What is a Cyclic Ketogenic Diet?

Burn Fat and Build Muscle with a Cyclic Ketogenic Diet

What constitutes an optimal physique? This is different based on each individual's unique genetic potential but researchers would agree that we should have a moderate to thin structure and good muscular development.

While many have sought after a thin physique, the mantra of the 21st century is that strong is the new thin! We want to have a good body fat percentage (6-15% for men and 15-30% for women) and have developed well-toned musculature.

Ketogenic Diet and Fat Metabolism

A ketogenic diet is a very low carbohydrate, moderate protein, and high fat based nutrition plan. A ketogenic diet trains the bodies metabolism to run off of fatty acids or ketone bodies. This nutrition plan has been shown to improve insulin sensitivity and reduce inflammation. This leads to improved muscle development and fat metabolism.

The ketogenic diet is built around good fats such as grass-fed butter, coconut products, avocados, nuts/seeds, pasture-raised animal products and extra-virgin olive oil. This diet should also focus on low-carbohydrate fruits, vegetables and herbs as staple components. The fat levels will be between 60-80% of calorie intake.

How Ketones Are Formed?

The body has two major energy sources, it burns glucose or ketone bodies. The majority of people burn glucose primarily because they are constantly supplying a steady form of sugar, starches, and proteins that can be turned into blood sugar. When one either fasts or goes on a low-carb, moderate protein, and high fat diet they switch their energy source to fat.

In particular, the fatty acids are broken down into ketone bodies. The three major forms ketones produced in the body include Acetoacetate, Acetone and Beta-HydroxyButyric acid. These are released into the blood from the liver when insulin levels are low and hepatic liver metabolism is increased.

Healthy Cell Membrane

The cell membrane is the double outer layer of fatty acids. This structure is made up of a blend of saturated, monounsaturated and highly unsaturated fatty acids (HUFAs). The cell membrane and particularly the HUFAs are very susceptible to free radical damage. This free radical damage causes something called “lipid peroxidation” and negatively effects hormone sensitivity.

Elevated lipid peroxidation leads to issues like insulin resistance and poor blood sugar metabolism. Insulin resistance and poor blood sugar metabolism leads to fat storage and muscle tissue breakdown. This is the antagonist to healthy aging and a desirable physique.

The two biggest dietary factors that reduce lipid peroxidation include

1. **The Anti-oxidant Content of the Diet**
2. **Carbohydrate Level of the Diet**

Research has shown that a low-carbohydrate, ketogenic diet reduces oxidative stress in the body[1]. The reduction in oxidative stress on the cell membrane allows for the formation of healthy insulin receptors and normalized blood sugar regulation. This improves insulin sensitivity which further reduces inflammation and fat storage in the body.[2] The more sensitive the body is to insulin, the less stress it puts on the rest of the system and the easier it is to build muscle and burn fat.

Protein Sparing and Healthy Muscle Tissue

A healthy body is not thin and weak. A desirable physique is strong and has well-developed muscle tissue that is genetically congruent for the individual. The antagonist to this is again poor blood sugar sensitivity and insulin resistance.

High carbohydrate diets increase the level of muscle cell inflammation and reduce protein synthesis. For many body types this leads to a catabolic or cannablistic state where the body eats up the muscle tissue. This leaves the individual with a very thin and under developed physique.

A properly formed ketogenic diet maintains circulating branched chain amino acids (BCAAs). These BCAA's (leucine, isoleucine and valine) and especially leucine are critical for protein and muscle synthesis in the body. Blood leucine levels, a powerful regulator of muscle protein synthesis, increases on a ketogenic diet. Meanwhile, insulin levels decrease on a ketogenic diet as does muscle inflammation [3]

The result of this is that the muscle cells will have an environment that promotes proper development and optimal

function. The keto-adapted state improves the efficiency of protein utilization. The greater economy of protein allows for less to be consumed while still maintaining healthy blood leucine levels for proper muscle development and recovery.

Practical Considerations

There is a popular idea that the body needs carbohydrates and protein immediately after exercising in order to properly recover. However, with the application of a properly formulated ketogenic diet to achieve a keto-adapted state this is not necessary. Keto-adapted individuals can often fast for periods after a short high intensity workout and see improvements in strength and muscle development.

In my late teens and early twenties, I would eat around 5,000 calories a day with over 200 grams of protein. I used to have to eat before and after I exercised. My diet was probably 50% carbohydrate, 25% protein and 25% fat. This nutrition plan resulted in good strength gains but also destroyed my gut, desensitized my cells to insulin leading to blood sugar instability and chronic inflammation. The elevated carbohydrate and protein levels also promoted the development of cancerous growths in my body.

This resulted in severe health problems and a 5+ years of learning better strategies to improve my health. I noticed incredible improvement with the ketogenic diet and intermittent fasting. I also learned to focus on super hydration with anti-oxidants in the morning hours. I typically drink 64oz of water before 12pm and use anti-oxidant extracts such as lemon and/or anti-oxidant supplements in the morning hours.

Now, I eat 2 meals a day between a 4-8 hour eating window and consume around 3500-4000 calories with approximately 60-70% fat, 20-25% protein and 10-15% carbohydrates on average. Some days, it is 70%, 25%, 5% while other days it is 60%, 20%,

20%. I work out intensely in the morning and NEVER eat afterwards. I eat my meals between 1 p.m. and 8 p.m. on most days.

The results – I am stronger in my upper and lower body and feel significantly better than I did in my teens and 20's. The pic below is not me…haha!

What This Means to You

As a clinician, I believe that everyone on the planet will benefit from a well-formulated cyclic ketogenic diet. This will look different for each individual. Some will do great with 80% fat, 15% protein, 5% carb. Some will need a more carbohydrate and protein, or maybe just one or the other, etc.

I am not strict about counting calories or percentages of macronutrients and the numbers I provided were approximations based on the foods I typically consume. I would encourage you not to be dogmatic with macronutrient counting but instead be strongly considerate of the quality of fuel you are putting into your body and you should categorize it as primarily fat, primarily protein, protein/fat, protein/carb or primarily carbohydrate.

There are many key variables that play a role in the proper formula for success. These include your unique genetics, your exercise, activity and stress levels, your sleeping habits, levels of inflammation and the health of your thyroid, adrenals and liver/gallbladder.

By cyclic ketogenic diet, I am referring too a state of cylcling in and out of ketosis. I will typically have a larger carbohydrate meal (using healthy starches like sweet potato, quinoa, brown rice, or a good sweetener like fruit, raw honey, or coconut nectar) once a week. This pulls me out of ketosis for a short period and then I enter right back in the following day while I am doing my morning fast.

Some individuals do well with the inclusion of a higher carbohydrate meal 2 or 3 times a week while others will do better staying in ketosis for a month at a time. You will have to experiment to find what you feel best with.

Would love to hear about your experiences with a cyclic ketogenic diet in the comments box below.

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