

## Paleo Solution - 228

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Robb: Howdy folks, Robb Wolf here. PaleoSolution podcast six listeners can't be wrong. I can't believe you guys are still listening to this particularly after today's show with the handsome devilishly smart doctor Kirk Parsley. Doc, what's going on?

Kirk: Not much baby. I'm, getting through all these projects that I've signed up for, over committed myself I know you probably don't know anything about that but...

Robb: Yeah.

Kirk: Kind of said yes to everybody who want your help.

Robb: It's funny how we end up chumming around with each other and neither of us can pick one project and stick to it to completion. It's awesome.

Kirk: Yeah. I think I even promised like a textbook chapter of some douche I know trying to do some sort – I don't know. I needed one more thing to add to my list. Yeah, I mean I'm geeking out on this Ted Talk coming up and trying to make sure that goes as well as it can. And I don't know what's it been probably a year I've been launching my website next week so hopefully this is truly the week. I figured I'm just going to get some minimal viable product up there. I'm never going to do anything that satisfies me so I'm just going to put something up there.

Robb: You know what I'm going to do, I'm going to go...

Kirk: I'm going to chisel drive it.

Robb: I'm just going to grab docparsley.blogspot.com and then I'll get Welbourn who is amazingly good with Photoshop like putting in penises next to the person's face and stuff like that. I'm going to grab every photo I can find of you in the inter web and I'll have Welbourn just like stacking penises and interesting things around you and that would be docparsley.blogspot.com.

Kirk: That will be perfect man. That will be much more entertaining than my site I'm sure. And probably more informative even. At least show us what Photoshop is capable of.

Robb: Particularly Welbourn's skills with Photoshop.

Kirk: Yeah. Welbourn definitely has unique spin on Photoshop. I finally found a company worth working with. It's not all smarmy to get the sleep product that we've been discussing for two years I think.

Robb: Yes.

Kirk: So it was obvious you and I were never going to get it done and then you started talking all these snake oil salesman and greasy used car salesman like I don't know. So I finally found a cool company. That should be coming up pretty soon. I'm pretty stoked about that man. That will save me at least 6,000 hours a week of emailing people what dosage to take of which supplement but...

Robb: People used to ask me that but now I just send them to you.

Kirk: Yeah and I appreciate that. I appreciate that greatly.

Robb: Kirk I can help you with your social media presence here.

Kirk: We all need to have 4,000 unread emails at any time in our inbox. That's the measure of success right there.

Robb: So Doc pinged me a couple of weeks ago, could've been a month ago. I'm not actually sure. I've been in a delirious haze lately but wanting to talk about some of the highly questionable hormone replacement therapy studies that have kind of come up lately and Doc and I were discussing what we were going to talk about today and what it's going to be. It's going to be like going to a tapas bar. It's going to be a little taste of this, a little taste of that and we're not really going to be deep on anything unless both of us actually start getting more than two cylinders firing on this thing. That's the prelude to where we're going I guess.

Kirk: Yeah, we should've done this thing at noon where we're a little more awake but you know, I think it's a good way to go and there's so much information out there and then for every bit of information I guess there's 10 bits of misinformation and it's hard to know where the people

need the most help right now. I mean I guess it's all driven by the media blurbs which I just kind of worry that TRT thing came from which just absolutely infuriated me.

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I remember getting the paper and I don't know if the lay audience is really up on this new technique that's the "medical journals" and peer review journals are up to but they release these little sound bites to newspapers and public media before they release the paper. So it's like two weeks to a month before you release the paper and then they throw out something really controversial and the media jumps all over it and then I get like 300 emails and calls from patients like oh my god I read the New York Times this morning and it looks like I'm going to die from what we've been doing for the last six months.

And I'm like okay well let me read the paper before we make the decision and how soon you're going to die. That's really what spun me up on that. It was just this...

Robb: Doc, give folks a little bit of your background. We've talked about it a little bit before but paint a little bit of the picture of how you came to start looking at trying to – you kind of buy into this idea that a normal youthful hormonal profile is probably a good thing right?

Kirk: Yeah.

Robb: So how did you arrive at that? Like that's crazy talk. I've talked to a number of physicians that are totally cool with statins and xanax and different things but if the person looks hypogonadic and you want to do ACG injections and DHEA plus arimidex to try and turn on their own indigenous testosterone production we're talking mainly male in this case, these people will freak out about that. They're like they're going to have a pituitary tumor and I'm like you're shitting me. You'll give them statins but...

Kirk: Yeah.

Robb: Give folks a little bit background about how you got to all these stuff.

Kirk: Yeah so that's probably a good place to start is any. So I think obviously the 6 or 7 listeners that grabbed onto whatever podcast we've done

before, I think we've done 2 in the past, I think we mainly geeked out on sleep. I can't remember exactly what it was since it was yet another unplanned Robb Wolf's Kirk Parsley event where we just started blabbing...

Robb: Like all of our business ventures together too.

Kirk: Whatever was in our heads at the moment, but yes so I mean it really all comes from the same source and the reason I really got into sleep was almost as guys right? It was interesting when I got back to the SEAL teams alas their physicians, I knew these guys had a ton of sleep problems because it was like the most prescribed pharmaceutical there was ambien and it was by a long shot.

And so I started trying to figure out what could be going on with these guys sleep wise and of course I knew nothing about sleep because no physicians do unless it's their specialty. You don't learn anything about it in medical school so I really started geeking out on sleep and like well, if sleep is causing all these problems that they're talking to me about which are all the metabolic syndrome and hypogonadic syndrome stuff that we talk about increased anxiety and low energy and body composition shifts and you know, exercise time is going down, strength going down and focus and memory and sex all that stuff which you can say is caused by maybe head injuries or maybe sleep deprivation or maybe there's some true metabolic broken that's going on from nutrition or alcohol.

So it was this quagmire but I knew sleep was in there so I started really geeking out on sleep and then I'm like alright enough about how we sleep. Why do we sleep? And then when you start looking at that, it's like it's pretty convincing that the most important thing about sleep is sort of rebooting the computer for the next day. Right? and that's like getting all the hormones back up that have been depleted through the day and getting rid of all the toxins that have built up to get you through the day.

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So whether that's neuro toxins from using your big brain all day or whether that's lactic acid in your muscles and you're replenishing lactic, all that stuff, but obviously it's all hormonally driven. But the military being a conservative organization as they are, they wouldn't even have considered letting me stand up in front of people and talk about

hormones because that's everybody's' biggest fear is we're going to have a bunch of road raging SEALS...

Robb: Super SEALS.

Kirk: Crushing people in Encarnado in lines in Starbucks on mass killing sprees because we all know that normal high testosterone levels just leads to mass murders and road rage. So that's really how I kind of got into it. And then what I found is sort of clinically – and I trained at every extreme so I went all the way up to – I won't mention the names of some of the questionable anti-aging type organizations that people have all heard of that are just yeah boom give guys like 200 mg of testosterone every three days and give them growth hormone and this and that and you load them up with every hormone super physiologic and surprisingly they feel great.

Like my argument to that is well if I gave them cocaine everyday they'd probably feel pretty damn good too. I don't think that would make me a very good doctor though.

Robb: It might be a limited run both for them and for you.

Kirk: Yeah. Exactly. And then all the way down to like the super esoteric this is just mindfulness training, growing your roots of your feet into the earth and becoming one with the universe and that will repair all of your issues and you know, kind of anything in between alternative can interventional endocrinology people are calling it now anti-aging kind of that whole world. And you and I of course know that nutrition is just an enormous player in this and to try to extract nutrition form the problem is just absolutely laughable.

But what I found just through clinical practices, for one thing the military is not going to allow me to put a 28 year old guy on testosterone even if his testosterone is 300 because they say well that's normal. And I'd say well actually it's really not normal. You should age adjust this and I don't know the reason for it exactly but some curves are age adjusted and some curves aren't age adjusted.

So something like testosterone they say well it's just normal for that to be really low when you get older and my argument is well it's normal for your teeth to fall out too if you don't brush then and floss them. So we

have the capability to sort of keep these stuff within the higher end of normal range.

And when you look over the data, I mean in one of the big problems with alternative as they call it, alternative healthcare and I think I introduced you to Rush Jaffey who's one of the guys who sort of founded that field and he worked for NIH and their big problem was the charter of NIH is to study disease and therefore any funding that they provide anyone else has to be the study of disease and any research they do has to be the study of disease. You can't study health. So what's optimal?

So I just basically decided I will go with optimal being the guys that I see running around that are performing the best and don't have any problems. That's optimal. And if you look at that, that's youthful. And when I see guys, when you see these sort of anomalies and the SEAL team guys that can handle the job, that can be like true meat eating SEALS for 25 years and you look at these guys, their hormones look the same as the 25 year old guy who's only been a SEAL for a couple of years. And you look at the guys who are broken, their hormones look like the 75 year old men.

Robb: They look like me.

Kirk: It's like hey, are you sure these are yours and not your dad's labs? I mean these are – or your daughters. You have a pretty pubescent daughter maybe these are hers. So that's really where I got into it and my approach to everything is very in line with yours. Right? It's just that we evolved to be on this planet to be in this game and we can probably handle our environment if we stick to the basics of what we've evolved to be able to do.

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And so to me it's about minimal intervention for pharmaceuticals definitely but minimal intervention in general. Right? So it's like you don't advise people when they're starting on the paleo diet. You're not going to say well this is the healthiest meat and this is the healthiest fat and this is the healthiest vegetable. You're only eating these three things for the rest of your life.

There's a wide variety of stuff that you can use but you want to make it as simplistic as you possibly can and the general concept is just like hey, let's move towards what we know optimal is and we know these things are really bad and people can geek out on whether this grain is truly paleo or not and it's like I don't care if that grain's truly paleo or not. If it's affecting people's guts then it's not something I want to put down to be doing.

And hormones are the same way. It's a total testosterone which is a number I don't even care that much but for simple terms, is the total testosterone of 700 a good enough total testosterone? Well I don't know. How's the guy performing? My goal is let's see how high we can get this guy's testosterone without giving him testosterone and that's probably optimal for him. Right?

If your body's not going to make anymore then your – I would say whatever peak your body's going to make is probably the evolutionary ideal is sort of my approach to it which is why I don't buy into this super physiologic dosing that a lot of guys do. It's like if a total testosterone of 4,000 was ideal, our testicles would produce that much and you would see guys running around with 4,000 and nobody does.

And then there's just tons of research that shows like your disease risk and everything is so much lower and talking total risk, individual risk along side of relative risk, the higher you get sort of in that testosterone milker for men, the farther the right your shift, there's sort of an ideal range for estrogen, there's sort of an ideal range for for DHEA and if you just start looking at all these and you go – and the same is true for women. When you start balancing women's hormones you look at it and you're like well, it really seems like everybody feels really great when their hormones are about the same as they were when they were 25-ish. Go figure. And who didn't kind of feel their best around then?

Robb:

Doc, people frequently – there is a sense of almost planned obsolescence in the human physiology clearly we age, everybody ages, things break down at some point but when you look at some long lived cultures like the Okinawan's they tend to have very high DHEA levels into advanced stage and also concomitant with that, good testosterone profile and then good testosterone estrogen progesterone profile in women even post-menopausal which is kind interesting.

Talk to folks a little bit about why even though there's kind of a plan wind down, it may be quite a bit different than what we're seeing today and you've mentioned to me some papers that you saw of I think this was specifically on men but maybe two generations ago like our grandparents, our great grandparents and that the male testosterone levels even in the 60's 70's was quite a bit different than what it is now.

Kirk: Yeah. And that goes way back for me so I'd have to look up the exact articles I pulled on that. But we know for a fact that male testosterone levels are declining. I have a very strong suspicion that this has to do a lot to do with our sleep declining and obviously the problems with sleep deprivation go hand in hand with hormone depletion.

But I want to say it was around – it was probably the 60's I think that's framing him data primarily is where that was coming from and I think the average – and this was total testosterone which again we can get into that if you think it's appropriate, we can get into like the differences and what we're really marking and what we're looking for and what's valuable to track and what's not?

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But the total testosterone was about 50% lower since the 1960-ish and just the average male when you take all comers. And the sperm count was ridiculous. The sperm count had gone from an average of 150 million down to about 30 million in the course of just 40 or 50 years. It's like our grandfathers had 50% more testosterone and five times more sperm than we did at our age right now. And that probably has a lot to do with not only the sleep but also all the stuff we know about the xenoestrogens affecting the sexual hormone binding globulin which like you said, I don't know if you want to spin that far down the rabbit hole and stuff...

Robb: Yeah let's do it.

Kirk: But like when you go to Starbucks and you get that piping hot crappy coffee, I hate Starbucks coffee but people seem told rink it so anyway when you go get your piping hot Starbucks coffee and you put that little plastic lid on there, you're just giving yourself a nice little dose of the pseudo estrogen every single time the hot coffee goes across that plastic lid. Our cars, that new car smell, that's your testosterone dropping with every...

Robb: Especially if you drive the Subaru forester like I do.

Kirk: Exactly. You know so plastics and then of course the pesticides and the hormones that we use and livestock and oh, I mean there's something ridiculous. I think it's 80,000. I'm pretty sure it's 80,000 it might be as low as 8,000 just like normal everyday environmental toxins that you run across. So how you're ever going to extrapolate yourself around and you can't. Right?

So I can't ever tell people well we've just got to lower your xenoestrogen content exposure. I couldn't even put you in a plastic bubble because that's not...

Robb: That's the problem.

Kirk: There's the problem. How are we going to do this? So one of the things that does is as the name suggests, it acts like estrogen. It's a pseudo estrogen, a xenoestrogens, a neo estrogen, I don't care what they want to call it these days. It's all the same thing. And it basically means this product, this substance gets into your body however it gets into your body and of course there's lots of ways that can happen. And it behaves like estrogen and what we know and men is that really the more important number is for testosterone isn't the total testosterone but the free testosterone or what's call the bio available.

So if you think about your bloodstream sort of being a high security hallway, everything going to the bloodstream is escorted by some sort of protein that's identifying this is part of yourself so your body doesn't attack it. And there's a little bit of free testosterone that's not attached to anything and that can just diffuse right into a cell. It doesn't require receptor to get through the external membrane and then it binds through receptor and then it gets into the nucleus and does its thing.

And the bio available testosterone is that free testosterone plus any testosterone that's bound to albumin which probably most of your guests know is just sort of that normal blood protein that escorts lots of things around. And so it's sort of a loosely bound and it can break off and this is probably like that second wind that people talk about that's like you reach a threshold where you've exhausted your intercellular activity to convert DHEA into testosterone on demand.

And now you're essentially leeching it all off of this albumin, and you kind of get that last – that sort of agro sort of surge and whatever sort of sport you're doing. So that's bio available free is without the albumin, so those two numbers are really the ones to track.

The problem with the total is all those xeno and neo estrogens that we're talking about, those rays of protein called sex hormone binding globulin and that protein irreversibly binds drum roll please, sex hormones therefore it's called sex hormone binding globulin and it binds estrogen and it binds testosterone and it binds a ton of intermediaries of which we definitely won't go down that rabbit hole but there's about 27 intermediaries all along that pathway.

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So getting that number down which is why I don't geek out too much about the total testosterone because what I'm worried about is what is your body seeing? What are you able to get access to? And that's stuff that's bound to albumin, and stuff that's free. So we know that the male sex hormone binding globulin levels have gone up astronomically and some of these happens once you become metabolically broken and you start producing a lot of estrogen and some of these is from estrogen, the pseudo estrogens in the environment.

But what we know is that this number creeps up. You could have a total testosterone of 1,000 and your doctor would say dude you are fine. You are good to go. That's an amazing number and you must be feeling great. But if your sex hormone binding globulin is like 150 then what your cells is actually saying is almost nothing and if you look back at things like framing hand data and people even start to get metabolically broken there. But if you trace it back just even a little further, men just really didn't have sex hormone binding globulin which is I mean it had a level of about 10-15.

Which is why like there's a big argument sort of in the HRT replacement is to whether or not you can use something called the free androgen index which is a way to sort of kind of include more than bio available testosterone we're talking about sort of all androgens. We're getting all of it back kind of the DHEA and all the way as far for DHT. And we've used that on women for a really long time but there was this argument that

wasn't valid on men but sex hormone binding globulin in men now I see literally as high as women all the time. So now it makes sense to use that number and so that's what I usually track off.

It makes the game much more complex and what it really does is removes the possibility that – it just makes it extraordinarily unlikely that you're getting really good care from a guy who took the weekend course on hormone replacement therapy. It just gets really intricate. And in one of those studies that infuriated me I remember sitting at my son's football game in my head which is literally tingling is us reading this obviously going this New England journal of medicine, got to be kidding me.

And if you looked at the founders of the study, you could dismiss it already. But you read through it and it was this thing whether or not men need estrogen blockers if they're getting testosterone therapy and it turns out that estrogen blockers make you worse and this is their conclusion. This does not match at all what I found clinically. And you start reading through the study and they basically went in there and chemically induced panhypopit so they really just shut down their ability to produce any hormones for like 8 weeks or something and then started giving people testosterone and some of them estrogen blockers.

And the people who didn't do well literally had no estrogen like it was not measurable. Okay I will grant you that you do need some estrogen but that whole thing was based on this attack on all the gels, all the topical gels and creams because when you put that on your skin, it has to go through your skin which means it has to go through your subcutaneous fat which is where men carry – and women too but it's the biggest player in men. it's where men carry the aroma taste enzyme that's converting their testosterone into estrogen and so certain companies who sell these products want to disprove this myth that their products don't work well because they raise estrogen levels more than or as much as they raise testosterone which then raises the sex hormone binding globulin and makes people feel no better than they felt four months after they started.

When they first started testosterone they feel great. Four months later they're like I don't feel any better maybe I feel worse. And so they went to disprove this and the population that did the best was the one that

they allowed to get up to sort of free run with their estrogen. But their estrogen only got up to a normal level which you would've expected for a man who you were treating well which is a level of like 10-15. And the people who did poorly they had like zero estrogen. So go figure they actually needed something that their body had been producing for 50,000 years.

**[0:30:00]**

Yeah and that one infuriated me. Then there was the other one with the – oh man this one was a killer. This one was New York Times and I think that the article – I think it was in New England journal article as well. They basically said that taking exogenous testosterone increases your risk for heart attacks and this was their conclusion and it was just there like here you go.

And then you read through the data and you're like I have no idea how you came up with this conclusion. It reminds me of the china study where you just kind of observe the population for a long time and say oh, these people have the benefits that must be from this.

So they went back into this huge retrospective cohort of all these different studies. Basically look for any man who had been prescribed testosterone. They didn't say how much testosterone, what kind of testosterone, why he was prescribed testosterone, what other health issues he had, why did he go see the doctor in the first place and then they made this broad statement that...

Robb: And they never validated it – they ever increased testosterone levels...

Kirk: Yeah. There were no serum levels associated with it. They didn't measure your blood and like are these guys even using the testosterone? If they are, are they going through physiologic – and then the result was just comical. It's basically like if you're 65 or older and you take testosterone, it's going to kill you. You're going to have an MI. And if you're younger than 65 because somehow your body knows exactly like here's the point where I'll no longer accept testosterone at age 65. On my 65<sup>th</sup> birthday I'm going to die if you give it to me now.

And they have no idea how much these guys were doing, what else they're doing, what lead to them getting this prescription in the first

place, how high their levels were going. And they studied him for three months and said that there seems to be an increase of heart attacks after this in this three month period. Interestingly enough, after the three months, you had a lower risk of heart attack no matter what your age was. Right? And I'm like alright well this is kind of counter intuitive.

If testosterone is causing the problem you have to admit that it's kind of a leap to say that it will only kill you for three months and then after that it's going to save your life. There's probably a correlation between the guys who had heart attacks, why they got testosterone on the first place, why they were seeing the doctor, what their complaints were and obviously an older guy is more likely to have cardiovascular disease and maybe his complaints were all cardiovascular in the first place and that was the doctor's solution. Right?

Robb: So you're saying somebody metabolically broken might be more likely to have lower testosterone levels and generally feel like shit?

Kirk: Yeah. It's shocking. It really is shocking. Again, back to the tooth analogy, people who don't brush their teeth or floss them and lose all their teeth, they seem to have a much more difficult time chewing meat than the rest of us. So it's absolute crazy talk but it just really seems to be a strong correlation between keeping your body as youthful appearing metabolically as possible. That's craziness.

Robb: So let's do devil's advocate on that. I met a guy recently super high profile, very wealthy. He had bumped into some people. This guy's 54-55 in pretty darn good shape but the folks that he bumped into are like dude, you need to be on growth hormone, testosterone, thyroid, myostatin gene knock out which actually when that stuff comes out I'm definitely all over that. But that's a whole other gig.

But they just wanted to throw the full bucket at this guy and I was just like you know why don't you talk to Doc Parsley and we'll do a little pong around here and just kind of see what you've got going on. So in my mind, I think you've already mentioned this, minimum intervention, minimum effective dose, try to get the body's own machinery to get working to the best of the ability you know just kind of goose instead of a lasso and drag along.

So why not just go full completely ridiculous over the top on this stuff? If we're saying that youthful levels are good, why aren't super physiological levels better? Why not just go completely hog while along these stuff?

**[0:35:06]**

Kirk: Yeah, well again I mean it goes to me it's the whole sort of ancestral gig. Right? If being 9 feet tall is kind of the ideal evolution, we would be 9 feet tall and if the total testosterone of 4,000 was ideal you would see that. The fact that we live around 1,000 when we're young means that we're probably about as high as you want to go. And that's a conceptual thing I can't prove anymore than anyone else. But what we do know is super physiologic doses of anything usually carries with it some sort of side effect because you can't just affect one thing. Right?

You can't just say well I'm going to take your testosterone up to 4,000 and leave everything and that's only going to affect your testosterone. Well that's obviously horse shit. That's going to affect 600 other hormones or neuro transmitters and thought processes and brain region activation and all sorts of things are going to be sort of screwed with.

So to me it's like will that enhance your performance? Yes. That's why professional athletes take them. They want to be superman. Is that sustainable? Absolutely not. I mean how many really great looking sit well balanced ex-professional athletes do you see? It's very tough on your body to do that. And to me, it just doesn't really make sense. Right? If you want to be the world's strongest man, then you probably going to need to take just about every kind of drug that's ever been invented and you're on your own with that.

But if you're talking about well, we're trying to live the longest happiest fullest life we possibly can and be as healthy as we possibly can and basically we want to die young as late as possible in our life. Right? So we're going to be like really young at 85 and just kill over and just feel great. So to me, the simple solution there is let's re approximate youth the best we can but let's use your body's equipment to do that in any way we possibly can.

And not to beat this freaking tooth metaphor to death but it would be analogous to saying well, you have poor dental hygiene. You haven't been taking care of your teeth. Let's just rip all these bastards out and

put implants in or dentures or whatever and we will make your teeth absolutely perfect and it would be the nicest looking teeth you could ever possibly have. That's kind of what they're doing with hormones. It's like let's just make you super physiologic.

But we know that growth hormones go to IGF1 right? And IGF1 is pretty well linked to cancer risk. There's sort of an ideal range which you start getting that super physiologic – I have some reasonable doubt as to whether or not that's a safe route to go. Testosterone has all sorts of problems and where a lot of these places do when they go super physiologic is they saturate your body's ability to use the testosterone anyway.

And just like anything else you just start down regulating receptors which then makes you less sensitive to testosterone so now you're probably putting about three times what your body needs in there and your body's only willing to use about a quarter of it anyway. And it's really I think just sort of a money making kind of scheme.

These guys have their own pharmacies. They charge a huge amount of money for pharmaceuticals that cost nothing. When I do put somebody on testosterone I think a vial of testosterone's \$50 or something and for my patients that's 20 injections so that's like 20 weeks for \$50 and then at some of these places where they just want to bomb people everything they're spending like \$2,000 a month on all these hormones.

But there's ways – and I won't even work with people if they aren't willing to optimize their sleep and nutrition and fitness first because if you're not willing to do that then we're philosophically at odds and I'm not going to be able to help you because unless you're willing to put that time in, everything I do is kind of a waste of time. Once we've optimized all that, guess what, a lot of your hormones and stuff come back into place anyways. A lot of your risk markers go down. Your oxidation and inflammation go down and a lot of your anabolic stuff goes up.

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So it's really not that uncommon for a really young guy if you just optimized their lifestyle, their nutrition and their sleep, and get them to quit working out 'til they puke every day. You do a few simple interventions like that and all the sudden they're back on top of the world

and you look at their labs and low and behold their labs look like they should. They look like they're 25 year olds again.

And then people who can't quite get their – let's look at what deficits are, where the deficits are and we know that people's DHEA tends to decline over time. And that's primarily declining because we're using it to make testosterone because we're not sleeping well because we're not – which means we're not secreting testosterone when we should and we have these high sex hormone binding globulin it's in the bioavailability and all the other stuff we talked about.

So let's give this guy DHEA and guess what, if it's estrogen is 10 times higher than it should be, let's block that estrogen and that's one of the signaling pathways for his body to make more testosterone. And then let's see what his body can do. And if we can get him up into the upper quintile, the upper 20% of that belcher to the anabolic parameters and the lower 20% on sort of the oxidative inflammation and other type of risk variables, if we can do all that with his body's own equipment or her body's own equipment and why wouldn't you do that?

And then that's sustainable for you know, infinitum. At some point your testicles will just quit but that's probably 65-75 kind of range. And at that point okay you still want to go out on a big time age group or in some sort of sport that's probably going to be necessary for you. But it's probably the same argument that you would have with somebody over nutrition versus supplements right?

Why can't I just eat McDonalds and take athletic greens and make sure I get all my nutrients that way and supplement or you know, why can't I be a vegan and supplement with weight protein like you know? There's just a normal way that we've evolved to do it and it seems to me like we're not nearly as smart as however many billions of years the planet's been evolving. We should probably just kind of stick to the game plan and play the hand we we're dealt and optimize that. So that's my approach on all that.

And the other beauty of that is we worked together for a year, two years something like that and then you say you know what I'm giving up on the dream. I'm going to go be a coconut farmer in Columbia or something like that, then guess what, you're still better off than the day you met me

where somebody says hey you need a gram of testosterone every week and five values of growth hormone every day, guess what, you're not making next year.

Robb: Or ever possibly.

Kirk: Ever again. Right? It's like well you quit that, you quit it for life. You're going to be way worse off than you've ever been in your life. It's just going to completely implode. So that's my rationale for doing it the way I do it.

Robb: Yeah. Intuitively it makes a ton of sense to me. I think that's part of why we had the immediate bromance when we met at the gigs that we were involved with. It's still fascinating to me and the – and you and I talked about this a fair amount and it's kind of funny when you mentioned guys not working out 'til they puke. I was just like oh mental note, you guys talk about cross-fit which was funny like literally just that moment, I was like you guys talked about cross-fit.

But we get so much kind of input, media input, Facebook input, stuff like that where we see probably performances and physiques that are outside the normal physiological bounds and then to some degree, that starts becoming the norm or at least your internalized norm.

Kirk: Right. Exactly.

Robb: This kind of body dysmorphia stuff and you know whatever and so it's kind of interesting. So I think that when I was more hands on with folks particularly when I would deal with people who are cyclists in particular, they would see these training routines of people doing the tour de France and stuff like that and they would come in and they were just beat to death and I'm like what are you doing to yourself?

Well I saw this workout online and these guys are getting this much volume and they're doing this and they're doing that I'm like yeah they're a professional athlete and you're an accountant with three kids and you're 45 years old and you smoke a lot of pot on the weekends and it's just like this isn't going to work man.

[0:45:05]

To your point like if these guys wanted to be kind of age group competitive then we could probably do some stuff like that but trying to emulate the training volume and intensity of professional athletes, they're not going to do it because they passed that window of time and maybe they got the short end of the stick on the genetic lottery and it's just not going to happen. But I see a lot of this to some degree too on kind of reasonable expectations of success in the gym, success with body composition changes like you can get some very impressive physiques in natural body builders and natural fitness competitors and stuff like that.

But with my own scene, I've noticed that if I'm willing to run say like 10-12% body fat which is not super lean like my abs aren't super up or something like that then I can be like 185 pounds and pretty strong. But if I really want to look like impressively lean then I'm like 165, 168 pounds and that's the way it is. There's no – for me to be – the day that I pop up and I'm 185 pounds and 6% body fat then I've tracked down Vinnie at Planet Muscle and I've got the hookup. I've gone the big time. Have you kind of observed that in your practice of just kind of what the reasonable expectations are from folks?

Kirk:

Yeah. The vitamin and the two subsets, working with SEALS is usually 99% around performance and their performance is to some extent the guys who are really into cross-fit or something, they might use that as one of their metrics for performance. But for the most part, it's like how well can they do their job? I mean if you go out and watch like a week of land warfare training with the sales you say – and cross-fit's for sissies right? There's no comparison to the anaerobic threshold and the amount of time you have to hold that is insanity.

So the ability for these guys to do their job is really how they measure themselves and of course some of them are young and single and want to look like underwear models, scoop the babes off the beaches and all that stuff and there's some vanity in there to some extent. But usually the older guys like we're talking about they kind of have this expectation of they've seen one of these shiny glossy airbrush people on a magazine and he's 85 years old and he looks like Arnold in his prime. He's got a spray tan and all that and he's like dude I want to look like that.

And I'm like well, guess what you're 65 years old and you're 50 pounds overweight that's probably not a reasonable goal for you. And like you

said, you're an accountant and you work 60 hours a week and you got three weeks and a wife and got all sorts of other obligations. So I definitely see that – and I'm guilty of this. We're all guilty of this. You see some sort of metamorphosis that some guy who seems to have some similarities to you or some gal if you're a gal and you're man, if he or she can do that, why can't I do that?

It's like well by large, when I see people who have made those major transformations, that's what they've been doing with their life for those 3 or 4 months that's it. They are calculating every gallery, they're building the lights around these huge fitness ship and like you're talking about with you, it's just not sustainable. Right? We're all kind of genetically set to we're at a certain point where our body composition is going to be optimal at a certain place.

And for me, my body composition is not optimal. My performance is not optimal at 6% body fat. I've been there and I look really lean and I like looking in the mirror and going yeah that's ripped up but my performance is nowhere near as good when my abs are fairly smooth and I'm at 12% body fat. I can get after a lot longer and a lot harder and I'm a lot stronger and so unfortunately that's just kind of where I sit you know.

And the expectation that we can all look the same would be no different than to say if I really take care of myself, can't I be as handsome as Brad Pitt? Like no. Brad Pitt is genetically handsome and you're not. You're not a good looking guy let's just face that. You're not a super lean fit athletic guy.

**[0:50:00]**

I know this one guy who he's a professional model like a fitness model and he's just ripped all the time. And I literally see this guy sit down and eat like three bags worth of taco bell, drinking his giant soda while playing video games and I'm just like that's that guy's story. That's what he's got going on. But definitely it's true across the world. It's just that comparing yourself to others is probably the least likely way to feel good about yourself in your performance or your game. You should be comparing yourself to either your prime or you should be measuring your progress. And as long as you're making progress, that's what really drives happiness.

I mean I find it time and time again, you can be the beautiful glossy person in Hollywood or whatever and how many of those people seem to be truly happy with their lives? Truly the thing that makes us happy is doing things that we want to do and getting better at them. As long as you're making progress, who cares if you have a six pack or four pack or a two pack or a one pack? Whatever. That's my take on it but I definitely do kind of see that scope creep. The expectations is just getting insane.

And cross-fit obviously is a huge contributor to that. Most men would like to be as muscular as the cross-fit women and that's kind of become normal. I mean the elite performer. Obviously some of them do it to the right degree. Others, I don't really find like traps up to your ears being super sexy on women personally but who am I to judge?

Robb: But I wouldn't mind then on me.

Kirk: Yeah. They look great on me. Not so much on her. There's anatomical parts that I like on myself and on there's anatomical parts I don't like on women so gain traps are one of them. There's more obvious ones but we won't totally turn off you listeners.

Robb: That's another rabbit hole we won't go down.

Kirk: Yeah.

Robb: Exactly. So talk what else, what do you have cooking? Do you have a TEDx Talk coming up here in Reno very quickly? Can we tell people about your Europe gig?

Kirk: Yeah, so that's not available to the lay audience but what I'm going to try to produce some sort of information product off of that, something that I can get out to the lay audience the listeners who are interested in it. That's like an 8 hour sort of CME CEU gig for healthcare providers and it's just – I'd say it's 90% around sleep. It has a heavy focus towards adolescence because these are military docs that take care of deployed families and they've seen a lot of problems with sleep with the adolescence. We know the military's crushed and broken with sleep and I'll build as much as the adult stuff as I can after that.

But yeah, that gig's coming up in July and then I got a lot of traveling around trying to get these sleep supplement out in late July and August

so maybe like at the end of August I'll take a day off or something. See the sun, leave my office maybe go outside and breathe some fresh air. I don't know. I'm not really ambitious with that. It will happen when it happens.

Robb: I was going to say that's a very aggressive plan.

Kirk: I know. It is pretty aggressive. And then all along the side line was all the free time you can imagine I have with all those things going on and my kids and my own training and all that other stuff. I'm supposed to be producing this textbook chapter for this dude, I'm trying to push all that along anyway. What's the date for that anyway? We have a goal for that?

Robb: We're going to finalize that this week so by the time this podcast goes up we'll have that finalized. But Doc Parsley is going to be contributing a sleep 30,000 foot kind a view of hormonal modulation, cortisol, HBTEA access deregulation for the upcoming certification so thank you for doing that.

**[0:55:00]**

Kirk: Yeah. I wish I could say it's my pleasure. I'd do anything for you Robb. You're my boy but I can't make myself enjoy that.

Robb: Those nude photos of you from Guam with Erwan Le Corre. I've got those in a self place so that was my leverage that I had.

Kirk: Yeah. That was purely experimental.

Robb: Hey man, no judgment here. This is a don't ask don't tell podcast.

Kirk: What happens in Guam – no that's Vegas.

Robb: It actually followed you back. That was the round of antibiotics.

Kirk: Yeah.

Robb: Well awesome doc. It's great having you on. We probably finally got going on do a three cylinder by the end of this gig but what do you say maybe late fall or early winter we bring you back on and we do a female hormonal show because I know this one is probably more directed at guys and our female listeners, get a little bit hopping mad about that. So

why don't we actually do some planning for that and we'll talk about sleep, food, exercise and hormones just for chicks?

Kirk: Yeah. That's definitely a good call.

Robb: Cool.

Kirk: But the one parting shot, just to throw out there for the listeners to realize, it's that sex hormones are – we all have the same sex hormones and men have 10 times more testosterone than women, that's true but all of the anabolic aspects of being a woman are the same as being the anabolic aspects of being a man. And the dominant sex hormone in women is actually testosterone, not estrogen. People get confused with that. Women do have a lot more estrogen than men do but they still have 10X more testosterone than they do estrogen and that's their real performance gig right there.

So all of these stuff really overlaps well. It's just how you go about optimizing women are slightly different but the end goal is the same when you look at 25 year old women and kind of say well that's sort of optimal performance time for women and maybe slightly younger in women. But it's the same kind of gig. I mean you look at where are their anabolic markers? Let's keep all these far to the right. Let's keep all of their sort of catabolic and oxidative and inflammatory sort of risk markers and the lowest quintile, keep the anabolic stuff and the highest quintile and long behold they can be as lean and athletic and sexy as they ever were.

And it's a very similar gig but we'll talk more specifically about hormone modulation piece for them. But the nutrition and the sleep and the exercise are no difference. It's exactly the same. That's one area that it's just like you can't separate men and women there. It's like we all need the same amount of sleep. We all need the same nutrition and there's a point of catabolic over training that hits us all at various phases and maybe we can tinker around with sort of marking when we know we've gone too far with the training.

Maybe that's something we're talking about in there too but I don't know. I don't actually listen to your podcast so maybe you've already geeked out on that. I can't say.

Robb: I think we've mentioned it before but there's mentioning again. So I like it. Hey doc, before we go, if somebody's going to – what's a basic kind of androgen profile like if somebody wants to track their testosterone levels? What's the kind of program minimum for just – so frequently if folks may have some thyroid problems and all that they come back with is like TSA like okay swing and a miss, that doesn't tell us anything. If they're suspecting some hypogonadism or something like that, what's kind of the program minimum they've got to do as far as blood work to be able to just start peeling that onion and figure out what's going on.

Kirk: So what I use for a bare minimum for my patients and some of these labs can just be ridiculously expensive. So I do try to put a very, very minimum panel in there. My panel is of course full retard there's like 150 different markers on there when I do those blood but for a male, you really can't avoid getting total testosterone if you're going to measure testosterone. That's just kind of the way they run the assays.

**[1:00:00]**

A total testosterone and then a free testosterone which is usually calculated but go ahead and let's see the numbers anyway. A bio available testosterone which is definitely calculated but the things that people usually miss pretty big is we need DHEA and DHEA sulfate is helpful but DHEA itself with a non sulfate, that's a better one. So DHEA total testosterone, bio available for free testosterone or all three of those but it's a very minimum free if that's actually measured, that's great.

And then we need sex hormone binding globulin so that we can compute a free androgen index then we need an estradiol. With those right there I can tell you with probably 90% certainty kind of where you're at anabolic wise. DHT if you want to go that one and we even call that one imperative but it's pretty damn close.

That's the most anabolic form of testosterone and some of my patients I find who don't have great testosterone levels, their body has compensated by really ramping out their DHT. And so if you're considering messing around with all of that, that's an important number to have because if your body is doing that or you raise DHT too much, it's going to give you acne, make you go bald and all that stuff.

And let's see, there's one other thing that just hit my mind. If you're going to do – so if you're a male and you're looking to work on your testosterone levels, the other thing we need to do is look at your PSA, the Prostate Specific Androgen because if you are going to work with your Doc and raise your testosterone, whether you're doing it by stimulating your own testicular production and blocking your estrogen production or if you're just doing exogenous testosterone there's always a possibility after a certain age that you could have a testosterone sensitive tumor in your prostate.

Doesn't cost prostate cancer but if there's already prostate cancer there and it's sensitive to testosterone and we quadruple your testosterone guess what else is going to quadruple? And so you need to track that. But if you aren't thinking you're going to muck around with them and you just want to see where you're at then I wouldn't be too worried about that and especially if you're probably younger than 35 I wouldn't worry too much about the PSA.

Robb: Cool. Awesome doc. It was great having you on. Looking forward to seeing your Ted Talk and getting to hang out with you in Reno a little bit and probably might be able to rope you down to the Jets Academy so that you can mop the map with me which will be a grand time. Although I will have the altitude on my side.

Kirk: And you'll have the gi on your side. I hardly ever do the gi. I just don't spend nearly as much time on that and I know there's all sorts of little clever tricky moves in there that I don't know.

Robb: Most of my clever tricky moves are screaming not in the face, not in the face.

Kirk: Alright. Thanks for having me on and we will chat again soon and if not, I'll see you in a couple of weeks.

Robb: Okay, sounds good.

Kirk: At the Wolf cave.

Robb: That's right. Alright. Talk to you soon doc.

Kirk: Talk to you soon. Bye.

**[1:03:43]**

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