The Ketogenic Diet

What is the Ketogenic Diet:

The ketogenic diet is a high fat/low carbohydrate diet which changes the way our body uses nutrients for fuel.

History of the ketogenic diet

The effects of long-term fasting (voluntarily going without food for an extended period of time) was shown to have anti-seizure effects in people with epilepsy. However, long-term fasting was not considered safe for children due to risks in growth and development. Therefore, members of the Mayo Clinic generate the same effect by creating a dietary protocol that provided enough calories and nutrients while suppressing seizures in children with epilepsy. This diet that mimicked fasting would later be called the ketogenic diet. For a more in depth look at the mechanism behind the ketogenic diet check out our fact sheet by clicking here.

What to eat and what not to eat:

Our body needs energy (also known as calories) to support life. The energy comes from the breakdown of three different macronutrients: carbohydrates, fat, and protein. The ketogenic diet restricts the amount of carbohydrates you eat. With the exception of most meats, carbohydrates are found in almost every food. In order to make up for the energy lost from restricting carbohydrates, ketogenic dieters must consume foods higher in fat. For this reason, some may find the diet difficult to sustain. According to the United States Department of Agriculture, the standard American diet follows a macronutrient composition of 40 percent fat, 11 percent protein and 48 percent carbohydrate. The ketogenic diet follows a macronutrient composition of 60 percent fat, 30-35 percent protein and 5-10 percent carbohydrates. For someone consuming 2,000 calories a day, they would only be allowed to consume 20-25 grams of carbohydrates (the amount found in 1 apple).

A common misconception about the ketogenic diet is that it requires high consumption of animal foods and minimal amounts of plant foods. However, many different vegetables and fruits can be incorporated into the diet. The chart below features a list of foods for supporting a ketogenic diet, and foods to avoid if following a ketogenic diet.
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Written by Sam Walker

<table>
<thead>
<tr>
<th>Foods consumed</th>
<th>Foods avoided</th>
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<tbody>
<tr>
<td>Beef, chicken, pork, fish, eggs, cheese, avocado, spinach, kale, bell peppers, nuts, seeds, plain greek yogurt, heavy cream, brussels sprouts, broccoli, cauliflower, zucchini, spaghetti squash, tomatoes, cottage cheese, berries, olives, and dark chocolate</td>
<td>Sugary beverages (soda, juice), candy, pastries, pasta, rice, bread, high sugar fruits (banana, mango and pineapple) starchy vegetables (corn and potatoes), milk chocolate, ice cream, potato chips, honey, and breakfast cereals.</td>
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How to get started: Tips for successfully achieving “ketosis”

1. **Meal plan**: Plan out an entire weekly menu and create a grocery list. Most “keto-friendly” foods are found along the perimeter of grocery stores. Avoid the middle aisles as they are mostly filled with starchy carbohydrate and traditional snack foods.

2. **Beware of “keto-friendly” labeled foods**: The keto diet has boomed in popularity and this has led to an increase in “keto-friendly” labeled foods and snacks. Although some of these snacks are safe, many of them may be problematic due to the over use of artificial sweeteners and sugar substitutes. A common symptom resulting from exposure to sugar substitutes is GI distress.

3. **Testing for “ketosis”**: A common method for testing whether or not you are in a state of nutritional ketosis is through the use of commercially available urine strips. However, this method may not be entirely accurate. A lot of factors such as sample collection time can influence the ability of the test strip to indicate ketosis. A recent study investigating ketone monitoring suggests that the optimal time for testing is best done in the early morning.

The bottom line

Although the ketogenic diet has existed within the medical setting for over 100 years, it is often referred to as a “fad diet”. There is substantial evidence to support the use of a ketogenic diet for its intended purpose in suppressing seizures. However, the ketogenic diet has recently become well-known for other purposes, specifically, weight loss. The jury is still out on whether or not the diet is practical for weight loss and treating obesity. There is promising data showing short term weight loss when adhering to the diet, however, it is still unclear whether or not the diet is more effective than other weight loss methods. In addition, there are concerns for the overall safety of the diet. Over the past
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50 years, the U.S. dietary guidelines have warned against the intake of saturated fats. Although the ketogenic diet is relatively high in saturated fat intake, a recently published scientific review concluded that a well formulated ketogenic diet (containing adequate amounts of protein, vitamins, minerals, and fiber) is safe, however, additional long-term research is still needed.

References: