



[Low-Carbohydrate Diet for Workouts and Fat Loss](#)

One of the doubts many people have about low-carbohydrate diets is how they affect athletic performance. Sure, you want to lose fat, but what if they make your athletic performance suffer? If you can't maintain a weight lifting routine at the same level, for example, perhaps you'll lose some muscle. Fortunately, there's ample evidence that you can use a low-carbohydrate diet for workouts *and* fat loss.

Glycogen and performance

Glycogen is carbohydrate stored in the liver and muscles that's used for energy, and broken down into glucose when necessary. The amount of glycogen stored is around 2,000 calories worth, although in some cases it could be double that, "[during massive carbohydrate overfeeding](#)".

Glycogen is preferentially burned during high-intensity exercise, a fact which has led many to say that you "need" carbs in your diet to fuel athletic performance. However, glycogen and glucose are made in process called [glycogenesis and gluconeogenesis](#), respectively. In gluconeogenesis, lactate, amino acids, or glycerol (from fat) are used to make glucose, and subsequently glycogen.

Personally, I've never noticed any difference in my weight lifting performance whether I've been eating carbs or not. Science bears out the fact that you don't need them to perform well.

And even if glycogen is necessary – which it is – you don't need carbohydrates to get it.

You don't need a “full tank” of glycogen either; if you burn 500 calories in a one-hour workout, that's still far less than total glycogen stores.

When someone omits carbohydrates for any length of time, they become fat-adapted, and burn more fat as a fraction of total energy.

Fat-burning ultra-endurance runners

Dogma in distance running has long held that carbohydrates are necessary. Is this true?

No, you don't need carbohydrates for distance running, a fact many runners have discovered.

When elite ultra-marathon runners who had been eating a low-carbohydrate diet for an average 20 months were compared to those on a high-carb diet, [the low-carb runners burned more than double the fat at peak](#), and on average it was 59% higher. There were no differences in total glycogen or its depletion between the two groups.

Compared to highly trained ultra-endurance athletes consuming an HC [high carbohydrate] diet, long-term keto-adaptation results in extraordinarily high rates of fat oxidation, whereas muscle glycogen utilization and repletion patterns during and after a 3 hour run are similar.

Fat-burning in high-intensity interval exercise

Increased rates of fat-burning may account for the better performance of well-trained athletes, as compared to recreational athletes.

When a group of well-trained runners and a group of recreationally trained runners were put through the paces of [a high-intensity interval workout](#), the well-trained runners [burned more than three times the fat](#). The researchers who conducted the study wrote, “The greater capacity to perform high-intensity intermittent work is mostly explained by the higher fat oxidation rates in well-trained runners.”

These athletes were not on low-carbohydrate diets, but the better training of the well-trained athletes appears to derive from a better ability to burn fat.

Low-carbohydrate diets effects on strength and power

Low-carbohydrate diets do not appear to diminish strength and power among athletes, such as weightlifters, who depend on them.

[A group of elite gymnasts were put on a very low carbohydrate ketogenic diet \(VLCKD\) for 30 days, and then put through their paces.](#)

There were no differences in strength in all tests between the low-carb ketogenic diet and the Western (high-carb) diet.

However, they lost an average 2 kg of fat.

What about lifting weights?

A group of trained weight lifters, men and women with >2 years of training experience, average age mid-20s, were put on a low-carbohydrate diet for 7 days. The diet was 5% carbohydrate. They were then tested in

- handgrip
- vertical jump
- bench press max (1RM)
- squat
- 30-second all-out cycling

[Strength and power outputs were all maintained after 7 days of low-carb eating.](#)

Conclusion

[Low-carbohydrate, high-fat diets have been shown to be superior for fat loss and metabolic risk compared to high-carbohydrate, low-fat diets.](#)

[My own low-carb, high-fat, paleo diet](#) keeps me lean and gives me great lipid numbers.

So in addition to fat loss and better metabolic markers, you don't need to worry about workout performance on a low-carb diet.

PS: For why and how to get in great shape, read my book, [Muscle Up](#).

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