

## The Primal Blueprint Podcast – Episode #6: The Reality of Calories In, Calories Out with Mark Sisson

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Brad Kearns: Welcome to another episode of the Primal Blueprint podcast with Mark Sisson. I'm your host Brad Kearns here in the Malibu studios with Mark and today I thought we talk about the question of caloric intake and caloric expenditure weight loss, some of the misinformation and controversy going on and how to set this whole thing straight.

Mark Sisson: [00:00:36] Well there certainly is a lot of controversy and there certainly are a lot of questions in the mind of a lot of people. Over the years we have, we in the Primal Blueprint, have made it clear that this goal of achieving ideal body composition has to do with how you manipulate the hormones, in particular insulin, and how you become a fat burning beast and how you take fat out of your fat cells and burn it for energy and therefore trend toward an ideal body composition. But yet there still seems to be as large faction of the people out there who are adamant that this is all just a matter of eating less and moving more. That it is a calories in/calories out function full stop. So today I think we should maybe delve in to this and figure out where are the points of disagreement and maybe clear it up from the perspective of the Primal Blueprint.

Brad Kearns: Okay. Eat less, move more sounds reasonable. It sounds like what we've been told our entire lives. What is wrong with that notion?

Mark Sisson: [00:01:39] On some levels, there is not much wrong with that. It is a basic concept that I think many people would be well advised to observe, that is I do want people to move more, not necessarily to burn off calories, but that it is a healthful thing to do that it creates these epigenetic signals that trend the body toward increasing mitochondrial profusion that allow us to become more efficient at storing fat and so on and so forth. The eat less component of that also, to a certain extent, there are people who probably consume way too many calories. So on the surface the eat less, move more concept does make sense.

But really what we are talking about within the context of the Primal Blueprint is this notion that calories per se have a context. A calorie from protein isn't necessarily the equivalent of a calorie from carbohydrate or from fat. For example, if you haven't had any protein today, the first 30 or 40 grams of protein that you consume are quite likely going to be going toward the regeneration of your body. They are going to be used for structural protein. They are not going to be burned as fuel. By the same token, some of the fats that you might take in, maybe they are taken up by the body more in the context of cell membranes or some other function not all of which are going to be used for fuel to drive the body forward. So there is that aspect that calories do have a certain context. Also depending on your own biochemistry and your own background as a fuel burner, if you have spent most of your life burning off stored sugar, glycogen, as your primary fuel and have become less adept at burning fat then there is the tendency for a lot of your initial intake of carbohydrates to be burned as fuel first, and then to be stored as fat secondarily. So when we look at the intake of calories, we cannot do that without looking at the breakdown of these macronutrients. We can't be ignorant of the fuel partitioning that we are talking about. One of the basic elements of the Primal Blueprint is that we want to reduce our glucose load over a lifetime because that in many regards we can talk about the less glucose you burn in a lifetime, probably the healthier you'll be. Probably the longer you'll live. It does behoove us to not exceed a huge amount of glucose intake.

Brad Kearns: [00:04:27] So speaking of glucose intake, and you mentioned how if you are needing a protein, those grams of consumption are going to go toward building your body. Overdoing it on the carbohydrate, tends to mess up your hormones and then that will supersede the whole calories in/calories out, eat less, move more equation because your hormones are messed up.

Mark Sisson: Yeah, we talked about the ability of low carb eaters to mitigate or control insulin. Insulin is recognized as a nutrient storage

hormone, but also a fat storage hormone. That's really the main element that we are addressing right now. High levels of insulin tend to drive nutrients in the cells and particularly excess calories that come from either fat, protein, or carbohydrate will be driven into the fat cells and in some regards high levels of insulin keep those nutrients, and particularly the fat, locked into the fat cells so that you can't access that energy and over time you develop a situation where you don't have a lot of energy. You feel like your blood sugar is dropping. You feel like you have to eat more frequently to maintain your energy, to maintain your mood, to maintain your levels of whatever it is you are trying to accomplish. It is a vicious cycle that we get on. When you become adept at burning fat, when you are able to re-examine your fuel intake, and intentionally lower the production of insulin and intentionally repartition your fuel so that you derive most of your energy from your stored body fat, at least on a moment to moment, day to day basis. That is a skill that you develop as a result of decreasing the amount of carbohydrates in your diet, and over time the body responds by operating the related enzymes systems involved and then accessing and capitalizing stored body fat and then down regulate the enzymes that are involved in requiring a fresh supply of glucose every couple of hours. Now we get to a situation where lots of things are happening the the body where we are

creating this mitochondrial biogenesis. We are actually suggesting to the cells that they ought to be generating more mitochondria. They ought to be building more mitochondria and making the mitochondria that they have more efficient because there is going to be an increase in the amount of fat and a decrease in the amount of glycogen or glucose available for the cells. So over time, what happens is we develop a skill to burn fat. We start to burn off our stored body fat and as a result of that skill, several things happen.

First of all, we trend toward an ideal body composition. That means that over time, we tend to burn off our stored body fat as a source of fuel rather than having to expect another meal every couple of hours and over time maybe it's a pound a week or maybe a pound and a half a week, but over time we trend toward what we could be considered an ideal body composition.

Secondly, and really important, is that our appetite regulates. We don't have this loud swing in blood sugar or insulin which artificially drives the tendency to want to eat more and to want to take in more carbohydrates. In addition, and this is one of the things I have found to be most compelling in my own experience, is that I really believe that we can get by on fewer calories. So when you become good at burning fat, when you become efficient at utilizing the protein that you have consumed, when you decrease your dependency on glycogen and glucose, for instance to run the brain, and you become ketone adapted and you unburden the brain requirement of 120 to 150 grams of carbohydrate a day, your overall caloric needs for the day decrease. I have had this in my experience, I have seen with other people who will tell me I just don't eat as much as I used to eat and it doesn't matter because I am not hungry. Some of those naysayers out there say, "Wait a minute. If you are not hunger diminishes and your appetite decreases isn't that a bad thing? Aren't you supposed to be eating as much as you possibly can while not getting fat?" I think the answer is probably the converse. I think ideally you supposed to be eating as little as you possibly can and maintaining body mass, and maintaining muscle mass. So there's that whole philosophical issue right there. My contention is that as long as I am not hungry and as long as I'm not starving, as long as I feel full at every meal, as long as I don't leave the table wishing I could have had another bite, then I have satisfied my hunger and my requirements for my energy. Now how this relates to this calories in/calories out concept: early on in the days of paleo and primal, there was this proposition put forth that you could eat as many calories as you want as long as most of it was fat and protein and there was very little carbohydrate. And several studies were cited that there were people who could eat 4000 or 4500 calories a day as long as it was a very low carb intake, they wouldn't gain weight. They wouldn't lose weight because with that amount of calories, you are not going to be pulling calories out of your stored body fat to burn off. But the take-home message there was that if you could control insulin sufficiently with a high fat, moderate protein, low carb diet, it didn't matter about counting calories, that you wouldn't gain weight and that you could go about your life accessing stored body fat or getting fat from the meals and everything would be wonderful. What happened was people realized early on that this was not a way to lose weight. This was just a way not to gain weight.

[00:10:20] So we come back to the original proposition that is what does it take to actually lose body fat and lose weight? The reality is that you have to burn more calories than you store. It's not about calories in/calories out in a consumption exercise paradigm or equation it is simply that you have to burn off more calories than you store. And that gets back to the hormonal manipulation not just the insulin but the lectin and the ghrelin in terms of appetite regulation and all of the cascade of hormones that lies underneath insulin in particular.

Brad Kearns: [00:11:04] So okay you haven't really refuted the calories in/calories/out. That's a literal truth. But you are saying that appetite supersedes everything...appetite and hormones which regulate appetite supersede these valiant efforts to burn a lot of calories and ease in portion control to maintain body weight.

Mark Sisson: Yeah, appetite has a lot to do with it. When we talk about hormones that are body metabolism like thyroid which controls the rate at which we generate heat in the body and basal metabolic rate and a number of other factors there. That can be affected by diet and we look at whether or not we are increasing calories burned just from what we call thermic effective food. So there are a lot of different factors in burning calories. Some of which are not dependent at all on moving more or burning off calories. As I say, you can simply raise metabolic rate through hormonal manipulation or thermal effective food. But let's look at what happens when we burn calories through exercise, for instance. If we become good at burning fat, if we have done this work of reconfiguring ourselves, (I call it reprogramming your genes,) but doing so derive most of your energy from stored body fat and doing so in a workout. If you work out to that effect and you start burning off calories, one of the things that happens is you begin to dip into your body fat storage and you don't dramatically reduce your glycogen stores to the extent that you finish the workout and you feel so hungry when you get home and replenish things. Conversely, if you are a sugar burner and you go to the gym and you are on that literal and figurative treadmill every single day and you are not good at burning fat and you are depending on a fresh supply of carbohydrate and you are putting through all of these carbohydrate calories, some of which go into glycogen and some of which get stored as fat. Let's say every day you go to the gym and you burn off 450 calories a day on the treadmill. Well the brain recognizes what you have done and as soon as you get home, the brain says, if you are going to try this tomorrow, we have to eat a lot of calories to replace what we have burned off today. So you have people who have gone to the gym day in and day out and they have done that chronic cardio on the treadmill, and they have not been good at burning fat because they don't understand the concept. They are just thinking in terms purely of calories in/calories out and because they track the calories they've burned so much on the treadmill, when they get home, they don't tend to track the calories that they take in that the brain is trying to get them to replenish for tomorrow's workout. Over time, these people either tend not to lose weight or they tend to gain weight. That's really the sugar burner mentality paradigm that we are trying to get rid of. It is difficult because if you are a sugar burner and if you have not been good at being able to access stored body fat, mitigating insulin, and controlling your appetite and your hunger, then it is a constant battle with your brain. It is a constant battle with your appetite. It is a constant battle with your hunger. It's a challenge that is unsustainable to try and lose weight

simply by exercising and cutting calories. So that's the bad news if you are going down that Weight Watchers biggest loser route which would have you just burn more calories and eat fewer calories. What I am suggesting within the Primal Blueprint is yes, you to have to burn off more calories than you store to lose body fat but I can show you how to do that partly through manipulating the macronutrient intake, (the fat, protein, carbohydrate intake) so that you drop your dependence on glucose, so that your brain becomes good at accessing ketones, so that your muscles at accessing stored body fat whether or not your are working out but on every minute of every day, and over time you tend to use that stored body fat and you ad verbatim choose to eat fewer calories than say you would have in your old carbohydrate burning paradigm.

Brad Kearns: That's an important point because the former, someone stuck in the carb burning paradigm they really have no choice unless they have the greatest will power and a \$50,00 check waiting for them there going to get short term results, but they are always going to succumb to the survival instinct, if you will, of replenishing those calories because they need to burn them because they are not efficient at burning ketones.

Mark Sisson: [00:15:51] Exactly. Now let's talk a little bit about ideal body composition because a lot of people would take what I just said and they would extrapolate and say, "If I do what you say, Mark, and become a fat burning beast, and I become fat adapted, ketone adapted, and I decrease my dependence on glucose, and I regulate my appetite over time so that I am not overeating, and I am actually reducing the number of calories I take in and I am manipulating my hormones, either through my diet or through particular exercise selections to the extent that I retain muscle mass but burning off stored body fat, hey, Mark, won't I get to the point where I am 8 percent body fat if I'm a guy and 12 or 13 percent if I am a woman. And the answer to that I have is maybe or maybe not. The maybe not is more likely because there is a point at which your body recognizes the 30 or 40 of prior years of history, the potential metabolic damage that you have done to it, the programming that it has been used to over the years, and your body might say okay we are going to lose weight here for a while. Maybe we'll lose 50 pounds or maybe we'll plateau. And that happens to a lot of people particularly on the Primal Blueprint, particularly on the paleo diet, or any of these ancestral eating strategies. You get to a point where the weight stops coming off. There is a point of frustration for some people who, rightfully so, have observed such a transition to get to where they are now that then stop losing weight and in many cases, start gaining some back. The first thing I'll tell people is that an ideal body composition is a concept that doesn't depend on society's picture of what your ideal is. It doesn't depend on the cover of Men's Health magazine, or Shape magazine, or Victoria's Secret catalog. Your ideal body composition is when you body says I am very healthy at this weight. I don't get sick at this weight. I have all the energy I need to get through the day at this weight. I maintain this weight without a lot of effort, without a lot of calorie counting. I probably live a little longer at this weight even though it's slightly higher than I want. That is truly what ideal body composition is. Now if we say that's not good enough for me. I want to look good naked. What's it going to take to get to the next level? That's where we are going to have to suggest there's going to be some sacrifices that are going to have to be made. You are going to have to hit the gym harder. You are going to have to sprint faster on the sprint days. You are going to

have to literally start counting calories and cutting back, because you are going to force your body to burn off more of your stored body fat. So in that regard, this level might require a much more aggressive approach that may result in getting sick more often. It may result in you not having all the energy you want or your not sleeping as well as you ought to be sleeping, or you may not even have you live as long as you would have at your true ideal body composition. The point is we can get you there. As a coach I can get to where you are going to drop more body fat and maybe get closer to your own particular goals that you set for yourself but that doesn't mean that that is your ideal body composition. So we have to sort of separate health from vanity, or health from performance and fitness here, and suggest that health is first and foremost and is always why we embrace in the Primal Blueprint.

Brad Kearns: [00:19:38] Not to provide that as a copout, I will also mention that it seems to me that there are a fair number of people out there that maybe are not honoring their natural appetite as well as they could be and they are indeed falling short of their goals and their ideal because they are indulging themselves in a manner that is unnecessary or perhaps in conflict with their stated goals of improving their body composition.

Mark Sisson: Yeah, I think not to point fingers but we have this great event called Primalcon. And lots of people attend it. It is a three-day caveman experience and it really is a lot of fun. One of the things that is most compelling about Primalcon is the food that we serve. We serve some of the greatest primal lunches and dinners in the world. We always have a great chef that prepares these meals. But what I notice at virtually every Primalcon, in the lunch line or in the dinner line are people walking through with so much food on their plates. I used to consider myself as a big eater. And while I am not a big eater now I still recognize what that is. I can't eat that much food. I don't understand how people can.....I suppose it is wired into human brain. Food is scarce. I am human. Two and a half million years. Food is scarce. And so whenever a supply of food becomes available, you know we have to stock up on it. I guess that's human nature. It is interesting to me to see how high people will pile food on their plates and I think it is, maybe not just unnecessary, but maybe thwarting their best efforts to drop those extra pounds.

Brad Kearns [00:21:24] No need to judge here, but I think everyone has to ask themselves the relative importance of their enjoyment of their meals and their life, and their stated goals to improve their body composition and when those are in conflict, you have to make some hard choices and it seems that what you are saying here in summary is that the first and foremost thing you have to do is dial down your insulin otherwise you aren't even capable of losing the excess body fat.

Mark Sisson: The first thing you have to do is to understand that the main reason for choosing to eat according to a Primal Blueprint strategy, which is, by its nature, lower in carbohydrates than the standard American diet, it is to achieve optimal health. To get the healthiest possible body that you can and what follows from that may be looking good naked, may be better performance, maybe a lot of other side effects of achieving that good health. But first and foremost really is for the health. And what we've seen across

the board and over the years is that people who come to Primal Blueprint and start eating this way, their blood lipids improve, their blood glucose resolves so their A-1-C drops, and their fasting insulin drops, and their fasting blood glucose drops, and their HDL improves and they trend toward this ideal body composition. Inflammation markers decrease so CRP decreases and homocysteine typically decreases and we see lots of decreases in polycystic ovarian syndrome, or arthritis among people who have given up the grains. All of these are things that we do first and foremost to achieve health. It certainly requires that we move more and I am suggesting that moving more is part of the health equation, not part of the weight loss equation. The weight loss equation comes from becoming adept at accessing stored body fat and reducing our reliance on carbohydrate which converts to glucose.

Brad Kearns: [00:23:28] Okay, so we have a motivated listener who realizes that maybe they haven't been so careful with their appetite, maybe overeating a little bit with all the primal food. What are a few quick tips that you can dispense that help get that final ten pounds of body fat off for someone who is already primal aligned and honoring the food choices and exercising properly and avoiding chronic patterns, etc.?

Mark Sisson: The two things I would do is first of all, try a compressed eating window. A compressed eating window which is what I employ which is a method of intermittent fasting which recognizes that you have become good at accessing stored body fat, so in my case, I wake up in the morning, and I am already burning body fat. I may have a cup of coffee and I might go until 1:00 o'clock in the afternoon, including a workout in the morning without eating anything. That's how good I have become about burning excessive body fat, and using ketones to run my brain as opposed to depending glucose all day long. I would recommend that you try that. Try using a compressed eating window so eat between 1:00 and 7:00 p.m. For me it's lunch, a snack in the afternoon, and then a sensible dinner, as they say on the commercials, the Slim Fast commercials. The other thing I would do is ask myself at every meal, "Am I hungry for the next bite?" It's not a question of whether there's food left on your plate or whether you are full, the question is, "If I didn't eat the next bite of food, could I leave the table and be satisfied and know that there is another meal waiting for me when I am hungry in three hours, five hours, ten hours, whatever?" And that's a strategy. It's a skill that people have a tendency not to want to develop. It

is this excessive amount of food. You go to some of these restaurants, Cheesecake Factory. My goodness! I can go to Cheesecake Factory and order one entree and live off of it for a week. It's a crazy amount of food they put on your plate. Some people still have the mindset they have to finish what's on their plate. So the Question is, "Am I still hungry?" If the answer is no, I am not that hungry, or I am no longer hungry, then be okay with pushing that plate away and setting it aside for another meal, or have the waiter clear it away, or throwing it down your own garbage disposal, or whatever it is that works for you. Those two skills: going for long periods of time without angsting or being moody or depressed because your blood sugar is low, that's a sign that you are fat adapted or ketone adapted, that you can wake up one morning and say, "I'm not hungry. I am not going to eat until I'm hungry," and you realize that you are not hungry until 2:00 o'clock

in the afternoon. That's a really cool sign that you are fat adapted. The other is asking yourself, "Am I truly hungry for the next bite."

Brad Kearns: [00:26:15] You mentioned earlier ramping up your sprint efforts as well as a component of accelerating fat loss.

Mark Sisson: I have said this even as far back as my sugar burner days when I was coaching people and I was a proponent of healthy whole grain diet. And that is that nothing cuts you up like sprinting. There's something magical about throwing a sprint routine into your workout once a week that sort of jump starts your body into burning fat during all of the hours after the workout. You are not burning fat during the workout but it doesn't matter because we are not really counting those. It is all the fat calories and all the stored body fat you burn in the hours and days after the workout that manifest themselves in additional loss of stored body fat.

Brad Kearns: Well, that sounds great. Sounds like a good plan of action for those people who already primal aligned and who want to drop a few extra pounds of body fat. Thank you for listening to the Primal Blueprint podcast with Mark Sisson. We'll see you next time.

We hope we can see you the next Primalcon March 1st through 6th, 2014, at the fabulous Dreams Tulum 5-star resort on the Mexican riviera.