Podcast Intro and Guest Introduction

What if optimizing your metabolism was the key to unlocking your best life? Welcome to the Life Possible podcast, where we bring you cutting edge insights, real life transformations, and powerful strategies to help you win the fight against obesity and metabolic disease.

Join host Dr. John Barnes as he explores the science and stories of transformational metabolic health, because when you fuel your body right, you unlock your greatest potential.

From leading experts in nutrition and wellness to inspiring success stories, this is your go-to resource for education, motivation, and empowerment on your journey to a healthier, more vibrant life.

Your best life isn't just possible, it's within reach. Let's make it happen together. Here's your host, Dr. John Barnes. Hey, welcome back to the Life Possible podcast, where we explore what's truly possible when you harness the power of metabolic science to lose weight, take control of your metabolic health, and live vibrantly for life.

Today, I'm beyond excited to bring you a conversation with a true pioneer and legend in the world of ancestral health, and he's one of my personal metabolic heroes, Mark Sisson.

Mark is a best selling author, entrepreneur, and one of the original voices who helped bring the low carb keto and primal nutrition movement into the mainstream.

He's the founder of Primal Kitchen, the wildly successful brand that brought healthy fats and clean eating into everyday households. He's the author of several books, amazing books, some of my favorite books, including the Primal Blueprint, Keto Reset Diet, and now his latest Born to Walk.

In this new book, Mark makes a compelling case for walking. Yes, walking as the foundational human movement, but not just any walking. We're talking about zone two fat burning mitochondrial boosting movement that aligns perfectly with the ideal protein protocol in phase one.

And walking isn't just theory for Mark. He's putting it into practice with his latest business venture, Paluva, a minimalist shoe brand designed to restore natural movement from the ground up.

And if you're in phase one of the ideal protein protocol, walking in that zone two heart rate is one of the best ways to get your body to burn fat efficiently while preserving lean muscle mass.

And as we talk about stabilization and lifestyle in phases two and three in my office, I think that Mark's insights into ancestral movement, strength training and nutrition for metabolic flexibility are absolute gold.

So without further ado, let's bring Mark out and start this conversation. Mark, where are you? Let me see if I can bring you. Hey, there he is. Hey, John, what's going on?

Hey, thank you so, so much for joining me on the show. I really appreciate it. My pleasure. So yeah, I just want to kind of dive in from the very beginning and have you address and talk to people about your personal journey into the study and or now the exponential writings on ancestral health and how it applies to us today.

Yeah. Well, you know, I've been interested in health my whole life, starting from a very early age for some bizarre reason. At 12 or 13 years old, I was already interested in the concept of living a healthy, longer life.

I started running just out of necessity. I was not a very good athlete in any other pursuits. Started running in my teen years. Started racing on the track a mile and two mile and then 5K and 10K on the roads and became through

my teens and early 20s, became a pretty good runner.

When I was in college, I was a pre-med candidate, and I studied biology with an emphasis on evolutionary biology, which was sort of a new concept at the time.

We're going back to the early 70s. So over the years, my focus as an athlete was on performance. How could I run faster? How could I perform better, given the scientific studies that were available at the time, given the training methods, and given the dietary advice?

And so I followed a lot of this advice for years and years. And it was, at the time, what we knew. We sort of assumed that the more you ran, the faster you'd become.

We figured that the more carbohydrates you could consume, the longer you could run, the more you could do it day in and day out.

Mark Sisson's Health Journey and Ancestral Blueprint

And so for years, I followed this pursuit where I was doing a lot of mileage, getting injured a fair amount as a result, but also eating the high carb based diet that was prescribed to me.

Well, I did get faster. And I wound up sort of looking like I was a really healthy, fast fit. Yeah, yeah. magazine three times. But I was sort of I was dying on the inside.

I literally I had irritable bowel syndrome that ruined that ruled my life. I had GERD, I had arthritis, bad skin, upper respiratory tract infections often because I had no immune system from the combination of the hard work I was doing and the high amount of sugar I was taking in.

When my career came to a early demise, so an early close due to injury, I really took a step back and I said, Let me, let me reevaluate what it was I was after here, because I started out as a young teen looking for being, looking to be healthy and looking for a longer, you know, more productive life.

And here I was kind of falling apart. So it was at that point. And can I chop you real quick? So again, for those that don't know, when you talk about that career that you had, it was a very significant career.

And you were a top professional runner and triathlete, correct? Correct. Yeah. So I experienced some high points of a career that included wins in big events and finished fifth the US National Championship Marathon, the USA Marathon Championships in 1980. But as I said, my career came to an end because of a series of injuries that precluded me from really training at that level ever again.

And that was the point at which I said, OK, look, I really do. I want to be strong and lean and fit, but I also want to be healthy. I mean, health is a really critical component of this.

And I was kind of sacrificing my health in pursuit of performance. So that was one of my first aha moments. I started really going back into my past and looking at my training as a biology major, looking at evolutionary biology, and starting to uncover some of the clues that were being offered up by the science of the day.

That is, what are these hidden genetic switches that we all have that enable us to burn fat at certain times, but otherwise store fat at other times? What are these hidden genetic switches that enable us to have a strong, robust immune system, but at other times you turn another switch on and you have a depressed or suppressed immune system?

What are the ways in which we can build muscle and not cannibalize muscle tissue? The next several decades of my career, we're looking at these clues that come from ancestral biology.

They come from our ancestors. What were the behaviors? of our ancestors that led to two million years of human

evolution to present in front of you and me and us this genetic recipe, this DNA recipe that wants us to be strong and lean and fit and happy and healthy and robust.

But we mess it up. We mess it up with the trappings of society. We mess it up by not exercising appropriately, if at all. We mess it up by eating processed foods.

We mess it up by eating too much food, regardless. We mess it up by not getting enough sleep, by staying up late, and disrupting circadian rhythm. My career became one of looking for a template, an ancestral template that called upon behaviors that generated the recipe that we have today.

We are basically sophisticated apes walking around in suits with bow ties and briefcases. But we're really just sophisticated apes that have evolved to the top of the food chain.

What I came up with initially was what I called the primal blueprint, these 10 ancestral laws that guided our evolution for two million years and have somehow fallen by the wayside.

And they were simple rules like eat lots of plants and animals. And hidden in the context of that is don't eat processed foods. One of the rules is move around a lot at a very low level of aerobic output.

That is move just throughout the day. Don't sit, don't spend so much time resting or sitting, but get up and move. It doesn't mean burn calories, it just means move.

Move around a lot at a low level of activity. Lift heavy things. Look, our ancestors lifted stones and logs and built shelters and climbed trees and carried babies and lugged carcasses back to camp, and they lifted heavy things.

And so our genes expect us to lift heavy things. Not all the time, not every day, but just a couple of times a week. Sprint once in a while. Who would have thought, except that our genes expect us to go all out for very brief periods of time Not often, once a week, once every 10 days.

But that's one of those genetic expectations that we have that builds a more robust human being. Get plenty of sun. For the last two decades, we've been told to stay out of the sun.

Well, in fact, sun exposure is very essential to our lives and certainly the production of vitamin D, but also it's an antidepressant. Sunlight has You know, a number of influential factors, which not the least among which is maintaining this circadian rhythm, this ability to go to sleep at night and sleep fully throughout the night and then wake up refreshed.

the next morning. One of the laws was play. That's the law. There are ways in which we can incorporate play into our lives. It doesn't mean games necessarily, but be playful, be exploring things that might have a goal at the end of them, but no attachment to the outcome.

So just playing around a little bit once in a while, it seems to be a skill that has been lost by adult humans, kids. But it is a critical component of human history and human development.

And there's lots of good studies on how play has a direct benefit on certain skill sets that have to do with planning and coordinating and predicting and things like that.

Anyway, that's the essence of the ancestral template is to go back and look at these behaviors that we all exhibited, that our ancestors all exhibited for the millennia to get us to where we are today and figure out where they're missing and then how we can plug those holes, how we can fill those holes and fix that part of us so that we develop this genetically optimized, strong, lean, fit, happy, healthy, productive human being.

Yeah, absolutely. You know, I think one could make the argument that the whole pickleball craze that's going on right now kind of plays into that concept of play and the need for it, and people are loving it.

No, and it's accessible to just about everybody. I think you're right. The appeal of pickleball is you don't have to be that good to get started. And you can start at a late age.

You could be in your 50s or 60s and start playing pickleball. Be careful out there. But it is a game. It's a way to lose yourself in a fun activity that requires some amount of prediction.

You have to predict where the ball is going to go. Some amount of hand-eye coordination. I hadn't even thought about this because my ultimate iconic game is Ultimate Frisbee.

Yes, this is what I've heard. But Pickleball is right up there. It's a great example of something that's come on the scene and its appeal is predictable because it is just a fun game that anybody can do without a lot of previous skill sets.

Yeah, absolutely. And I kind of feel like engaging in play like this is almost, too, just kind of a backlash against the stresses of modern society as well.

You know, the doom and gloom that we're faced with every day, and it just seems like we can't get away from the stress. But this is a great way to be able to do that.

So as we're going through, I think the foundation and the thing that I'm most interested in talking to you about in the beginning here is the nutrition, the difference between the nutrition between primal man and between us.

And truly to ask the question, and I'm asking this of most of my guests on the show these days, is in your estimation, what is healthy human nutrition?

Because it's certainly not what we've been taught. Yeah, that's for sure. Yeah, the U. S. food pyramid is an abomination. It's horrible and it's probably guided a lot of people down the wrong path for too many decades.

Absolutely. No, I think, you know, ideal human nutrition is avoiding processed food. So it's almost like what you don't eat more than what you do eat.

So if you get rid of the pies, cakes, candies, cookies, the sugary beverages, the sugars, the added sugars, if you get rid of the processed grains, the processed flours and grains like that, and you get rid of the industrial seed oils, the canolas, the soybean oils, corn oils.

You know, you come down to a list of natural foods, meat, fish, fowl, eggs, nuts, seeds, vegetables, fruit, some starchy tubers, and to a lot of people that's sort of, that's like, oh my god, that's all I can eat.

Well, There are, depending on what you put on those and how you prepare those different options, there are an infinite number of ways to make this healthy and fun and sustainable and tasteful and all of the things that you want.

Look, I don't put anything in my mouth that doesn't taste great. So I'm hiddenistic in terms of my food choices. I just choose from a list of food that I know are derived naturally and not processed.

And that's really phase one. If all you do in phase one is cut out the sugars and the processed foods and the grain, most of the grain stuff, and focus on those foods I just listed, you'll be 85 to 90% of where you need to be in terms of reconfiguring your metabolism.

Now, over the years, I've written books on keto, on a ketogenic diet, which I think is a great useful tool, on intermittent fasting, which is another great tool.

But at the end of the day, no matter what your way of eating and how you orchestrate it, your end goal should be what I call metabolic flexibility. You should be able to derive energy from any substrate that your body requires at the time.

What that means is you should be able to derive fat from your stored body fat whenever you need to, whenever you need to. or fat from your plate of food, you should be able to derive energy from the carbohydrates on your plate of food, or the glycogen stored in your muscles, which is the storage form of carbohydrate, or the glucose in your bloodstream, or the ketones that your liver makes in the absence of glucose.

And when you become metabolically flexible, What happens is your body shifts from one of these substrates to the others without you even having to consciously think about what's going on or even notice it.

Now it's not a, it takes work to get there and what you guys are doing with your programs is a great first step.

Healthy Nutrition and Metabolic Flexibility

I think the, my original book called, My original book was a Primal Blueprint, but the Keto Reset Diet, which talks about how to use a ketogenic diet for 3 to 6 weeks to reset your metabolism, restrict your carbohydrates so that your body just says, you know what, this person is not feeding me carbohydrates.

My brain is kind of used to working on glucose, but you know what, I don't need to run on glucose because I know how to run on ketones. Since I've been eating poorly the last three decades and I've been feeding myself carbohydrates every two or three hours, all day, every day, my brain and my body's gotten used to this glucose as a fuel.

If I withhold it, all I have to do is kind of invest in maybe two or three weeks of building the metabolic machinery up to be able to use the ketones more efficiently so my brain works wonderfully and smoothly.

and to become fat. Can I ask you to delve a little bit deeper into that? How come it takes so long when we're going from a lifestyle of processed foods and over consumption of carbohydrates to shift our body into being more efficient and flexible?

Can you speak to that? Well, it's mostly just because you spent a lifetime doing that. The body has all of the tools it has. It's all stored in the genetic information.

It's just that over the years, if you haven't created the need for your body to extract energy from stored fat, you haven't built the metabolic machinery, which means you maybe haven't up-regulated some of the gene systems that release the enzymes that release the fat out of storage.

So an example, and I think to your point, why is it then that you can't just go from being what I call a sugar burner, dependent on sugar all day long and never having built the metabolic machinery to burn fat and so you don't understand how to burn fat because you haven't built the mitochondria, which is the power plants where the fat burns.

Why is it then that you can't just go to an ashram or a three-day water-only fast and immediately start burning fat and immediately start utilizing ketones.

You can. But one of the interesting things that we find is that people who have not done this work yet and haven't built a metabolic machinery, they're really good at producing lots of ketones.

And so people who are early into this stage the first couple of weeks, they'll get out their ketone meters and they're like, oh dude, I'm four millimolar, like I'm in ketosis, or I'm in six millimolar, look at me, look at all the ketones I'm making.

Well, what's interesting is when you're making that many ketones, and you're not using them because you haven't built the metabolic machinery to use them appropriately, your body's overproducing ketones and spilling them out in the urine or in the bloodstream or in the breath, which is how you expel these excess ketones.

Ironically, most of the people who are really good at ketogenic diets almost never test above, say, 0.5 or 0.7

millimolar. Why is that? Because when you are metabolically flexible, when you're fat adapted, when you're keto adapted for having done the work, The muscles are so good now at burning fat, the muscles really don't burn ketones.

So the only organ that uses ketones is the brain. And the brain, which loves ketones, the brain does not have this wide swing of energy requirements from one hour to the next throughout the day.

You know, you go to the gym and you do a heavy leg day and you're glycolytic, you know, you're doing 30x, 30mets or 50mets of work. the requirement for your in that in those minutes up there and using a ton of through the glycogen, not When you're doing that, the brain is going, OK, we're just going along at steady state.

And the brain's requirement for energy to support that doesn't waver one iota, really. I've read studies, even when you're playing chess, chess masters' brains don't use a lot more of energy throughout the day.

So what's the end result of that? The end result of that is when you become metabolically flexible and metabolically efficient, your liver goes, I'm not going to waste fuel.

I'm only going to make enough ketones to supply the brain. And since the brain only uses a few grams of ketones an hour to stay at operational, then this is the body becoming much more efficient doing what it is.

And so the the systems realize they don't need to be over producing ketones and spilling them out, wasting them in the breath or in the bloodstream. So now that's a real developed, how long does that take?

Six weeks, six months, a year sometimes for people to get to that truly metabolically flexible point. But once you do everything in your life dials in, first of all, the first thing that dissipates is hunger, cravings and appetite.

So now you get to the point where you're so metabolically flexible and so good at burning your own stored body fat and so adept at functioning with no meals for, for however long you want to go, that the brain doesn't, you don't get hangry, you don't get depressed, you don't get moody, you don't feel like taking a nap.

Because again, you're good, you're creating this little ketone fuel supply for the brain. your muscles are now able to derive 95% of their energy requirements just from fat, just from either, either intramuscular fat or stored body fat that it releases.

So you become a sufficient machine that doesn't depend on having to refuel every two or three hours, but instead can go long periods of time without eating and at zero effect mentally, zero negative effect mentally.

And then with the recognition that every five or six hours that you go without eating is another 500 calories that you're burning of stored body fat off your body.

And so you trend toward your ideal body composition by developing metabolic flexibility. Wow, wow, so intense. You know, cause the next question that I was gonna ask and you've already kind of talked about it, but I think specifically asking is, you know, what is the preferred fuel of the body?

And I think this is where a lot of misconception, a lot of misinformation has come from that pyramid and it has come from different fitness sources that says, well, glucose is obviously the preferred fuel of the body because you burn it first.

Can you speak to that? Sure. Well, it's just there are still those people who would argue that glucose is a preferred fuel. I would say lots of reasons why it's not.

And first and foremost is the fact that there is no there's no requirement in human nutrition for carbohydrate. There is for fat and there is for protein, but there's no nutritional requirement that you take in carbohydrate because the body can make glucose, enough glucose to fuel some of the systems, red blood cells and a few other things that require glucose.

The body can make that through a process called gluconeogenesis. So there are ways in which we can orchestrate our diet so that we optimize the intake of protein and the intake of fats and essentially never really need to take in glucose at all.

When you do that, the body says, all right, this is what I'm set up for. I'm set up to burn fat all throughout the day as a primary source of fuel. Now, you go, well, Mark, you're 10% body fat.

Do you have enough fuel on you to last throughout the day? Well, no, I'm 172 pounds. If I'm 10% body fat, I have 17 pounds of fat at 3,500 calories per pound, I've got 60,000 calories on me to walk 600 miles if I used fat as my primary source.

So basically, the body can hold, let's just say, and I'm an anomaly at 10%, the average person's 12, 14, 17, 20%. So the average person carrying around 100,000 calories of this wonderful fuel that humans evolve t at will whenever we neede this capacity to carry.

It' you all the time. By the located at the center of So that's one reason that fat is a preferred fuel. The other is if glucose was a preferred preferred fuel, why would we limit it to five grams in the entire bloodstream at any one time, right?

Like if ideal body ideal blood glucose is five grams of glucose in the entire body when you get to eight grams three more grams of glucose you're basically diabetic and your a1c goes up and you're and you're screwed so now okay that's part one okay well then what about glycogen glycogen is the stored form of glucose well the body can only store like 500 grams of glycogen total a little bit.

Yeah. Yeah. And, you know, 200 of that or 150 of that is in the liver reserved for the brain and for other administrative purposes. And 350 is stored in the muscles.

And you can't even draw them down to less than 100. So you really only have like 225 or 250 grams total of this preferred fuel. If you assume that that's a preferred fuel and you've trained your body to work based on depleting that fuel every day, it's no wonder that the food pyramid would say, yes, don't go more than three hours without eating.

you refuel yourself and m is the basis of your of y gets us to this bizarre s You know, I haven't had 300 grams of carbs in a day for probably 30 years.

And the average, when I say it's not even the average, it's the average like 600 grams of carbs a day, but yeah. So another point I'd like to bring out that I've heard you talk about before very specifically, and I think I got it out of Primal Endurance.

The fact of talking about clean burning fuel versus a dirty burning fuel as well, reactive oxygenated species, et cetera. Can you speak to that? Yeah, I mean, if you've got fat burns in the mitochondria and it's rate limited, so you're limited by the amount of mitochondria you have and certain enzymatic processes, but you can get very good at this.

I mean, there are some elite endurance runners who can run six minutes and 45 seconds a mile deriving 95% of their energy from fat, which was unheard of, unthought of.

even a decade ago. Now, that's a clean burning fuel. So that does not generate reactive oxygen species. When you do glycolytic work, which is your body doing really fast, hard, sometimes life or death work in our past, in our history, running, sprinting away from a lion or a marauding tribe or something like that, That's glycolytic work.

So that creates what we call these reactive oxygen species, these free radicals that are known to cause a certain amount of damage if produced on a regular basis.

Now ironically, when I say go to the gym twice a week and lift weights twice a week, When you do that work, that's

glycolytic work. That's producing these reactive oxygen species.

That's producing this free radical damage. And those are the times where those are what prompt the muscles to respond by getting stronger. So all of these things sort of exist on a spectrum of good to bad or whatever, and in the context of what it is you're doing at the time.

So if you're somebody who's going out and, running hard every day, which I did for much of my career, producing these reactive oxygen species, because you're tapping into your glycogen.

You're depleting your glycogen and your glucose every single day, and then coming home and eating 600 to 1,000 grams of carbs to carboload to be able to do it again tomorrow and tomorrow and the next day and the next day.

Those are the sorts of reactive, reactive oxygen species happening chronically every day. that build up over time and cause metabolic damage and that you cause the suppress the immune system.

For example, that was one of my issues.

Fuel Sources, Ketosis, and Insulin Resistance

versus strategically introducing a one hour or a 45 minute weight lifting session with appropriate rest in between sets and doing that same sort of output of reactive oxygen species, but then having that be a signal to the muscle cells to upregulate and build stronger fibers and do all of the benefit, all the good things that we want.

Does that make sense? Yes, and like you said, you know, lifting heavy things twice a week, right? Not every day, not constantly. Can we also extrapolate that, though, to forcing our bodies to burn carbs all day long because of, again, chronically overconsuming them and being forced to burn them for Zoom calls and emails and all the things?

polluting and creating more ROS. That's this vicious cycle of insulin. And it's also, insulin is a very efficient hormone. We should create it in response to the intake of carbohydrates, and to a certain extent, amino acids as well.

But the typical scenario is somebody eats a lot of carbs, which they've done all their life because that's how they grew up. They grew up having cereal for breakfast or toast or waffles.

pancakes, having a donut for a snack at work in the morning, a sandwich with some chips for lunch, pasta, bread rolls for dinner because you can't have dinner without the rolls first and then the pasta.

dessert after, which is all shredded. And so what happens as a result of that is the body, again, the body adapts to whatever it is you're going to do.

And this adaptation is basically, all right, if we're going to eat carbs every couple of hours, I'll become reliant on carbs, and I'll down-regulate my fat-burning mechanisms, because we don't burn fat.

We're not going to waste energy building these systems to burn fat if we're never going to burn fat. So now you get into this cycle where you take in carbohydrates in the morning, because you're hungry, because you've fasted overnight.

The first thing you do is have a high-carb breakfast, or orange juice, break the fast. So then all of this carb in your bloodstream the insulin comes in and remember that the bloodstream doesn't like more than five grams of carbs in the bloodstream at one time.

So the insulin takes the carbs and tries to jam them into the muscle cells as glycogen, as stored form of carbohydrate. Most people who don't work out don't burn their glycogen, so there's glycogen storage control.

So now they try to go, liver's full, no room here, no room there, taking fat cells. So now you're taking this excess

sugar and insulin is forcing it into the fat cells, the last place you want it to go, where it's being converted into, the triglycerides being converted into fat.

Now the insulin, when it's high, high insulin locks fat in the cells. So when insulin is high, you can't even take the fat out of the fat cells to burn it.

So insulin has to be low in order for you to access the stored body fat. So now the insulin gets high and by the time The insulin's done all its work, an hour or two later, it's taken so much glucose out of the bloodstream, now your blood sugar is low.

Yes, it used to happen to me. Because you don't know how to burn, your brain hasn't learned how to burn ketones efficiently yet, your muscles haven't learned how to burn fats.

So now your blood sugar is low because of this excess insulin. So now it's 10 o'clock in the morning, you go, oh my God, I ate breakfast and now I'm hungry and I'm tired again.

What's gonna fix it? Carbohydrates gonna fix it. Insulin goes back up, tries to take the carbohydrate, the glucose, which all carbohydrate converts to glucose, out of the bloodstream, no room in the muscles, no room in the liver.

Okay, here we go, the fat cells, high insulin locks the fat inside the fat cells. So now that even I have no energy, I can't even take my own energy out of my stored energy, like this wonderful system that I have to carry energy with me all day long.

It's locked inside because of my dietary choices. The only way to break the cycle is to cut carbs, is to cut carbohydrates to zero or to skip meals. Skipping meals works too, but at which point, and it's not comfortable the first couple of times you do it, the brain goes, whoa, dude, where's my glucose?

And that's when you say, why does it take so long? It takes a couple of weeks. It'll take a couple of days to, within a few days you'll be okay, this is happening, but it takes a couple of weeks to get good at it.

I've really settled into it. Yeah. Yeah. So it's available to everyone. Oh, my God. Thank you for all that Mark. It's it's literally everything that we teach in the program.

And I just I love hearing it from from you coming from from an expert like you. I want to shift gears because I really do want I know your your time is limited and important.

I want to shift gears to your latest book, because the next thing that we really want to talk about, where there's been a lot of misinformation and more bombarded constantly by conflicting messages.

But I want to talk about your book, Born to Walk. Can you give us a brief introduction as to what brought this on? What made you want to write this book?

Well, so I was a runner and I ran a lot. I got injured, I got burned out. I've coached thousands of people over the years, and I've noticed that running is probably the least effective way to accomplish a lot of the goals that we set out for ourselves.

If we say we wanna be stronger, we wanna live longer, we wanna be healthy, we don't wanna get sick very often, we don't wanna be injured, we don't wanna be in pain, we wanna lose weight, we wanna find our ideal body composition, Running is a horrible way to do that.

The only people who should be running are runners. Now, here's what I was a runner. I was self-selected as a runner because, as I said, I was, I was scrawny and I was an ectomorph.

I had, I was skinny. I had great lung capacity. I had a great pain tolerance, which is an important part of being a runner because if you really want to run, well and fast.

You have to have a, you have to, it's, you're just managing discomfort the whole time. It's never fun. I had, I had good, I had good biomechanics and good running form, partly because I was light.

So I'm one of the two or 3% of people, 2 or 3% of people who probably should have run and should have run and become competitors. Anyone else who's running is running for probably all the wrong reasons.

Now we were sold a bill of goods and the book, the first hundred pages of the book goes into the history of the running boom and how it was this bizarre confluence, this perfect storm of bad events which included Ken Cooper's book, aerobics, which suggested that everybody should go out and raise their heart rate as high as they could for as long as they could.

It was brought on by the invention of the thick running shoe. which was never intended for the general population. It was intended for good runners like myself to be able to put in more miles with good form and not get themselves up.

But then it got adopted by most runners who have crappy form and are heel striking and running with bad form and then getting hurt. And then most runners, if you're doing this to get better at running, you need to be developing these different systems we just talked about, one of which is the aerobic space.

And so there's been a lot of talk in the last five years about zone two, like what is zone two? Zone two is what we call fat max or MAF zone. It's that zone at which you're burning the most amount of fat without tapping, without starting to cross over into that mostly glycogen glucose zone.

For people, that heart rate is 180 minus your age, which seems a very low heart rate for a lot of runners. I have a lot of people say, but Mark, I'm 40 years old.

It's a 180 minus my age is 140. But when I run, I can run 165 beats a minute for an hour and feel great. I'm like, OK, that's fine. But you've got to realize you're burning all glycogen when you're doing it.

You're not burning fat at that pace. So you're great at burning sugar. Congratulations. And you're going to have to eat a meal. Your body's going to compensate by eating more carbohydrate if you do this on a day in and day out basis.

You'd be much better off running at a heart rate of 140 minus your age, or 180 minus your age. Your case is 140. Well, then they say, well, but that's like a fast walk for me.

So once you get to the point where you're doing that fast walk, and you're becoming more metabolically fit, There will come a day when that fast walk can become an easy jog.

That 13 and a half minute walk can become an 11 minute jog. And keep you within that same 140 heart rate. The 140 heart rate becomes your definitive guide.

That's the edge of the performance when you're doing this type of workout. And when I say this type of workout, I'm talking 85% of your workout in the week should be at zone two or zone one.

And you go, well, what about, like, what about some of the best runners in the world? No, this guy, Kip Jogi. You know, he trains at Zone 1 and Zone 2 for 85% of his training.

The difference is he's so efficient at burning fat, his Zone 2 is like 610 a mile or 545 a mile. Then when he drops the hammer, he can race 438, 440 miles.

Now, what happens is most people who call themselves runners and are frustrated that they're not losing weight, dude, I've been running for five years and I still have the same 20 pounds to lose.

It's because you're running wrong. First of all, you shouldn't be running. You should probably be doing more

walking, a little bit of lifting, and some sprinting.

sprinting different from distance running, OK? But most people train in what we call this, this black hole of training, this no man's land, where the heart rate is too high to be burning fat efficiently.

So you never develop the aerobic capacity. You never develop the capillary perfusion in your muscles. You don't, you don't, you don't even build the mitochondrial stuff because your body's now just burning sugar.

It's creating those reactive oxygen species because your heart is too, is too high. You're working too hard and you're tapping into the glycogen and it feels great.

You know, you do your six miles, you come home and you're all sweaty and exhausted. That was a valuable workout. That feels right. I really feel like I beat myself up enough on that and I got to do it again tomorrow and the next day.

And then you wonder why you never get any faster. I mean, I talk to people all the time who run marathons, and they're like, yeah, I mean, I run six marathons a year.

What's your PR? Well, my record is 342. I'm like, and you don't get any better? Well, I run 341, 343, 345. But no, they don't get any better. All they're doing is beating themselves up.

And when I was running in the 70s, if you couldn't run faster than a three-hour marathon, you were a jogger, which is fine. You didn't call yourself a runner.

You call yourself a jogger. And now people are wearing their medals, and they're beat up, and they're injured half the time. And they've got plantar fasciitis, and they've got Achilles tendon issues, and they've got neuroma, and all of these issues from their shoes and from their bad form.

and from overtraining. So I took all of this and I said, look, let's just realize that walking is the quintessential human movement. Everybody should be walking a lot, as much as you possibly can, because that's what the body expects.

Born to Walk and Smarter Endurance Training

The human body evolved to move. We're on two feet. We'd fall over if we didn't move a lot. Our lymphatic system requires that we move a lot just to pump the lymph There's no heart-like organ that pumps lymph.

Our digestive process expects us to move slowly a little bit and not just sit like a, you know, sleep like a lion after we ate. So our bodies expect us to move and walking is the quintessential human movement.

So that's the essence of the book is, and don't think about burning calories. Walking is not about burning calories. The calorie burn happens as a result of the ability we talked about.

Your body will burn what it's going to burn based on how you orchestrate your metabolic flexibility. And if you are intermittent faster, great. You wake up in the morning.

You have all the energy you need. You don't need to eat breakfast. If you're not hungry, don't eat breakfast. Your body will burn 500 calories between 7 a.m.

and noon. You win. You're on your way. Don't think that walking a mile and then having your pedometer go or your step counter go, that's 100 calories.

Bullshit, it's not 100 calories. Forget that. Forget. And this is where people get caught up in the running. They go, well, but running is so much more efficient.

I can run six miles and burn 650 calories. Right. Yes. First of all, no, you're not. Your watch is lying to you. Second of all, Do you realize that your brain, because you haven't become good at burning fat, because you're not training the right way, your brain is going to make you eat those 650 calories.

They're going to make it up when you get back. So that's why you don't lose weight on a running program. I mean, a few people do. But it takes such discipline to not eat.

that, again, when you configure your diet right, it doesn't take discipline to not eat. In fact, I don't know if you've noticed this, John, but in my case, it takes discipline to eat sometimes.

Sometimes, yep. Like, wow, I'm not hungry. I haven't eaten all day. I feel great. I probably should eat. OK, if I don't. versus this constant battle with your brain to say, you know, the brain says you got to replenish those carbs because we're a sugar burner.

We're burning glucose. We're not good at burning fat yet. And apparently, if we keep running this way, we're never going to get good at burning fat. We're just going to keep beating ourselves up, practicing hurting every day, running the same speed in a marathon year in and year out.

If I were getting better in my sport, I'd reconsider my training methods. And this is where I'm going to pull this out. And I'm going to anybody who truly is a runner, anybody who truly is a triathlete, I implore you to grab this book and get an in depth, in depth information as to what Mark just said.

And Mark, you know, again, which might not know to my story is I became extremely insulin resistant. I became obese, stress, anxiety, overeating, all the things.

And I had no context for how I had destroyed my metabolism. I had no context for insulin resistance. And I found this ideal protein program, long story short, went into ketosis, dropped the weight.

Oh my gosh, got my life back on so many different levels, all the benefits of being in ketosis. And then I decided, well, hey, now that I feel this good again, I'd love to triathlon in my 20s, maybe after 30 years of inactivity, let's take it up again.

And I went down the rabbit hole and your book, what yours and Jeff Volek and Mark Hukasella, those are my references for actually getting me to do a half Ironman as a keto low carb athlete.

Yeah. My undergraduate degree is an exercise physiology. And so that literally tied my entire experience together with what you've written in the book.

And I never felt better training before. I've trained other athletes to do it like this before, and their minds are blown. Truly. Yeah. When I first started Primal Kitchen, I hired a CFO, great guy, a really hardcore cyclist, and he carried 25 pounds with him.

He could never get rid of, he read that book, he read Primal Endurance and it literally changed his life. And it was like, he dropped the 25 pounds and he's like, oh my God, Mark, like how come everybody doesn't know this stuff about this way of training and everybody out there is beating themselves up while they're training.

The training is, again, it's like this weird thing where it's too hard to be productive in terms of burning fat, but not hard enough to increase your VO2 max or your or any of your strength, power and speed on the back end.

And so you're just practicing hurting at the same speed every day. And then you get in a race, you ride the same race or you run the same race or the triathlon or whatever it is.

It's just it's mind blowing. So I wrote Primal Endurance. for a couple of my friends, because they said, Mark, you know, you were a triathlete, you were a runner.

I want to do that. I'm like, OK, look, I advise against it. If you really want to, I'm going to help you train. Beat yourself up and kill yourself in process.

And that was the reason endurance. Well, but I think I think you nailed the reason why so many people are so wrapped up in this in this quote that I pulled from born to walk.

And here's the concept for anybody who's been training this way and anybody who's running to lose weight, to get better, et cetera, et cetera. slowing down is going to require bravely navigating past rigid beliefs and behavior patterns that you've developed through exposure to flawed silence, marketing hype and peer pressure.

And this is exactly what's going on out there. Yeah, flawed science. That's the that's the one that I find, you know, most ironic. A good, you know, Internet friend of mine is Tim Noakes.

Tim Noakes. Right. Lore of running. And Tim was my was my hero, um, back in the seventies and eighties, I read his book. It was a, it was a 800 page tome and it was, he was the king of carbohydrate and, and glycogen management.

And. He was all about carbon loading. And for years and years and decades, he was the go-to man. He had more published studies on carbon loading and carbohydrate as the essential governing factor in the stopgap in hitting the wall and all this stuff.

Then he started reading some of my work and some other work at the time and realized, holy crap, I've been going down a rabbit hole the wrong way. And Mokes essentially recanted everything he said about carbohydrate management.

And very publicly, I mean, to a fault. He got ostracized by the community in Australia. I mean, South Africa. But the point is, the flawed science. Like, to this day, people still point to Noakes' work and say, you know, well, what about all this stuff?

And Tim himself would say, Dude, I changed my mind. I'm a scientist. And when new evidence and new research comes along, I'm allowed to change my mind.

And then you've got Finney and Volek, who have done a lot of work in this area. But they've also been beating their heads against the wall trying to get the endurance community to understand this.

So the flawed science still tends to look back on the early days of Eat to Win, Robert Haas' book, which sold four million copies, which is carbohydrate-based, and then the methods of training, whether it's Galloway or whoever else over the years.

And the science is now pretty clear that zone two is like, that's the place to hang out for most of what you do. And if you do it right, if you eat right, if you, again, if you get the diet dialed in and you are able to derive energy from fat, then the cruel irony, the wonderful, beautiful irony, is you don't have to do that much work to be strong and fast and fit and lean.

You don't have to do much work. You don't have to beat yourself up as much. So the minimum effective dose of exercise, once you get the diet dialed in, the minimum effective dose of exercise is walk as much as you can.

Walk, walk, walk, walk, walk. And when I say walk, If it's, if you don't have time to walk once during the day, walk five times for 10 minutes. By the way, five, 10 minute walks spread throughout the day, more valuable than one 50 minute walk.

Here's why. Wow. Most people who do one 50 minute walk go, OK, I checked that off my box. Now I get to sit at my desk for the next eight hours and do my work.

Yeah. versus the body wants to get up and move and wants to do all this stuff. So if you walk 10 minutes in the

morning and walk the dog and 10 minutes at lunch break and 10 minutes at a work meeting in the afternoon where you're all walking, it's better to do it throughout the day.

So back to the minimum effective dose. Walk, walk, walk, walk, walk. Twice a week, go to the gym and lift weights. Not five times a week, not four times a week.

maybe 3 times a week, if 2 of those workouts are upper body and 1 is legs. But twice a week, lift heavy things. And I usually include, just to incorporate all my stuff into those 2, and separate them by 3 days.

Because if you do it right, you couldn't go back and repeat it again the next day, right? If you work hard enough, you create those acute, reactive oxygen species in that workout with intention The body needs rest, relaxation, and nutrition to build the stronger, more resilient muscles that you are attempting to create.

So twice a day. And then once a week, do a sprint workout. Now, it doesn't have to be sprinting at the track. It doesn't even have to be run sprinting.

It could be on the treadmill if you want. It could be a 15-degree climb, and you could be hiking at four miles an hour. And that's a sprint for you. It could be on the assault bike, could be on the elliptical train, or could be on the versicle.

Or a fat bike. Or on a fat bike, exactly. I hear you like that. a guy who lives down the road from me and I see him on his fat bike every once in a while and he's doing interval sprints on the sand.

And he learned, you know, he got it from me, but he's like, it's a cornerstone once a week. And when I say sprints, I'm talking 10 seconds, 40 seconds max.

And then, I mean, all out and then rest. Usually the rest period is six to one. So if it's a 10 second sprint, 60 second rest, if it's a 40 second sprint, it's a four minute rest.

Um, you know, in six to eight of those and then workouts done. So, so that's once a sprint, once a week, again, walk, walk, walk, walk, walk, walk, walk, walk, low level, Robey activity, miff twice a week, sprint once a week.

Yeah. And then just find ways to play, you know, play, play your pickleball, play your, you know, play with your kids, throw a frisbee, rake, rake the lawn.

I mean, do, you know, do the activity. But most people who are caught up in a real. like a running program, don't have the energy or the time to go to the gym, right?

Because they're exhausted. And they don't have time to play with their kids. Because they're beating themselves up doing this. Look, walking is anabolic.

Running is catabolic. Running tears you down. I don't care who you are. So walking is serotonin. Running is dopamine. Yeah, you get that quick hit, but you know, the same hit you get from a crack pipe.

I mean, it's just, right. So that's why people, another reason why they love running, right?

Primal Kitchen, Peluva, and Closing Remarks

Exactly. Can you explain, you talk about this in the book, and I really want you to talk about this on the show, the concept where actually running in zone running too fast can a situation where they're muscle mass and gaining fat is catabolic.

So every time that's above his own to That's obvious to every elite runner in the world is a skinny, skinny, skinny, skinny person. And even if they go to the gym, I was one of those.

I weigh 172 now. When I was at the same height and I was running marathons, I lifted weights. I was lifting weights like a banshee. And I weighed 32 pounds less than I weigh now because I could not keep muscle on because running is catabolic.

It tears muscle tissue down. Now, what does that mean? It means that if you're a person trying to lose weight, now you're out there, you're losing weight, you're tearing muscle tissue down, and you're not burning fat.

Okay, what is going on with that? You're tearing muscle tissue down because your body is trying to, because you're running at too high a heart rate, your body is creating Because it's a stressful situation at that heart rate, the adrenals secrete cortisol.

Cortisol is a hormone, it's a catabolic hormone, tears muscle tissue down. So you're producing a lot of this cortisol. Cortisol chronically secreted it's the tissue stored ar fat.

So excess cortisol time promotes fat storag is catabolic on muscle tissue so now you've got this person who weighed you know this man who weighed 180 and thought he was going to try to get down to 165 now he still weighs 180 except he has less muscle less of his 180 is muscle and more of his 180 is fat he's the same weight has lost weight but he's shifted his body composition trying to trying to become you know a better version of himself and in fact taking himself down the wrong path entirely.

And this happens so often. It just, it's so frustrating for me to see this. Yeah, it is. It's really frustrating. And again, people are killing themselves trying to do this.

Yeah. Yeah. So Thank you, Mark. We've come up against your hard stop here. And I truly have enjoyed every minute of our conversation. I wanted to finish up real quick and give you a couple of extra plugs.

Talk to us real briefly about Primal Kitchen and the incredible products that it produces. Yeah, so Primal Kitchen was my idea to make the foods that we do that we are allowed to eat, the meat, fish, fowl, eggs, nuts, seeds, vegetables, fruits, and a little bit of starch doers, make them taste better by putting on healthy sauces, dressings, and toppings.

So Primal Kitchen is an avocado oil-based condiment company, very successful, very proud of what we've done. All the sauces and dressings taste amazing, and people love them, so there's that.

I also want to give a plug for my new shoe company. Yeah, yeah. So I've started a shoe company called Peluva and we make five-toed minimalist footwear that enhances your walking experience.

So people who are out there walking a lot, We want you to have stronger, healthier feet. Every step you take in these shoes makes your feet, because the toes can articulate and you can feel the ground, your arches get stronger, your toes get stronger, your ankles get stronger, your feet get more resilient, and you get a real, a real workout out of it.

And then most of our shoes, like this is one of the, this is the loafer we have for the casual loafer for the workplace. This is a slipper for the house.

So You can wear these, anybody who's wearing toe spacers because their feet are all messed up, can wear these shoes, walk around all day and feel their feet relaxing, realigning and strengthening.

Fantastic. Yeah, those look absolutely amazing. And that's been quite an evolution as well. Yeah, right. That's been years of development, etc, etc. Yeah.

Go ahead. I started the company four years ago, and the products have been out for two years. We did two years of R&D and, and, and we're testing it. have, you know, tens of thousands of customers that are extremely happy with with what we're doing.

That's fantastic. And that's, that's also a big part of the book as well as talking about proper foot mechanics, right? And that's something that people as they want to pursue that, can pursue that out of your book.

So, yeah. Fantastic. Thank you. Thank you so much, Mark. Again, I super appreciate your time. Thank you for giving us all that wonderful information. And I hope that we have the opportunity to talk again.

Great. Likewise. Thanks, John. I'm going to send you backstage real quick while I close out the show. Yeah. All right, ladies and gentlemen, I hope you've enjoyed that as much as I have.

I'm literally gonna go back and listen to that quite a few times because Mark dropped some bombs that I hadn't heard him say before. Some amazing information in that show.

So thank you for being with us on the Life Possible podcast. Look forward to more experts, more shows that will bring you this amazing type of information.

And as always, keep reaching for your… That's a wrap for this episode of the Life Possible podcast, where we unlock the power of metabolic health to fuel your best life.

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