

The Ketogenic Diet Can Put Your Cardiovascular Health at Risk

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STORY AT-A-GLANCE

- › Recent research challenges the long-term benefits of ketogenic diets, suggesting potential negative impacts on cardiovascular health
- › Your body has a metabolic switch called the Randle cycle, which chooses to burn either glucose or fat for energy. Being aware of this switch can help optimize your diet to use the ideal energy choice, which is glucose
- › Short-term keto can be beneficial for metabolic flexibility and weight loss, but long-term keto may lead to health issues and increased cardiovascular mortality risk
- › Increasing your carbohydrate intake, particularly from ripe fruits, may improve blood sugar levels and aid weight loss, even with higher overall calorie consumption
- › Balancing macronutrients is crucial – 15% to 30% fat, 15% protein and the rest from carbs, with pulp-free fruit juices recommended as a transitional carb source

For several years, I recommended the ketogenic as way to optimize your metabolic and mitochondrial health. As it was backed by plenty of published research, it seemed logical to follow this direction.

But since I discovered the work of the late Ray Peat, Ph.D., my stance on the ketogenic diet has drastically changed. It turns out, going low-carb can be detrimental for your health, especially your cardiovascular system, as demonstrated by recent research.¹

Long-Term Keto's Effect on Your Cardiovascular Health

In a 2024 review published in *Current Problems in Cardiology*,² researchers investigated the health effects associated with the ketogenic diet, particularly its downsides. They argue that it "does not fulfill the criteria of a healthy diet."

While the ketogenic diet has been shown to help with weight loss, which can be good for your health, doing it long-term may put your health at risk. In the review, the researchers cited a study wherein two sets of obese people were given either a balanced diet or a keto diet. Results showed "no significant difference in body mass index (BMI) between them. Moreover, the ketogenic diet led to a significant loss in lean muscle mass."³

As I discussed in my previous article "[Protein Guidance: How to Get Enough for Optimal Health](#)," having appropriate amounts of muscle is important for overall health. It acts as a reservoir for amino acids, and it's also important for metabolism and glucose disposal, helping you manage conditions like diabetes and cardiovascular disease.

The importance of having strong muscles is also acknowledged by a study⁴ published by the American Heart Association. According to the researchers, sarcopenia, which is age-related muscle loss, predisposes the elderly to cardiovascular disease.

"There is a bidirectional association between sarcopenia and CVD (cardiovascular disease).

Sarcopenia can lead to increased adiposity, insulin resistance and chronic inflammation, and thus, predispose adults to developing cardiovascular events, and the chronic inflammatory state, malnutrition and decreased physical activity observed in cardiac patients are precursors to a catabolic state, leading to accelerated muscle loss and development of sarcopenia," the researchers said.⁵

Keto Diet Can Increase Your Risk of Cardiovascular Disease Mortality

The featured study also cited a 2023 meta-analysis⁶ that investigated the association of low-carbohydrate diets and the risk of all-cause cardiovascular disease. Here, 10 studies were reviewed with a total of 421,022 participants. Based on their evaluation, a low-carbohydrate intake was associated with a lower CVD risk.⁷

But here's an important distinction — drastically reducing carbohydrates to the point of being considered a ketogenic diet can have a negative effect on your cardiovascular health, as noted in the featured study:⁸

"The results of the high-versus-low meta-analysis published in 2023 revealed that cardiovascular disease mortality was not linearly associated with a low carbohydrate diet score, no matter if the pattern was plant-based or animal-based ...

It suggests that the low-carb pattern seems more beneficial than very low-carbohydrate (including ketogenic) in terms of cardiovascular mortality ... The ketogenic diet does not seem to be an optimal approach in terms of cardiovascular mortality according to the newly published meta-analysis."

What Happened When I Stopped Keto

Based on my own experiments, the Current Problems in Cardiology study reaffirms the hypothesis that increasing carbohydrate can help optimize your health. Using myself as an example, I was eating below 50 grams of carbs a day for about a year when I first started keto. I then increased this amount to 100 grams for the next five years.

Once I embraced Peat's work, I increased my carbohydrate intake to 650 grams per day, mostly in the form of ripe fruit and starch like white rice. Despite the 650% increase, I noticed dramatic beneficial changes, including a 10% decrease in my fasting blood sugar. I also gained 12 pounds but my body fat dropped from 10% to 6%, despite increasing the number of calories I was consuming.

While increasing your carb intake can help promote better health, that doesn't mean the ketogenic diet will never have a place in a wellness regimen. In fact, I still recommend it

if you're just getting your health back on track as it's useful, initially, to help you become more metabolically flexible. But, while short-term keto has several benefits, long-term ketosis is problematic.

The Context Behind Why Your Body Needs Carbs

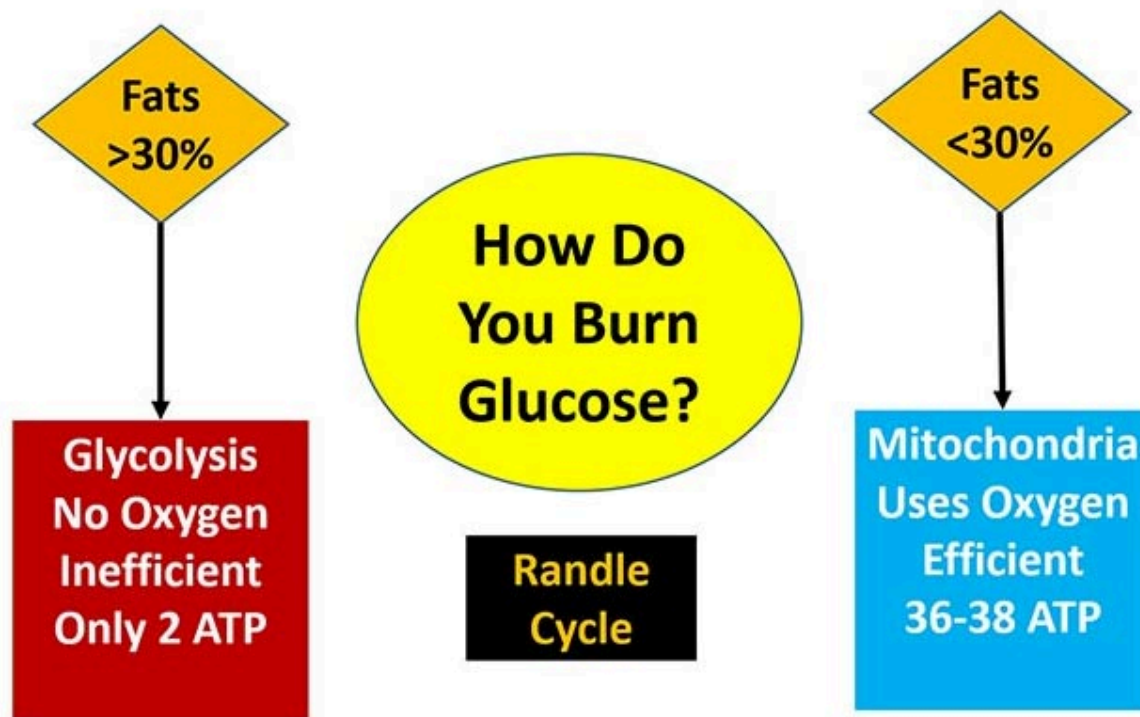
The fact is your body needs glucose to function properly. When your body goes on without enough carbs for too long, it will synthesize glucose from cortisol via a process known as gluconeogenesis. To accomplish this, cortisol breaks down amino acids, such as the ones found in your muscles.⁹

For context, cortisol belongs to a class of steroid hormones called glucocorticoids.¹⁰ The term "gluco," means glucose (sugar),¹¹ while "cortico" denotes its origin in the adrenal complex.¹² While it's generally known as a stress hormone, its actual main purpose is increasing blood sugar levels when you don't have enough glucose, and your liver doesn't have enough glycogen reserves.

When your body detects this, cortisol induces the gene expression of the PEPCK enzyme, signaling the process of gluconeogenesis to begin.¹³

When cortisol is constantly elevated due to insufficient carb intake, it may increase inflammation and eventually impair your immune function.¹⁴ Clearly, this is not a situation you want to be in. For a long time, I recommended a low-carb diet, but now I realize that this isn't the ideal approach for optimal health.

Based on the teachings of Peat and interviews I conducted with bioenergetic health experts, I've come to appreciate the importance of the metabolic switch called the Randle Cycle. This switch allows our body to consume only one fuel at a time. Think of it as a railroad switch that allows one train to travel down one set of tracks only.



For your body to effectively burn glucose, it's not just about bumping up your carbohydrate intake. You will need to lessen your fat consumption, ideally to about 30%. If you're obese, the cutoff for fat is likely even lower.

When fat consumption goes beyond that threshold, your body switches to burning fat in your mitochondria, which hampers glucose metabolism. Since the glucose is unable to be transported into your mitochondria, it ends up back into your bloodstream, raising blood sugar levels. According to a previous [interview I had with Georgi Dinkov](#), an expert on Peat's work:

"I've noticed that between 15% and 20% [dietary fat] is probably where most people, in their current health state, can metabolize the fat without causing problems for the glucose through the Randle cycle. Especially Type 2 diabetics.

Most of them are overweight or obese, which means they have two sources of fats – one through the diet and the second one from their fatty tissue, because there's always some lipolysis going on. So for diabetic people, it's probably a good idea to lower the intake of fat from the diet, because they already have a lot coming from their own bodies.

There's so many clinics around the world that treat and even cure Type 2 diabetes by putting them on a really restrictive diet until they lose most of their fat. And then suddenly, the metabolism of glucose gets restarted. I think this directly shows you that the problem with glucose wasn't the glucose itself.

It wasn't the glucose that was fattening them up. They had too much fat in their bodies, and once you get rid of that fat, no matter how you do it, the problems when metabolizing glucose disappear which, to me, is a great testament to the Randle Cycle."

Hitting the Sweet Spot in Macronutrient Intake for Optimal Carb Digestion

When it comes to adjusting your macronutrient intake, a sensible approach is needed. While I mentioned that you need to lessen your fat consumption, that doesn't mean fats have to be taken out entirely. Make no mistake, fats – especially healthy fats – are still crucial for optimal health.

You don't want your fat intake to be too low – between 15% and 30% is said to be the sweet spot. But, as noted by Dinkov, the ideal ratio still isn't known. From our interview, he believes that an equal ratio of fats, protein and carbs (about 33% each) is ideal for optimal health.¹⁵

However, I respectfully disagree with this, as I believe that 33% of protein may be too high unless you're not eating many calories. Eating more than 35 to 40 grams of protein per meal may likely be counterproductive, as this impairs its absorption.

Your body will also have to remove the ammonia from leftover amino acids during digestion.¹⁶ If too much ammonia builds up in your body, it may affect your health. According to the Cleveland Clinic, "even slightly elevated levels (hyperammonemia) are toxic to your central nervous system (CNS)."¹⁷

Evidence suggests that 15% of protein is an appropriate amount for most people, especially when eating between 2,000 and 3,000 calories a day. Most people don't require more than 120 grams of protein per day. If you go beyond that, your kidneys become burdened. To help you compute your protein intake, you can follow the formula of 0.8 grams per pound of lean body mass (not total bodyweight).

When adding in more carbs, I recommend starting with fruit juices. Cold-pressed, pulp-free orange juice, for example, is a good choice. The reason you want pulp-free is because if you're like most people, you have gram-negative, endotoxin bacteria in your gut that will thrive on the pulp, hence increasing endotoxin production.

If you have an unhealthy gut microbiome, pulp-free orange juice is a great carbohydrate source that can help you slowly transition into eating more carbohydrates. As your microbiome improves, then you can transition to more complex carbohydrates, such as whole fruits and starches, which are, I believe, far superior to juices.

Sources and References

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