

Can the **KETO DIET** Positively Impact Your Physique, Physiology and Performance?

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1 **PHYSIOLOGY**

COMPONENTS OF A KETO DIET

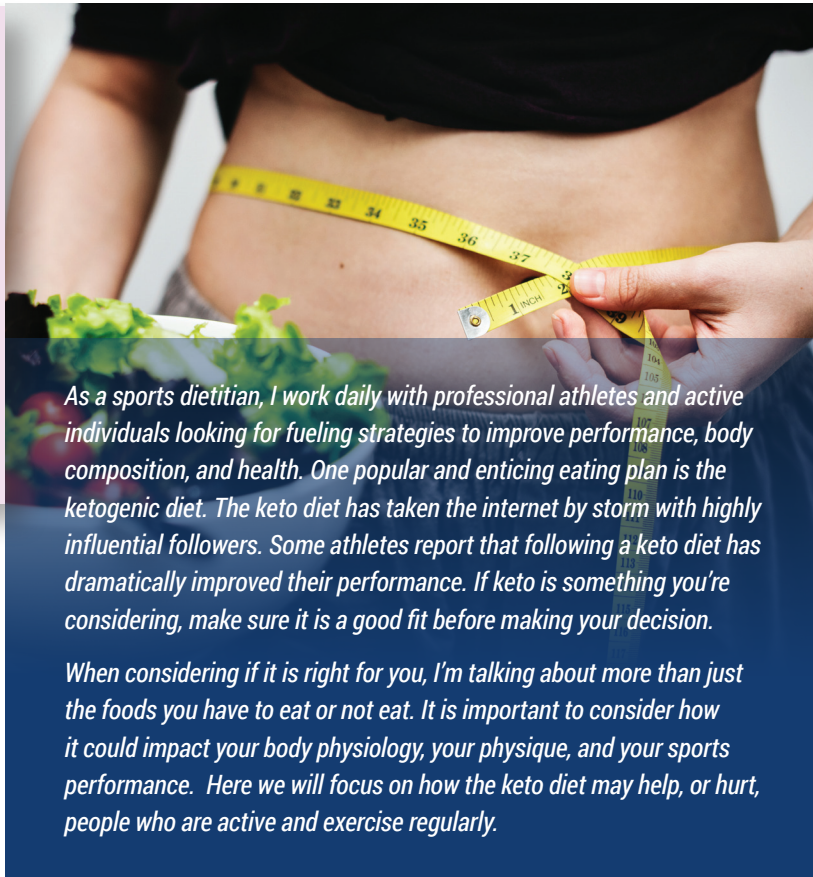
The goal of the ketogenic diet is to put your body into a state of ketosis where the muscle can use fat as the primary fuel source for exercise. To do this, the fat content of the diet is high, protein content is moderate (0.5-0.9 grams of protein per pound body weight per day) and carb intake is low, around 50 grams a day.

EQUIPMENT

Just as you have equipment for your sport, you need to be equipped to properly follow a keto diet. To make sure you are following the ketogenic diet correctly, you'll need to monitor your ketone levels. A finger prick that measures the ketones in your blood is much more accurate than testing your urine, but it can be costly. You need a blood ketone meter that will show you whether or not you are in ketosis.

WHAT YOU MAY NOTICE

Adapting to the diet can take some time. It typically takes a week to adjust. You may feel fatigued, or even "fluish" early on. This is due to the rapid excretion of sodium and fluids, from the body as you minimize carbohydrate intake. If you are a heavy or salty sweater, you'll need to make sure that you drink enough fluids and consume enough sodium. Keto-friendly options include salting foods, broth, or adding soy sauce. You may have to ingest 3000-5000 milligrams of sodium per day, as well as additional potassium. Since potassium is found primarily in fruits and vegetables that are restricted on the keto diet, getting enough can be challenging. Magnesium and zinc needs are also higher when following a keto diet. Foods considered to be good sources of magnesium and zinc include beans and whole grains – which are both not allowed on the keto diet. Magnesium, potassium, vitamin A, vitamin C, and folate are all considered shortfall nutrients in the diet of Americans, and following the keto diet can make it even more challenging to meet the recommended intakes each day.



As a sports dietitian, I work daily with professional athletes and active individuals looking for fueling strategies to improve performance, body composition, and health. One popular and enticing eating plan is the ketogenic diet. The keto diet has taken the internet by storm with highly influential followers. Some athletes report that following a keto diet has dramatically improved their performance. If keto is something you're considering, make sure it is a good fit before making your decision.

When considering if it is right for you, I'm talking about more than just the foods you have to eat or not eat. It is important to consider how it could impact your body physiology, your physique, and your sports performance. Here we will focus on how the keto diet may help, or hurt, people who are active and exercise regularly.

IMPACT ON APPETITE

After the period of adaptation, you may feel less hungry throughout the day. For someone who is sedentary that may be fine, but a reduction in appetite may not be a good thing. If you train many hours a day and don't eat enough, you could end up in energy deficit, and that can negatively impact health and athletic performance.

IMPACT ON GUT HEALTH

Some keto-advocates note that their digestive symptoms improve on a keto diet. While this may be reported, there is concern that inadequate intake of carbohydrates and fiber could be more harmful than helpful to the gut.

IMPACT ON BONE HEALTH

Active individuals need to provide their supporting structure the nutrients it needs to stay strong. That means getting enough calcium and vitamin D daily. Full fat dairy fits into a keto plan and provides the calcium that is necessary to support bone health. Cheese and Greek yogurt are also low in carbs, making them good options to get bone-supporting nutrients each day when following a keto diet.

IMPACT ON INFLAMMATION

Some studies have shown decreased markers on inflammation when following a keto diet, which may be due to eliminating sugar and certain types of fats. At the same time, foods that have anti-inflammatory properties such as pomegranates, tart cherries and beets are not permitted on a keto diet plan because of their carbohydrate content. If you want to follow a keto plan, but also aim to decrease inflammation, make sure to include fatty fish such as salmon, sardines, and albacore tuna, as well as ginger, turmeric and other spices which can act as anti-inflammatory agents.



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2 PHYSIQUE

The keto diet is very popular, and most of the appeal seems to be its potential impact on body weight. Dropping pounds is a big motivator for many, and the keto diet may expedite loss of visceral fat – that belly fat that surrounds your organs. Losing excess body fat may be beneficial for some, but it's important to consider its impact on sports performance. Some athletes, such as distance runners and cyclists, may benefit from being at the lower end of their ideal body weight, while others find it compromises their performance.

There's also a potential challenge for athletes looking to gain muscle mass and size. Those hard-worked muscles require protein to grow, and there is an upper limit to the amount of protein the keto diet allows. That's because over-consumption of protein can take one out of ketosis. That's why it's important to consider your goal when determining if this is the right diet plan for you.

3 PERFORMANCE

Strength, speed, stamina and recovery from exercise are common goals of active athletes, and the keto diet might not be the best option to support those. That's especially true for those who do high intensity workouts such as spin classes, tennis, sprints and Cross Fit.

Following a keto diet may blunt exercise intensity due to insufficient carbohydrate availability. You may also notice a higher perceived effort of exertion, higher heart rate and lower power during high intensity exercise. These can all lead to a reduction in training capacity.

Since it takes time to adapt to keto, and you can experience the keto "flu", make sure that you don't sign up for an event, competition or race within the first week of starting keto. It may take a few weeks for you notice a positive impact on performance. A lower number on the scale does not always translate to a win.

If you want to give keto a try, be sure to strategize with your carbs and consume them before and after exercise to help your body prepare for, and repair from activity. Track how certain foods make you feel, and how your training sessions go. If you are determined to give this diet a try, work with a sports dietitian who can coach you through doing it the right way.

BOTTOM LINE

If the true keto diet sounds too extreme, you can also consider a modified keto approach. While many variations exist, aiming for 30% protein, 55% fat and 15% carbs would allow for some legumes and starch veggies, fruit, nuts and seeds. This may be a better choice if your sport or activity is high intensity or you are looking to build muscle mass and size.

Eating and exercise are not mutually exclusive, Sure it is great to feel lean and fit, but if your sports performance takes a hit you may want to decide if keto is a go or a whoa.

KETO DIET & Athletes: Questions to Consider

Before you embark on a keto diet, ask yourself this:

- Are you willing to monitor for the presence of ketones in your blood?
- What do you notice as result of the diet? When you swap rice for cauliflower or pasta for rutabaga noodles you may experience some digestive distress.
- Are you willing to dramatically decrease intake of fruits, beans, potatoes, corn, grains, sweets, and alcohol?
- Do you like high fat foods and low-carbohydrate vegetables?
- Do you have the financial means to support the foods on the diet?
- Are you prepared to put in the time for meal preparation?
- Are these foods sports friendly? Can you keep them in your bag, take them on your bike or run, or when you travel?

If you go for it, be sure to eat a variety of the allowed foods rather than relying on keto bars, shakes, dessert and ketogenic coffee.

Plan your meals with a variety of meats, nuts, avocado, olive oil, high-fat dairy foods, a few low-carbohydrate fruits and adequate vegetables. And, add lots of herbs and spices for phytonutrients and flavor.



Here are a few nutrient-rich, keto-friendly snack combinations to consider:

- ✓ Cheese + mini carrots
- ✓ Full-fat cottage cheese + tomato slices
- ✓ Full-fat yogurt with a few berries
- ✓ Full-fat Greek flavored yogurt dip + savory spices
- ✓ Chicken kabobs + full-fat flavored yogurt dip



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