THE MODEL HEALTH SHOW

EPISODE 1048

Metabolic Scientist Reveals the 3 Biggest Fat Loss Mistakes

With Guest Dr. Latt Mansor

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SHAWN STEVENSON: Welcome to The Model Health Show. It's said that having a bad map is worse than having no map at all. We can work crazy hard in the wrong direction. We can be doing a lot of the wrong stuff and end up at a destination that we didn't plan on, and especially not be able to get to where we really want to go.

And this holds true in so many aspects of our health, including weight loss. It's not merely about doing a bunch of stuff, even if it's well-intended. It's not even about doing what we might even believe to be the right things in this kinda cookie cutter weight loss messaging that we receive. And so in today's episode, I'm gonna be asking one of the leading metabolic scientists in the world, what are the biggest mistakes that people are making when they're trying to lose weight and lose weight sustainably?

What is the wrong map that somebody might pick up and lead to taking some wrong turns? And so I'm really, really excited about this, and also he's gonna be sharing some brand-new data that was just published that his team was actually involved in as well, and this incredible paper was published in The Journal of Physiology, and it's gonna be talking about some incredible science demonstrating how you can improve your stamina, how you can improve your recovery, how you can improve your overall feeling of energy, again, backed by science.

And so all of this and so much more in this powerful new interview with the amazing Dr. Latt Mansor. Dr. Latt Mansor holds a PhD in physiology, anatomy, and genetics from the University of Oxford. He also holds a master's degree from Columbia University and a bachelor's of science in biotechnology from the University of Nottingham He's a world expert in physiology and metabolism, and consults with elite sport, military, clinical, and research organizations.

And he's here today to teach you the biggest mistakes that people make when trying to lose weight, and science-backed ways to improve your energy, recovery, and stamina. Let's dive into this conversation with the one and only Dr. Latt Mansor. Dr. Latt Mansor, my guy, so good to see you again.

DR. LATT MANSOR: So good to see you again.

SHAWN STEVENSON: Let's go. So we've got to talk about the elephant in the room.

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: And the thing that's on a lot of people's mind today especially is body transformation, weight loss.

DR. LATT MANSOR: Mm.

SHAWN STEVENSON: And this is a master class that we have set up for everybody, from somebody who knows a thing or 20 about this subject matter, by the way, but also the science behind it.

And it's not a lack of trying, you know. There are millions of people every day that are very passionate and dedicated to figuring out how to lose weight. But oftentimes, it's a lack of knowing the right thing to do.

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: And also taking missteps. You know, a lot of people making some big mistakes. So if you could, and I'm setting you up big time here, I want to go through the three biggest mistakes that you feel people make when trying to lose weight.

Mm-hmm. So what do you got for us?

DR. LATT MANSOR: Well, okay, first of all, I think what you, what you were saying about you have to know the right things to do, right? Like, and I was a scientist, and I knew what was right according to the science, according to the studies. But ultimately, you need to know what the right thing is for your body.

That was what I was missing. 'Cause I was following everything that was in the study. I was doing endurance exercise, I was doing resistance exercise. I was trying to, you know, maximize my protein. Everything looks good on paper But there was something else going on within my body that caused my metabolism to halt and stop the fat metabolism, and therefore having higher body fat content before I started working with Jay Ferrugia, our, our mutual friend, um, th- to really tackle that specific personalized problem.

I think that's also very important. It is important to understand the science. It is also important to understand your body. And when your body is concerned, there's a lot to do with hormones, because even if you are on point with everything else, movement, nutrition, sleep, stress, there is still going to be, um, an obstacle if you don't, if your hormones, hormonal, hormonal levels are imbalance.

So one of the most important hormone is insulin. It's a hormone which signals storage. When you have abundance of calories, abundance of food, insulin will then be secreted by your pancreas. That signals your body, your muscles, to store these fuels so that it can be building blocks to be used later on. So when you're working out, then it releases these fuels so that you can be more efficient.

You can create that power, that energy, the ATP production, so that you can do the task that you want to do. But a lot of people, they are either insulin resistant or they are just inefficient in, um, understanding the balance between storing and expending energy. It is a continuous cycle of constantly storing and expending, and storing and, and expending, and that's why insulin is also secreted in a wave form.

Um, there are two waves, one small, one h- bigger, and then it goes back down. And because of that, you need to maintain that physical activity in order to balance that storing. Because if you are sedentary, all your time is being spent storing the fuel that you're consuming, and you're not expending it. Um, that's where, you know, over time you get the calorie deficit, calorie surplus argument, but then there is also the, the role that these hormones play in even if you're on calorie deficit, your hormones are actually holding onto these fuels and not

expending it because you have trained your body to go into starvation, and therefore not actually burning any of these, uh, these, these fuels.

And that was my case, 'cause I was starving myself for so long that my body knows that, okay, I am going to starve myself, so I am going to hold onto these fats rather than burning them Okay. That's only one

SHAWN STEVENSON: That's only

DR. LATT MANSOR: one

And you asked for two.

SHAWN STEVENSON: Yeah, I got- I, I, I wanna dig in a little deeper here-

Yes

before we move into-

Yes

... number two, because what you're illuminating for us is, is this personalized approach to things. Mm-hmm. You know? We tend to be sold this kind of cookie cutter approach-

DR. LATT MANSOR: Yep ...

SHAWN STEVENSON: to just, to everything, really. And so it's paying attention to your own bio-individuality and understanding insulin in your body, in my body operate differently.

Correct. And this is something that this kind of system of weight loss education is not talking about. Insulin is such a powerful hormone in this context of weight loss and weight gain and energy utilization. And even just talking about those waves, no two people's waves are the same, you know? We're operating on different wavelengths, literally.

Mm-hmm. Mm-hmm.

And so it's really learning to ride your own wave and figuring out, you know, if we were dealing with insulin resistance, for example, how do we start to increase that insulin sensitivity for us? And we know some of those micro things to do, and I think it's really about stacking conditions.

But some people need a little bit more of this thing, some people need a little bit more of that thing, and so that's where the individualization comes in. And also, but the, the most important part is the awareness. Mm-hmm. And so you've already kind of unlocked that for us with this first one. So is it, if there's anything else to add here, please do, but if not, we can go to number two.

DR. LATT MANSOR: Yeah, I think, I think the most important thing is definitely the awareness. The awareness of your body, of your current body state, but also the awareness of the historical aspect of your body. What have you done over the past 10 years, over the past 20 years, that is causing your body to react the way it does right now?

And then you can slowly figure out what is the best solution to fix that.

SHAWN STEVENSON: Yeah.

DR. LATT MANSOR: You know? Like, Jay literally was like, "You, you just need carbs." I'm like, "What do you mean? Like, carbs, like, I, like I, I react bad with carbs. When I eat carbs, I just balloon up." He's like, "Yeah, but, but now you have to retrain your body to burn carbs because your body just lost that, that ability because you have restricted carbs for so long."

SHAWN STEVENSON: That's really, and it shows up in your muscles, man. Mm-hmm. It shows up in, you know, it was really for him, and something that he's talked about for years is carb cycling.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: Right? And just strategically utilizing this time-tested fuel source, especially when it comes to body transformation. And we gotta deal with the resistance in our own minds as well.

Mm-hmm. And so just going through that, trusting the process, and again, figuring out what works best for you right then. Mm-hmm. That's, that's so valuable. Yeah.

DR. LATT MANSOR: Yeah. A- and it changes, too.

That part.

And as soon as you get the progress, you have to s- like, start changing it again because your body adapts. So what is your next goal?

You know, if you go from 20% body fat to down to 18, down to 15, and then your macros is gonna change. Your weight has changed, so now your, your total energy expenditure is changed. So, you know, all of that. Um, so to the second point. I think this is a point that I, I, I want to bring in because a lot of people have the misconception that fat and muscles are interchangeable.

If you d- if you, you know, you have a lot of muscle and you stop working out, your muscles turn to fat. No, it doesn't. It is, they are different cells, you know? A- and a perfect analogy is that your muscle is like an engine, and your fat is literally the fuel tank. And the engine uses the storage, the fuel, to create energy and to, to power the move, you know?

And- It doesn't act as the tank, the engine. And the tank doesn't act as an engine. You know, the tank cannot burn the fuel by itself. So it's the same thing. Your muscles are made out of proteins and, and, and muscle fibers that are engineered to effect, uh, uh, efficiently use the fuel that you provide, carbs, you know, via glycogen or via blood glucose, and also fats via the storage in adipose tissue, or just free fatty acids.

And then fat, on the other hand, is literally just cells that has fats emulsified within the cell, uh, and store them. And as you have more fat, as you have calorie surplus, abundance of

calories, and you, you have sedentary lifestyle, that cell becomes bigger or multiply to increase your fat storage. But it doesn't necessarily changes the structure of the cell , a muscle cell, to a fat cell.

SHAWN STEVENSON: Yeah. Okay. All right. To recap, number one is taking on an approach that doesn't match your biology right now. Number two is this, unfortunately, people are still u- using this misconception that you could, like, turn your fat into muscle, right? And we're talking about two completely different things.

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: And so the, just thinking, like, "I'm just gonna be losing fat."

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: And in actuality, the way that you're going about doing this, you might be sacrificing a very important organ in this, uh, sustainable weight loss equation. Let's say that. Because muscle is a huge part of this. Mm-hmm. So maybe the, if you could talk a little bit more about that with this number two, how valuable muscle is in this weight loss equation.

DR. LATT MANSOR: Yeah. Muscle is a very energy expensive organ. It uses a lot of energy, and that's why a lot of people always say, "Build lean mass," because when you build lean mass, you automatically increase your basal metabolic rate, because you are building a more powerful, bigger engine, and therefore, it burns more fuel, right?

So it is very important. But- It is also important to decrease your fat mass, your fat storage. And that is why, while resistance training will build muscle, you still need some form of endurance exercise or some form of, um, activity, physical activity, even walking, to just increase the overall energy expenditure of, of your, your daily e- energy expenditure so that your body can burn the excess fats and can burn, can use, you know, tap into that fuel source, um, that is in your fat cells to balance out.

So now you have a two-prong approach. One, you are revving up the engine, revving up those muscles, using up all the excess energy, excess calories that you're consuming. And then two, now you're lowering that tank to an optimal level where it's just enough for you to, you know, survive and be fit, but not in excess where you are increasing your risk of inflammation, your risk of chronic diseases, your risk of in- uh, um, developing type 2 diabetes.

SHAWN STEVENSON: Yeah. I love this analogy with the gas tank, because what happens when it gets overfilled? You've got that scene from Zoolander. You know, where the gasoline's just kind of squirting out everywhere. You know, we want to have enough, but also understanding that muscle is operating as an engine. Mm-hmm. Like, are you using your muscles to actually burn this fuel really efficiently?

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: Right? So focusing, again, these are two completely different things, but we do have... I think we tend to think of fat as just, like, this problematic thing that's popping up on these spots of our bodies that we don't want, and we don't often relate it to its synergy with muscle, right? We even have intramuscular fat that's just, like, right there on site, on demand, to be used by your muscles.

If you're using it. But if you're not, you're gonna have chubbier muscles in a way.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: You know?

DR. LATT MANSOR: And that's why I said to have low enough fat to be optimal. I didn't say low enough fat to, or as low as possible enough fat. Right. Because you still need that fat, because vitamin A, D, E, K are fat-soluble vitamins.

They need fat to be able to reach the different organs and different parts of your body. Steroids need fats to be synthesized. So all those precursors, you still need, you know, triacylglyceride, diacylglyceride to, uh, essentially build, you know, all these different

biological parts that our bodies need. So everything that is in our body were carefully designed and programmed so that it feeds into each other, and nothing is, um, dispensable, in- indispensable.

Um, and, and we need everything at optimal level. Not too much, not too little. And that's why we also hear a lot of bodybuilders, they say, you know, while it may be aesthetic to look below 10% body fat, but they feel miserable because the balance is not there.

SHAWN STEVENSON: Yeah. I know about that intimately. I know about that intimately.

So thank you for, again, uh, illuminating this subject, because this is one of those things where we have to treat these two things. You know, these are separate targets when we're addressing our muscle and addressing our body fat. So what's number three?

DR. LATT MANSOR: Number three, we're talking about exercise. Let's talk about exercise.

Um, I think, uh, it, it is also ties very closely with number one and number two. You know, you need to find the exercise that works for you-

SHAWN STEVENSON: Yes ...

DR. LATT MANSOR: that works for your goals, and most importantly, that is sustainable. I think that, for me, has been the one and only game changer, where I am, I'm grateful that I have that kind of personality where once I do it, I see results, I use it as positive reinforcement, and I keep doing it.

I don't see it as discipline, but then a lot of my friends, they're like, "No, like, you're, you're pretty disciplined." But then because I don't like to s- view it as a discipline where I'm forcing myself to do something, because discipline to me is like, okay, I may not enjoy that, but I am forcing myself to do that.

But I generally enjoy that. So for me, it's just a habit.

SHAWN STEVENSON: Yeah.

DR. LATT MANSOR: Right? It's a different mentality, different way of seeing things, is like, I wake up every morning now and I walk for an hour. Um, and I get about 7,000 steps, right? Not too fast, not too slow. And I used to think, like, who would wake up in the morning with an empty stomach, do an hour of cardio?

Like, that is insane. Even now, I t- talk to my friends, they're like, "Wow, you work out twice a day?" And then I was like, "I ne- I don't see it like that," 'cause that's just what I do every morning, and I work out once a day in the evening, where I lift, and that's also, also only four days a week. The other three days, I just maintain my cardio.

You know, it's not exactly the most strenuous or intense exercise where it'll affect my sleep levels or increase my stress levels. So I think finding that real, r- finding that, um- optimal spot that fits your lifestyle is very, very important. And walking is an underrated exercise.

SHAWN STEVENSON: Mm. Come on, say more.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: Say more.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: I- Because that, this was something, I've been in this field almost 25 years, so about 24 years. And I remember working at the university gym. I, I never even conceived of walking- Yeah ... as, quote, "exercise"- Yeah ... or as a efficient way-

DR. LATT MANSOR: Mm-hmm ...

SHAWN STEVENSON: to lose weight or to lose fat.

DR. LATT MANSOR: Same.

SHAWN STEVENSON: And then I, I remember one day, I was actually outside my house, and I saw this guy walking by that I had seen, you know, maybe a few months earlier.

And he just, like, his body just, like, shrunk, right? And I was like, "So what, what have you been doing, man?" He's like, "I've just been walking. Just been out here walking every day." And I'm just like, "That is so crazy to me." This was, like, around 2007.

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: And, you know, again, it just changed my paradigm because especially with this marketing of, like, you need to be, you need to sweat it out, you gotta, you know, get in there and grind- Mm

and all this stuff. But our genes expect us to walk. Our body, our biology is, is constructed in such a way that we're very efficient walkers, and also very efficient at using fat when we're walking, if our, if we give our bodies the opportunity. But what tends to happen is what I would refer to as maybe, like, the active sedentary, right?

We go in and we work out in the gym for 45 minutes, an hour a day, and then we're sedentary the rest of the day.

DR. LATT MANSOR: Yeah. There's a very big difference between an active lifestyle versus doing an activity. When you're at the gym, you're doing a very intense physical activity. That's great. Don't get me wrong.

That is great. That's what we all do, right? We need that. We ne- need that progressive load, that stimulus to build muscle. But active lifestyle is what going to determine our total daily expe- uh, energy expenditure to be high enough to burn the excess fat, to, uh, keep the signals, the health bioma- healthy biomarkers going, the dopamine and everything, the endorphene, and, and making sure that we feel good about ourselves, and also looking good in, in the, in the process.

So I, I think a lot of people, inc- myself included, you know, in the past really overlooked, um, walking. And as soon as I hit 10,000 steps a day, I went from, I think, like, 20% body fat f- down to, like- I, I lost about 5% body fat, you know? And, and without changing every- anything else. Mm. Like, the, the macros stayed the same, the workout stayed the same, the sleep, everything was constant.

But the only thing that I added was the 10,000 steps. Mm. And that was when I, it opened my eyes. And it also makes a difference between when I do 10,000 versus 15,000, especially when you're already at a, either at a plateau or you are at the glass ceiling, you know, where you're hitting a wall. And you're like, "Okay, my, my fat loss has stalled for a bit.

What else can I do? I can't eat less because then I go into starvation mode." Just increase your steps by, by 5,000. You'll see the difference.

SHAWN STEVENSON: It's so powerful. This is a great segue into, you know, the, the guy that I mentioned before that was walking by my house. Um, he lost alm- almost at the time, almost 100 pounds.

Wow. And all he did was walk. And of course he was, he made some changes with his diet- Mm ... I'm, I'm sure. But there was a element missing, and I'm interested to see. I would love to know where he's at today of maintaining your muscle mass-

DR. LATT MANSOR: Mm-hmm ...

SHAWN STEVENSON: as well, right? For that sustainable weight loss. And this is something that you've done in spades.

As, as you mentioned, you maintained your strength training, your sleep habits, your nutrition, but adding the walking in to complement that reduced body fat, right? But maintaining a lot of your lean tissue.

DR. LATT MANSOR: Correct.

SHAWN STEVENSON: And that's apparent, by the way Y- what I was telling my guys when you walked out, I was like, "Did you see Lat's lats?"

Like, I'm telling you, man, it is incredible. It's incredible.

DR. LATT MANSOR: Thank you.

SHAWN STEVENSON: And, you know, you could see, you know, like, it's, it's just one of those things that's very apparent that, oh, this guy takes his, his body seriously. Like, he really cares for himself. He really-- This guy's in the gym. He's training. And this whole paradigm of exercise is wonderful, and complicated, and we're learning so much.

And you and your team were actually involved in a really fascinating study that just came out this year. And this study was looking at the relationship between ketosis, exercise, and vascular function. And as everybody can see, we put the study up. It's published in the Journal of Physiology, and there were some incredible findings.

Can you break down this study for us?

DR. LATT MANSOR: Yes. Um, this study is, is quite a complicated study, too. Um, so we are incorporating multiple, um, variables and look at multiple outcomes and see what effects we have. We're looking at hypoxia, so l- low oxygen environment when people have altitude training. So this is especially, especially u, um, relevant for endurance athletes who train at, at high altitude because they are increasing.

They want their body to adapt to hypoxia to increase oxygen delivery. Um, so what happened is that we have these participants, these athletes go on a high-intensity interval training for an hour. I can't even imagine. Can you imagine? HIIT for an hour. Um, so they g- went through that gruesome an hour HIIT training, and then we put them in hypoxia, in a hypoxic room where, you know, it's low oxygen, and we observe their recovery from that training.

So first of all, we're looking at micro and macrovascular function. So macrovascular function, we're looking at big arteries. We-- They measure femoral, common femoral artery, where

they saw an increase of 34%, um, blood flow increase, uh, independent of the diameter. So it's not that the artery is dilating. You just get faster blood flow within those femoral.

And these are the p- participants on Ketone-IQ versus placebo. So we know there's more blood being, being pumped on the macrovascular side. Now, we're looking at microvascular, which means it's the branch out of the artery. So now what happens after that? So if you think about this, I'm gonna walk you through this journey, right?

Fl- the blood flow through a big pipe, um, you know, which is the artery, and then it goes into smaller branches like, you know, those, those tree branches if you imagine. Little capillaries. And those, those capillaries will then enter the muscles. And now we're measuring microvascular function, which is those, those, um, those capillaries And at rest, they saw a, an increase of 7% in oxygen delivery to the muscles.

So when they're on Ketone-IQ, and this is all on Ketone-IQ. They saw 7% increase in delivery. And then I'm gonna tie your, um, your, your thighs, yeah, so that it occludes blood flow.

SHAWN STEVENSON: Mm-hmm.

DR. LATT MANSOR: So once blood flow is occluded for five minutes, so you don't get oxygen anymore. So then they measured the rate at which oxygen is being extracted from the mu- uh, from the capillaries into the muscle.

So this is the, the extraction, the oxygen extraction capacity. That increased by 11% on Ketone-IQ. And then I release it, and then now reoxygenation happens, and they measure the rate of reoxygenation, uh, r- rate of reoxygenation into the muscles again, right? And they saw an increase of 9% of increased reoxygenation when you are on, um, Ketone-IQ.

So this is all just acute effect of Ketone-IQ on your vascular. This ... We haven't even started talking about on a, a genetic expression level or signaling level. This is just looking at your blood vessels and your blood delivery and oxygen delivery into your muscles while you recover. And this is all independent of hypoxia.

This is on top of hypoxia.

SHAWN STEVENSON: Mm.

DR. LATT MANSOR: So what they have seen ... 'Cause, 'cause we can then compare, right? Is it the hypoxic environment that's helping, or is it Ketone-IQ? So when we put them in, you know, placebo and hypoxia, and then Ketone-IQ and hypoxia, we saw an additional effect of Ketone-IQ. So that's muscular, muscular, uh, sorry, micro and macrovascular function.

And then we looked at signaling. So this is one leg. And then the other leg, what they did was muscle biopsy. I just puncture a hole, took some muscles from your, um, uh, quads, and measure the gene expressions in there. So what they have found, they saw an increase, significant increase in, uh, signals that are very pro, um, recovery, if you would, uh, and pro-angiogenesis.

Angione- angiogenesis is a process where new blood vessels are being formed. So they saw increase in VEGF, which also increased blood vessels formation. They saw increase in AMPK, which increases energy generation. They saw increase in PGC1alpha, which is responsible for mitochondria, uh, biogenesis. So we are now- measuring the signal that the muscles are getting after exercise to increase energy production, increase mitochondrial production, and increase new blood vessel formation.

On top of what's already being increased in the function of existing blood vessels. So this is over time now, what will happen. Um, so it

SHAWN STEVENSON: gives us, all of this with exogenous ketones.

DR. LATT MANSOR: All of this with Ketone IQ specifically. Yeah. Yep. Um, so, so that, the gene expression in the muscle biopsy gives us a peek into the near future.

Because we're going to measure, like, okay, what happens immediately after, which is the blood, blood flow and everything, and then what will happen in the next 48 hours, in the next

week. So those gene expression is giving us a, a, an idea. Um, and then we measure the blood. And the blood saw an increase of 15% in EPO, which is erythropoietin.

And I know in endurance sport, EPO is a taboo conversation because it's blood doping, where people directly inject EPO into their bodies to increase their capacity to deliver oxygen, and therefore increase performance. But this is different, because Ketone IQ does not directly just give you EPO. It enhances your body's natural production of EPO.

Mm. And that's why we're l- looking at only 15%, because when you inject EPO, you're looking at multiple X rather than 15%. You know? You're, like, taking a 500x or so- 500% or something. So, um, so we saw an in- increase in EPO, which means there is also signal, um, and EPO, what EPO does... Sorry, I forgot to e- explain that.

EPO, um, sends signals to the, your bone marrow to create more blood, uh, more red blood cells. And red blood cells are obviously responsible to carry oxygen throughout the body. So now we have three different things, right? Mechanically, um, you have the blood vessels functioning better. Gene expression-wise, for the next, you know, m- few days, next week, you have the signals to enhance energy production and new blood vessel formation.

And also, in the blood, you have the signal to then increase the carriers, which is red blood cells, to complement those two things, and therefore really assist in exercise recovery.

SHAWN STEVENSON: This is mind-blowing. This is mind-blowing. Like, just, a- again, if we're just looking at it through the lens of just what oxygen can do in that delivery, we're talking about- To put it bluntly, better performance.

Mm-hmm. We're talking about more stamina. We're talking about better recovery. And again, it's something that's so simple. And thank goodness you guys are, like, actually running trials to see this stuff and getting down to the level of the genes, right? So this is literally changing the way that your body is expressing, you know, uh, muscular potential, vascular potential, and let alone angiogenesis, right?

The creation of new blood vessels, right? And just more capacity to deliver energy throughout your body, let alone to your muscles. So, and, and to think about the conditions under which, again, hypoxic conditions and I guess, you know, normal conditions, it's just one of those things, again, it's so simple. And we have this paradigm where people are, you know, the, uh, performance enhancing

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: And we have this capacity with something that's so simple, clean, and legal, by the way, when we're talking about Ketone-IQ. So it's really special, man.

DR. LATT MANSOR: Yeah, no, for sure. I, I think, you know, a- and you can also think about cross-translational aspect of this study is you're not just talking about exercise recovery, you are talking about essentially efficient delivery of oxygen into everywhere.

Yes. Because your blood vessels connect every single organ, right? If you think about your brain, if you are, if you're needing, you know, the brain fuel, if you're needing cognitive performance, having more oxygen, having more efficient energy production in your brain will always be better. And that is why in two weeks, I'm going to Tallahassee, um, to Florida State University with Mike Ormsby, Professor Mike Ormsby.

We're running a study with a SWAT team down there to look at specifically cognition. We put them through exhaustive exercise. So as everyone knows, once you exercise to failure, your brain just shuts down, right? Because you are low on fuel, you're low on oxygen. Now you need to prioritize getting your body back to baseline before you get into optimal cognitive level.

What we want to know, if Ketone-IQ helps you get there faster or even prevent the cognitive decline at all from exhaustive exercise.

SHAWN STEVENSON: Mind-blowing

DR. LATT MANSOR: So we'll be shooting- Yeah ... um, all this content in two weeks. Um- Yeah ... because the study just started, so hopefully by, uh, Q1 next year, we'll wrap it all up and, um, submit for publication.

SHAWN STEVENSON: Yeah. You've already, you already know. You've already seen anecdotally, you know? And so but I love the fact that you've been trusting people

DR. LATT MANSOR: Yeah. But, you know, these people on social media, they want proof. Everyone- Yeah ... even for people who are not in science, they're like, "What's a PMID?" I'm like, "Do you even know what PMID is?"

But they, they know. They know. Yeah. They're like, you know, "I'm gonna Google this."

SHAWN STEVENSON: Yeah. You know, one thing that I'm really excited about is the increased accessibility.

DR. LATT MANSOR: Mm-hmm.

SHAWN STEVENSON: You know? Like, it was just some of us who were in the know in the beginning with Ketone-IQ, and this is something that has been a gift that I regularly give to people, to guests here on the show as well.

And now the accessibility is such that CVS stores around the country, um, you've got some Target stores as well where you can find Ketone-IQ. But you get the greatest hookup, 30% off actually, when you go to ketone.com/model. That's K-E-T-O-N-E.com/model, 30% off. Plus, on your second order, subscription, you're gonna get a, a free gift, and you guys over-deliver with the gifts.

And by the way, if you did wanna go to CVS, you're gonna get $5 off your first purchase there as well, but 30% off, again, when you go to ketone.com. So for you and for your team, and looking at this kind of whole body potential here with exogenous ketones, specifically Ketone-IQ. Ketone-IQ is different. Can you talk about the difference?

Because there's a lot of different ketone, exogenous ketone products and things being added to, you know, different, you know, b- bars and things like that. What makes Ketone-IQ so unique?

DR. LATT MANSOR: I think when we started Ketone-IQ in 2022, first and foremost, I, as a research lead of Ketone-IQ, I pushed for let's look at the science first.

Like, let's test it ourselves, literally poke our fingers for the seven hours of us after, uh, after we take Ketone-IQ and see if ac- if it actually increases our blood ketone level. So that's first and foremost. I need a product that works, that increases your blood ketone levels, because that is the whole point of exogenous ketones, is so that you can skip the keto diet, and you don't have to restrict your carbs, but still have access to ketones.

So have the cake and eat it too. And that's whole- the whole pro- premise of, of exogenous ketones so that you can have access to ketones, fats, carbs, and you let your body choose what is the most efficient fuel at that moment for that activity. And after we tested it, we saw that Ketone IQ or butanediol, which is the raw ingredient in Ketone IQ, managed to increase blood ketone levels up to a significant level, and it stays up for a very long time.

And it doesn't just spike it, it slowly rises up to two to three hours, it peaks, and then it drops, um, up to... And you can stay in ketosis mean- meaning above 0.5 millimolar, up to six hours if you're sedentary. If you're working out, you'll probably last, um, a little bit shorter, but you do, you do know that your body's using it, right?

So that is, I think, the first and foremost, uh, most special part of Ketone IQ, is that it works. Secondly is that it is accessible, like you said. It is much cheaper. Compared to the first generation of exogenous ketones that we were selling was ketone ester. That was very expensive. Um, it was like $25 per pop, and it was, um...

Well, no, it was $33 per pop. Um, but there was, like, 25 grams of, of ketone ester in there. And it tastes worse, you know, ketone ester. And even though a lot of people, they're like, "Well, it doesn't taste like soda," it's not meant to. Um, it doesn't taste like a, a sweet drink, but it certainly tastes significantly better compared to the previous iterations.

Uh, so from the price point, from the taste point, and from the effec- uh, uh, effectiveness, uh, point of view, Ketone IQ is by far the ideal product, um, that has been proven i- in science as well for, for us to use and to enter the market with and to really grow as an exogenous ketone source. And I think a lot of people, even not being paid by us, like, they genuinely feel the benefit, and they genuinely, um, stand by us That is completely independent, like financially.

Like they, they, they are not involved. They do not get money from Ketone-IQ, and they still believe in Ketone-IQ. And that, to me, is a very strong signal that a product works.

SHAWN STEVENSON: Yeah. You, you just mentioned not tasting like soda. All right, go with me on this. A lot of people even, you know, today, they'll look at soda, you know, like in particular caffeine in, say, a Coca-Cola, for example, as some energy or brain fuel- Mm-hmm

right, when they're tired. And we're looking at an alternative fuel source for cognitive performance, for this experience of energy. And then we're taking this to the level a- as far as this recent study in athletic performance, where it's, again, this kind of decades-old paradigm of continuing to, to carb load and, and carb up and sugar the process, you know, and all the different gels and all this stuff.

And everything has its place, but what if there is a means of energy and performance that isn't going to require all of this craziness with those glucose waves, those insulin waves that we talked about before? So with this being said, can you talk about this paradigm of athletic performance and using this continuous input of carbs- Mm-hmm

versus utilizing Ketone-IQ?

DR. LATT MANSOR: That's a very interesting question. And before anything, let us remind the people that stimulants or caffeine does not give you energy. It simply stimulates your body to increase energy demand, but you still need to pull the fuel from somewhere within your body. Ketone-IQ, on the other hand, it is a form of fuel that directly enters your mitochondria to create ATP.

So it provides energy on top of giving you that sort of mental clarity. So that's a lot of, uh, that's what a lot of people would ask us, like what, what's the difference between caffeine and Ketone-IQ? So as far as the question goes in terms of carb maxing versus using Ketone-IQ, I am on, on a camp where- Whatever works for you, I think you can layer Ketone IQ on top and still have that hybrid fuel model where your body can essentially choose whichever that is more efficient.

But I also believe from a chronic disease point of view, it is not the most ideal situation where you're constantly high on blood sugar and therefore co- coming in with a constantly high, um, insulin. So that constant elevated insulin level is what's going to increase the risk of developing insulin resistance, developing chronic diseases.

So when I was doing my PhD, God, more than 10 years ago now on a, on a Type 2 diabetic rat model, one of the hallmarks of, of Type 2 diabetic in that, Type 2 diabetes in that model is hyperinsulinemia. I had to make sure, so I will measure the blood insulin level. I have to make sure that the insulin level at all times is higher than normal compared to a healthy, healthier rat.

And that in and of itself is a risk factor, um, that it will eventually develop into insulin resistance and then Type 2 diabetes. And also it's, it's not good for cardiovascular health either.

SHAWN STEVENSON: Yeah. Yeah. This is such an important subject. You know, um, insulin resistance is a huge component of pretty much the top 10 leading causes of death in the US, maybe nine, top nine.

But we're still not really addressing it more so, again, you know how our system is, we're treating symptoms. Mm-hmm. Right? And diabetes is something that helped to kind of inspire you to do this work in the first place. It's something that has been prevalent in your family, and many people are struggling with Type 2 diabetes, insulin resistance, and they're looking for a way to, um, you know, to find a real sustainable solution.

And so I'm curious if this would be something that's safe for folks with insulin resistance to utilize, you know, exogenous ketones as a fuel. Is there any data that you have that it can be potentially helpful in increasing insulin sensitivity?

DR. LATT MANSOR: So I think in terms of insulin sensitivity, there is no data that shows Ketone IQ increases insulin sensitivity.

The best way to increase insulin sensitivity is exercise, and that has been proven. So what Ketone IQ can do is provide you with the energy and focus to do the exercise or when, you know, throughout the, uh, throughout the day, um, by the end of the day, you're going to the gym, which I do quite a lot of times.

Um, I'll have a Ketone IQ before I work out so that I have the energy to work out, and that increases insulin sensitivity. So not exactly directly, but if you search Professor, uh, Jonathan Little from University of British Columbia, he has published quite a lot of work using exogenous ketones to treat both obese and diabetic patients and show that they drop their blood glucose level postprandial, meaning post-meal.

SHAWN STEVENSON: Mm.

DR. LATT MANSOR: So they will take exogenous ketones after they, their meal, and they can see their blood glucose, uh, drop instead of the spike that we would usually see. So a lot of people might also use it as a counterbalance from a lunch crash when they have a heavy lunch, uh, or just a pick-me-up, um, after lunch so that you don't have to have caffeine, which will eventually affect your sleep negatively later on.

SHAWN STEVENSON: Yeah. That's great, great. Th- that's the thing, too, you know? This is well-established. We got multiple studies on this, and exercise helping to increase insulin sensitivity, and it's just a matter of... And we don't need stuff to do it, you know? You could do body weight exercises. You can walk. Walking, and we'll put this, uh, paper up for everybody, where researchers found this incredible impact on blood sugar by simply walking, and the researchers stated that walking is, quote, "a miracle drug."

And that's the thing. It's not getting prescribed, though, right? This is something that we can write ourself this prescription to get more steps in. And there's this really powerful thing when it comes to, in particular, our calf muscles just being able to sop up blood sugar if we're actually using them.

And I wanna ask you about this because we've talked about the brain a little bit and, and focus, cognitive function, but also our brain can be synonymous with our mental health, you know, if we're tying those things together. And obviously, you know this. We're having some, a, a variety of mental health epidemics happening right now, and there's a variety of reasons for this.

And I wanna ask your perspective as a scientist, you know, some of the things that we can do to help support our mental health.

DR. LATT MANSOR: Great question. Um, and I think the age of metabolic psychiatry has been around for quite a few years now. People are talking about psychiatric disorder being part of metabolic dysfunction rather than just a simple neurol- neurological dysfunction.

So currently, we actually have a grant application that is waiting to be reviewed on December 5th by the NIH, looking at using Ketone-IQ to improve symptoms of bipolar disorder. This is in collaboration with University of Pittsburgh Medical Center with Dr. Mary Phillips. And I am very, very hopeful, um, because we got really good reviews, um, last round and came back with a lot of feedback by the reviewers.

We ultimately didn't get the grant, but they asked us to resubmit, which we did. So fingers crossed, we'll find out in December. It will be a five-year study, both s- uh, phase one and phase two, looking at how exogenous ketones can help people with bipolar disorder, and hopefully open the door for the other psychiatric disorders because of the energy deficiency in the brain that is causing these disorders.

Be- the, the whole premise started, the whole idea even started because they reached out to us because one of their patients ... 'Cause they have a $6 million contract or $6 million grant with the Baszucki Group looking at bipolar disorder and ketogenic diet. But one of their

participants could not go on a ketogenic diet because she's a marathon runner, so she, she can't run on a keto diet for herself.

Like, again, comes down to inter- inter-individuality. And So they prescribed her Ketone-IQ, uh, to keep her in ketosis, but also give her fuel so that she can, you know, run the marathon and no- don't need to go into a keto diet. And sh- after just one dose, and this is anecdotal, they were the one who, uh, who, who, who told us this.

She said after one dose of Ketone-IQ, the voices in her head quiet down. That was the turning point where they reached out to us and said, "Hey, can we run a study, a larger study together?" And I was like, "Absolutely." Um, so we, we submitted a grant application last, last September, and we got really favorable scores.

I think there were some changes in the NIH funding structure, unfortunately, towards end of last year, uh, when we ultimately did not get the grant. But then the program officer was like, "Hey, like, this is a good application. Why don't you go back, review this, do the amendments, and resubmit, and let's see where we can-- what we can do."

Uh, so yeah, let's hope, like, next time I come here, we can literally talk about bipolar disorder and Ketone-IQ and exogenous ketones and how psychiatric disorder can also be improved just because you are solving the energy problem in the brain. Right now, we all eight billion of us are metabolizing all the time.

And what is metabolism? Metabolism is creating energy to maintain all the biological function that we need to in order to survive. And when we have a disorder, it is because there is a kink in that energy production system. There is an energy deficiency. There is a inefficiency in using certain fuels, especially glucose, because of overusing, um, overprescribing glucose or overconsumption of glucose, insulin resistance, metabolic dysfunction.

So if Ketone-IQ can solve the energy problem, same with any energy problem in this world right now, right? Um Then it'll be gold. Yeah. And it's very cheap and accessible to people. It, it's not, you know, a multimillion dollar drug. And I think that, to me, is the ultimate gratific-

gr- gratifying task as a scientist who worked on this, to be able to have such a positive impact on people's lives without, you know, selling, uh, you know, a few thousand dollars worth of drug, uh-

SHAWN STEVENSON: Without the side effects

DR. LATT MANSOR: without the side effects as well. Yeah.

SHAWN STEVENSON: That's such a huge thing that we don't talk enough about, you know, is having accessibility to treatments and solutions and resources to get certain results without negative side effects, right?

DR. LATT MANSOR: Yeah. It doesn't always need to be a trade-off.

SHAWN STEVENSON: Yeah. That th- that's, that's the thing.

DR. LATT MANSOR: And the, the way ... And I tell people all the time, just see Ketone IQ as a tool. It's not a miracle pill. It is not a magic pill that solves all your problem. It does help you get to your goal, whatever your goal is, because you need energy. If I am tired, I can't work out, I can use Ketone IQ. If I am, uh, having a lack of sleep, I am not

You know, I didn't sleep enough last night, but I have an interview with Shawn Stevenson. He's asking all these hard science questions. I need Ketone IQ. You know, I need my brain to be switched on. So it is not necessarily ... Yeah, you still need to put in the work, right? You still need to lift. You still need to walk.

But it helps you so that that process is easier. And when the process is easier, it's easier to maintain. When it's easier to maintain, it's more sustainable. And what did we say about sustainability? That's what's gonna get you results

SHAWN STEVENSON: Boom

DR. LATT MANSOR: It comes back together

SHAWN STEVENSON: Period. Oh man, this is so great. You know, I'm very curious because, you know, you've got, you've got a lot going on in your life.

You're moving and shaking. You've been to Japan three times this year. You're learning Mandarin, you're learning Japanese simultaneously. It's crazy stuff. You know, you've got family members that you care about, and you're working on loving and supporting. And I'm curious for you, you know, obviously again, just to lean back into the mental health struggles that a lot of people are experiencing, what are some other things that, as a scientist, you do to support your own mental health?

You know, again, it's so easy to fall into patterns of depression and anxiety and, you know. So what are some other things that people can look to do?

DR. LATT MANSOR: For all you know, I'm already at the wall. I mean, there's like cracks coming out, and then I could go mental tomorrow, you know? Um, I think, I think a lot of times you just need to stop and pause and think.

For, I, and I can, I'm not a psychiatrist, but I can share what I do personally- Yes ... right? Like, um, and I was sharing with Shawn earlier, my mom got diagnosed with type, uh, stage four endometrial cancer end of last year. She had the, the hysterectomy and everything. She went through chemo. She's doing okay now.

She can eat. She can sleep. I call her. She's fine. Um, I'll go back next year, um, February to see her again. And, you know, work has been, we've been growing really quickly. We've been growing the team very quickly. A lot of things are happening obviously, you know, that increased stress as well. I'm running simultaneous studies.

I'm waiting on the NIH grant. I'm, like, sitting at the edge of my, you know, of my chair trying to wait for the results. What I do is then I pause, I sit back, and I zoom out. In the grand scheme of things, none of these matter. None of it. I need to be me, I need to be present, and I need to be healthy in order for everything else to work So then I quiet down everything else.

Somebody piss me off at work, or somebody piss me off in the street, or somebody pissing me off on social media, none of that matter. They don't pay my bills. They don't matter. They are not gonna affect anything I do. What I'm doing, what I'm bringing to the society, as long as I'm clear with my conscience and I know that's my passion, and I'm doing it for nobody else but myself, I'm good.

And I tell myself like, "I'm gonna have a good night's sleep. It's just chemicals in my brain, and the next day is a new day." Um, meditation helped me a lot to essentially visualize that, the zooming out part. I, I literally just visuling, uh, visualizing the zooming out part. In this big world, big universe, I am but a very small speck.

I do not matter at the end of the day. But I matter to me, so everything else does not matter to me until I- Mm-hmm ... am whole, and I am truthful to myself, and I am happy. Content come from inside, and it took me a long time to even realize that, that content is, you know, my happiness and my satisfaction does not tie, is not tied to anything I possess, anything material.

It is essentially, oh, I'm just content. And people are like, "What are you content about?" It doesn't need to be about anything. I'm just content with my life right now, everything I have. Everything I have and everything I don't have, and I don't have them for a reason, and I have them for a reason, right? And sometimes we don't even know what the reason is until later.

SHAWN STEVENSON: I, I love listening to you, man. You know, I al- there's certain people that I spend time with that I feel smarter just listening to you, you know? And I love these insights as well, your wealth of information and wisdom.

DR. LATT MANSOR: You say that, though. Like this, what I just shared with you, I've never shared with anyone.

I literally, it just goes on in my own head. I don't even know if it's a right answer. You know what I mean? Like, I'm just doing it because it works for me. Yeah. And it might not work for, for, for you, for, for everyone else. But I think when you think that you matter, your perception changes. Hmm. Don't let anyone else affect you more than you affect yourself.

Yeah. I think that is the key here. Because when you let somebody overtake- The control over your emotions, over your wellbeing, that's when people spiral. Because it's out of your control. You can't control how people behave, how people act, but you can control how you react, how you respond, and how you center yourself.

And when you have that control, it's super powerful.

SHAWN STEVENSON: Yeah. It's ultimate power, really, you know? And you're talking about this is something... It's a practice.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: It is a practice. It's a practice, and so what's more valuable than that, to, to have a consistent practice so you can remember-

DR. LATT MANSOR: Yeah ...

SHAWN STEVENSON: when you need it.

DR. LATT MANSOR: Yeah. And, and I, I also realized one very important thing just recently, is that you can both be vulnerable to someone and vulnerable towards someone, if someone you love or whatever, and you're like, "Okay-" Then you become vulnerable to them, but then you're like, "I, I don't want to because I need to have this wall.

I need to have this defense, otherwise I'm too vulnerable." No, you can be both vulnerable but also protective of yourself. So one very simple way I always simulate in my, in my brain, my weird brain, is that I can love somebody as a friend, as a family member, and I can be vulnerable to them. I can open up t- wi- you know, open up myself w- to them and tell my stories, tell my sadness.

I can cry in front of them, but that gives them the power to also have effect over my emotions. But to what extent I have control, and if they are too negative towards my life, uh,

or if they choose to walk out of my life, I will hold the door for them and wish them good luck, too. No hard feelings. Our lives may diverge, and that happens, right?

But ultimately, that moment shared in the present where I'm vulnerable is very valuable to me, it's very memorable, and it's a life experience that I can never get again. But also, I hold the power as to how much I am affected by this person because it's my emotions and my life and my space. So if they want to leave, let them leave, and you just have to wave.

And if they wanna stay, be a nice host.

SHAWN STEVENSON: This is great advice, man. What I hear, what I'm picking up for, for, even for myself and maybe for everybody listening as well, is developing compassion versus sympathy, right? Sympathy is sort of like, "I, I feel bad for you," right? And you're in it. And empathy is, "I feel for you," right?

And there's a place for both of those things. Mm-hmm. But compassion is, "I understand how you feel. How can I serve?"

DR. LATT MANSOR: Mm-hmm. "

SHAWN STEVENSON: How can I support? How can I allow," right? Without getting into the muck and the mess, you know, which again, there's a place for all of these things, but you're just getting us to a place and a- advising, and even for yourself, to look at this from a different perspective, you know?

And understand the power that you have to change your perspective.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: So this is awesome, man. I appreciate you so much. I'm grateful that you opened up and shared this.

DR. LATT MANSOR: No, I, I, I mean, you asked the right questions. I, I didn't even think about it, you know, until now. It's something that y- you always... It's when you're alone, you're thinking of all your problems, and you, you come up with all sorts of construct to protect yourself and your brain, and then you don't ever think about it again until somebody asks you.

And then you're like, "Huh." Now that I put it into words, I'm like, "That sounds pretty good." That's what I've been doing.

SHAWN STEVENSON: My guy. Is there anywhere where people can connect with you, follow you, and just kinda stay up to date with everything you're doing? @

DR. LATT MANSOR: lattMansor on all social media, L-A-T-T M-A-N-S-O-R. Um, and if you wanna find out more about ketones, @ketone, K-E-T-O-N-E, on all social media as well as ketone.com.

SHAWN STEVENSON: Boom. My guy. And by the way, again, 30% off when you go to ketone.com/model. Take advantage of that. And yeah, it's just, it's, it's such a, a blessing to have people who are doing the work, but, you know, the, the place that you're coming from. You know? Like, you really do, even when you come in a room, it's a big expression of heart.

And to marry that with such a great brain as well is really special. And- I really

DR. LATT MANSOR: appreciate you.

SHAWN STEVENSON: Yeah, of course, man. Anytime. Anytime. So we've got more to do. You know? We're just getting warmed up. Yeah. So I appreciate you very much.

DR. LATT MANSOR: No, hopefully next time I come, we can talk about bipolar disorder, we can talk about the SWAT team study.

SHAWN STEVENSON: Yeah.

DR. LATT MANSOR: Like, that would be so cool. And I'll- we can share some pictures and, and, and videos that you can share. It'll be so cool.

SHAWN STEVENSON: It's, it's already done. All right? Yeah. I'm looking forward to it.

DR. LATT MANSOR: Yeah.

SHAWN STEVENSON: I appreciate you so much. The one and only Dr. Lattt Mansor, everybody.

DR. LATT MANSOR: Thank you.

SHAWN STEVENSON: Thank you so much for tuning into this episode today and hanging out with me and Dr. Lattt Mansor. I hope that you enjoyed this. If you did, please share it out with somebody that you care about. You know, what we're talking about here is transforming metabolic health and understanding, like, we've got epidemics of mental health struggles, metabolic issues as well, and they're intimately connected.

And so having real science-backed resources to help to improve insulin sensitivity can be a game changer, let alone what about optimal performance, right? If we're talking about increasing our stamina and our recovery. And so KetoneIQ has really been leading the charge and leading the science, like, really putting their money where their mouth is, because getting these grants and also investing in getting real randomized controlled trials done is crazy expensive.

But they know how profound it can be in people's lives, so you know, I really do appreciate them for that. And by the way, again, 30% off when you go to ketone.com/model. All right? And also, they're available nationwide, CVS, some Target stores as well. The world is really catching on to the power of KetoneIQ.

And on top of that, more important than anything, is having the right roadmap for us as we are right now, right? And so being mindful of the things that Dr. Mansor talked about, really

being mindful of our insulin levels, insulin sensitivity- Number two was really being mindful of this paradigm with fat and muscle.

And also, number three was really utilizing the power of exercise and in particular, the power of walking. So again, I hope you got a lot of value out of this. I've got some epic masterclasses and world-leading experts coming your way very, very soon, so make sure to stay tuned. Take care, have an amazing day, and I'll talk with you soon