



## **Transcript of “Carb Back-Loading with John Kiefer”**

Bulletproof Radio podcast #19



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Dave: Today's cool fact of the day is about ringing in the ears. If you have ever gone to a loud concert or had an exposure to like an airplane engine and your ears are ringing, you have had a symptom of inner ear damage which is also known as Tinnitus. That's a perception of ringing or buzzing, roaring, clicking, whistling and what not when there isn't actually a sound there.

The normal explanation for this is that your ears have tiny little hairs called cilia that move based on the different pressures of the sound waves that travel through them. That is something that then triggers your auditory nerves to send a signal to your brain which then says, "Hey, I heard something." And it's true, if you damaged those hairs they can get broken and they can send the wrong signals to your brain which can make the ringing sound.

The other thing that Bio Hackers know that can cause a ringing sound is actually jaw tension believe it or not. If you have excess tension in your jaw that affects your trigeminal nerve, one of the side effects of that is ringing in the ears. It can happen from the nerves or it can happen from the hairs in your ears. Either one works.

You're listening to Episode 19 of Upgraded Self Radio with Dave from The Bulletproof Executive Blog. Today we have a really good interview with John Kiefer, a software geek turned exercise physiologist. Can you say Bio Hacker? Kiefer, as he goes by, uses his knowledge of systems thinking to improve human performance. Today, we talk about his unique system of nutrient timing called Carb Back-Loading. If you are one of those people who wants to gain as much muscles as you can with a minimum amount of fat or just maintain a healthy weight without driving yourself crazy, there is some methods in the show that may very well be right for you.

Co-host: Now, we're going to have our exclusive interview with John Kiefer on Carb Back-Loading.

Dave: We have John Kiefer, who goes by Kiefer, who's an exercise scientist, a nutrition expert and author of the new book "Carb Back-Loading". Kiefer applies his knowledge from a career in Physics to hack the human body for fat loss, muscle gain and improved performance. You guys can all tell why we would invite Kiefer on the show, he's another Biohacker. He writes about his work at [dangerouslyhardcore.com](http://dangerouslyhardcore.com). He's the author of the Carb Nite Solution and is releasing a new book that's designed for rapid fat loss and muscle gain.

Kiefer is coming on Upgraded Self Radio to help you do what some people call alchemy - burning fat and building muscle at the same time. Kiefer, welcome to the show.

John: Thanks. I appreciate the invite.

Dave: Tell us, how did you get interested in diet and health in the first place?

John: Just kind of, it seems to be a typical story in this industry but I just grew up as a very portly kid. My parents had no idea about nutrition so it was breakfast, breakfast cereals and then that led to me watching TV a lot and eating loaves of bread. My mom actually stopped buying butter because I'd go in and sneak a bite off of a stick of butter in the refrigerator whenever I had the opportunity. I just didn't have the best eating habits.

I started off in private school and everybody knew each other. It wasn't a big deal. I was just chubby and didn't understand what that was until I went into public school. My first year there, I was maybe in public school a month, the classroom was really quiet. There's one student, a basketball player just stands up, points at me and said, "You're fat!" and the whole class started laughing and that was the first time I realized that I was the 'fat kid'.

That's just a kind of embarrassment and heckling I decided that I didn't want to be the 'fat kid' anymore. I, about 13 is when I just became really aware and started, probably had a few bad dieting

habits and none of that was working so it was just always being curious about everything and just led me to read and try to figure out different things to do.

Dave:

It sounds like a familiar story. Being the fat kid myself I hit 300 pounds by the time I was going to college but I was pretty big growing up. It's amazing, kids, teenagers will do the same things that adults will do to try and lose weight because nobody likes it. It's not a lack of willpower; it's a lack of good advice from wherever I did. It's actually painless to lose weight if you just actually have the truth.

I'm really hoping that you can help share some of what you've learned to deal with the problem on the show. Let's start by what is carb back-loading, the big topic of your new book? You've kind of mentioned how you thought of it but give us more details about the background and just tell us what it is and why it matters?

John:

Well, it's actually very simple. Most people do the opposite of what it takes to lose weight. They eat carbohydrates in the morning because the body's more sensitive to insulin. The logic is that if you're eating carbohydrates when you're body is sensitive to insulin it can use them better. Well, insulin is not really there to help you use the carbs. It's there to help your body to store them. In certain performance instances it will help you use them, for example long aerobic events, endurance events.

I remember when I used to cycle going on a hundred mile-rides I was definitely consuming carbohydrates during those rides. They allowed me to finish them in pretty good times. But for most people who are sanitary, that's the absolute wrong thing to do. Then of course later in the evening you're carb insensitive, which is when they tell you not to eat carbs because they build up in the blood stream and not all your tissues can use them efficiently. They can basically kind of burn out your nervous system a little bit. But if you train in the afternoon, you can actually cause your muscle tissue to continue using sugar while stopping your fat cells

from being able to store it. Insulin becomes the different player in the evening if you can train at the right time.

Carb Back-Loading is simply you don't eat carbs during the first half of the day, you basically ignore all the health experts out there, and then at night, after you train you can eat a lot of carbs and not gain body fats and actually gain muscle mass and lose body fat. That's the gist of Carb Back-Loading. It's important because it just makes dieting stupid simple. I mean I have had people comment, "You know I don't think I understand anything of what Kiefer was saying but I've already lost 15 pounds and 5 inches on my waist." It just makes the whole process that simple by a relatively small change.

Dave: I really liked that because I've also experimented with carb timing. People who were doing a Bulletproof fast will have no carbs in the morning. I've noticed that I can have very significant amounts of carbs at night like you know bucketfuls of rice if I want to and I can keep on with the muscle, keep on with not gaining fat from it versus having it in the morning where there is a difference. What about though, I mean if you're eating carbs, does that affect things like ketosis - the fat burning mode that we're in to help us burn fat?

John: Well, yes. In the evening you're going to obviously limit your ability to go in to ketosis but ketosis is not a major player in fat burning. At any one time, I can't remember the exact statistics but ketones for an entire day, let's say you were able to stay ketotic through the entire day never account for more than I think it's 4% or 5% of energy needs. They're not a huge player in burning fat. You can burn ample amounts of fat just through the fatty acids cycle and using fatty acids. You don't need a large build up of ketones to burn body fat. In the evening you actually still have accelerated fat burning from the window that's the metabolic window that's created from your resistance training.

Dave: Do you only do these on days when you're in resistance training?

- John: Not necessarily, no. This question brings up a great point. It's hard for me to ever give concrete answers because as you know so much of how your body reacts to food is dependent on everything from what you ate earlier that day to what you literally ate the day before to your stress levels that day. It's always really hard for me to give, especially when people ask me what I do, it's really hard for me to give any kind of concrete answer.
- Dave: Plus let's face it, your background is in Physics. I mean Quantum Theory, I mean the answer is always "It depends", right? I'm with you there. When I coach people, there's always 10 questions you ask them on before you give them a definitive answer. I'm completely understanding what you're saying there. Then what makes carb back-loading different from what people already do after they've worked out? I mean aren't you supposed to have carbs after you work out anyway?
- John: Yeah. A part of it is you're trying to use the day to enhance what those carbohydrates do. Normally when you eat carbohydrates immediately after training, you're getting an influenced bite which is important for growth but you're also replenishing glycogens stores. The problem is that window normally only last, your replenishing glycogens stores, only lasts for hours and then after that, depending on the time of day, the carbohydrates may or may not be burned off through a wasteful of thermogenic processes.
- That's one thing that carb back-loading, it just forces you to eat them in a part of the day when your body's [crosstalk 00:10:33] ...
- Co-host: Are there any benefits to training without pre-workout carbs?
- John: ... far less efficient at storing them. It will throw off a lot more heat than normal. That effect in itself helps prevent a lot of fat storage.
- Dave: Okay. That makes sense.
- John: Definitely. I think that's a big misunderstanding in the industry is that you need carbs to feel the workout. It turns out if you go the

majority of the day or the first half of the day without carbohydrates and you're, A, your body has no problem maintaining blood sugar levels, at least what it needs and then, B, your body actually responds quicker to exercises as far as the sympathetic nervous system. You release adrenaline faster. Your body is more sensitive particularly to the fat burning properties of adrenaline and you get bigger rushes of adrenaline. There's three very large positive fat burning effects that you get just by not eating carbs before you workout and training a little later in the day.

Dave: You're saying there are no benefits from eating carbs before you workout?

John: Correct.

Dave: Excellent. All right. That's a definitive statement and I could not agree more to it. By the way, it drive me nuts when people go out and they'll have a banana for energy before they go lift weights. It's like, "What are you doing? You're not helping yourself anyway in any way shape or form and like don't waste your time because you could be doing something more important." I love that. All right. We totally are in great enlightenment on that.

Co-host: Speaking of that, what kind of carbs do you use for carb back-loading or what kind of foods in general?

John: That really depends. I still have a hard time denying my fat kid nature. Often for carb back-loading, I'll go towards cherry turnovers every once in a while ... Well, no, more than once in a while, donuts sometimes. It varies. Cookies are always the good one for me and then I'll have those days where I'll just obviously I don't feel like eating crap all the time and I'll eat a little cleaner like well, cleaner French fries, sometimes my favorite is baked sweet potato with coconut oil and cinnamon all mixed together.

It's still kind of that sweet candy taste but it's one of the best combinations that I found for people on carb back-loading. The



MCTs from the coconut oil help to sustain fat burning, you get a nice insulin release from the sweet potato and you also get excellent carb storage from it.

Dave: It's kind of funny. I've gone through and done a huge amount of research for the Bulletproof diet around anti-nutrients and toxins and those statistical occurrence of them in foods and looked for the sources of carbs that have the least toxins that basically make your body go in the opposite direction with what you want. One of my top three choices would be sweet potatoes or yams. We eat quite a lot of those. You can turn them into French fries without actually frying them and damaging oils. It's one of the top carbs I'd say but in terms of stuffs like cookies and other things like that, it sounds like you're pretty much not too worried about the negative effects of gluten and all that other stuffs on physiology because you're just looking for the muscle gain versus mental performance or something. Some of those that you're eating feel like they might clog things up.

John: Yeah. It's funny I actually picked them a little bit according to how much gluten I do. I'm sure you know the statistics, 50% of people have some sort of allergic reaction to gluten whether it's an extreme response or just some intestinal inflammation. Pastries, like cherry turnovers, they're really flaky dough and cookies have flours more gluten-depleted.

Dave: Yes.

John: As opposed to breads, I don't eat donuts very often. Every once in a while I have a craving but I try to go for those lower gluten things because my body reacts so much. That's one thing I love about all this is I know exactly when I screwed up. I know when I eat something that claimed to be something that it's not because I can read all the signs that my body gives now. At first I didn't understand why cherry turnovers, I mention them a lot because they're just some kind of my go to. They're really simple. They're easy to find. If I don't have time to prepare what it is I would really want then they're just easy for me. I didn't understand it

until I started looking at the gluten. I didn't know that pastry flour was gluten-depleted. I was totally clueless.

Dave: It's also not just that. It's because when you're eating a pastry like that, they're not using yeast the same way and the amount of yeast and the type of yeast matters dramatically for what kind of response you get from things like that. For instance if you were to go to Europe, in the next time you're there, try having any of the pastries that you'll find in France. You'll probably find, since you're in tuned with your metabolic responses you can feel them the same way that I can, you'll find that there's a very big difference based on what happens with flour and yeast from Europe versus from the US. It's amazing how detailed our bodies are in understanding these stuff. I don't know, I would tell people, "You know, if you're trying to lose fat, probably any form of turnover with wheat in it is probably not your best bet but you can do some pretty darn good ice cream that will still work."

John: Yeah, yeah. I just had this conversation the other day because that was the first carb back-loading food was ice cream.

Dave: There are definitely worse things in life. I mean we were actually just posting the recipe, I think this week, for ice cream that actually turns up your hormone response to the point that it's one of ... it's called "Get Some Ice Cream" and we're talking about ice cream as well as a few metabolic effects of having higher hormone levels an hour after you eat it but it's amazing. You can use it with real sugar, you can use it with other carb forms in it and yeah, you thought at night you feel good and you perform better and lose weight which sounds like your program is predicting you're getting some sugar later in the evening.

John: I'm going to have to look up that recipe.

Dave: We'll definitely share it with you. I think it's going out this week. Now, here's another question for you. What are the supplements? I mean you're a guy who wants to eat cherry turnovers. By the way I'm jealous. I love cherry turnovers but they don't love me.

What supplements do you use to take care of yourself? Which ones are waste of money, which ones are really good? What's your take on this?

John: The two main ones that I always take and I always try to convince other people to take are fish oils, which again that's a mixed bag to find good brands that are high quality, high concentration and then Whey, a good source of whey isolate. Those two, in my opinion, are indispensable especially with the food environment that we live in today. I don't really subscribe to much else. Caffeine, I consider caffeine a supplement even though some people consider it almost life blood and that's about it.

Creatine, because it does have a lot of scientific backing and not so much for muscle size or strength gains but they're starting to find that it can limit the activation of myostatin. Myostatin is the main regulator of ... one of the main regulators of muscle growth. If you produce too much or it's overactive, your muscles just won't grow and creatine seems to block some of those effects.

Dave: There's also that side benefit if you're over 30 that it actually raises your IQ in many cases, sometimes very substantially like 10 points kinds of things. There's all sorts of mitochondrial reasons that you might look at creatine anyway. That's a good one.

Dave: Let's see, you mentioned whey isolate here. I've done enormous personal testing and research on whey protein over the years. I used to recommend, in version one that over the Bulletproof diet, I recommend whey isolate because it didn't have casein in it and because people could tolerate it more, but I found just from talking to people that Isolate causes a more GI upset. I found that low temperature-processed concentrate is way, way more comfortable for almost everyone to eat.

I'm launching Upgraded Whey which has like basically added a whole bunch more IgG to it that you can find it in another whey. I'm launching that in another 30 to 60 days depending on a bunch of stuff. Actually Dr. Mercola and I went back and forth on that a

little bit. Before he sort of copied my diet and put it in his site, he did make a pretty clear case, said he should put that concentrate ought to be up there higher than isolate in terms of benefits. Why do you recommend isolate?

John: That's interesting. Mostly because a lot of the researches I found that I'm basing that recommendation of is because the antioxidant properties that Whey Isolate can fuel makes ...

Dave: Glutathione, you're saying.

John: Yeah, exactly. Skyrocket levels of Glutathione in the body and there's tons of research both at the cellular level and microscopically that show that it really helps decrease antioxidant effects of free radicals, stops the damaging process. I found that I always had a major problem with, I actually stopped supplementing with protein powders for a while because a few years ago after I had a software job that was horrible, took me out of the gym for 6 months, working 90 hours a week. When I came back, I was trying to get some of my size back quickly and I was using just over the counter whey isolates. I noticed that I had a lot of intestinal problems so I just stopped.

I wasn't sure what it was and I started to use US-sourced whey isolate that was supposed to be higher quality. What I found was when I did that, I didn't have any of the intestinal problems. I didn't have the gas or the bloating. I definitely was not bombing the room like I used to. People just could not spend evenings with me because the gas was horrid. When I made that switch, that all went away so my thought was that it was the quality of what I was getting at the store and not the whey isolate itself but I didn't look deeply into that so I'm curious.

Dave: Well, excellent.

John: Was that found or ...?

Dave:

Yeah, I found a lot of people have the GI problems from isolates and including the protein farts which are well known by weight loaded, by heavy weight lifter types. I can tell you that those really don't go well with my vice-president at a big software internet company. I actually use my upgraded whey protein everyday with none of those problems and I'm getting the glutathione effects and the protection effects. What we'll do is, when we come out with this stuff, I mean it's already created. It's just the matter of getting our labeling and stuff correct, I would love to send you some and just see how you tolerate it. I think you may be surprised. I certainly was.

It's all grass fed. It came from grass fed cows from South America, low temperature, all that kind of stuff. I realized I had to be as precise with my Whey Protein as I do with my coffee if I wanted to just feel good all the time without these weird things happening. I don't want to turn this into a whey protein thing because we're here really to focus on your carb back-loading and I know you're interested a lot in Glute activation. Can you tell our listeners about Glute Activation?

John:

Yes. There's a big misconception with insulin, and I don't know if your audience have that necessary, but the thought is you eat carbs and insulin rushes out from your pancreas. That actually pushes or is the carrier for glucose into cells but that isn't really how it works. Your cells have these specialized protein structures called glucose transporters or Glutes. Some of them are always present at the cell surface and in body tissue that always has those kind of sticking out into the fluids. They can just grab sugar and take them out into the cell. They don't eat insulin. For example your brain, your liver, your kidneys, they all have the Express Glute 1 and 2 primarily or 2 and 3.

The first three all act the same. I believe all cells have Glute 1 so all cells can use glucose to some degree; 2 and 3 bind more strongly and can help nourish tissue and that tissue feel itself without insulin. Then muscle tissue and fat tissue have a different kind of glute, Glute 4 and also an ISO form Glute 12 that the cell needs to

come in contact with insulin before those glute proteins will come to the surface of the cell. Normally they're tucked inside and they never come in contact with glucose. They can't bring it into the cell. Once they get hit with insulin, they translocate to the surface where they can then start grabbing glucose and bring it into the cell.

Glute 4 and 12 and actually 5 are the primary glutes in skeletal muscle tissue and fat tissue. Again, those are our most insulin sensitive tissues in the body.

Co-host: Kiefer, what it sounds like you're saying is that insulin signals glute activation but the insulin itself does not actually pulling glucose into the cell?

John: That's correct. The insulin's somewhat like the primer. It just wants cells coming contact with it, the glute can raise the surface. They can grab the sugar and then use it. Without that, the glute stays tucked within the surface of the cell and they can't use a lot of ... Well, at least skeletal muscles and fat tissues can't use or store a lot of sugar. That's where diabetes type 2 diabetics have issues more than type 1, the insulin is not either not present or not causing a reaction to allow those glutes to translocate. If they can't translocate then the main tissue in your body that normally disposes the glucose can't.

When that happens other tissues have to compensate. For example your kidneys, they become overstressed trying to process all the glucose. Of course kidney damage is very familiar in diabetic research and your liver tries as best as it can to convert it into glycogen and then your nervous system tissue is trying to over-process as well which again, causes some of the neuropathy effects that are associated with diabetes.

Dave: I know you're a big fan of resistance training and you talk a lot of it in your training in that Carb Back-Loading promo book that I thought was excellent and I hope all of our listeners read. You talked about how resistance training is superior to aerobic

training for activating these glutes as transporters. Why is that and do you think aerobic exercise can get the same benefit that resistance training can when paired with carb back-loading?

John:

Some why questions I can't answer for example why resistance training is superior. What is known is that heavy contractions of muscle tissue translocate glute far more extensively than aerobic exercise. It's the intensity of the contraction that both increases the concentration of glute and increases the amount that translocates without Insulin. That's what makes resistance training so critical to carb back-loading is that when you contract the muscle under load, it actually causes these Glute 4 and Glute 12 to translocate without insulin. Even without insulin around, all of a sudden your muscle cells can start using and soak up glucose unlike the fat cells. That does not happen when you're in resistance training.

Aerobic training unfortunately it does cause some translocation but not extensive and can actually blunt the response of later resistance training to Glute 4 translocation. You could, and I only know this because of certain studies I'll talk about here in a second but you could make aerobic training work with carb back-loading but it wouldn't be as critical of a component. For example they did this study last year that I found very interesting that supports the entire carb back-loading regime and that they just took normal sedentary people. They didn't have them exercise at all in any way or deviate from their lifestyle. All they did was they moved all their carbohydrates from the first half of the day and allow them to eat carbohydrates towards the end of the day.

This was a calorically deficit diet. They were trying to help these people lose weight and the people that just eat carbs later in the day actually were able to lose more body fat and keep more muscle without resistance training. There is just general support that's why I said you could make aerobic training work with it but aerobic training would ultimately decrease the benefit according to how the effects that it causes, the long term effects that it causes to steady your metabolism.

Dave: That is actually incredibly detailed information. I'm really stooped that our listeners will be able to pick up on those differences. I can tell you the first time I wrote the words "Aerobic Sucks" was in about 1998 when I put up my first anti-aging website where I'm like, "Just look at the difference at what it does for you cognitively and everything else."

That said Bill Andrews made a pretty convincing case for some aerobics thing with telomerase and the links of your telomeres. There must be some anti-aging benefits there but if you want to look good and you want muscles and you don't want any fat, aerobics probably is the worst form of exercise for my perspective and it sounds like you're along the same line.

John: Yeah. There are however ways to do your aerobic exercise and get all the benefits. For example they've been able to correlate cognitive function with age with aerobic health. I mean you get all those benefits using HIIT which is High Intensity Interval Training. I mean your workload over ... You only need 30 minutes three times a week. The amount of time that you have high output during that is 3 minutes total and the rest of the time you're just kind of walking or pedaling. You just need to sprint every 30 seconds out of 4 minutes for all the health benefits without any of the downside. I would much rather do that than waste my entire day on a bicycle.

Dave: I always feel bad when I see the stereotypical people out on their lunch hour going for an hour long waddle. Obviously they don't have a problem with motivation. They're out doing it, they're just doing something that doesn't work and that's kind of a crime. Speaking of that, lunch is not a good time for those people to train. A lot of people train in the morning, how would you do carb back-loading if you're not an afternoon trainer if you do it in the morning? What's up with your ideas there?

John: You still get a lot of the positive benefits that allow it to work. You get increased glute number, increased glute activation in muscle cells, muscles become more sensitive to insulin but you can also



mimic what goes on during the day with caffeine. Caffeine has this excellent benefit that is usually seen as something heinous but caffeine decreases insulin sensitivity. That means your fat cells and your muscle tissue when bathed with caffeine, glutes don't translocate like they normally do when insulin is introduced. They actually stay tucked within the cells to a far greater extent.

You can mimic the daily circadian rhythm by having caffeine right before you work out first thing in the morning. You have your load of caffeine, you train, and then you can actually have a small load of carbs. You don't want to have a massive amount because you, unfortunately, will go right back into an insulin-sensitive state within a couple of hours but have a small bit of carbs if your main focus is gaining muscle mass. Then later in the evening you basically have to eat the same. You have to eat some carbs.

The real difference is that the carbs you eat in the evening when resistance training, the amount depends on your training intensity obviously but they're also more to fuel your workout for the next day. They're not just recovery from training. It changes this idea of what's your off day when back-loading. Normally your off day if you're training in the afternoon is you just don't train in that afternoon. If you're training in the morning, an off day from carb back-loading is when you don't train the next morning. Even if you didn't train that day but you're going to train the following morning, those are the days you back-load.

Dave: Timing matters and I'm guessing in your book you have the full instructions for that. Now, I'm going to challenge you a little bit on the use of caffeine there. Are you familiar with mTOR and what it does?

John: I am. Mammalian Target of Rapamycin.

Dave: Exactly. One of the things that people who are doing Bulletproof fast, like I went two years with no exercise and 5 hours or less of sleep per night and actually gained muscle and got leaner because I was essentially mTOR stacking, which is one of the posts that

we're writing up right now. Caffeine actually works with mTOR to help you with muscle gain, but if you use caffeine after workout it doesn't have the same effect as it does if you use it before. You have your espresso before you workout, you get muscle growth. If you workout then you have caffeine afterwards, it doesn't do the same thing. It actually decreases muscle growth.

John: That's interesting.

Dave: Have you come across that? I have got a link, a Dr. Ori someone.

John: No.

Dave: I've got a link on one of my posts about it but it sounds like some ...

John: Okay. I would like to see that.

Dave: It sounds like something we should take offline because I'm really interested in what you're saying and I don't know whether glutes or mTOR is a more powerful effect but for people listening it's pretty clear that caffeine and by association, Bulletproof Coffee, are going to have an effect on your exercise and fat loss no matter what you do and certainly from a cognitive performance perspective, anyone who has tried Bulletproof Coffee with grass fed butter and it knows exactly what that does.

John: Yeah, because a lot of the caffeine-loading recommendations that I make are pre-training but I do recommend caffeine post because of the glycogen resynthesis enhancement that it has. I'm just really curious to see that research because that's also why I recommend ... That's another supplement I forgot to mention just because it's some kind of newer in my little bag of tricks is leucine. I try to have everybody take supplement with leucine for that reason. Leucine is one of the few nutrient activators of the mTOR pathway. It turns out glucose is another. That's why studies show that glucose can enhance muscle growth, can potentiate it, but can't cause it.

Leucine acts the same way without ingesting glucose. It can potentiate and activate an mTOR pathway but leucine alone won't cause muscle growth. I'm really curious to see, to learn about that and know what the interference effects are because that would definitely modify some of my recommendations.

Dave: Killer. I'll also send you some of the research and I love having conversations. I hope everyone listening to this enjoys this sort of thing. Bottom line is we're dialing in here on exact recommendations based on observations of people, based on research. They're trying to prioritize something and you don't have to get it perfect. If you make a decision that says, "Do I have a good cup of coffee, or not a good cup of coffee to deal with my exercise?" You're probably going to have benefits. The question whether to have it before or after might give you 10% more or less benefits. We're hopefully stirring people who are listening in the right direction to get the benefits and the outcomes that they're looking for. Perfection is not a requirement, it's just a goal.

John: Right. The real goal is getting maximum benefit with minimum effort. You don't always have to be perfect for that.

Co-host: Speaking of early morning nutrition, how can eating breakfast make you harder to lose fat? Why should people avoid eating carbs in the morning and maybe even avoid overall nutrition in the morning?

John: Waking up in the morning is one of the best things as far as fat burning is concerned that you can possibly do and everybody has to do it every day. Of course I'm assuming a non-stress or none extreme stress and somewhat normal sleep cycle. When you wake up first thing in the morning your body is primed to mobilize and burn body fat and that's assuming you don't introduce anything to screw that up which is food. Cortisol levels are elevated. They elevate naturally all through the evening and they're highest when you first wake up.

Most people think of cortisol as muscle destroyer, life destroyer, skin destroyer, you name it but when it's able to do its thing naturally, it's actually just a catabolic hormone. That's it. It breaks tissue down into something simpler for fuel. That's all cortisol does. If left on its own, its preference is to break down body fat, not muscle tissue. It only starts to activate the breakdown of muscle tissue when insulin is present at the same time. Insulin is like this grand coordinator that can change aspects of so many different hormones and protein signals in the body.

If you keep Insulin out of the picture and you don't introduce much food, your body doesn't have a lot of choice and prefers to go to its body fat stores. There're also other effects for example that cortisol enhances ghrelin release. Somebody challenged me on the pronunciation of that. Dave, do you know, is that correct? Ghrelin, the hunger hormone produced by the gut?

Dave: I actually call it ghrelin but I couldn't tell you for sure exactly what it is. I don't actually know that even people who are using it regularly and universities all say it the same way.

John: Right, okay. Somebody tried to convince me it was gee-ray-lin but anyway, that's a side note. I've never heard that before.

Dave: It sounds like the name of a gangster rapper to me if you ask me.

John: Right. Yeah. Ghrelin spikes shortly after you get up as well and then that in turn, there's some controversy whether it actually causes the growth hormone release that follows about an hour to two hours after you wake but again that growth hormone response is blunted if you eat carbs. Of course growth hormone can help repair body tissue and also break down fat from fat cells and all that good stuff. That's how you can burn more body fat by not eating first thing in the morning and I guess the why of it as well.

Carbs really screw that up, small amounts of fat and even small amounts of protein don't have its great of an effect but if you're

introducing, it also depends on the fat. Too much quick acting fat of which there are not very many varieties basically medium-chain triglycerides, those can screw up the process if you have a lot of regular fats like animal fats, most of the oils they can take anywhere from 2 to 5 hours to get into your system. You're not actually introducing an exogenous fuel to the system that's going screw it up. That's how avoiding breakfast can help you burn fat.

Dave: That makes great sense. If we're already talking about avoiding breakfast, I mean, isn't essentially, are we getting to the areas of intermittent fasting which is a quasi part of Bulletproof fasting. Is carb back-loading something you use with intermittent fasting or not?

John: It's not other than some people relate it because I recommend strongly skipping breakfast. In general if you look at the studies particularly over long durations, say 3 days to a week, all the hormonal effects that happen from fasting are exactly paralleled by just not eating carbohydrates. For example Carb Nite, my first diet that's really just for shredding body fat, hormonally it's almost identical to intermittent fasting. That's one reason when you eat carbohydrates once a week your body is just in this incredibly wasteful state and burns most of it off as heat but reenergizes hormone levels.

You could think of intermittent fasting as ... Well, you can actually think of carb back-loading or Carb Nite necessarily as intermittent fasting evolved. I think that's what I call at in my Carb Back-Loading book, because you can get all of the same effects and you can get greater muscle retention in growth by continuing to eat just not eating any carbohydrates whatsoever. Go ahead, I heard a sigh.

Dave: Hallelujah is all I can say there. Yes ... Sorry, I didn't mean to be sighing. I think the microphone is a little close. Seriously using those kinds of techniques specifically with not really doing a fast but including a lot of fat in the morning using Bulletproof coffee, I might have the fastest success story. Now, it has been 75 pounds

of fat loss in 75 days without any significant amounts of exercise just literally just completely dropping fat by stacking mTOR and doing what you're talking about here, the same plan.

It's so obvious that there is no excuse for people walking around with a hundred extra pounds of fat. It's just 'coz they don't know that they could do this. I mean 2 months of slight discomfort without a decline in cognitive function if you do this right, you don't get cold and you feel crappy like you do when you cut calories. I don't know why everyone isn't walking around looking good because it's not that hard.

John:

That's the hardest message to get to people 'coz everybody, once you learn these things, it makes life so easy. People look at me all the time like I'm one of those special genetically gifted people because of the things I'll buy in the grocery store or what they'll see me eat. It's not that. This is what I'm doing, this is why I'm doing it and it makes it easy. They just cannot fathom that it could actually be easy. They just can't do it and it's a shame.

It was interesting the comment you made earlier in the conversation about your body's very finely tuned to all these little differences like the type of yeast used in the baked goods and the type of flour. It's so I would say intelligent. They've done recent studies that I just thought were amazing. They took two meals, they were identical macronutrient breakdown. There was no difference in protein, fat, or carbohydrate levels in the two meals. They were basically a burger. One burger was pure fast food processing so everything was incredibly processed, the meat started off as a paste that they later formed and added beef flavoring to, all that kinds of stuff.

The other meal was grass fed beef. You know the materials were as, had the least amount of processing possible. The body had completely different hormonal responses to those two meals even though all the macronutrients were identical. The body instantly knew the difference in the two. It amazes me that with information like that and nutrient timing and everything else that

we've been learning over the last 20 years, people still just think it's carbs, fat, protein. That's all you need to worry about.

I think those are the kinds of things that make it difficult. People don't think of their body as having some sort of intelligence as to what environment it's in based on the food that you give it.

Dave: I always try to explain to people that if it was just about carbs, fat and protein, if you have a bowl of black widow venom which is a protein, and there you get your protein for the day. Then they'll look at you like "Well, that would be stupid." Protein is soy protein, whey isolates, whey concentrates, all those things actually matters. If it was only that simple, we can just shovel whatever in our bodies but unfortunately we're not all robots because if we're all robots then we can just fuel our bodies like robots but we're biological entities and what you eat matters.

John: Yes. I completely agree, completely.

Dave: Then let's talk about in practical terms, what a typical Carb Back-Loading training day looks like for you. What's the most crap you are able to eat and stay lean and maybe still gain muscle? What do you do on a typical Back-Loading day? Walk people through it because a lot of people listening to this are going to go out and buy an arm-load of cherry turnovers despite my recommendations for sweet potatoes as well as yours and they're going to try this. How do you do it on an average day?

John: Average day, I wake up about six or seven in the morning. I'll have some coffee and that's about it. Most days, especially now because I'm busy I probably won't eat until eleven or twelve and that meal will be a beef patty on a salad. Usually it's around a pound of beef and it's on a salad and olive. Sometimes I'd throw a fried egg on top, maybe a little cheese, not much. In the salad it's not just lettuce, I throw in a bunch of vegetables just because, A, it helps with the digestion of the beef mostly and it's another thing. The more fiber you get in the less usable calories you get from that

meal. It's a way for me to feel satiated to get in the nutrients I need and also to keep my caloric load under control.

The next hour I might snack on some cheese and beef, cheese and turkey something like that. I try not to do shakes on the first half of the day anymore just because if I do I completely get burned out on them. Then that's about it. Cottage cheese is another one of my favorites - low fat, 2%. I'll have like a pound of cottage cheese sometimes in there and then I'll train. I try not to eat anything two hours before training.

On training, I usually don't take anything before hand except maybe for some coffee or some sort of caffeine. Then after training, immediately post training, I usually have some extremely ripe bananas and I've got a protein formula that I call it a hypertrophy accelerator. It's a mixture of whey isolates, hydrolysates, both casein and whey hydrolysates and leucine and also micellar casein.

Then about thirty minutes after that, when my training is spot on, it might be literally and I know this goes against the Gluten thing, I might even eat an entire pizza, and then later that night have 3 or 4 turnovers. Then also, if I'm eating primarily carbs like that then I'll include shakes in the later part of the night to make sure I get in the ample fuel that help my muscles grow. I'll have whey isolate shakes or casein-base shakes or a lot of times I like cottage cheese so much. I'll eat a pound of cottage cheese and then I'll eat the turnovers.

The most I've been able to back-load and stay lean I would say I went through this horrible stint where I was eating out a lot and I was going to the Cheesecake Factory I think every night. There it's easy to have meals of 4- and 5,000 calories without a problem and then I would still eat more later in the evening. That went on for about two weeks and I really noticed no detrimental effects whatsoever.



Co-host:

What are the most common mistakes you see people making when they try to do Carb Back-Loading? That seems like pretty simple to me but I'm sure there are some things you've heard where people have done some stuff that's a little bit silly that messed up their progress.

John:

There's two things that stick out. One is they completely ignore other facets of nutrition. When they get done working out, all that they're thinking about are carbs. They're trying to eat tubes of cookie dough, they are trying to eat pizza. It's amazing the things people try to stuff into themselves. I'm not sure where that came from. There's no sense of adequate food needs. Of course the Cheesecake Factory for example is bad in my case but I carry probably on average about 80 pounds more muscle than most people. I can get away with that for a little bit longer.

Most people can't but they just focus on all the crap. They don't care about protein, they don't care about quality and they do that for months. I mean I enjoyed the food at the Cheesecake Factory but I didn't enjoy having to eat that way for that long. Eventually it takes its toll; you just don't feel as good. People always make that mistake. They just want to gorge.

Then the other is the complete opposite extreme. They don't want to eat anything that they might see in any way as bad even ripe bananas because they've got this idea that high glycemic foods are bad and there's all these bad recommendations that I feel almost responsible because I introduced the glute conversation into the body building world when people don't understand it but they grabbed on to it and wanted to create their own versions like, "Oh because of Glute you should eat low glycemic carbs all the time after training," which is a complete opposite of what you need. You need those quick spiking carbohydrates. You don't necessarily need a dump truck full, but you want to avoid the low glycemic food.

People who fail even worse are those who want to stay "healthy" so they're eating brown rice. They're eating whole grain breads.

They're really scared to eat anything that might spike insulin levels. You pretty much destroy the effect of carb back-loading because you're creating this long insulin window that lasts far longer than it needs to. Your glucose levels are elevated for a longer than they're need and on into the night which then also interrupts how your hormones react as you sleep. Your growth hormone has a very long delayed response. Growth hormone won't even rise in the middle of the night. It goes through periodic peaks and valleys but that first peak won't occur until about 2 hours after insulin levels have fallen to very low levels.

If you're eating low glycemic carbs before going to bed you're extending your, the amount of time without those beneficial hormones off into the night and cortisol will raise regardless. Now you've got an even worse situation because cortisol levels elevated with insulin levels at the same time again cause the growth of fat cells and not just existing fat cells but can actually help stimulate satellite cells to grow into healthy adult adipose cells so you can get even fatter.

Those are the two most common mistakes, the two extremes.

Dave: That is extremely useful info for people who are listening and I agree with what you're saying. I think that that is awesome. Now, you mentioned two mistakes and we close all of our interviews now with a request for your top three recommendations to help people perform better across every domain. Basically three sentences not like a paragraph with each one. Number one, number two, and number three that you can do to just kick more ass. What are your one, two and three recommendations?

John: Number one is resistance training. Number two is skip breakfast and number three would be to use caffeine appropriately.

Dave: Love it! Now tell us, where can people learn more about you? Give us your URL and how people can get with you on Facebook and Twitter etcetera.

John: My main site is called [dangerouslyhardcore.com](http://dangerouslyhardcore.com). It's all spelled out one word, one group. From there you can find me on Facebook. There's a contact forum where people can get in touch with me. I recently opened forums to help people get answers to their questions from other members. There's a lot of people that had been doing this for a year now. They have a lot of experience so they get to help each other as well but my main site is [dangerouslyhardcore.com](http://dangerouslyhardcore.com) and from there you can ask questions, you can get answers and you can read great material.

Dave: Thank you so much for being on the show today, Kiefer, and I look forward to having you on again.

John: All right. I look forward to having a conversation again.

Dave: Thanks. Bye.

If you're looking for a way to know which foods are making you weak, check out the free app that we just released called Bulletproof Food Sense. It works by using the phone camera in order to get a measurement of your heart rate or you can just type in your heart rate if you know what it is from some other monitoring device. You do this before a meal and you do this after a meal a couple of times. Based on changes in your heart rate, the application can help you to identify which foods are causing an immune response in your body.

Based on that you can choose to avoid those foods and you'll find a huge boost in your performance just from not eating the foods that you have sensitivities to. You'll also find that you can lose weight much more easily when you're not eating foods that cause you to feel foggy and inflamed all the time. This app is free. It's called Bulletproof Food Sense and it's available on the iPhone Store.

You can also take a step further. Check out Bulletproof HRV Sense. That stands for Heart Rate Variability Sense. Bulletproof HRV Sense goes a step beyond Food Sense and it works with a wireless



heart rate monitor that goes around your chest. You wear the heart rate monitor and it will talk to your iPhone or your tablet and it will show you your stress levels throughout the day. It will help you know whether you're overtrained, overstressed or even just help you know which meanings are causing the most stress in your nervous system so you can learn to take control of that stress. This is an awesome app.

Number one, Bulletproof Food Sense is free and number two, Bulletproof HRV Sense is a few dollars and it makes a huge difference in how you manage and control your stress.

## What We Cover

1. How did you get interested in diet and health?
2. What is [carb back-loading](#), and how did you think of it?
3. What makes [carb back-loading](#) different from regular post workout nutrition?
4. Are there any benefits from training without pre-workout carbs?
5. What kinds of foods do you use for [carb back-loading](#)?
6. Are there any supplements you recommend when carb back-loading? Are there any you think are a total waste of money, and any you think actually work?
7. Is there an optimal time to workout during the day?
8. Can you get results with aerobic exercise?
9. How would you do [carb back-loading](#) with someone who trains in the morning?
10. How can caffeine be used to enhance [carb back-loading](#)?
11. How can eating breakfast make it harder to lose fat? Why should people especially avoid carbs in the AM if they want to stay lean?
12. How does fat act in a similar manner to carbs in terms of muscle replenishment?
13. Since sleep deprivation decreases glucose tolerance, could lack of sleep potentially cause carb back-loading to be less effective?
14. What are the most common mistakes people make when carb back-loading?
15. What does a typical carb back-loading training day look like for you? What is the most (crap) you've been able to eat and stay lean, and possibly gaining muscle?
16. Do you think there may be other health benefits from not eating crap? Such as living longer, better focus, avoiding cancer, etc.
17. Where can people learn more about you?

## Featured

[Carb Back-Loading](#) by John Kiefer  
[DangerouslyHardcore.com](#)  
[CarbNite.com](#)

## Resources

[Creatine Monohydrate](#)  
[Extra Virgin Coconut Oil](#)  
[Kerrygold Grass-Fed Butter](#)



Grass-Fed Meat  
L-Leucine  
Lindt 99% Dark Chocolate  
Coconut Milk  
Probiotic Ultra Blend  
Essential Amino Acids  
South Park

## **Bulletproof**

Bulletproof® Upgraded™ Coffee Beans  
Upgraded™ Whey Protein  
Upgraded™ Chocolate Powder  
Upgraded MCT Oil  
Upgraded Collagen Powder  
Upgraded™ Glutathione  
HeartMath emWave 2

## **Transcript**

[Click here to view the transcript of Podcast #19 with John Kiefer](#)

## **Listener Q & A Summary**

- 1.How do you get rid of mycotoxins?
- 2.Which is worse, farmed salmon or grain-fed beef?
- 3.Is there any evidence behind the set-point theory?
- 4.Are all fermented foods contaminated with mold?

## **Biohacker Report**

“Leaky gut and autoimmune diseases.”

<http://www.ncbi.nlm.nih.gov/pubmed/22109896>

“Timing of amino acid-carbohydrate ingestion alters anabolic response of muscle to resistance exercise.”

“Theta coupling between V4 and prefrontal cortex predicts visual short-term



memory performance.”

## Questions for the podcast?

Leave your questions and responses in comments section below.

You can also ask your questions via...

[The Bulletproof Forum](#)

[Twitter](#)

[Facebook](#)

## Listener Questions

Henrick: I've read about mycotoxins and I wonder if that's why I get problem with my stomach if I eat Coconut milk and sometimes if I eat dark chocolate. Is there some way you can get rid of the mycotoxins for example store the coconut milk and chocolate in the freezer or the fridge?

Chuck: If stuck in a situation where you have only the option of farmed salmon or semi-lean grain-fed beef, which is the better choice?

Katy: Is there any evidence behind the set point theory? That your body will maintain the same level of fat mass no matter what? Say it ain't so!

Matt: I thought I read somewhere that with The Bulletproof diet one should not eat fermented foods. Is this because of mycotoxins or do you believe that lactic acid bacteria can cause problems as well. I make my own sauerkraut and kimchee and consume them for digestive support and GI health. Just a bit confused at this point...

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