

What Is the Ketogenic Diet?

There are two sources of fuel for the human body: sugar and fat. When the body burns fat, molecules called ketone bodies are created for use as energy in the brain and other tissue.

The goal of the ketogenic diet is to get the body to metabolize (burn) fat rather than sugar. Being a fat burner is referred to as being “keto-adapted” or “in ketosis,” and it is the preferred metabolic state of the human body.

Too many people remain slaves to the belief that glucose is the only source of fuel for our bodies. As a result, they live in fear of running low on glucose. The truth is that fat is the ideal energy source and has been for most of human evolution. That’s why we have all this fat on our bodies—to use for energy whenever we need it! We actually need only minimal amounts of glucose, most or all of which the liver can supply as needed on a daily basis.

The ketogenic diet is, at its core, a low-carb, moderate-protein, high-fat diet. It’s probably pretty clear why it’s low-carb and high-fat—the goal is to get the body to use fat for fuel, not sugar. You’ll also need to hit your protein goal for each day. This ensures that you don’t lose any lean mass (muscle). (For more specific information about the amounts of carbs, protein, and fat that are recommended on a ketogenic diet, turn to the section “How to Become Keto-Adapted,” beginning on page 18.)

It’s important to remember that when we say the ketogenic diet is low-carb, that doesn’t just refer to white bread and candy. We all know that sugar is bad for us, but many people don’t realize how many foods we think of as healthy turn into sugar in the body. Those foods include:

- Whole-wheat bread, whole-grain cereals, and oatmeal
- Bananas, mangoes, pineapple, and other high-carbohydrate fruits
- Potatoes, sweet potatoes, corn, and other high-carbohydrate vegetables
- Rice, wild rice, quinoa, and polenta

After all, starch—complex carbohydrates such as whole grains and root vegetables—is just glucose molecules hooked together in a long chain. The digestive tract breaks it down into glucose . . . also known as sugar!

In the past, I always followed a ketogenic diet myself, but I was more passive in my approach with my clients. I thought, “Of course they can eat spaghetti squash; they were eating white pasta, so changing to squash would be an improvement.” But in many cases, insulin resistance and inflammation were still issues. My clients’ metabolisms were too damaged to handle that amount of starch. Sure, our ancestors likely could eat root vegetables and more starch than the clients I see today, but our ancestors did not eat like we do in modern times. After years of consuming “food” filled with fructose, food dyes, MSG, pesticides, and all the other chemicals found in food products today, our cells are so damaged that we need a stricter approach.

Some people can eat a whole-foods diet filled with sweet potatoes and fruit and not be overweight, but this doesn’t mean that they are healthy. I’ve had a handful of female clients who weighed around 115 pounds, had very high blood sugar levels, and

had to be put on insulin. It's not just diabetics and people who want to lose weight who should limit their intake of both carbohydrates and protein; everyone should. We are all, in an evolutionary sense, predisposed to becoming diabetic.

The sad fact that carbohydrates and glucose are so cheap and readily available doesn't mean that we should depend on them as a primary fuel source or revere them. In fact, it is this blind allegiance to the carb paradigm that has driven so many people to experience the vast array of metabolic problems that threaten to overwhelm our health-care system. I can't believe that a large segment of the health and fitness community still defends carbohydrates and glucose as fuel sources with such tenacity.

I used to enjoy reading women's health and fitness magazines. Since my children came into my life, those days have been put on pause (at least until my kids are no longer demanding toddlers who prefer to sit on my lap whenever I open a book). I cherish these times, so I don't mind. But I did happen to pick up a women's health magazine recently while I was waiting for a weight-lifting class at my local fitness center, and I was shocked that I ever wasted my time reading it. Not only did the magazine push "healthy" whole grains, but it also pushed lean protein. No fat was included anywhere. This is the so-called "clean" diet that so many people adhere to while trying to lose weight. But fat is essential to our diet: our brains and cells are over 60 percent fat!

Why Is It Important to Burn Fat Instead of Sugar?

Too Much Sugar Damages Your Health

Eating too many carbs is associated with a lot of health problems, including diabetes, heart disease, obesity, and inflammation (which in itself is associated with many health problems, particularly autoimmune disease).

After we eat carbohydrates, if we're healthy, insulin transports glucose from the bloodstream into our cells, where it's used for energy. But if we've been taking in more glucose than our bodies need for a long time, we can become insulin-resistant—our cells stop responding to insulin. That means that after eating, our blood glucose stays high because the glucose can't make it into our cells.

Elevated blood sugar increases the risk of diabetes. The excess glucose also acts like tar in the bloodstream, clogging arteries and binding with proteins and fats (a process called glycation) to form damaging molecules called advanced glycation end-products (AGEs). It also causes inflammation and raises triglyceride levels, increasing our risk for coronary artery disease.

If the above information isn't bad enough, I have more bad news: when we're insulin-resistant, insulin levels continue to rise because the pancreas mistakenly believes, "If a little insulin is not working, we just need to make more!" This is not good. Insulin is very toxic at high levels, causing cellular damage, cancer, and plaque buildup in the arteries (which is why diabetics are more likely to have heart disease).

Sorry, but I have even more bad news: our cells become so damaged after a lifetime of cereal and skim milk for breakfast that not only does insulin resistance block glucose from entering cells, it also affects the absorption of amino acids. Amino acids are the building blocks of protein, and we need them to create muscle. So now we can't

How to Become Keto-Adapted

1. Cut way down on sugar.

The first obvious step to becoming keto-adapted is to cut out sugar, and when I say sugar, I also mean starch. Remember, complex carbohydrates are just glucose molecules hooked together in a long chain. The digestive tract breaks them down into glucose, just as it does sugar. So a complex-carbohydrate diet filled with sweet potatoes (or whatever starch you choose) is really a sugary diet.

With the ketogenic lifestyle, the only reason to eat carbohydrate is that it provides some fiber to feed gut flora. For that, you need only about 10 to 20 grams per day, or even less if you're eating naturally fermented foods, which replenish gut flora.

To stay in nutritional ketosis and reap all its health benefits, most people need to consume less than 30 grams of total carbs a day. Some people can go as high as 50 grams a day, and some high-end athletes can even get close to 100 grams, but for the vast majority of people, less than 30 grams a day is the best goal. People with metabolic issues such as diabetes or prediabetes will have to stick to less than 20 grams a day, and for extreme cases (or to help break a stall), limit yourself to 10 grams a day of total carbs.

Another estimate is to get 5 percent of your calories from carbs. You can use this equation to calculate that:

$$(\text{calories} \times 0.05) / 4 = \text{carb grams}$$

Everyone is different, so it's important to stay under your particular limit. (Test your ketones to make sure you stay in ketosis—see page 22 for more.) This may seem like an awful uphill battle, but it really isn't that hard. In this book you'll find foods such as Spring Popovers (page 146), Cinnamon Roll Minute Muffins (page 152), and Zucchini Tortillas (page 212) that can help make the transition easier. I recommend eating them with fatty meats and spoonfuls of coconut oil in order to get the proper percentages of fat, protein, and carbohydrates. My favorite breakfast is my keto "bread" dipped (or should I say drenched!) in my Minute Hollandaise (page 129). I often pass my poached eggs to my husband, Craig, and just eat the hollandaise. I understand that my bread does not taste like French bakery baguettes, but add a ton of organic butter to it and you will want to become keto-adapted, too! You will feel so good that you will never again look at those baguettes with longing.

2. Hit your protein goal.

When it comes to protein intake on the ketogenic diet, moderate protein based on your lean body mass is a goal to hit.

A good general rule is to get 0.8 times your lean body mass in grams of protein a day. Your lean body mass is your body weight without your body fat, so if you weigh 175 pounds and have 40 percent body fat, your lean body mass is 105 pounds (175 x 0.6) and your daily protein goal should be about 84 grams a day (105 x 0.8)

You want to make sure to hit this protein goal each day or at least average it out over the course of the week (some days higher, some lower).

ADDING MORE FAT TO YOUR DIET WITH MCT OIL

If you don't like fatty cuts of meat, you can add medium-chain triglycerides (MCTs) to your diet in the form of MCT oil. MCTs are composed of fatty acids—the building blocks of fats—and they prompt our bodies to produce more ketones, which is essential to being keto-adapted.

Medium-chain triglycerides are different from long-chain triglycerides. The body uses MCTs quickly; they are not stored in fat cells, and any extra are converted to ketones. This is why I am very specific with my food recommendations, even

salad dressings. It is always best to make your own dressings—because it's easy, but more so because you can make them with MCT oil rather than olive oil, which is a long-chain triglyceride and will not turn into ketones.

In addition, people who have malnutrition or malabsorption syndromes are treated with MCTs because they do not require energy for absorption, utilization, or storage. On rare occasions, MCT oil can cause nausea in high amounts, so be cautious and start out slowly.

3. Eat lots of healthy fats.

Finally, there's fat. In order to become keto-adapted, you need to turn up your healthy fat intake to push yourself over the adaptation divide as quickly as possible. But once keto-adapted, you should reduce your fat intake in order to use more body fat as fuel (instead of dietary fat). The amount of fat you need to eat per day will depend on your caloric needs. Just subtract your protein and carb calories from your day's total calories and the rest of your calories come from fat. So if you're aiming for 1,200 calories and you have 20 grams of carbs and 80 grams of protein (totaling 400 calories), the remainder would be 800 calories or 89 grams of fat.

$(\text{total calories} - (\text{carb grams} \times 4) - (\text{protein grams} \times 4)) / 9 \text{ calories per gram of fat} = \text{fat grams per day.}$

4. Adjust nutrients and supplements as needed.

People who are transitioning to a low-carb diet like the ketogenic diet sometimes complain of side effects such as headaches, dizzy spells, lightheadedness, fatigue, and cramping. These symptoms aren't universal, but when they do occur, the nutrients discussed below can help.

Cravings are one of the major effects most people notice when they start to transition to keto. Ironically, one benefit of becoming keto-adapted is that the desire for carbohydrates and sugar disappears, but this can take time. If you find yourself gravitating toward carbs on the weekends, whether it is a beer or a piece of pizza, remember: cheating will stop you from becoming keto-adapted (or kick you out of ketosis if you're in it). Supplements can help deter those nasty cravings, which set me back for years! I would do well during the week, but then I would give in on weekends. I never was truly keto-adapted until I added in supplements to get rid of cravings and help me stay the course.