

Luis-Villasenor-talks-Keto-and-Lean-Body-Mass

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Ivor Cummins (00:00)

I'm here in The Low Carb Universe in Mallorca, and I had the pleasure of listening earlier on today to an excellent talk by Luis Villasenor. Great to meet you Luis.

Luis Villasenor: Yes, likewise.

Ivor Cummins

Yeah, I think we briefly meshed last year in San Diego. I really enjoyed getting to hear your talk with Jeff Gerber. Oh, good old Jeff Gerber. Yeah, shout out to Jeff there.

Today's talk was fantastic because I'm into low carb and Keto – to a point – and fasting, and all this stuff, and the science. But I'm not really so much into exercise and muscle building. However, I found it fascinating today that you completely debunked the myth that you need carbohydrate to raise insulin, to help with anabolic muscle building. So, maybe we could talk a little around some of the key points as to why that's a myth.

Luis Villasenor

Well, here's the deal. Normally, in Keto land and in local communities, we have this belief that protein must be kept within a certain range. Because protein turns into glucose or as some people say, to chocolate cake, which, sadly, is not true. Otherwise, it will be incredible. Also, among fitness communities, there is a lot of the hate for Keto mainly because a lot of people are doing it, misguided in a way, or are chasing fat bombs, and so on. It's very much because of a little bit of misinformation. So, when people say that it's not possible to build muscle and Keto, I know it's not true. Mainly because I've done it myself for the last 23 years. I've been on Ketosis for the last 19 years. I've been strength training for 23. And I started training, not on Keto, but I built basically all my physique as well, following a Ketogenic diet. So, we have to understand that the main driver for muscle building is, of course, strength training. You don't strength train, you're not going to be building a considerable amount of lean mass because you need that stimulus. Then a protein is the building block. Okay. We have a train here, smart trolley.

Ivor Cummins (02:29)

This is the local tram and Port de Sóller. So, it'll pass in just a moment.

Luis Villasenor (02:34)

Yes. But I think the audio is okay.

So, I was saying, the protein is a main building block for all of our body. And this is super important for muscles, right? So, what normally the fitness community says is that, you require carbohydrates. Because of energy, first and foremost, and then because carbohydrates raise insulin, and insulin is an anabolic hormone. Without insulin, you will not be able to shuttle nutrients, mainly protein, into your muscles so that they get bigger. Basically, that's the common myth. That's what they commonly say.

Another myth is that you need carbohydrates to replenish glycogen. If anybody doesn't know, glycogen is, in a way, a glucose stored in your muscles and it gives you energy to

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move and to train harder, and with more intensity. So that's two full myths. You need the energy, the insulin, and basically, that's it. Protein is just to build muscles.

So, there are quite some studies, one of them most known is from Staples, he did, I think, in 2011. He has a group of bodybuilders or people who are training with just a beverage made out of protein, 25 grams of whey shake, plus 50 grams of Maltodextrin. And then, he has another group that just have whey shake. What he found is that, there's no difference in the insulin response from the group that just had the whey to the group that just had a combination of the whey shake, plus the Maltodextrin. So, what he found out, basically, is that you don't need the carbohydrates to raise the insulin a little bit. They easily do an important amount as to elicit the muscle building response.

Ivor Cummins (04:40)

Yup. And that was pretty clear from that study alone. I mean, one study doesn't make a complete proof, but in the sense that one was so clear with 25-gram protein alone versus 25 plus 50-gram of Super Glucose and no difference in what they claim.

Luis Villasenor (04:58)

Exactly. And then we know that, for some people, you can see to that very clearly in diabetes. They need to manage their insulin when they ingest protein, right? Why? Because it's raising a little bit insulin. So again, it's a moot point to say that it doesn't happen. You don't need to go super high on insulin. You just needed a little bit. And then, insulin, by itself in the context of strength training and muscle building is not really anabolic. It's more so anti-catabolic. So, when your purpose is to build a muscle, what you do is strength training with the idea of breaking down your muscle fibers a little bit, creating micro tears in your muscles. This thing creates an almost signal to your body to make your muscles stronger. And then you ingest protein, which is what is going to be used by the amino acids to repair. The purpose of insulin here is that because it's an anti-catabolic, it helps you in making the end result of this muscle building process to be greater. It's very much like an equation. You have a muscle protein synthesis and muscle protein breakdown by having protein and insulin around your workout. You make your muscles have a bigger gear basically. That's it.

Ivor Cummins (06:25)

Yeah, exactly. I knew, you don't want insulin to be too high and it won't be too low in the absence of carbohydrates.

Luis Villasenor (06:33)

Exactly. It's just about right.

Now, here's a disclaimer. This is like a year to build muscle. We are not talking about the case of a traditional body building where you want to grow super huge, right? That's another thing altogether. And I'm not saying that Keto, will get you to Mister Olympia levels. If you want to get to that level of muscular letter, probably you are going to have to do the same things that these guys do. He has probably trained like an animal, eat like an animal, and that requires a huge amount of carbohydrates. Probably use exogenous help like they do

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and have the same genetic set as these guys do. But again, for what the average Joe actually wants, which is just to have big packs and a good physique, it's more than enough.

Ivor Cummins (07:29)

Yeah. And the average Joe also generally will want, you know, a lovely physique, you know, looks great. They're not fat, they'd have no belly. They also they want health and longevity. Whereas the bodybuilders who go for Mister Universe and what they do, going through so much carbohydrates and you could question their longevity potential.

Luis Villasenor (07:49)

They may look good on the outside, but they may not be healthy inside. And it's very similar to what happens to a lot of people who do marathons and runners, which they carb load and so on. What happens with them is that, they end up diabetic even if they are so active, and they exercise a lot. Because they are not doing things optimally. Well, they be winning races, but their goal is to win the race and their health come in second, right? This is, in a way, what I'm explaining as, to have a little bit of everything. You're going to get health or you're going to maintain your health, but you're also going to be able to build a decent amount of most of muscle. And again, when I say a decent amount is, basically, what every guy who really aspires.

Ivor Cummins (08:38)

Yeah, exactly. And you know, just going onto another point, and the importance of protein in your diet, as you get older, you know, and the whole point you made earlier about building muscle for huge future benefits and that will require adequate protein.

Luis Villasenor (08:54)

Exactly. This is how I came to explain to clients to make it a point that your lean mass, or your muscles, are your health pension for when you age. And this is because as we age, it's harder to build muscle. Not because you become less active or you don't have the strength, but it's a process that involves lots of factors.

So, one is that, you become leucine resistant. Leucine is one of the three-branched chain amino acids. The one that signals your body to induce muscle protein synthesis to start building muscle. So, as we age, depending on various factors, some people say after 35, some after 45, we really don't know exactly. We need more leucine to generate the signal. So, this means you will need more protein.

This may sound a little bit counterproductive for people who want to do Keto or doing Keto, because we've been told that you need to keep your protein low because insulin, or Gluconeogenesis, but you have to see which is the less of the devils here. You want to probably do Keto and have high levels of ketones. Okay. What is the purpose that you want to do Keto? For fat loss? Then, I go by the saying, you chase results, not ketos. Ketosis is a tool, but it should not be the end. You shouldn't have to be really doing ketosis just for the sake of doing it. You're doing it with a purpose. So, you're losing body fat, but you are pulling on having super high ketosis. It doesn't really that much because you're getting the results that you want. Even any of your protein is probably higher. You're going to be building muscle and again, your muscles or your health pension. And it is there not just to, for

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looking, mostly and having abs? No. The more muscle you have and the more insulin sensitive you are, your muscles are like a sponge for easily. That's one thing. Also, nowadays it's been a muscle size or they're more lean mass you have is being considered in the medical community as a sign of metabolic health. So, some doctors, even know when a patient comes on, and the patient needs more muscular have a higher lean mass on average. They have a bigger chance of survival when they have a will develop a chronic illness because again, it means that your body's going to be better adapted to heal itself. Your muscles are not the amino acid pool, but your body can take amino acids from your muscles, if it needs to.

Ivor Cummins

Yeah, absolutely. When you starve, eventually the final reservoir is the muscle is taken to protect the organs.

Luis Villasenor (11:54)

Exactly. And this is what happens. For example, when you are fasting, people say you don't lose muscle when you're fasting. Well, probably not so much at the beginning, but, the human growth our morning please. You'll see in studies that when people fast, it is not really to protect your lean mass, but to protect your muscles and increase. Your body's shaving off the amino acids from your muscles and transporting it to your organs. Like the body really doesn't care if you're a strong or not, or if you have big muscles, they're just a reservoir. It's great that you are a big, but if, you're in a difficult situation where there's no food, the first thing that will go is your muscles. Right? You have to protect your organs.

Ivor Cummins

Absolutely. Brain and vital organs. They're always going to be first served. And the body also knows that when some food comes around it can easily rebuild back whatever's been used.

Luis Villasenor (12:44)

Exactly. There's a way you can build back muscle, but if not that easy, it's easier if you already had it. For example, you trained when you were young, and you stopped training, or you're just maintaining, you already generated that strengthen that those muscles. You grow your muscle, there's a thing called a micro-nuclei. So, you acquire muscle fibers and you make them bigger. You can make them smaller, but once you acquire them, it's easier to go back. And that happens again with training and solid nutrition. That's why you see some bodybuilders do not use exogenous steroids and so on. You can see them go smaller and then bigger very easily when they stop training. Some athletes maintain a very fit physique all throughout their lives, they are just doing enough to maintain. If they train again harder, like when they were young, they can gain it very easily. Probably not go back to their peak, but they have these great looking physiques. But if you start training when you're older, it's going to be more difficult because you are leucine resistant, you have lots of disadvantages. Your bones do not have their bone density to support and to help you. (Your bones) Probably already have joint issues. This is also very important for strength training.

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Ivor Cummins

And of course, the people in that situation are going to be more prone to injuries. All kinds of challenges.

Luis Villasenor

Of course, muscles are very much like an armor, they protect you from diseases. They protect you from diabetes. They protect you from what I gave you four. Right?

Ivor Cummins

And ironically, on a negative side, adipocytes fat cells, it's similar. You build up your number of fat cells and you may lose weight, but they stay. It's easy enough to fill it back up again.

Luis Villasenor

Yeah. There's a study that says that if you were overweight when you're junk, it's a basically add that sentence or a fat sentence, in a way, it is going to be much harder to lose weight and you're probably going to be overweight all your life because you created, those adipocytes versus if you get fat when you are, let's say, over 25 or 30. Because you're really not creating new adipocytes, they're just making the ones you have larger. Of course, you can create some of them but not at the same rate. And I think that the lifespan of a HIV post eight is about 10 or 15 years. So even if you lose weight, they are still there, and they can be refilled very easily.

Ivor Cummins (15:37)

Yes, indeed. This is the challenge of losing weight.

And another point, I love Protein Sparing Modified Fast (PSMF). Dr Gerber and I featured in the book, and we tried to explain with tables, how you could be on what appears to be a high-ish carb and very high protein percentage diet. But because you're losing weight and burning body fat, you're actually on a high fat diet. If you include the fat you're burning. So, it'd be great for you to talk around the PSMF and how important that concept is.

Luis Villasenor (16:11)

PSMF is Protein Sparing Modified Fast, so it's called fast because talking about fasting, again. The easiest way to lose weight is not eat anything, right? So, just don't eat anything. You're going to lose weight eventually, one, two, three days, whatever, but you lose weight. Not just the body, but you are also going to lose lean mass. Again, even if we say that fasting is protective, et cetera, you're going to end up losing some lean mass. The goal would be to lose just body fat. But that's really impossible.

So, what would be the best way to maintain as much muscle mass or lean mass as possible while maximizing fat loss? Well, this is where PSMF comes. You ingest an adequate amount of protein, in the case of PSMF, usually it's much higher than you would normally eat. And then you eat probably a decent amount of vegetables, more so for, vitamins and minerals for nutrient density and also to have help with a satiety and a little bit of variation. Although, really this is something that depends on the person for others. And then you could directly go as low fat as you actually want it. You can go zero-fat if you could. But you do need a little

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amount of fat because, some nutrients are, vitamin D for example, are lipid soluble. So, you actually need some dietary fat for them to be absorbed and for some hormonal issues.

Again, one day where you go hundred percent protein, nothing happens, probably two or three, the same. But if you're going to do a PSMF for about one week or two weeks, then probably you need to consider ingesting at least some fish oil, let's say five to 10 grams or maybe one egg, so that you get a little bit about the egg yolk. It really depends on how you're strict or how fast you want the fat loss to occur. Again, the degree varies with the person. Some people can do what I suggest, normally 40, 45 grams of dietary fat and with that you probably won't have any issue. And then you calculate your protein ob worth and [Maggie's brain much has to be a feeler but be fair, you know,] nutrient dense vegetables, green vegetables like spinach, Zucchini, or whatever. But again, with the focus on nutrient density.

Ivor Cummins (18:55)

Yeah, that's the key point that Marty, actually, I know you have connections to Marty, and he has some amazing data put together for the insulagenic index and protein versus carb. Also, nutrient density is a huge thing. If everyone just ate for nutrient density and, maybe left aside everything else, that alone would be a huge step forward for butter and people.

Luis Villasenor (19:18)

The thing with, if you eat for nutrient density, is you can basically not be hungry. It's very easy to, how he'd say, "shave off hunger," when you eat more nutrient density. Why? Because, this is theory that I have, and I read some papers on it, but it's not hundred percent, we cannot say that it's true a hundred percent. When you are the void of certain nutrients and let's think from an evolutionary standpoint, what is hunger? The last signal for that sends your, that your body sends for you to eat, to acquire nutrients from the environment, right? So, certain animals, in the case of us, humans, we require certain nutrients. A dog requires a certain specific amount of nutrients. Humans have certain amount of which, maybe, similar, but there are some differences. And where we normally live, or animals for example, in their ecosystem, they would find their natural nutrients, right? Just from eating whatever it was available in their natural ecosystem.

We humans, we are highly adaptable, and we move. So, it's not just about calories we could have, we could be eating a super high caloric diet that is the void the nutrients and taking out the insulin thing when you're always hungry. I've also seen with some personal time, in my case, when you're missing certain nutrients, you get cravings, or you get hungry and your body really cannot tell you. We've all seen these charts in the Internet. Like, if you are craving chocolate, you need magnesium. If you're craving, which is mostly bull shit, right? But there's no real way to know exactly if that's the thing, there may be some cravings that are really related, but the most classic one that I can say that is BS for example, is women that are on their period and they crave chocolate, right? And that's more a social construct because I can guarantee you that a woman in the amazon never thinks of chocolate, right? She's never had one. So, probably it's more of a social construct. But again, we really don't know. Our body cannot tell us exactly what we're craving. So, when you're hungry, sometimes, your body is sending you the signal that you are missing a key nutrient that your body needs. But even if you eat, like say junk food that he's devoid of those nutrients, you

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are still going to be hungry. And this is one of the reasons, again, it's a theory of mine that, what people are keep on eating and eating and eating versus if you eat a nutrient dense diet, even if you are much less calories, even on our deficits, you can be satiated all day long. Yeah.

Ivor Cummins

And that is certainly, a calorie is not a calorie, of course, is absurd. I have one anecdotal, one I'll just mention because I always think of this one. My fifth son, my youngest son, when he was very young, he used to always go and grab butter and eat butter directly. It was weird, but oddly enough, a few months later he became very ill and we have to bring him to a hospital and they found out he was profoundly d deficient. So, I often wondered, and I know generally all that stuff and chocolate and whatever, it's mostly crap. But, I would say the body has sewn tenuous signals to admit direct you towards a nutrient dense food. Yeah.

Luis Villasenor (22:43)

Yeah, I know that. That's why I say it's a theory and I read some papers that supported, but then there are also some, like we had an instinct. And there are animals that know exactly what they need to eat. And that's something that we've lost as human because we play with everything and we changed the rules where everything. Now, we are so disconnected that we just get a single tweet and we grab everything, but we're not supplying the nutrients that we need.

Ivor Cummins (23:16)

And if you combine that with the hyper palatable modern foods...

Luis Villasenor (23:20)

That's when you get like these. Like some people say they're addicted to sugar. I'd say more so that just being addicted to sugar because I've never seen someone, you know, grab a spoonful of sugar and get their fix on it. They are addicted to the feeling, they did probably, how pizza taste is and feels and that thing probably lights the certain areas of their brain.

Ivor Cummins (23:44)

So a mixture of inappropriate hunger from lack of nutrient dense food combined with Paul you've just mentioned and some other things. And we've got an explosion.

Luis Villasenor

Like you said, food nowadays are engineered to make you eat more because of the focus for the companies is to sell more.

Ivor Cummins (24:02)

Yes. And their bodies and the pharmaceutical industry also benefit on the back end from all the disease. But it's not a conspiracy. It's just the way business seeks more business.

Luis Villasenor (24:12)

Yeah. I don't think we like to have people in black robes. Yeah. Killing every night. It's not like that Buddy Indiana. It turned out like this because companies are living entities on there and they have to survive, and they have to make money for the stakeholders and the

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shareholders and that's how it is. They just have to sell. Like I was telling you yesterday, I worked for a big guy, a beverage company and I knew how it works. You work as much as well and corporate and profit is profit, and you have that to deliver. Right. And while he, in bear rash, you have these in, I worked at marketing and we had a theory, that's what's called the stomach space. So, the idea is to get, the stomach of a client or person, how do you feel that stomach, we do as much product from our company. So, either you make them ingest more or you develop more products so that you will not buy from other companies. So, it's a combination of both. "Hey, let's make all the products so that people use all of our products," but also, "okay, so the normal person would eat every three hours. Well, let's make a trade. So, they eat every 2.5 and how do you make them eat more?" And you know, so it's again, it's an oval.

Ivor Cummins (25:40)

Yeah. And that the second order effect of where they steadily become more and more hungry is then further long-term growth. So, business has to survive, and survival for business now is not just mere survival. You need growth to survive.

Luis Villasenor (25:55)

It's not about just profit. They rate companies on the percentage of growth year by year and how do you manage to grow 5% or 20% year after year? It becomes unsustainable.

Ivor Cummins (26:08)

Yeah. Endless and endless wheel. So, we might finish actually because I know the light is fading. We have to get back to the conference. Yes. On the protein and cancer. There was a lot of faux around a year ago with some significant figures in the field talking about protein excess causing cancer and it's gone a little quiet now I've noticed. What do you think of that whole thing?

Luis Villasenor (26:31)

I think that there's a lot to understand and we really don't know all the mechanisms on cancer. and very much likely, there are some theories that support that. [inaudible] may help with some types of cancer. Not all kinds of feeds on carbs. There are some types that may feed also on fat, or ketones even. So, we don't have the whole picture. Well, my thoughts on this regard, I would brought in is that it's made not be the protein, but the whole Enchilada. It's like we're saying, it makes it goes nothing. Don't blame the protein for what the fries and a soda and they're von D is not; the steak is not the hamburger. It's everything else that comes on the material. Right?

Ivor Cummins (27:18)

Yeah. And the whole talk of MTOR and protein, yes, technically directly activates MTOR amino acids. But MTOR is massively activated by high insulin, IGF one and many other things. It's like a central processor. So, I can understand why they'd like to link protein because of the MTOR link to cancer.

Luis Villasenor (27:41)

Well, when they also exercise, increases, MTOR. We were just in this talk this morning. And exercise also helps with cancer. So, it prevents cancer. There are so many moving pieces

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and you cannot say, oh, it's a protein. Well, maybe on a certain condition and for certain, phenol types it could be, but maybe for the overall population you'd actually is the opposite hallway. Having a higher lean body mass again with a healthy diet and lower processed foods, nutrient dense and with a little bit of exercise probably that's much better. So, we really don't know exactly. You know what, when we were talking about this yesterday as well. Oh, a diet high in protein. Okay. What is high? There's no clear definition of what is high. So, people go white percentages, but if we go by percentages for some person that could be 200 grams of protein or for some other could be, I dunno, 50 grams depending on the amount of calories they're eating.

Ivor Cummins (28:48)

Yeah. And there may be people who have sensitivities to certain foods. I know I've had the discussion before an ape for people who have heart disease, maybe animal protein, animal fat in excess, could end up driving up insulin or are changing cholesterol ratios in a less favorable way. But again, that's very specific scenario. Whereas the, especially as you age, as you say, protein is extremely important for health and longevity. So, we've got to be careful a bit these messages floating around.

Luis Villasenor (29:22)

People get very afraid and start to follow certain a recommendation. We are going in depth and trying to understand that. I know it's super confusing but against, because a headline says like, a few years ago, when they showed this out that red meat causes cancer. I'm not a lot of illness, but again, it was account fund their study where you will eat red meat but also where healthy and were smoking cigarettes. You know, it was the lifestyle, not really the cat. They're red meat by itself because he also had on the other side, people who ate our red meat. But where people who practice exercise on leap, the healthy lifestyle and didn't get any anything.

Ivor Cummins (30:08)

Right? Absolutely. And this is the, the endless pain I feel when I see these association studies and the media. They have hazard ratios of 1.13 and our oss really confounded, as you say, with smoking and all its own healthy user bias. It's crazy. But we're going to keep seeing them. I think as industry probably likes those studies to keep things confusing like the tobacco industry used.

Luis Villasenor (30:35)

Currently, I think a propaganda for war style, low carb diets. And I do think it has a little bit to do with some interests being touched because it's a about profit. And when people start talking with their money, companies see their shares go down. So, either you create a product to benefit that market or you lose money. Right?

Ivor Cummins (31:08)

So yeah, I'm creating myths. Information is the easiest way to deal with something. You don't even need to create false information. Just create doubt, confusion and stop any growing movements. Yeah. So anyway, hopefully that won't happen. The Low Carb and

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Keto is and are here to stay and grow. And right now, Luis, to be honest, I'm just looking at you there and I got to go work on my arms.

Luis Villasenor (31:32)

I'll get you some ids or train.

Ivor Cummins (31:35)

Excellent. So Keto gains, Lewis here and we'd catch up at the next conference,

Luis Villasenor (31:41)

likely. So, I'll probably in Low Carb – Denver.

Ivor Cummins (31:43)

Low Carb Denver, yet in March 2019 it's going to be Low Carb Denver. Thank you. Bye.