

Macronutrient Ratios – Part 1

Hey, everybody, in this presentation we're going to talk about macronutrient ratios in terms of how to customize Paleo for particular needs. Now, just as a general context, I know I've said this a bunch of times, and you're going to hear me say it a bunch more, you might get sick of it, but it's crucial to keep in mind that there's no one-size-fits-all approach when it comes to diet, and when you're working with patients that are dealing with a variety of conditions and are coming to you with different presentations, different lifestyles, activity levels, goals, health status, age, genes, gene expression, all those things are going to influence what the optimal dietary approach is, and in this presentation I'm going to give you some starting places, but you'll really need to guide your patient through some experimentation before they can arrive at a more clear understanding of what works best for them. So that's the general context to keep in mind as we go through here, as I said, this presentation is all about giving you starting points for experimentation. We have to start somewhere, and I'm going to share my ... both what the research says and my clinical experience shows about that.

	% Carbs	Carbs (Grams) for Men (2600 kcal diet)	Carbs (Grams) for Women (2000 kcal diet)	Goal/Population
Very Low Carb	<10%	<65g	<50g	<ul style="list-style-type: none"> • Neurological issues (Epilepsy, Alzheimer's, etc.) • Severe blood sugar problems
Low Carb	10-15%	65-100g	50-75g	<ul style="list-style-type: none"> • Weight loss • Blood sugar regulation • Mood disturbances • Digestive problems
Moderate Carb	15-30%	100-200g	75-150g	<ul style="list-style-type: none"> • Generally healthy • Maintain weight • Adrenal fatigue • Hypothyroidism • Familial Hypercholesterolemia
High Carb	>30%	>200g	>150g	<ul style="list-style-type: none"> • Athletes and highly active people • Trying to gain weight/muscle • Fast metabolism • Pregnant/breastfeeding

We usually focus mostly on carbohydrate intake as the most variable macronutrient and the easiest one to work with. Protein, as we'll talk about, is important as well, but it doesn't typically require as much adjustment. And fat will adjust in an inverse way typically with carbohydrates, so as carbohydrate consumption goes up, fat will naturally go down, as carbohydrate consumption goes down, fat will naturally go up. But we found it easier just to intervene with carbohydrates, people can think about it more easily, and when you talk about customizing for different conditions, I think it's just easier to get your head around using carbohydrates. So, there are four

categories roughly, and this is somewhat arbitrary, there's no real consensus on this in the scientific literature, but these are the four categories that I think about when it comes to carbohydrate intake. Very low carb would be below 10 percent of total calories. Low carb would be 10 to 15 percent, maybe 10 to 20 percent even, and then moderate carb would be 15 or 20 percent to 30 percent, and high carb would be above 30 percent. So let's walk through each category and talk about which patients should be at which level. You can see on the slide here, I've created a chart with just the most basic overview, and we'll include this as a handout that you can just refer to for quick reference, but we're going to talk about it in more detail throughout the rest of the presentation.

One thing before we go forward, you may be familiar with this from my book or other writing or speaking, but I believe that you should only really count carbohydrates from starchy vegetables and starchy plants or tubers and fruit. It's true that there are some carbohydrates in non-starchy vegetables like broccoli or cauliflower or wintergreens, lettuce and things like that, but number one, it's a really low number, most of those vegetables have just a few grams of carbohydrate in them. And number two, that carbohydrate is stored in extremely fibrous material that is really difficult for humans to break down, and if we can break it down at all it requires a lot of energy, cellular energy to break down, and guess what we burn in producing cellular energy? Glucose. So if something only has three or four grams of glucose in it, and we have to burn a lot of energy just to get to that glucose, I'd say the net gain of carbohydrate is probably pretty minimal, if not zero. And so I think it's easier for you as a clinician and for your patients, and more accurate, just to think about carbohydrate intake just in terms of how much starchy plants and fruit is the patient eating.



Moderate Carb

% Carbs	Carbs (Grams) for Men (2600 kcal diet)	Carbs (Grams) for Women (2000 kcal diet)	Goal/Population
15-30%	100-200g	75-150g	<ul style="list-style-type: none"> • Generally healthy • Maintain weight • Adrenal fatigue • Hypothyroidism • Familial Hypercholesterolemia

Okay, so I think that most patients do best on a moderate carbohydrate approach, and this is true whether they're generally healthy or whether they have ... obviously, they're not healthy if they're coming to see you, but some people might come to see you just for something like high blood pressure, they might come to see you for insomnia, they might come to see you for high cholesterol, or they may be overall somewhat healthy, or if they don't have a particular health condition that we're going to discuss in the context of the other dietary approaches, then I think just as a general starting place, a moderate carb approach is best, and that's again 15 to 20 percent or 30 percent of total calories from carbohydrate, which would be about a hundred to 200 grams if you're eating 2,600 calories, that's probably an average intake for a moderately active male, or between 75 and 150 grams on a 2,000-calorie diet, and that's maybe average for a moderately active female.

This range is also good for people who are just kind of trying to maintain their weight, they're not trying to lose, they're not necessarily trying to gain weight, they're just maintaining their weight and their muscle mass. It's beneficial for people with so-called adrenal fatigue or HPA-axis issues, I've found in those cases that a really low-carb diet or a really high-carb diet doesn't often work that well, whereas a moderate-carb approach tends to have a better effect. Hypothyroidism, similar thing, really low-carb diets can decrease a conversion of T4 to T3, which requires insulin, and really high-carb diets don't tend to work well either because their potential effect for some people on blood sugar, some but not all, so a moderate-carb intake tends to work better for people with thyroid issues.

And those with conditions like familial hypercholesterolemia, or FH, which involves very high cholesterol levels that may be hyper-responders to dietary fat or cholesterol. So in other words, these are people, as you may know from some of the more recent studies, on average people who consume saturated fat and cholesterol in their diet don't see a big increase in their cholesterol levels in the blood, but there are some people who we call hyper-responders who do see a pretty significant increase from eating dietary cholesterol and saturated fat, and we're going to be discussing the clinical significance of that later on, it's more complex than I want to get into right now, but if you have a patient who's got extremely high cholesterol and you think that may be contributing to their disease risk and you want to prescribe a dietary approach that will help bring that cholesterol down, then a more moderate carbohydrate Paleo type of approach, where they're eating more starchy tubers and starchy plants and fruit, and less fat overall, is probably a good idea.



Low Carb

% Carbs	Carbs (Grams) for Men (2600 kcal diet)	Carbs (Grams) for Women (2000 kcal diet)	Goal/Population
10-15%	65-100g	50-75g	<ul style="list-style-type: none"> • Weight loss • Blood sugar regulation • Mood disturbances • Digestive problems

Next up would be a low-carb diet, which is about 10 to 15 percent of calories from carbohydrate, and that translates to 65 to 100 grams for a 2,600-calorie diet, or 50 to 75 grams on a 2,000-calorie diet, and this can be used in patients who need to lose weight and maybe haven't tried a low-carb diet before, or especially patients who are overweight and have metabolic issues like insulin or leptin resistance. There was a study recently published, recently from the time of this recording, that compared the effects of low-fat and low-carb diets in overweight people. They grouped the overweight people into two groups: metabolically healthy overweight people who still had normal insulin sensitivity, and then metabolically unhealthy overweight people who had insulin resistance. And what they found was that the lower-fat higher-carb diet worked better in people with normal insulin sensitivity, and the lower-carb higher-fat worked better in people with insulin resistance. Now, there's more to that study and I'm not going to go into detail now, but my point here is that a low-carb diet, while it doesn't work for everyone that's overweight, may be more effective in people who are overweight that have insulin blood-sugar regulation problems.

Which takes us into the next case where you might consider a low-carb diet, and that is with people who have blood sugar issues, especially if you use the methods I'm going to teach you later with the glucometer to help determine someone's carbohydrate tolerance, as an objective way for them to figure out how much carbohydrate they can eat safely without spiking their blood sugar.

So another one would be mood disturbances, depression, anxiety, swings in mood back and forth, those can sometimes stem from blood-sugar regulation issues, and in some cases a lower-carb, higher-fat diet leads to a more stable, predictable mood and fewer of those fluctuations. Now, having said that, I do want to mention that in other cases, actually adding carbohydrates back in is

what's helping for improving mood. In fact, if you particularly see women that are dealing with so-called adrenal fatigue type of issues and they're doing a low-carb diet and they have a depressed mood and they're not sleeping well and they're tired all the time, adding carbohydrates back into the diet can have an almost miraculous effect, so again, this is where experimentation comes in. We can talk about these starting points as guidelines but you always have to consider where the patient is coming from first of all, and then ask them to experiment under your guidance.

So lastly, a low-carb diet can be good for people with digestive issues like SIBO or dysbiosis, especially in cases where the bacteria in the small intestine or the overgrowth of fungi or whatever it is, are able to feed on the starch and fruit. And I don't think that the sort of stream zero carb or anti-candida kind of diets that even remove things like carrots because they have some carbohydrate in them are necessary or a good idea in these situations, and we'll talk again about this later, but it is true that some patients with gut issues have a kind of starch intolerance, if they eat starch they experience pretty big exacerbation in gut symptoms, and in that case a lower-carb approach might be good. It's not a stopping place, it's something you would do while you're checking for and treating for SIBO and dysbiosis and these other conditions, but it can be helpful in the interim.