do I get that? I want to be stronger than you with 50% of the muscle mass that you have.

[00:19:29] **John:** Lifting incredibly slow does that. So real slow contractions with the X3. So I'm moving like molasses, three seconds up, three seconds back kind of thing. You're recruiting more tissue. So the analogy I like is when you draw a line on a piece of paper, if you do it fast, a straight line, it's easy.

[00:19:53] If you do it slowly, your hand will ache. It's because of all the stabilization firing is required to enable you to draw that line straight. So all kinds of reflexes are firing to keep that pencil in your fingers and drawing a straight line. And all kinds of feedback information is being used from your visual interpretation of what's happening on the page and the mechanical feedback of what's going on in your hand. So you draw a straight line really slow and you know your hand just like, ah. Why is my hand aching from drawing a line? Much more muscular involvement.

[00:20:37] **Dave:** So really slow movement. That's something in my last book, Smarter Not Harder, like really, really slow, especially eccentrics makes a difference. When you're using the new, X3 bar that you came out with the digital measurement, it must track the speed that you're lowering the bar.

[00:20:58] **John:** Yeah.

[00:20:59] **Dave:** How does the feedback work on that to encourage people to do it slower or faster?

[00:21:03] **John:** So it's sampling multiple times per second.

[00:21:06] **Dave:** Okay.

[00:21:07] **John:** So what you're competing with is the total force you create. If you're doing fast repetitions like that or just pushing out and snap back on you sort of thing, the aggregate number is going to see that you're hanging back in the easier part of the motion a lot.

[00:21:28] You spend a lot more time back there than you are in the loaded position. So then you're going to have a lower total force. Now, once you learn how to do it right, and you go slow and control contractions, that number starts jumping up. So you always want to be beating that number. That's progressive overload.

[00:21:48] So by looking at that total number, and I mean it's precise. When I do a chess press, the aggregate number of pounds that's collected is 20,000. So if I'm at 19,900, I know I've got to do another maybe half a repetition to beat my previous best. But then that's a trigger for growth.

[00:22:15] And when you have the data in front of you, you said it's so motivating. Most people, they may only have a few workouts in their life where they actually get stronger. And are able to realize it and perform a greater level of force and then trigger growth again. It might only be a handful of times because most people have no view of this.

[00:22:39] And repetition counting is not it because you can do-- I see people, when they start training, they might do 10 reps on a bench press with a certain amount of weight, and then two weeks later they're doing 12 reps, but they're doing them faster. So they're actually doing less work by doing the 12 reps than with the 10.

[00:22:58] So are they getting stronger? No, they're not. And with this, you absolutely know every time, and if you waited the proper amount of time and you had the proper amount of protein on your days that you weren't training, you'll notice you'll beat your number almost every time. An, that's what happened to me over the course of 2023 in my 14 hours of exercise.

[00:23:27] **Dave:** Oh man, it's tough. 14 hours, almost two full work. Let's talk about testosterone replacement therapy. Full disclosure here. Unlike some liver kings, I've always talked about testosterone. In fact, I think a lot of the reason people under 40 are on it is something I've said over the last 10 years. I started it when I was 26 because my testosterone levels were lower than my mother in lab tests.

[00:23:58] I had exceptionally low testosterone. It's one of the reasons I was 300 pounds and obese. And there's a variety of reasons for that. It wasn't for lack of exercise. It wasn't for lack of trying. It wasn't for things like that. When you have toxins, especially mold toxins that are 1,000 times stronger estrogens than human things, they have effects on your biology. That specific toxins [Inaudible], and it's in the mold that can be growing in your house.

[00:24:22] So I had all kinds of stuff in my biology that was not working. I still have all the extra skin and stretch marks from that over my rippling abs, but I can deal with that. So I've been on testosterone for all about three years. I went off of it when I was developing the Bulletproof Diet before I published it to see what I could do without testosterone.

[00:24:40] And if I did everything perfectly and I didn't travel for business, and I ate perfectly and I slept perfectly, I could get my numbers up to about 650 to 700. And it was a struggle. And since I run a company, actually multiple companies, and I do stuff, it's not reasonable. So I use testosterone to keep my levels to the amount where I get physiological results, which is around 900 to 1,000.

[00:25:03] For some people, it needs to be higher because of a sex hormone binding globulin. In some people it needs to be lower. This is for men. For women, the numbers are different, substantially different. Depends on where you are, in which phase of life you're in, and even where you're on your cycle if you're still ovulating. So different discussion.

[00:25:18] We've got several episodes with women hormone experts like Dr. Sara Gottfried, Dr. Anna Cabeca, are two that come to mind. So testosterone, I think you mean for men. Tell me your thoughts on testosterone. What are you doing? Are you juicing? There's no moral problem with juicing. It's just like thyroid replacement. It's what men do if they want to be healthy in a world full of estrogenic compounds.

[00:25:43] **John:** I've been on TRT since I was 28 because of a bad rugby hit and I got some testicular damage. I was 163 nanograms of the deciliter right before turning 29. And my doctor was like, you're going to have a heart attack in your 30s if you--

[00:25:58] **Dave:** Yeah, it's dangerous to have low testosterone.

[00:25:59] **John:** Yeah, yeah. You have cardiac dysfunction. And so I've been on testosterone since then. And from a muscular standpoint, it did basically nothing, but I found out why. And so I've been doing a lot of different testing experiments, interviewing people, and what I ended up figuring out was that we really approached TRT incorrectly.

[00:26:31] There's two ways to fix what's been done wrong. So there's a reason that steroid users run cycles. For two months, they'll have a high level of androgenic anabolic compounds, and then they cycle off of it. And of course, they're suicidal when they cycle off it, depending on what drug they're on or how high a dosage.

[00:26:53] And so very bad mental trauma. So that's a really crappy path to be on, but that's what they do. And the reason they cycle off is something you mentioned, SHBG, sex hormone binding globulin. So sex hormone is testosterone. So testosterone floating around in your blood, the binding globulin grabs a hold of it, makes it useless. So that's the whole point of SHBG, sex hormone binding globulin.

[00:27:20] **Dave:** Steals your testosterone.

[00:27:24] **John:** That's right. That's right. So what happens is somebody gets on testosterone replacement therapy and they had low testosterone, now they have high testosterone and they get great results for about two months. So they might gain some muscle, they feel better, their vision improves.

[00:27:39] Cognitively, they're just firing on old cylinders, and then all of a sudden they go back to the way they were feeling before, but their testosterone's higher. And it's because it takes about 60 days for SHBG to rise and cancel out the testosterone you're taking. Now, you don't want to run testosterone replacement therapy in cycles because you're basically miserable in the in-between part.

[00:28:03] So why does SHBG go up? And the answer isn't just because you have exogenous testosterone. It's because you have exogenous testosterone at the wrong times of the day. So the natural rhythm of secretion of testosterone, when you wake up, it's very low and it goes up very quickly. Let's say you wake up at 8:00 AM.

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[00:28:26] **Dave:** So why do you wake up with a kickstand if your testosterone is low in the morning?

[00:28:33] **John:** That's a great question. There's a lot of different reasons for that. It starts to climb as soon as you wake up. So that may have something to do with it. So it peaks around noon and then drops off. So your first four hours a day is when testosterone is secreted by your testicles or other sex organs, if you're a woman.

[00:28:59] And then it attaches to receptors and muscle and can contribute to growth later in the day if you have the proper amounts of protein to create the muscle protein synthesis. So you're supposed to have high testosterone in the early middle of the day. If testosterone goes up and down like that, whether it's endogenous, meaning created by the body, or exogenous, meaning put in the body by something else, either way, as long as the cycle mirrors the circadian rhythm, you don't upregulate SHPG. So what I was doing daily subcutaneous injections of testosterone suspension. So very fast-acting testosterone, very small amount. I was doing 10 milligrams a day. So my prescription was for 200. I was taking 200, and that's the standard.

[00:30:02] **Dave:** Mine was about 100. Yeah.

[00:30:04] **John:** Okay. So I went from 200 to 70 a week because I was doing 10 every day. And within a month I was gaining muscle again. Other than when I developed X3, I put on 45 pounds of muscle then, but I think my body had just been lacking any decent stimulus. I'd been working out with weights and I have a genetic tendon layout that's more like 99% of the population where you can't really gain a whole lot of muscle and engage your musculature properly enough to stimulate growth.

[00:30:42] That's the problem that most people have, and that's what I talk about in the book, the biomechanical inefficiencies that most people have. And of course, some people, like 1% of the population, are born with better, more advantageous attachments, therefore they engage more muscle in everything they do, and they develop more muscle in everything they do.

[00:31:03] And these are the people that end up in the NFL or the Olympics. So it's like you see something, and everybody knows a guy in high school. In my TED Talk, I'm like, raise your hand if there was somebody at your high school that went from looking like they were 16 and

then they looked like they were 25 a year later just because their level of physical development. Every hand went up.

[00:31:21] Everyone's like, yeah. There's always that one person. And, right, you got a high school of 1,000 people. There's probably one person. And that's how rare that is. And so it's like with variable resistance, we make up for that. And everybody can trigger muscle growth like the genetic outlier. But now, the testosterone issue is a little different. So what I did was by using less than half of the testosterone I was using before, all of a sudden I was growing again because my SHBG went super low.

[00:31:56] **Dave:** Right.

[00:31:57] **John:** Now, daily injections obviously suck. Traveling with needles also sucks because you go to a foreign country-- try going to Dubai with a bunch of insulin needles.

[00:32:09] **Dave:** They don't like that? I never tried.

[00:32:11] **John:** Oh, they don't like Tylenol. If you have Tylenol in a plastic bag, they'll take it away from you.

[00:32:18] **Dave:** I know. I've been to Dubai a bunch of times. I always find it to be remarkably-- I've never had a border issue, but I've just remarkably open-minded about stuff maybe once you're in the country. There's a lot of longevity stuff going on there, around the world level, cutting-edge stuff in--

[00:32:35] **John:** They must know who you are because they give me a hard time.

[00:32:39] **Dave:** So many of the citizens there in UAE are very interested in growth hormone, peptides, and they want to do it legally, but the government's actually not opposed to that. It's interesting. They just want to make sure you're bringing all the bad stuff in. So I was so surprised having met so many people in their homes out there. The open-mindedness there, it's the same as it would be in the US or maybe even more open-minded.

[00:33:08] **John:** Sure. Well, let me get back to what I was saying. Injections every day, which is what this protocol does, and it enables me to actually use the testosterone that's in my body, even though it's less than half. And as I was doing this, I was like, wow, I think I've cracked the code of TRT. I've also cracked the code of steroids.

[00:33:30] **Dave:** Because you were injecting every day? That was the code?

[00:33:33] **John:** Well, I'm mirroring the circadian rhythm secretions.

[00:33:40] **Dave:** By injecting in the morning. You know who you sound like here? Is TS Wiley who came on the show a while ago, and in my books, I recommend is a form of hormone replacement for men or women, but she changes it on the time of day and the time of month and time of year with thyroid, testosterone, and anything else you need.

[00:34:03] And it's really complex to do it, but mathematically it's one that makes the most sense and gets the best results. But what you did was a lot more elegant because, like, I'll just do it in the morning in smaller doses. Totally like that versus a pellet or something.

[00:34:18] **John:** Right, right.

[00:34:19] **Dave:** But you're doing nothing.

[00:34:22] **John:** So I got something even better.

[00:34:23] Dave: Yeah, this is the oral form which I'm pretty interested in.

[00:34:27] John: So as I'm doing my experimentation, I'm like, okay, I cracked the code. People on TRT can keep on growing now. Now, I would argue that even the person who's using Superhuman dosages, the steroid user, should just quit doing that and do this in the same manner.

[00:34:48] Even if they want to use too much, do it in the same manner because you don't want to go to bed with high testosterone. That's when your SHBG goes up and all this chain reaction of all kinds of bad shit that happens.

[00:34:59] **Dave:** Interesting. So morning injections are better for testosterone. This is an important thing.

[00:35:03] **John:** But it has to be suspension.

[00:35:05] **Dave:** What does that mean?

[00:35:06] **John:** It can't be supinate.

[00:35:08] **Dave:** I don't like supinate. Supinate sucks. It gives me man boobs. I switched to [Inaudible] a long time ago, and I get so much better results, even though it's cheaper, better, more available in most of the world. But what kind of suspension are you doing?

[00:35:21] **John:** No, it's just called testosterone suspension. So it has no ester attached. So it's just like your hormone just went up.

[00:35:27] **Dave:** Where do you get that just bioidentical purely?

[00:35:31] **John:** Any pharmacy. Well, not any pharmacy. Pharmacy I use. But it's okay because what I'm explaining right now, I don't think anybody should necessarily do it because there's an oral option.

[00:35:44] **Dave:** Right.

[00:35:45] **John:** And there's a couple of companies that now have a different-- so it's testosterone undecanoate in oral form. Now, the dosages are much, much higher because only about 4% of it makes it into your bloodstream.

[00:36:00] **Dave:** Right.

[00:36:00] **John:** It's not methylated, so it does not damage the liver. That's a problem with a lot of oral medications. There's a methylation process to get through the liver, but that also hurts the liver.

[00:36:11] **Dave:** Right, right. That's why a lot of testosterone was an issue for so many years, even in the '70s. Because there are methyl testosterones that were damaging other things. Okay.

[00:36:20] **John:** That's right. That's right. So people get the testosterone, then they really hurt their liver, and that's another big problem that you're causing to solve one, I would argue smaller problem. Now that we have this, it's a total game changer because you can have the proper amount of testosterone at the proper times, and your body leverages it when it's there at the proper times. When it's at the improper times, chain reaction and negative stuff happening. So SHBG goes up, that's where the estrogen conversion happens. And I started a TRT company, a Primal Medical Group, so primalmedical.net.

[00:37:02] **Dave:** Mm-hmm.

[00:37:03] **John:** That's a vehicle where all the doctors are completely up to speed on oral testosterone and can get anybody who's on already on TRT switched over. And people who are just thinking about TRT, now they don't have to do any injections. A lot of people are just like, I do not horse around with needles. It sucks.

[00:37:23] **Dave:** I don't love needles. I'll do it when it's worth it, and it is for testosterone, but you're doing testosterone on decanoate. So the approvals from the FDA say specifically, don't use it for age-related hypogonadism, in other words, less functional--

[00:37:43] **John:** Yeah, they say lots of stuff.

[00:37:45] **Dave:** Got it. And I went deep on this stuff because I'm considering giving it a try. And what I found is they're saying that the primary risk is it might raise your blood pressure. Big deal. People have enough potassium and magnesium and other things shouldn't have high blood pressure, and mine's already low. I don't worry about that for me, but high blood pressure will put down your kidneys. It's a big deal if you have it.

[00:38:07] **John:** If you have high blood pressure, it's a nutritional problem. It's because you're eating like an unsupervised child. And if you fix that--

[00:38:19] **Dave:** Yeah. And insulin resistance--

[00:38:21] **John:** Within a week, you can drive your blood pressure down to normal.

[00:38:22] **Dave:** Yeah. Insulin resistance will definitely drive high blood pressure.

[00:38:27] But let's talk about diet for a minute. You seem like you're a carnivore-ish sort of guy these days. Where are you on the spectrum of protein, source of protein, type of fat, frequency of carbs?

[00:38:39] **John:** It's funny. I was going to ask you the same question. So not everybody sees this, but Dave and I were just hanging out at a conference, and you're shredded, man. You're 5% body fat.

[00:38:52] **Dave:** It's insane for being where I came from. The veins and stuff, I don't know. It's on YouTube.

[00:39:00] **John:** This video is not doing it any justice. There you go. Yeah.

[00:39:05] **Dave:** It's weird.

[00:39:06] **John:** You look like an anatomy chart, man.

[00:39:08] **Dave:** Yeah.

[00:39:09] **John:** It's awesome.

[00:39:09] **Dave:** I'm not displeased. We'll put it that way, but yeah. I like to think biohacking works when you keep adjusting over time. So first, tell me what you're doing because you look like a balloon animal.

[00:39:20] **John:** Yeah, actually, I'm more interested in what you're doing because I think you're closer to the right answer, but yeah, I m getting one gram per pound of body weight in quality protein. So either meat or fermentation.

[00:39:35] **Dave:** Meat or fermentation. What are you fermenting?

[00:39:39] **John:** So I have a supplement called Fortigen. It's amino acids.

[00:39:42] **Dave:** It's basically amino acids. Okay. Got it.

[00:39:46] **John:** Yeah.

[00:39:46] **Dave:** So you're doing either protein or amino acids that have an equivalent amount of protein. Okay. And the difference for listeners, if you eat a steak or a whole protein, about 30% of the calories in it go into breaking it down. If you eat the amino acids that happen after it breaks down, they're fully absorbed and you need far fewer of them. You need less calories.

[00:40:08] **John:** That's right.

[00:40:09] **Dave:** But as long as you're getting the amino acids at the end of it, there's benefits. There's probably also some metabolic signaling in the gut from eating protein that's probably beneficial, but we don't know.

[00:40:20] **John:** Yes.

[00:40:22] **Dave:** What do you do for carbs?

[00:40:23] **John:** I try and stay under 15 grams a day.

[00:40:28] **Dave:** Wow. And that works over time for you. Okay.

[00:40:33] **John:** It does, but I'm going to ask you the same question. What are you doing?

[00:40:36] **Dave:** You're not going to like my answer. It's funny. But first, I want to hear yours.

[00:40:41] **John:** But wait, hold on. I'm a scientist. If there's a better answer, somebody can tell me. Cramming cauliflower in my ears is going to make me bigger and stronger.

[00:40:49] **Dave:** I'm with you.

[00:40:50] **John:** I've seen you doing this all the time.

[00:40:51] **Dave:** I'll be a graveltarian if it works. I don't even care how it tastes. I'm willing to do

[00:40:57] **John:** If it's better and it's proven, great.

[00:40:59] **Dave:** Even if it's not proven, I'll probably try it if it's not going to kill me, and I'll prove it myself if I have to because the most interesting things aren't proven. They just work. Right?

[00:41:06] **John:** Yeah.

[00:41:08] **Dave:** So first you got to tell me fast, type of fat, amount of fat. Where are you on that?

[00:41:12] **John:** Most of the time I'm one meal a day.

[00:41:15] **Dave:** Okay.

[00:41:15] **John:** It's pretty much and a half pound ribeye is what I eat every day.

[00:41:21] **Dave:** Nice.

[00:41:22] **John:** Yeah.

[00:41:22] **Dave:** Grass-fed or not?

[00:41:24] **John:** I try to.

[00:41:25] **Dave:** Okay.

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[00:41:26] **John:** If I'm on the road, if I have to go to a Texas Roadhouse.

[00:41:29] **Dave:** You lift every day. You're doing OMAD. You do cold therapy and stuff too?

[00:41:33] **John:** When I can.

[00:41:35] **Dave:** Okay, not regularly. But you also travel.

[00:41:38] **John:** [Inaudible] are not. They don't do it for me. I like a cold plunge.

[00:41:41] **Dave:** Where's your cortisol?

[00:41:43] **John:** Well, it depends.

[00:41:45] **Dave:** It does change every day. Who would've thought? Right?

[00:41:47] **John:** Yeah. It can go decently high if I'm--

[00:41:53] **Dave:** It's not blown out low.

[00:41:56] **John:** No.

[00:41:56] **Dave:** Okay. Awesome. What I've found over time is when people go-- you're following some of my recommendations. You can always overdo something. I'm like, do it when your body needs it. And I'll like, I'll do it every day. I found that for most guys, if they do OMAD, the one meal a day, so they're doing relatively long intermittent fasting, and they're doing keto without a break, that they usually, about six, eight weeks, they start seeing cortisol levels go up and up, which feels good at first because cortisol and adrenaline are energy sources.

[00:42:29] But then you start waking up, and you're like, God, I didn't sleep well. This happened when I did three months of what we would now call carnivore when I was stress-testing the edges of the Bulletproof recommendations. And so you're like, God, my sleep quality just went to hell and your sleep score's no good, and then you wake up without a kickstand, and then your hair gets a little bit thin.

[00:42:46] These are all high cortisol things. That's one of the reasons my recommendations were maybe you should cycle in and out of ketosis. Also, SHBG goes up on a keto diet over time. And so that was my one hard thing with the Bulletproof stuff, is why is SHBG so high and green tea extract EGCG will lower it to a certain extent?

[00:43:10] So while having some carbs already. So I went back and forth, and I've been tweaking and testing forever. A little bit of a long story to tell you what I'm doing, but I want listeners and you to understand the order of operations of my thinking and why I did it and have done it the way I do it.

[00:43:29] I'm calm. And by the way, there's a brand new website. daveasprey.com just came out, and I've reorganized all the information. There's 3,000 blog posts and 1,200 episodes. There's a lot of infos just to make easier to find stuff. So go to daveasprey.com to see all that.

[00:43:44] In Superhuman, the longevity book, there's a cluster of data that says 0.6 grams per pound of body weight might be associated with longevity, but all the studies don't look at the quality of the protein.

[00:43:57] **John:** That's right. A lot of them use shit quality protein like whey.

[00:44:01] **Dave:** Yes.

[00:44:01] **John:** Whey is trash. Yeah.

[00:44:03] **Dave:** Whey is better than soy.

[00:44:06] **John:** Yeah. When somebody says vegetable protein, it's like that's not protein.

[00:44:12] **Dave:** I'm with you there. And also gluten, snake venom, and nerve gas are all plant-based. They're all proteins, either animal or plant-based. So it doesn't matter. You don't want to just eat a protein diet unless you know what protein is. So I'm going to assume available animal-based proteins because those are what work.

[00:44:31] And where we run into problems is that if you want longevity, restricting the amount of certain amino acids, like methionine and tryptophan are important because those change your gut microbiome per Viome studies because they also basically accelerate some aspects of aging via something called mTOR, which is not even that bad in some circumstances. Very technical sentence.

[00:44:55] And if you didn't follow that, guys, just hang on for a second, I'll explain it to you. That's 0.6. But there's also abundant research that says people are healthier metabolically, which means you'll live longer, if you eat one gram per pound of body weight. There's also another set

of data that says 0.8 grams and one pound or one gram of protein per pound of body weight are identical in outcomes. But I don't see that.

[00:45:22] So here's what I've been doing, and a lot of people are like, do tell, do tell. Okay. Number one, I have formulated a new kind of protein, and I will probably launch it. It's all animal based, but it's not something that you would find today on the market. So I think that's part of it. I optimize my type of protein, but I just did the math. I need 200 grams of protein.

[00:45:50] If I'm doing only two meals a day, that's 100 grams of protein per pound of body weight. And all the studies, until two weeks ago, said, you can only use at most 50 grams of protein per meal. And I thought to myself, that sounds like a whole lot of bullshit because I--

[00:46:08] **John:** Yeah, and there's a great study that came out three weeks ago that--

[00:46:08] **Dave:** Exactly. And that study showed-- well, it's one of the reasons that what I've done for the last two years worked. I tend to do stuff and figure out it works, and then there's a study, I don't know why, but the same thing happened with C8 MCT oil and--

[00:46:22] **John:** Well, it's also part of the reason why one meal a day works.

[00:46:25] **Dave:** Yeah. It is. And one meal a day, you have to eat more than 50 grams of protein. Otherwise, you'd look like Bill Gates.

[00:46:31] **John:** You die. Yeah.

[00:46:33] **Dave:** Right.

[00:46:34] **John:** I don't eat really anything except for fat and protein, so yeah, I would die.

[00:46:38] **Dave:** Good thing is I do, thing is I do. And I was doing this with just fat and protein and I got like crazy lean to the point I'm like, there's no reason to limit carbs. So what I do now is I do one gram per pound of body weight. I have no problem with 100 grams of animal protein per meal. And the study that just came out says there is no upper limit for protein, and you just make muscle for longer periods of time.

[00:47:03] So I might do two meals a day on an average day, sometimes three if I'm feeling lazy about it, but I always get at least 200 grams of protein. I always take enzymes with it. If you're

listening to this and you're going to do it, if you fart death, you did it wrong. And if you do it regularly, you'll probably die.

[00:47:19] If you're a old bodybuilder, the gyms would smell like crap. Too much protein makes ammonia, which wrecks your metabolism. If you have enzymes and stomach acid, you won't do that. You'll just absorb it. So what I've been doing is I've been absorbing protein, a lot of it, and I'm a little concerned about that. So I've been looking at my DunedinPACE, my rate of aging, to see all this stuff. It hasn't changed meaningfully.

[00:47:42] So what I'm seeing is that this works, but I kept getting too thin. So my team yelled at me and said, Dave, you're starting to look old because you have no fat in your face. And you used to have a really round face from when you were heavy, and now I don't. So I guess, yeah, I could stretch my face like Hollywood, but I just don't freaking care. So what else am I doing? I do about 350, 400 grams of carbs every day too. My HbA1c is 4.9. My triglycerides, I don't know, 60 or something.

[00:48:21] **John:** This will actually be great for my fans to see because I'm fascinated how you're pulling this off. This runs against all the studies that I share with people.

[00:48:33] **Dave:** I'm testing the edges of it. Here's why I did it. I was trying to put on a little more fat because my team's like, Dave, you're a leader in the field of longevity and you have more lines here because you lost so much weight. I'm like, fine, I'll put some fat on. I'll just eat some fricking rice. Rice is the best carb. There's a whole bunch of reasons for it.

[00:48:49] And to make sure I'm getting enough carbs, I'll put some honey on the rice just to make sure it tastes really good because I do this resistant starch rice based on old Japanese recipe and all that. But twice a day I'm having cups of cooked and reheated rice. And I eat a lot of red meat. I eat red meat every day. So why is it working?

[00:49:13] **John:** That's a lot, man.

[00:49:13] **Dave:** I'm intentionally eating.

[00:49:14] **John:** Are you triglycerides? What are triglycerides?

[00:49:16] **Dave:** They were not very high. I don't know. They were around like 60 if I remember right from the last test. And of course those are highly variable on a daily basis

depending on what you had the night before and all that. So I'm watching that. But the big variable that a lot of people aren't talking about, do you know what your TSH is? Your thyroid hormone?

[00:49:39] **John:** Yeah.

[00:49:39] **Dave:** What's yours?

[00:49:40] **John:** It's within normal range.

[00:49:42] **Dave:** Normal range for what? An old guy with a bad thyroid or a normal range for a really healthy guy who's going to live--

[00:49:47] **John:** That's a great question. Normative data is from regular people who are all fat and sick. So just because you're just like all the fat and sick people, that doesn't mean it's a good thing. So great point. I don't know.

[00:49:58] **Dave:** So what I've been teaching just in the world of longevity and biohacking [Inaudible] is the two most important hormones, thyroid and testosterone in men and women. So if thyroid the energy thermostat, how much energy do you have? The longevity docs who I've found to be the most trustworthy, they want TSH, which is how loudly your body is screaming for thyroid, to be under one.

[00:50:20] And regular doctors will tell you, oh, it's under four. Don't even worry about it. And then there's a bunch of other things like T3 and T4 and reverse T3 that you also should measure. But the poor man's test is TSH. That's what your doctor's going to order, and it'll tell you half of thyroid pumps.

[00:50:36] So a couple of years ago, I looked, and I said, well, damn, my TSH is four, and I'm this longevity guy. What happened? So I looked and I said, all right, I know that thyroid hormone, when you take it for longevity purposes, it interacts with everything including electrolytes, including coffee. But I'm like, how big of a deal could it be?

[00:50:58] So I'd wake up and I'd have my Danger Coffee and my thyroid hormone at the same time. And lo and behold, it wasn't absorbing very well because it was sticking to coffee, so I wasn't following my own advice. Now I just drink some water, reverse osmosis water, or I just chew up the thyroid hormone. I wait 20 minutes, and then I have my coffee.

[00:51:15] So I turned up my thyroid hormone to physiologically normal and healthy levels, given that I've had Hashimoto's first diagnosed when I was 26. I've been on thyroid meds ever since. So now a bunch of the exercise trolls and--

[00:51:29] **John:** You told me this years ago.

[00:51:30] **Dave:** Yeah. They're going to be like, well, Dave's on thyroid and testosterone. Yeah, and it works. And if you're not on it, you're probably weak, and that's okay. There, I said. So I've made sure I have enough thyroid. It's not crazy high. I don't get arrhythmias. I'm just keeping my levels like that of a healthy, young person. And because my metabolism works as well as it does, the carbs, dude, you eat them?

[00:51:54] They turn into glucose. You don't get a big blood sugar spike, and then they go in, and then the cells use it. Do I use MCT oil? Yeah. Do I take exogenous ketones on occasion when I'm flying, or I want my brain to work really well? Yeah. Does my body go into ketosis when I'm fasting? Not very much, but yeah. So it's a perfectly flexible metabolism, and I need the carbs because otherwise I just keep losing fat, and I only have 10 pounds of fat on my body.

[00:52:21] I'm shredded. I don't want to be any lower because your risk of dying goes up underneath about 4% because then your lungs can stick to your ribs or something. It sounds horrible to me. I don't want to be that lean, but I actually don't know how I would put on 20 pounds of fat right now without wrecking my biology because it works so well.

[00:52:39] **John:** Wow. Okay.

[00:52:41] **Dave:** But you want to join me? Let's go have some rice, man, go out for sushi.

[00:52:47] **John:** Sounds great.

[00:52:47] **Dave:** When was the last time you had clean carbs?

[00:52:55] **John:** Two weeks ago at Nobu in New York.

[00:52:57] **Dave:** Okay. There you go. I tend to have it at Nobu too. How did you feel the next day? Were you bloated just from glycogen storage, or did you feel good?

[00:53:04] **John:** I felt good.

[00:53:06] **Dave:** I think people on keto diets, every Saturday, you should have carbs, and you feel so much better. That was actually the crux of the Bulletproof Diet, was intermittent fasting, assisted by coffee, if you need it or want it, because it does help, plus cyclical ketosis. I think cycling it has massive metabolic benefits. So once a week and sometimes twice a week.

[00:53:30] And then for me, I'm like, screw it. Every day I'm having crazy carbs. I also mentioned I eat at least a couple of blueberries every day. I eat those too. I get my polyphenols. I don't eat a ton of veggies. I eat arugula, all the things I've warned about in the Bulletproof Diet. I became more strict on the Yellow Zones because of oxalates. That's another big variable as well.

[00:53:53] **John:** Yeah. In fact, my carbs are really low. A lot of it's just oxalates and all the other in inflammatories that come with plants.

[00:54:03] **Dave:** Yeah. That's why--

[00:54:04] **John:** I read Toxic Superfoods, and I'm so thankful that Sally Norton wrote that book because it was just like, wow. I thought I was really missing some shit in my diet from a health perspective. So it's like, okay, we get as big, as strong as possible, and then I probably need to figure out, where the hell I'm going to get my micronutrients? There's a great study. I'm forgetting the author's name. It's terrible because he's a buddy of mine.

[00:54:32] I just don't see him very often. His first name's Jason. But I think you know the statistic, but it's like if somebody were to get all the vitamins ascribed by the American Medical Association without any supplements--

[00:54:47] **Dave:** Oh yeah.

[00:54:48] **John:** And you could source foods from all over the world, how many calories would you need to take in a day?

[00:54:51] **Dave:** It's like 10,000 a day.

[00:54:53] **John:** 25,000.

[00:54:55] **Dave:** Yeah. And here's thing.

[00:54:57] **John:** That's than a Rhino eats.

[00:54:58] **Dave:** It's a fool's errand to get all of your nutrients from food. What this is, people put on blinders. The guy, says, I want to climb Everest, but I have to carry this 100 pounds of scrap metal with me. Why? He goes, I don't know, but I have to. And, I'm like, no, you can't get all the nutrients your body needs in the world today from food.

[00:55:17] **John:** Also, you got to look at those AMA recommendations that were based on expert opinion in the 1950s.

[00:55:25] **Dave:** Do you know where the AMA even came from? The AMA was started by Rockefeller to make sure that chemical medicine destroyed natural medicine. So I'm sorry. If you're in the AMA, you're in a trade union for the oil industry. And by the way, there's tons of doctors out there who are fantastic.

[00:55:44] **John:** I wouldn't have said that, but you're right.

[00:55:45] **Dave:** No. This is the AMA. The AMA doesn't like me. I'm an unlicensed biohacker. They can't influence me by taking my license. There's tons of doctors that would think I'm an ass for saying that, and there's probably more doctors listening right now who are going, thank God someone said it. Because they want to heal people. And they don't like being cuffed by a regulatory body that isn't even elected.

[00:56:06] So I'm just going to have to call it like it's, and that's how it's. This is fascinating. So I still stand by ketosis as a scalpel for losing weight. I love intermittent fasting. I think you can over fast. I think you can over keto. I think a vegan diet is dangerous, but if you want to do it for a couple of weeks and you do it without oxalates and the lectins that are bad for your own biology, good luck on that.

[00:56:31] You're going to eat a lot of white rice, which is low in lectins. It's exceptionally low, and if you cook it right with some butter, or coconut oil, or MCT oil, it's got resistant starch. So for me, it's blueberries and coffee are my primary sources of polyphenols. And I take polyphenol supplements.

[00:56:52] I eat a tablespoon of dried rosemary and a tablespoon of dried oregano every day when I cook my steaks and my rice. So I get more polyphenols than a vegan does with all their

weird, eat the rainbow stuff. Just got to do the math. And I'm taking in far fewer plant toxins, and I get my steak. And I like steak, and it's all good.

[00:57:14] So I'm going to challenge you. Eat two cups of rice every day for a week and see what it does to your strength, into your body composition, into your brain. Just see what happens. It's just an experiment.

[00:57:25] **John:** Okay. I'll do it.

[00:57:28] **Dave:** Good deal. And if it works and it feels good, next time we hang out, I'll make some of my stuff. Everyone's ever been to my house and eaten what I do with rice, like, this is not possible. So this is my chef side coming out.

[00:57:41] **John:** Do you do it like they do it in Singapore?

[00:57:45] **Dave:** No, it's actually--

[00:57:47] **John:** I'm getting fat.

[00:57:48] **Dave:** Do you know what mochi is, the stuff they wrap around ice cream?

[00:57:52] **John:** No.

[00:57:53] **Dave:** So you can turn rice into a rice dough.

[00:57:57] **John:** Oh yeah, I do know this.

[00:58:00] **Dave:** Yeah. If you know how to cook rice dough, you can do things that are just unimaginable with it. So it's one of those foods you look forward to. So I'm sitting down. I'm eating something that's better than bread. I'm eating a big fat steak crusted with herbs, maybe in a regular salad if I was feeling like I wanted one.

[00:58:18] **John:** Of all the things that I say to do, people don't have problems doing the exercise program because it doesn't take very long. And even though it's a lot of effort, they see results. The reason people quit working out is because they see nothing.

[00:58:32] **Dave:** Well, working out is a time, just like your--

[00:58:34] **John:** Yeah. Dude, I called the book that for a reason. Most people that work out for years and years, you look at them, you'd never know they've ever worked out. So I'm always

looking for a better approach. And I know one of the things that I say that people really don't like is the low carbohydrate thing.

[00:58:54] People like carbohydrates. Your biochemistry, insulin sensitivity, when you have a bite of those carbohydrates, your body's like, yes, more of that. And so most people are just white knuckling their desire to eat a bunch of carbohydrates.

[00:59:14] **Dave:** It's one of those things where I don't want people to do what I do because what I do is based on my biology, it's personalized. And by the way, people are going to say all sorts of things. I have the Upgrade Labs tech at my house. I have a 26,000-dollar device that is 95% equivalent to DEXA.

[00:59:33] And my visceral fat is at the very low end of the range for an 18-year-old. And as you age, it goes up and up and up. So it's like right on that amount of carbs. And I've been doing this not just for a month. I've been doing this for a year. But the number one thing too is I get enough protein. Most people don't get enough protein or they can't absorb it when they get it.

[00:59:56] And my biggest challenge over the last few years is that I travel so damn much that you go to a restaurant, you say, I'd like to get 100 grams of protein, and they're going to give you six main courses and $900 later, you've got enough protein. You can't do it. So I just started traveling with the protein powder that I made, and I'm sorry, I can't tell you guys what it is.

[01:00:16] You couldn't even buy it. But I will probably put it together as a product. I have a lot of products in my pipeline, but I believe that that's solved the travel problem for me. And for most people, this is going to sound really crappy. Whey protein will do it. It's not a great protein.

[01:00:34] It's better than what you're getting now on the road, which is you're getting a little bowl of lettuce, two ounces of chicken, and some canola oil, and they tell you it's lunch. I like, I wouldn't feed that to my dog. They shouldn't be eating that stuff. I don't have a dog either, but there's that.

[01:00:52] John, I'm a fan of your open-minded thinking and your willingness to put your results out there. And over the years, you've like, look, bone density is a solvable problem. You solve that, it solves a lot of metabolic function, and you're looking at efficiency in exercise, which is

something that respects the human condition, looking at, never eat anything, eat industrial foods, and work out all the time.

[01:01:22] Things that the doctors themselves don't follow because they can't. It's not followable. So you're just saying, let's respect every minute of effort. And I believe very strongly in that, so that we can be with our kids, we can be with our partners. We do stuff. So this is what matters, and you've got it. So that's why you've got my respect. I am excited to see what happens when we start getting more data off the bands as well.

[01:01:51] **John:** Yeah, yeah. It is really exciting. Actually, being able to see everybody who uses the product gets stronger every single time they're using it. I think in the next 15 years, there's going to be kids like sitting in the park being like, hey, did you hear 15 years ago people would lift weights? They didn't understand variable resistance? What a bunch of idiots?

[01:02:18] I think that conversation is actually going to go down. I run into athletes all the time, and I'll show them variable resistance. I'll put them through a training session and they never go back. Never. It's like, okay, you just changed my entire training program, my entire life. I even have trouble getting strength coaches to talk about it because they don't want other teams to know.

[01:02:50] Miami Heat, they endorse the book. Their endorsement's right on the back cover of the book. And it's like when you want to get one of those guys to talk about it, they don't really want to tell you what their program is because it's proprietary. It's like, hey, we're the least injured team in the NBA for a reason.

[01:03:11] And it's not just X3. They have strength and conditioning guys that absolutely know what the hell they're doing. And I also happen to know that they live by your podcast, those guys.

[01:03:24] **Dave:** Thanks, guys.

[01:03:25] **John:** Mm-hmm.

[01:03:25] **Dave:** Miami Heat.

[01:03:26] **John:** That's how they found out about X3. It was your podcast.

[01:03:29] **Dave:** I'm honored when professional athletes, and medical doctors, and neuroscientists, and all listen to this. I'm probably wrong about some stuff, but I'm right way more often than I'm wrong, and I'm willing to change. I'm even eating carbs. Who would've thought?

[01:03:42] **John:** I don't know. I don't think you're wrong. You're never wrong about anything. It's just there's always new information coming out.

[01:03:48] **Dave:** Yeah.

[01:03:49] **John:** And sometimes new information comes out and we have to go, wow. We got to unwind some of the stuff that we were previously saying and maybe apply this new idea. But that's just science.

[01:03:59] **Dave:** Yeah. And if I see my data is going the wrong way, I'll change what I'm doing. It's a very interesting world to be able to play with nutrients and still feel good. But to do all this, you got to have adequate muscle mass and functioning mitochondria. And it looks like variable resistance training is an important thing, and it's part of my philosophy at Upgrade Labs as well. You got to have it. What's the best place to go to get a list of all the stuff you're working on?

[01:04:24] **John:** My website, best place, doctorj.com. Everybody has trouble spelling my last name. So the Jaquish Biomedical website is tough to find apparently. But it's D-O-C-T-O-R, the letter j.com. You can find my YouTube, all my social. You can get a link to Primal Medical if you want to do the oral testosterone.

[01:04:46] Most people should just at least talk to a doctor about it, and you get that through Primal Medical. And then there's links to the bone density stuff, superior exercise, superior nutrition.

[01:04:59] **Dave:** Cool.

[01:05:00] **John:** It's all there.

[01:05:00] **Dave:** Thanks for being on the show.

[01:05:02] **John:** Absolutely. Thanks for having me.