THE MODEL HEALTH SHOW

EPISODE 854

Boost Your Energy, Protect Your Heart, & More With the 4th Macronutrient

With Guest Dr. Latt Mansor

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SHAWN STEVENSON: What is causing our deficiency in energy today? Our bodies need energy for every single thing that our bodies do. From pumping our heart and moving our blood throughout our cardiovascular system. From running all the trillions of processes taking place in our brains. From managing our metabolism all the way down to the mitochondria and that conversion of food into energy, moving our muscles, the list goes on and on and on. Energy is required for our life. Now, today, more than ever, there's something that is stealing our energies, robbing our energy and our ability to run these processes and energy deficiency can show up as cardiovascular disease. It can show up as cognitive decline and neuro degeneration, of our cognitive function and our brain health.

This can show up as deficiencies of our bodies being able to convert our food into energy in the first place. Now when you think about the food that's used to fuel the processes of our life. If you're educated like me going to a conventional, you know, high school and university, I was taught about the three macronutrients, fats, carbohydrates and proteins. These are the macronutrients that give our body the fuel to run all the processes that the body does. Well, there is another macronutrient that has emerged. Scientists are now stating that is the fourth macronutrient. It's expanding this conversation, but, here's the rub. It's not new. It's not a new macronutrient that the body is suddenly using.

Humans have been utilizing this energy source for thousands, upon thousands, upon thousands of years. And today we have emerging science affirming how this powerful energy source is now indicated in helping to treat and reverse cancer, heart disease, cognitive dysfunction, and so much more. And today we have the leading expert on this subject matter. And it's really a masterclass in understanding this paradigm of ketones. And just one of the studies that he's going to cover is new research indicating the impact of ketones on treating, reversing, halting the progression of colorectal cancer. Now, this is a cancer that has skyrocketed. It has gone up precipitously in the past couple of decades.

Now we have again, nutrition based treatments that can help to resolve, potentially, resolve this issue. Now, this isn't a one size fits all treatment. And that's another thing and what I really appreciate about our special guest is that cancer is very diverse in how it expresses

in the human body and certain organs and tissues respond differently to ketones. He's going to share some insights about the liver and liver cancer that is opposed to colorectal cancer that two treatments simply won't work the same. It's really fascinating so really listen for that. And also make sure to listen to the very end because we're going to talk about something that is a current event in the world right now that is getting a lot of attention because of a recent incident with a CEO of a major health insurance company and someone taking his life and the fallout from that. And I'm gonna get my special guests perspective on this because before the show even got started, this was a part of the conversation because it's something that's going on in the world right now.

And so make sure to stay tuned and listen for that. And again, this is just a really rich conversation and so many different insights and just again, opening our minds to the power, the capacity that we have as human beings to, not just survive, and this is a big part of this conversation right now, survival in very complex conditions. But to thrive. Can we find a way to thrive, to be better than we've ever been? And I believe that is our potential. I believe that we can do that. We can make that happen. But right now, so much is going on in the world, that the choices we make right now are going to determine our future, the health of our children and generations to come. More so than at any other point in human history.

If you're hearing the sound of my voice right now, you are part of this story. We are writing what the history is going to be. And so I am so grateful for you being a part of this mission. If you're listening to this, you want to be better. You want to be better educated. You want to feel empowered. You want to create a healthy environment for your family and generations to come. And so being together on this mission, it's truly making a difference. You know, again, there's so much going on in the world and there's never been a time that's been more important in getting educated, getting empowered and putting things into action.

Now, before we get to our special guest, it's that time of year again, that's dubbed cold and flu season. Now, my question is. Why do colds and flus get so much credit that they get their own season? All right. Is it just because a season comes along and these microbes are just taking over our systems? Or are we missing vital inputs that are making us more susceptible? Well, that's a whole other conversation on its own, but whenever we do experience those

inherent colds and flus and also our family members, where do we turn? How do we get better faster? Of course, many people turn to conventional cough syrup to address certain symptoms and to use as a treatment. But yet another ingredient is being banned, is being pulled out of conventional cold and flu medicines. And that compound is called phenylephrine.

It was first approved by the FDA as a quote, safe and effective decongestant in 1976. Now, here's the catch. The studies used to get its approval were funded by the drug industry and outrageously flawed and misleading, but that didn't stop the drug from being added to the vast majority of all cold, cough, allergy, and anti asthmatic oral decongestant. Again, this is a billion dollar drug class and the truth is finally coming out that the drug was shown in study after study to be no better than a placebo. Plus, it's been shown to cause a number of serious side effects, including excess fluid in the lungs, hypertension, metabolic acidosis, decreased blood flow to the kidneys, anxiety, dangerously slowing heart rate, and rebound congestion, making the congestion worse.

So the very thing it's supposed to be treating. And this is just the latest one of these treacherous ingredients in these conventional medicines. And those days are over. If you look at one of the most popular cough medicines, things like NyQuil, for example, we've got these food dyes, FD& C blue number one, red 40, high fructose corn syrup, propylene glycol, all these different ingredients that are proven in study after study to cause harmful side effects in humans. So what do we do instead? Well, the randomized double blind placebo controlled study revealed that honey, raw, high quality honey was able to outperform a placebo and significantly reduce cough frequency and severity at night and improve sleep quality. Plus, another study published in the Archives of Pediatrics and Adolescent Medicine found that honey performed better than dextromethorphan for reducing coughs and improving sleep quality.

Again, another so called cough suppressant drug. I'm beyond happy to say that the number one cough syrup brand online now is a honey based cough syrup that also includes propolis, which a study published in the journal Antiviral Chemistry and Chemotherapy reported propolis has significant antiviral effects, specifically in reducing viral lung infections. This

phenomenal cough syrup is from Beekeeper's Naturals. And this is a great time to stock up on real immune support to have it on hand when you need it. Go to beekeepersnaturals.com/model, and you're going to get 20 percent off store wide. That's B E E K E E P E R S naturals.com/model for 20 percent off their incredible honey-based cough syrup. Also check out the one that has elderberry as well. There's tons of great studies on elderberry and helping to recover from colds and flus and also their incredible propolis immune spray as well. That's something to do as a preventative thing, you know, to add in on a regular basis. But also to help to speed recovery. And again, this is affirmed in the data. So again, pop over to beekeepersnaturals.com/model for 20 percent off. And now let's get to the Apple podcast review of the week.

ITUNES REVIEW: Another five star review titled "superb" by CSYN. I've been listening to the show for at least two or maybe three years and didn't realize I hadn't left a review. What a terrific podcast. Although one might look at him now and think that he's always lived a fortunate life of being in shape, he looks like this after a medical history that could have easily led to never walking again. His story is captivating, his enthusiasm is motivating, and his topics are remarkably well researched.

SHAWN STEVENSON: Wow. Thank you so much for seeing me. Thank you so much for sharing your voice over on Apple Podcast. I truly do appreciate that. And if you had to do so, please leave a review for the Model Health Show. Whatever platform you're listening on, it really does mean a lot. And without further ado, let's get to our special guest and topic of the day.

Dr. Latt Mansor holds a PhD in physiology, anatomy, and genetics from the University of Oxford. He's a world leading expert in metabolism and consults with elite sport, military, clinical, and research organizations. Dr. Mansor is involved in a plethora of clinical research on the power of ketones, largely regarded as the fourth macronutrient. Let's dive into this conversation with the amazing Dr. Latt Mansor. Latt, my guy, so good to see you.

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

SHAWN STEVENSON: There's some fascinating implications with ketones right now. Tons of new studies. You're here to share some of that with us. Implications with cancer, with heart disease, and more. But first I want to ask you about this. A lot of scientists now are referring to ketones as a fourth macronutrient. Is that something accurate to be able to say?

DR. LATT MANSOR: Yes, absolutely. I mean, we have been referring that since I believe, since we came out with the first ketones, Esther in 2017. And before I even joined the company, HVMN, Michael Brand and Jeff Wu, the two co founders, they have been calling it the fourth micronutrient and they have. You know, articles published, you know, news articles talking about them. It's like the tech bros going fasting and talking about ketones and the fourth macronutrient. People thought that was just a buzzword. But now, you got scientists actually acknowledging it now, because it is essentially a macronutrient because if you look at what are the other macronutrients? Fats, proteins, carbohydrates, right.

What makes it macro? It's because you use it as a substrate and you use large amount of it. You use in terms of grams, micronutrients, you're looking at micrograms, nanograms, like, you know, smaller micronutrient macronutrient. You use grams and that's what ketones are being dosed at. It's 20, 30 grams per dose for all these studies. It's essentially 0. 3 gram per kilogram of body weight. That's the standardized dose that we use in a lot of our studies. So, it's not that far off to call it the fourth micronutrient. Granted, it does share the same metabolic pathway as fatty acid in the beta oxidation pathway. But if you consume ketones, it just directly goes into that pathway and creates more acetyl CoA, send it down the Krebs cycle, and then creates ATP that way.

SHAWN STEVENSON: Yeah, so man. Why you blow my mind already man? I didn't even think about that.

DR. LATT MANSOR: Yeah, because macronutrients like you know, when we think about fats and proteins and carbs we think about ATP generation. We think about mitochondria using it directly as a fuel and convert it into intermediates that we can use within the mitochondrial matrix and produce the NADH that's needed in the electron transport chain in order to generate more ATP. So you either get the beta oxidation on the fatty acid side, which, you

know, through a series of processes, you shorten the fatty acid because fatty acids are very long in nature. So every step you shorten it and you remove carbons and then ultimately you create acetyl CoA and that goes into Krebs cycle. Same thing with glucose. You go through glycolysis first in the cytoplasm and then you transport it into the mitochondria after pyruvate being converted into acetyl CoA.

SHAWN STEVENSON: So the key here is, and by the way, you know, we tend to think of this energy production as this like one trick pony, right? But it's not, you know, the human body is so intelligent and being able to utilize different energy sources because for me, that's what a macronutrient really is. It's something to run processes, right? And our bodies have this really remarkable proclivity towards using ketones to run processes. And with this being said, one of the most important processes of the human body is to run our heart and our cardiovascular system. And there's so many dynamic parts, so many incredible things that are going on, but the system is also, in an interesting way today more than ever, it is very sensitive.

It's sensitive to certain changes and we're seeing an epidemic obviously of heart disease and stroke and the likes of which have never been seen before in human history. But today we know that so much of heart disease is largely preventable. And now we have, as I mentioned, some implications with ketones in resolving certain issues related to cardiovascular health. And we've got some new data on this. Let's talk about it.

DR. LATT MANSOR: Yes. Last month I was in Denmark in Aarhus and it was for a symposium hosted by the Danish Cardiovascular Society and Aarhus Hospital University. We are collaborating with Aarhus University to run the biggest ketone IQ trial to date because we are putting 250 heart failure patients on ketone IQ for 30 days. Preliminary data, both in vitro, meaning in the cells, and in vivo, meaning in clinical trials in humans, have shown that ketones actually increase cardiac output and increase cardiac output. Therefore subsequently improve clinical outcomes in heart failure patients. And this is huge because what you are seeing is that your heart is failing.

It's either from all these other complications like diabetes or atherosclerosis or myocardial infarction, you had a heart attack and your heart doesn't work as well and it's failing. There is a deficiency in energy and there are, you know, lack of substrates, blood, everything being transported into the heart. And therefore there are a lot of. blockage that prevents the heart from functioning optimally. But when ketones are present, it has shown that increases cardiac output and there are certain fascial dilation effect of ketones that's also happening that increases blood flow and therefore increasing more oxygen, more substrates being delivered to the heart as well.

The exact mechanism of action, we still don't know, but, right now, I think the clinicians, the cardiologists are more interested to see if ketones or ketone IQ can save these heart failure patients. That's all they want to care about right now. And then we can worry about what the mechanism of action is later. Because we know that this is a food product, it is not a pharmaceutical, it doesn't come with any, like, other side effects that you have to counter with other medications. So if this can significantly improve clinical outcomes of these heart failure patients, then there is no reason why they should not be taking ketones.

SHAWN STEVENSON: Yeah, yeah, yeah. You know, there's this interesting phenomenon with, you know, we have all kinds of treatments obviously for hypertension and various aspects of cardiovascular disease. One of the most popular is lisinopril, which is, a little fun fact, is derived from like a snake venom, you know, in a way. So it's like creating a little bit of like a paralysis to help everything to kind of calm down. But this energy equation with the cardiovascular system, with the heart, it's a delicate balance. And so, instead, this is what I want to ask you about, is a big part of this equation is removing the problem, right? So, from your experience, and also, I mean, you've transformed your own health, let alone all the people that you've impacted. What is causing this, as you said, a deficiency in energy? Because a large part of this cardiovascular equation, this epidemic of heart disease is an energy deficiency. What's causing the problem?

DR. LATT MANSOR: There are a lot of factors that play into it. I think it's a lot of factors that contributes to it, but then it's also a process that has been ongoing for decades before you even reach that point, right? So there definitely has to be a, some form of energy deficit,

some form of deficiency that is making your heart overcompensate by working harder to pump more blood out because you just don't get enough or the heart is not receiving signals like insulin, for example, to use up the glucose, or it's not receiving signals from other signaling molecules to adapt to more intense exercise, for example.

So, when it is not working as it is intended to, based on the stimulus that you're giving it, that's where things go haywire, right? So then the heart had to work extra hard, had to compensate and all that. And over time, you get cells that would just die off because of the stress that you're putting it through. Because it cannot compensate any longer. And that's where the damage comes in. So when you talk about what could be the cause, the cause could be incident resistance. It could be diabetes. It could be obesity. And all of that just contributes to it. There's no one, like, I can't pinpoint one exact reason, one exact factor that is leading to that.

SHAWN STEVENSON: Yeah. It's a....

DR. LATT MANSOR: I think it's a lot of it is lifestyle driven for sure, but obviously genetic place a bit of a role in it. And, and certain people would react differently to certain micronutrients, for example, right. Some people react better with fat. Some people react better with glucose and depending on what you do with that information and how you apply it into your day to day life, It will then have impact on you. Actually, I got interviewed I think two days ago for kick the sugar summit or something by Kathy Williams, and we were just talking about How it's the same that is two sides of the same coin when people talk about chronic diseases like diabetes, for example, it's 15 years in the making. You take a one small bad step at a time, and over time it compounds, and you develop diabetes over time.

But I would also like to see it optimistically, if you take one or half a step in the good direction, it also compounds. And over time, you end up being in your ideal weight, you end up having a good VO2 max and great cardiovascular fitness. You end up having good glucose control, but that all starts with one step at a time of good choices. You know, don't overeat, don't eat processed foods, stay away from inflammatory products or inflammatory food products, do more exercise, movement, sleep better. Same thing. If you go the opposite

direction, it will, you know, generate, it's, it's like an investment, right? You put a little bit per day and it will eventually materialize as whatever you invest it to be.

SHAWN STEVENSON: Compound interest for health. I love that. Listen up, Warren Buffett, compound interest works other places. I wanted to ask you about this because obviously there are these bustling fields today of nutrigenomics and nutrigenetics. So when you mentioned how our genetics play into how certain things are going to affect us, that definitely plays a role. And of course, we could swing to the other end of the pinnacle, because there was a phase where it was just all about genetics. We just gotta find the gene for this, there's a gene for that, and we know that that is largely not the case. We have a genetic template, blueprint, but we have epigenetics as well.

And so we know today, for example, that even with cancer, we just had a leading cancer researcher in Harvard trained, all the things, and he's affirming all of that. Only about 5 percent of all cancer cases today, like diagnosed cancer is due to genetics, right? 95 percent of that is influenced deeply by lifestyle and environmental factors.

DR. LATT MANSOR: Hearing that it's concerning, but at the same time, also relieving. Do you know what I mean? It's like to know that, yes, we can control that. It's great to know, but it's also scary because now I have to be careful of like, everything around me.

SHAWN STEVENSON: Right? It's a responsibility, you know, and I think many of us would rather have the responsibility, but some of us don't. And that's why we have this situation that we have currently with our healthcare model. Now with this being said with nutrigenomics nutrigenetics and you mentioning some people just operate better. Their system works better with higher amounts of glucose, some with higher amounts of fat. This speaks to the diverse diets today and diet frameworks that work really well for some people and for other people really messes them up or they don't get the results that they're looking for. We have to honor that.

And so with that being said, when you mentioned some people, for example, let's stick to fat that some people's system, their genetics just jive better with dietary fats. That can be true,

but my question is, is there a difference? Is there a difference with the fats that they're getting from their diet as far as how it's impacting their metabolism? So I'll give you an example. The fats, even the chemistry might look similar in an avocado to what is coming in a bag of Fritos. All right. So is it all just going to turn to the same stuff in the body if they're getting those fats from the Fritos versus the avocado?

DR. LATT MANSOR: That's a great question. I think from a biochemical point of view, a palmitic acid is a palmitic acid is a palmitic acid. So the body will recognize it the same and it will process it the same. However, from the sources, now you are now taking into account the other molecules, the other chemicals that are in these food products that are accompanying that fat molecule. So your body may recognize that fat molecule as the same between the two sources, but everything else that comes with it, including cofactors that may help the bioavailability of certain nutrients in a natural product versus a processed food may make the difference in terms of how your body receive those signals and process it.

SHAWN STEVENSON: Okay. That's great. Great, great feedback. So again, you know, if we're looking at the macronutrients that we're receiving from a food. Yes, the chemistry is going to exchange and your body is going to recognize certain things as certain things, but it's all the things that come along with it. So, and by the way, when I mentioned the Fritos and the avocado, I started thinking of all kind of freaky thoughts about like, guacamole on the Fritos and just like, let's get it all going. But with that said, I believe the same thing would hold true for glucose coming from certain foods. Like, the soda, versus the banana or whatever the case might be.

DR. LATT MANSOR: I also remember even though the glucose in soda would be the same in terms of molecule as the glucose from a banana. In the soda, you're consuming way higher amount of glucose too. So you have to take into account how much calories you're consuming in general which will also tip that metabolic pathway towards more fat storage and pushing you towards or being overweight and obesity and all that. So that's also another another aspect of not just looking at from a molecular point of view, but from a point of view of how dense is this process for holding all these calories and for you to eat it and then still not feel full and therefore overeating and overconsumption of excess calories happened.

SHAWN STEVENSON: So we've got the concentration in the amount and we've got the cofactors that come along with the source that you're getting these things from and these things matter. Let's talk about the new revelations with ketones and cancer.

DR. LATT MANSOR: Great. So I think about two years ago I was at Metabolic Health Summit. I was seeing some cancer researchers using keto diet to treat cancer patients. Not so much, some of them they say, oh yeah, because cancer prefers glucose because they're always in hypoxia and they always rely on glucose for glycolysis, so they hate fat. So when you go on a ketogenic diet, some of these cancers may not thrive as hard. And some other researchers, they use ketogenic diet to help with the nausea that chemotherapy induces, which is also one of the grant that we are applying right now with UC San Diego. Looking at using KetoneIQ as an adjuvant treatment to help chemotherapy inducing nausea.

But what's more interesting is our collaboration with UPenn, University of Pennsylvania. There's a group up there who have been doing this work for the past few years now, and they started off with ketone esters, and they were buying ketone esters from us, and then as they developed, now they realize we have new product, KetoneIQ. So they want to try this as well, because it's more cost effective. And they did the PK and the pharmacokinetics of it, and it shows that it works as well. So what they have seen, they looked at specifically colorectal cancer. They looked at animal models first. They look at ketogenic diet. So they put these animals on ketogenic diet. The tumor scores went down. Okay. So then they swap it around.

They put them on ketogenic diet first, and then swap it to normal diet. Okay. So the tumor scores was low to begin with. When they swap back to the normal diet, the tumor scores went back up. So it is the ketogenic diet that's suppressing the tumors. So then they have the next question, which is, and this paper is super interesting, super nice to read too, because they go through like step by step. It's like a reading a storybook and it was published in nature. I'll send you the link after this. And then the next question is that, so is it the diet itself or is it the fat or is it the ketones? So then they took BHP, which is ketone, beta hydroxybutyrate, and they use it specifically on these cancer cells in petri dish and look at the effect of ketones on colorectal cancer cells.

And they have shown that ketones stop the division of these colorectal cancer cells, stop them from dividing. So then they tried, those were the animal cells, and then they repeated the experiment with human colorectal cancer cells, and it's the same. And the higher dose, high concentration of ketones, the higher suppression there is of the colorectal cancer. So now, they are ready to run a much bigger trial, which I believe first patient just, I would have been in like either last month or this month. I can't remember how many patients, but we've got about 500 bottles ketone IQ that we just sent to UPenn. So we're collaborating with them and just donating our products just for free.

We're not paying for the study. UPenn has the grant and has the funds to do the study. We are simply providing the product because one, we believe in our product, and two, it's for a good cause, right? We are understanding cancer, colorectal cancer specifically, on how a food product can have such a significant impact on the cancer cells compared to, you know, say pharmaceutical, because if you look at, you know, chemotherapy and all that, it's like a blast the cancer cells. And as a side effect, it also blasts your other cells as well. And it does damage to your body, but this is a food product. And if it can selectively suppress colorectal cancer cells, it's going to be huge.

So hopefully we're going to get some results, maybe in. one or two years time when the study completes. But right now, you can already search colorectal cancer and ketones. It's on PubMed all over. They've got a couple of papers, a couple of review papers that outline the mechanism that they think is happening through the HopX protein. And then they also have the study published, which they outline all the experiments. So, you know, researchers out there can always replicate and build on top of that data. But again, this is the caveat though. Cancer cells, different cancer cells behave differently because they are based on different organs.

And therefore, what may work on a colorectal cancer cell may not work in other cancer cells, unfortunately. So for example, liver cancer, I spoke to a researcher from UC San Diego, he worked on liver cancer and breast cancer. And he said, in liver cancer, ketones will most likely not work because liver lacks the enzyme to metabolize ketones. Liver is responsible for ketogenesis, which is the production of ketones. But, ironically, it does not have the enzymes

to convert ketones to ATP, to energy, and metabolize ketones. So, we have to keep that in mind when we think about like, you know, we can't just say ketones cure cancer.

SHAWN STEVENSON: Yeah. The human body is so miraculous just even hearing that and the intelligence with the liver being able to do a certain job. But it's doing that for the rest of the body, right? And you know, I always go back to the name live her, you know, the liver is just so important in our survival. It's doing so much for us. And this is a place of these seemingly magical compounds that help us to not just survive, but we're finding out again that this is helping us to certain aspects of human health, to work better, you know, so and we're gonna get more into that, but we're talking about treatment for a very, very serious condition that has gone up precipitously, this type of cancer specifically.

And this goes back to, let's think about the location where this is showing up. This is a place where food processing and waste is holding up shop. And today, again, if we're looking at food being a contributing agent, which we know it is, this is clear in the data. And also food being a potential resolution, or food product like this, you know, it's just, it's very exciting, but it's also kind of common sense. We've got a quick break coming up. We'll be right back.

How can we get our kids off of all this crazy ultra processed food consumption? Well, a great step in doing this is changing up what our kids are drinking. Our kids drinks are a fast delivery system for the good stuff or the not so good stuff. And I grew up, if you grew up much like me, drinking Capri suns, fruit punch, all manner of soda, the off brand stuff and the expensive stuff. Dr. Pepper is not a doctor. All right, grew up drinking all of that stuff and of course just flooding my body with high levels of blood glucose and insulin and all manner of ultra processed, newly invented chemicals. And so being able to switch up what our kids are drinking, provide our kids some healthy beverages can be a game changer. And my friends at Organifi are dedicated to this mission too. They've got a new special superfood blend just for kids. It's called Organifi Kids Easy Greens, and it's providing our kids with some of the most micronutrient dense superfoods ever discovered, including Moringa, spinach, carrot, spinach, coconut water and more and it's in a tasty flavor just for kids.

The reviews for Organifi Kids Easy Greens are off the charts. So kids are loving it and parents are loving it as well. You're getting a micronutrient blend with a sweet apple taste. The kids enjoy probiotics and enzymes for optimal absorption. And of course it's organic and free from fillers and additives. Head over to Organifi.com/model, and you're going to get 20 percent off their Organifi Kids Easy Greens, and also the Organifi red juice blend, and just store wide any of their incredible organic blends. Again, go to Organifcom/model for 20 percent off. And now back to the show.

SHAWN: I want to focus on now some of the things that, as I mentioned, ketones can potentially help the body to run even better. Let's talk about some of the recent data on anaerobic performance.

DR. LATT MANSOR: Yep. So we finally got past the final round of a review to publish our study with University of North Georgia and looking at anaerobic exercise, because ketones have been known to help endurance athletes, cycling, marathon runners, long distance runners, because like I said earlier, it shares the same pathway as the fatty acid oxidation pathway, which means it's more towards slower release and giving you energy for a longer amount of time. Compared to glucose when it comes to fast, intense energy.

So glucose is always known as the king when it comes to high intensity anaerobic exercise. But little that we know when these athletes or when these participants, there were students went on the bike and did the Wingate test. Those who were on ketone IQ and glucose. So, they were all on, on glucose in terms of the head of standardized

meal before. So they had glucose in their bodies. So we're not replacing because it makes no sense to compare glucose only and then ketones. We are comparing glucose on its own versus glucose and ketones. So what we have seen is that ketone IQ increases power output, average power output, peak power, velocity, and decrease fatigue index.

So Wingate test is about a five bouts of sprints on the bike with 30 seconds rest. And obviously towards the end of it, people are going to be dying and people will be puking at the end because you have to push yourself as much as possible. And we are seeing a decrease in

fatigue in the group that had ketone IQ. What we're thinking that may play a role here is the effect of ketone IQ on the brain, similar to that of caffeine, which act like an analgesic effect, where these people would just feel less painful from the localized accumulation of lactic acid during the anaerobic exercise.

SHAWN STEVENSON: Hmm. Yeah. And that's just one of the mechanisms as the potential here.

DR. LATT MANSOR: That is just one of the mechanism, but we have more data right now because we also completed another study with collaboration and partnership with Wiesemann Liesebike. They were the champions of Tour de France last year. I believe they got second this year and collaboration with them and KU Leuven, which is a university in Belgium.We did a whole study using Ketone IQ in hypoxia and cognition as well as exercise. And we looked at like reoxygenation, we occluded their thigh and looked at the, so we forced them to have like occluded blood flow. So they're in hypoxia and then we release it and we look at how fast they reoxygenate. Same thing, we put them in a hypoxic chamber and then we look at their performance, their cognitive function and then we measure their bloods as well looking at EPO and angiogenesis. And that is the aspect that comes after all these exercises, which is more recovery driven.

SHAWN STEVENSON: Fascinating. Fascinating. You know, I, I think I shared this with you, but I primarily utilize ketone IQ as a pre-workout and I'm mainly lifting. All right. So this is what I'm doing primarily, but I noticed the difference in my output, my performance, my energy. And you know, it was geared towards something that would be considered more anaerobic. And I'm just like, there's something here. And now we're starting to peel back the layers and see what's going on.

DR. LATT MANSOR: I think there's, so to your, to your question as well, is, is the analgesic effect the only proposed mechanism? I think there are also other parts of the impact of ketone IQ on the brain that is helping with anaerobic exercises, which would be the cognitive performance aspect, which is what we're trying to use it now. We're trying to do really study at University of Alabama, North Alabama. Dr. Hunter Wallman, he already created a protocol

that is very useful for military, for mental fatigue. So he has a way to mentally fatigue people and then make them do cognitive tests and look at the differences if they're on ketone IQ versus when they're not.

So that is, I think, the next step to look at how can KetoneIQ affect the brain in a way that even outpace the body? Because one may argue, okay, one shot is 70 calories. Surely it's not enough to just power through your intensive workout. But you're feeling the difference. Why is that? And if we're seeing a significant difference in statistics or in analysis, what is causing that difference? Surely it's not just as simple as it's providing energy. It has to do with something else. Is it the signaling to the muscles? Is it the brain? Very exciting area to find out.

SHAWN STEVENSON: If you're listening to this and this is your first time hearing about Ketone IQ, by the way, if you're wondering like where can I get it, go to ketone.com/model. That's K E T O N E.com/model. And you're going to get 30 percent off your first subscription order. Plus, they got some new flavors, which is I'm not going to say it's about time, but it's kind of about time. You know, that was one of the barriers of entry for ketones for a long time before you guys came to market made it a lot better. And now you're just like focusing on more, like, let's make it more better, more better. So can you talk a little bit about that? Some of the more recent innovations, the flavors. Also, there is a caffeinated version as well.

DR. LATT MANSOR: We have the caffeinated version, which has 100 grams, 100, 100 grams, 100 milligrams. You'll be off the roof with a hundred grams.

SHAWN STEVENSON: I can fly.

DR. LATT MANSOR: Yeah. A hundred milligrams of caffeine and five grams of ketones, whereas the original one has 10 grams. So if you want more ketones, go for the original one. And the caffeine one has got peach and green apple flavors. I don't know. Have you tried the green apple one?

SHAWN STEVENSON: I have not. No.

DR. LATT MANSOR: I should have brought that one over for you. And then the original, we have the peach flavor for original as well. Very exciting, you know, us coming out with all these different SKUs and all these different grocery stores, also accepting us because we have now passed that, that taste barrier, as you said. Cause I think a lot of people who are not military or hardcore athletes, they just want to taste something good. They don't really care if that 2%. Whereas these, you know, you and I were like, if we can improve 2 percent a day over Five days, 10% more things done, you know, in five days. And that compounds like we talked about earlier, but some people, they just want to taste something good and feel good.And that's fair. That's fair. You know, you've got to live life too. So we are always trying to innovate and try to improve the flavors as we go along.

SHAWN STEVENSON: Yeah. You know, I want to talk to you about that a little bit more because you've mentioned the impact that it has on cognitive function. So we're talking about a relationship with energy and with our brain, but our cognitive function isn't just a brain function. You know, this is a whole body experience. And today, one of the biggest issues I believe from my perspective, also just leaning on the data, with our cognitive function. And by the way, this bleeds over into so many parts of our lives. You know, if our brain isn't working well, our cognitive function, we're not making healthy decisions. We're not having healthy introspection. We're not feeling our sense of empowerment. The list goes on and on and on. And it's just basically taking away our tools to adapt to this ever changing world. And a big culprit behind this change.

Yes, the environment has changed dramatically, but this circles back to our food and our food system, what we're making our brain cells out of what we're fueling our brain cells with, you know, this is built from the energy that we're giving our bodies, Right. And again, going back to the Fritos, we can be doing all this stuff on Frito energy and whatever I like to refer to them as like hormonal clogs or, Neurotransmitter disruptors that are coming along with those, you know, additives and in whatever stuff is going in those Fritos, which is crazy. Because now more and more stuff is being revealed of how much stuff isn't on the label even in the first place. And so checking this box off for us of moving away from this paradigm of ultra processed food.

It's a huge part of improving our cognitive function in of itself. But more recently In the vein of this ketone conversation, we're seeing emerging evidence with it being able to potentially address one of the biggest issues with cognitive function today, being the ability to focus, to pay attention and this umbrella labeling of ADHD. But there's so many things within that, by the way, and that's another thing we've been working on with the conversation, not having this one label to describe 10, 000 different expressions of what this can look like. So let's talk about some of the data on ketones and ADHD.

DR. LATT MANSOR: Yeah, for sure. And, and I want to add to your point as well with all these different foods that may disrupt or contribute towards, may disrupt like neurotransmitters and contribute towards any form of cognitive dysfunction. Now imagine that being given to children who are actively developing their brains and actively developing their cognitive function. That has to be very significant as we are now seeing all of these children becoming teenagers, becoming adults. And now they all have these problems such as ADHD to begin with, to deal with.

So writing that paper, I've learned so much. I didn't know before that ADHD had the inattentive, side of ADHD and the hyperactive side of ADHD. And then there is some mix of between the two as well. And some people, and they just classify it as ADHD. So there are a lot of things to unpack and that's how complicated the brain is. But what we have found evidence for is that when ketones are present, because ketone also has an anxiolytic effect on the GABA pathway, it calms them down because a lot of times these ADHD stems from over excitation of the brain. So when you have something that calms it down, and a lot of pharmaceuticals does that, right?

It's supposed to calm you down. But then if it blocks certain transmitters, you have to compensate it with some other drugs to counter the side effects. But ketones, when it's present, it has been shown that the brain preferentially takes it up, but it also has a calming effect on the brain. So it helps a lot of people with ADHD to focus. I'm going to quote one of my friends in New York who has ADHD, and he took ketones for the first time about a year ago, and he's regularly taking it now. A year ago, when he took it first time, he texted me right

away. He said, this is like Adderall, but less cracky. Oh, so it does what you can do, but it doesn't leave you like you just, you know, on crack.

So, yeah, I mean, it's, there are a lot of things that, that nowadays that people have been using to deal with ADHD, like Adderall is one of them. I mean, research have, have seen like crystal meth helps with that, but obviously that's not good, that's not good for your health, right? Like, so that's why we propose this paper to look at, you know, to really push the avenue of science and make people aware that this could be one of the options. It could be used with some other medications or whatever, but the whole point is let's explore some food products that may be helpful, right. And the one more thing I wanted to add is the reviewers, the two reviewers that reviewed us, and when you click the link, it will show you who the reviewers are. I have not, in my career, as a scientist, seen such positive reviews across the board from both reviewers. They were like, this is a timely paper, this is great coverage, kudos, like all full marks across the board. There was no like, there was no change that they asked for. I was shocked. So I was very pleased with this paper.

SHAWN STEVENSON: Now we've already covered a lot of ground and expanding this ketone universe, which, you know, for me is so interesting because this is something that human body has been doing since the beginning of humans, you know, and being able to lean into this more and see the different implications is, is pretty cool. And right now we need it. We need solutions. We need other ways of thinking about things. We need safety, because we are existing in a paradigm of healthcare and medicine that, to put it bluntly, has really screwed up our society. And we were talking before the show, you know, we have a, it's nearing five trillion annual healthcare system and so much of that money, a paper came out in JAMA recently.

We'll put that up for everybody to see if they're watching the video of this episode. Getting close to a trillion dollars is effectively wasted due to issues like administrative complexity. And right now we're experiencing this paradigm with a big bright light shining on healthcare. With the recent CEO of a major healthcare company, losing his life. And this is put a bright light, as I mentioned, on the topic of healthcare and the conversation under a very

unfortunate circumstance. You know, this is no way the right way to go about solving these issues, but somebody felt it was, it was so prompting of somebody to lose their life over this.

And there are millions losing their lives due to the hold that the healthcare system is specifically insurance companies have on our healthcare paradigm. And so I want to hear your perspective on this because you've been in this field studying health and medicine and so many different aspects of this for quite some time and seeing the real world stories as well. So I want to hear your insight on this because right now this is a hot button topic. The U.S. is very unique in how we do stuff. So let's talk about it.

DR. LATT MANSOR: Well, first and foremost, I want to say is not that I don't believe in pharmaceuticals. I do believe strongly about lifestyle, healthy lifestyle and changes that we can make as human beings with our own choices, like foods, exercise and all that. But there are diseases that have been eradicated altogether because of advances in pharmaceuticals in areas of medical science and all of that, right. But the problem in the U.S. is that these come with a very, very high price tag. It's very expensive. And not only that, it's almost inaccessible to certain pockets of the population if they can't afford the highest tier or like it's just too expensive for people. And I think with this incident that you just mentioned is when the rich, the ultra rich is benefiting from the rest of the country to a certain point that people just don't have anything to lose anymore. That's when you, it's going to backfire.

I mean, the way I see it is like, yes, we know that wealth is finite, right? There's only so much wealth there is. So in order for some to get super wealthy, it has to be siphoned from somewhere. I get it, capitalism, you know, people work hard, people work smart or whatever, are people born into it, you know. But at the end of the day, it needs some form of check and balance and control and morality and integrity to run the system so that it's fair for everyone. Because who is to say that some lives are more valuable than the others?

Like, no one can say that. But these corporations are the ones basically dictating that now, right? For them to have that much power, it's stupid. And before we started recording, I was saying my experience. So I lived in Germany. I lived in UK when I was studying. UK has the NHS and universal healthcare, whatnot. And yes, you know, everyone has that healthcare, but

sometimes you still have to wait quite a bit before an appointment shows up. And there's a long queue before you get seen or you get a certain procedure done. But when I was in Germany, they were very, very efficient. I could get an appointment with a specialist on the same day, get all my tests done, come back to the specialist.

And then he tells me what's the next step. So I think every country, there's a lot of countries for sure that have figured this out. Why is it that U.S. as one of the most powerful richest country in the world, are not taking points for that? Is it, is it ego? Is it arrogance? Or is it because of greed? Is that the system right now is not broken because the rich is still getting richer.And therefore we don't want to change it because we are in power.

SHAWN STEVENSON: Yep. Yep.

DR. LATT MANSOR: It's yeah. I mean, it's scary to see the reaction of social media and the reaction of the people with this case, with the CEO case, with this incident. How overwhelmingly united people were and, and this, this sense of camaraderie. of how much pain that they have caused these people or their loved ones, and they're all standing against them. It's scary because they're like, well, this is, this is wrong. And this is, I'm like, yeah, but what drove this to begin with? What is the root cause? Let's look into that and try and fix it. Are there any, anything that's being done right now? I don't think so.

SHAWN STEVENSON: Yeah, we were sharing this collectively. You know, I used to do a lot of corporate talks and interventions and you know, helping companies coming in to like save them on health care expenses and you know, very well intentioned work and same thing with the people bringing me in and some like some of the biggest companies in the country, which is pretty cool. It's fun stuff. And very successful, but kind of not, because you saw something, which again, me sharing that story, you had a perspective that was similar to mine, that this was built in a way. Yeah, we're going to come in and we're going to save money on their healthcare expenses, but it's not quite like that.

DR. LATT MANSOR: Yeah. I was working for a diabetes management program back in Singapore, and we would pitch to these guys, healthcare providers will pitch to these

insurers, benefit brokers, and really say, Hey, like this program can help people prevent or improve their diabetic conditions and reduce complications. And therefore you get more productivity, you get less claims, you get people less sick. Everyone's happy. The company's getting people who are more productive and happy. And you get people who are able to spend time with their families and the insurers will have less claims to deal with and less expenses for these healthcare procedures.

And it sounds very logical and rational at that time, but little that I know that the bigger bucks for these insurance companies are from the claims, especially in the U.S. because a big majority part of the claims is administrative costs. And that goes not the medication, not the procedure, administrative costs, as it says, so that's where they make the money.

So I think it's very important for us to hold these companies, these corporations responsible and accountable that they have all the vested interest in people's health and not the other way. Because right now, what I'm seeing is that that interest, as a company, is to earn money is to earn revenue, which I'm like, okay, I understand that. But if the revenue is tied to the mortality rate of the people and the morbidity rate of the people, then there is a huge disconnect that needs to be addressed right here, right now. Right.

SHAWN STEVENSON: Yeah. Yeah. We talked about one of the tactics that's trained in the organizations, which is to make it complex for, you know, again, we're paying every month for the insurance and then when it comes time for us to use it, making it uber complicated to get the help that we need, right? So, it's a trained part of the system and it's not across the board for every insurance company, but I'm sure there are people listening that have experiences with car insurance, for example. But especially in healthcare, finding creative ways to basically tire you out, make you give up. And trying to, you know, get the help that you need.

And so, with this being said, we've got to make a change. And the biggest, fastest change that we can make right now is to invest in our own health. Many of us are automatically spending money on insurance every month. What if we start to partition some of that income into our own kind of personal preventative well being. Which is really cool because we've got like true med, for example, with Cali means and being able to get tax credits for investing in our gym

memberships and healthy food and things like that. But we don't even need that to do it. It's just a shift in our priorities. We want the insurance to be there for when we need it. But right now, so many people are experiencing, like, they're not there when we really need it. So we've got to really make this transition to investing in us and investing in our families. And so, you've been investing in yourself. You know, and just really, every time I see you, it's just like, you're, you're just getting more and more fit.

DR. LATT MANSOR: You're one of the inspiration, man. And like, I look at you and you are doing a thousand things in one day and you still make time for your family. You're like playing sports with your, with your sons. That is a role model. You practice what you preach. And one of the people that has helped me tremendously on a daily basis is our good friend, Jay Ferrugia. So I've been training with him for the past year. He's been using carb cycling for me. It blew my mind because I don't understand the science of it because he's making me eat the same thing every day.

And then just once a week, I eat a much higher carb intake. And then I go back to the same exact low carb intake and I start to lose weight. And then I do the exact same thing the following week, and I lose more weight. But then, my muscle mass remained. And I've lost about 8 percent body fat. I lost about 20 pounds. Since the last time I was here. And, I did search, try and search, like, car cycling and stuff on, on PubMed. And I'm like, there's no studies on it. And I don't know how it works. I know it's something about tricking your body to increase metabolism when you're on a high carb day, but then at what point does it plateau? And if it does plateau, like what do you do? So I'm still picking, you know, Jay's brains. I think, you know, he has like decades of experience to pull from, and I'm trying to make it make sense from my scientific curiosity point of view.

SHAWN STEVENSON: Shout out to Jay Ferrugia, by the way. We'll put his interviews here on the model health show. One of my really good friends who talked me into moving to LA actually. And you know, again, what we're doing today, we're utilizing scientific method to affirm some stuff that a lot of people have figured out whether it's like through their just cultural indigenous practices or Jimbros, you know, figure some stuff out. And this sounds like

a great place because I know that you're doing so much as far as the research with ketones right now. But this sounds like a great place to study for you to share with all of us.

DR. LATT MANSOR: Yeah, I would love to. So I was saying right before we started recording is that if TikTok doesn't get banned, I plan to grow my TikTok and I want to document my journey, my whole journey. I've taken pictures, you know, Jay asked for a progress pic. So I have my picture at 185 pounds and now I'm at 160 pounds. You know, all of that every few months and I want to document what did I do differently? I mean, honestly the content wise I think it's quite boring because I do the same thing every day. Yeah, I mean, I I just make sure I track my macros make sure I get my 10, 000 steps, non-negotiable and do my lifting right?

It's very doable stuff It's nothing like I didn't like go on a super like Iron Man, you know regime. But I want to document that and learn from a scientific point of view as well, like trying to explain to people why is it how do you lose fat and gain muscle lose fat or maintain muscle or you gain muscle? But not gain fat, right? Like your metabolism shifts and what can you do? With your macro that help with that shift, because the ratio of your macros will then dictate based on your stimulus of the exercise stimulus, what will then be the composition of your body?

SHAWN STEVENSON: Awesome. This, because I have you here, this is a great segue into final question I've got for you. You mentioned the tinkering with the carbs. And so obviously you've got a carb intake. Generally, when people think about ketones, I know that my education was. This is something that kicks on when you're fasting, you know, when, when glucose isn't around, when insulin's not doing its thing. With exogenous ketones, your body, even if you've got glucose circulating, you're eating carbs, your body can still utilize these ketones. Is that correct? That is correct.

DR. LATT MANSOR: That is correct. And the whole idea of exogenous ketones is that you do not have to be on such a restrictive diet, either intermittent fasting or ketogenic diet, in order to get the benefits of ketones. You can bypass that and have a very reliable way to increase your blood ketone levels. And because of that, you're getting all the benefits from an energy point of view, but also from a signaling point of view, epigenetic signaling point of

view, and the effect of ketones on your body. The brain, on the heart, on the muscles, you're getting all of it just by taking in isogenous ketones without having to go on that diet.

And one really cool video I took when I was in Aarhus University is that they created a radioactive tracer for ketones. So that when they inject into the fingers of the person, so the person is lying down like that, flat, and when they inject it into the finger, you can trace the ketones. For the next 45 minutes, where does the ketone go within your body? Majority of it is being absorbed by the heart. It's so cool. You can see, I'll show you. I've got the video.

SHAWN STEVENSON: If you're watching the YouTube version of this, you'll see the video, which is an exclusive alert. So to see this, it's super cool, man, you know, just again, to know where we are with science, to be able to track how these things are being impacted, you know, how incredible and intelligent these compounds are, you know, to do a certain job is really good.

DR. LATT MANSOR: Yeah. And you can see it live, like where it goes in, into your body and being used and then being secreted. Oh, that's super cool.

SHAWN STEVENSON: Awesome. Awesome, man. This is why I love talking with you You blew my mind actually just getting started when I was thinking about the krebs cycle and just you know You're brilliant, and I'm so grateful that you're doing the work that you're doing and if you can can you share you mentioned tiktok? As long as it stays out there. Yeah. Can you mention where people can follow you? The best places to connect with you and get more information.

DR. LATT MANSOR: Right now I'm more active on Instagram @Latt Mansor on Instagram, mainly at Latt Mansor and then for Ketone IQ, obviously @KetoneIQ on both Instagram and other platforms as well.

SHAWN STEVENSON: Awesome. Well, I appreciate you so much for coming to hang out with us. I always thank you for always bringing gifts, every time I see you.

DR. LATT MANSOR: Always, always appreciate you. I mean, you've always been one of the most inspirational people I've spoken to. And I was so glad a year ago you reached out and you wanted me to be on the show. And that kick started our friendship and me learning more about everything and being able to practice what I preach. I mean, I take it from you for sure.

SHAWN STEVENSON: Man. I received that. You just made my day. Truly. Thank you. I appreciate you, man. Dr. Latt Mansoor, everybody. Thank you so much for tuning into this episode today. I hope that you got a lot of value out of this. If you did, you already know what to do. Please share it out with your friends and family. You could take a screenshot of the episode, share it out on social media, tag Dr. Latt Mansor. He's at Latt Mansor. On Instagram, I know that it would make his day to see the love.

And of course you can tag me. I'm @Shawnmodel. And of course you can send this directly from the podcast app that you're listening on as somebody that you care about to keep the conversation going. We got some Epic masterclasses and world class guests 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. And for more after the show, make sure to head over to themodelhealthshow.com. That's where you can find all of the show notes. You can find transcriptions, videos for each episode. And if you've got a comment, you can leave me a comment there as well. And please make sure to head over to iTunes and leave us a rating to let everybody know that the show is awesome.And I appreciate that so much and take care. I promise to keep giving you more powerful empowering. Great content to help you transform your life. Thanks for tuning in.