

Ketogenic Diet Description

The ketogenic diet consists of a high-fat, moderate protein, low carbohydrate diet, which differs from general, healthful eating recommendations. Many nutrient-rich foods are sources of carbohydrates, including fruits, vegetables, whole grains, milk, and yogurt. On a keto diet, carbs from all sources are severely restricted. To keep carbs under 50 grams daily, keto dieters often avoid bread, grains, and cereals. Limit fruits and vegetables because they also contain carbs. For most people, the keto diet requires a major life change in how they usually eat.



The main source of energy for our bodies comes from carbs. When we do not consume enough carbs, our bodies require energy from different sources. Therefore, our bodies break down fat into ketones. Then the

ketones become the primary source of fuel. Ketones provide energy for the heart, kidneys, and other muscles. The body also uses ketones as an alternative energy source for the brain. Hence the name for this eating pattern.

A ketogenic diet primarily consists of high fats, moderate proteins, and very low carbohydrates. The dietary macronutrients are divided into approximately 55% to 60% fat, 30% to 35% protein, and 5% to 10% carbohydrates. Specifically, in a 2000 kcal per day diet, carbohydrates amount up to 20 to 50 g per day.

Russel Wilder first used the ketogenic diet to treat epilepsy in 1921. He also coined the term "ketogenic diet." For almost a decade, the ketogenic diet enjoyed a place in the medical world as a therapeutic diet for pediatric epilepsy. It was widely used until its popularity ceased with the introduction of antiepileptic agents. The resurgence of the ketogenic diet as a rapid weight loss formula is a relatively new concept that has shown to be quite effective, at least in the short run. (Masood W, et al., 2022)

Ketogenic Diet Pros:

- Short-term weight loss
- Increased awareness of food and nutrient intake
- Increased satiety and decreased hunger between meals
- Restrictive nature of diet usually encourages more home-cooked meals

Ketogenic Diet Cons:

- Rapid weight loss might initially come from "water losses" and may not be indicative of true weight loss
- "Keto flu"
- Increased risk of kidney stones, liver disease, and micronutrient deficiencies
- Lack of fiber may lead to constipation
- Concern for long-term outcomes of high-fat diets on cardiovascular health
- Lack of research suggesting a long-term health benefit
- Difficult to sustain a restrictive diet, which may lead to weight regain

Foods to Avoid

Alcoholic Beverages: Beer, wine, sugary mixed cocktails

Fruit with a high glycemic index: Mangoes, bananas, grapes, pineapples

Highly processed foods: French fries, ice cream, pizza, burgers, and any other form of fast food

Low-fat and diet food items: any food labeled "low-fat", "fat-free"

Natural or processed sweeteners like maple syrup, honey, corn syrup, or table sugar

Processed high glycemic food items: Soda, sugary drinks, sports drinks, fruit juice, chocolate milk, cakes, baked goods, candies, and chocolate, sweetened yogurt

Refined oils like margarine, sunflower, grapes, canola, corn, soy, or any other form of hydrogenated oil

Starchy vegetables: Potato, sweet potatoes, beets, squash

Whole grains: Barley, wheat, rye, bread, muesli, corn, any form of cereals, oatmeal, and rice

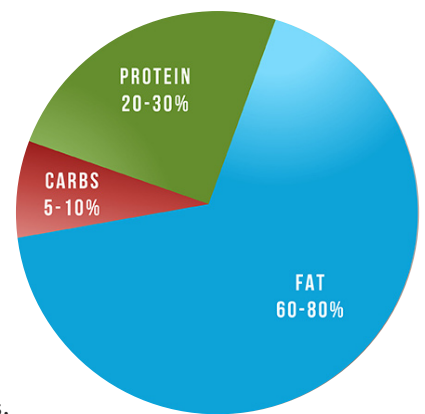


Classic ketogenic diets (CKD) are frequently recommended to treat drug resistant epilepsy in children and adolescents due to the neuroprotective effect of ketones on brain tissue. When metabolism shifts from producing energy through glycolysis (the breakdown of glucose) to beta oxidation (the metabolism of fatty acids to ketones), convulsive activity in the brain is substantially decreased. Evidence also supports that alterations of the intestinal microbiome may reduce excitotoxic neurotransmitters in the brain, reducing inflammation, oxidative stress, and the risk of neurodegenerative diseases such as Alzheimer’s and dementia. The classic ketogenic diet is also used as a dietary therapy for inherited Glucose Transporter Protein 1 (GLUT-1) and Pyruvate Dehydrogenase deficiency syndromes.

More recent research correlates the diet to reduced risk of chronic disorders of metabolism such as cardiovascular disease, non-alcoholic fatty liver disease, obesity, Type 1 and Type 2 diabetes, lower cholesterol and triglycerides, improved weight management, glycemic control, and insulin sensitivity. Additional research is being conducted to assess the diet’s effect on cancer growth. It has been proposed that restricting carbohydrates deprives cancer cells of their primary nutrition source, glucose, and that elevated ketones may confer antitumor benefits, a condition known as the Warburg effect.

Dietary Recommendations

The Classic Ketogenic Diet designed by Dr. Russell Wilder in 1921 to treat pediatric epilepsy required that 90% of calories come from dietary fat, 6% from protein and 4% from carbohydrates in a 4:1 ratio between fats to protein. Today, modified versions allow a 3:1 ratio for more nutritional diversity (Hartman et al 2007). Foods approved for the CKD include healthy fats found in nature such as olive, coconut, avocado, and ghee. Clean protein sources such as organic, wild caught, and grass-fed poultry, seafood, eggs, and meat are recommended. Dairy options include cheese, yogurt, butter, sour cream, cream cheese, and low carbohydrate nut milks. A variety of low glycemic fruits and vegetables are also permitted and include all leafy greens, asparagus, avocados, berries, broccoli, cauliflower, celery, cucumber, garlic, lemons, limes, mushrooms, onions, olives, and peppers. Sweeteners include stevia, allulose, monk fruit, and erythritol. Other items to keep on hand include bone broth, protein powder, nuts, chia and flax seeds, dark chocolate, nut butters, keto friendly condiments, and cocoa powder.



The Keto Food Pyramid



One Week Sample Menu

	Breakfast	Lunch	Dinner	Snacks
Monday	<i>Egg muffins with Cheddar cheese, spinach, and sundried tomatoes</i>	<i>Spiced cauliflower soup with shredded chicken or tofu cubes</i>	<i>Garlic and herb buttered salmon with zucchini noodles</i>	<i>Roast turkey, cucumber, and cheese roll-ups Sticks of celery and pepper with guacamole</i>
Tuesday	<i>Scrambled eggs on a bed of sautéed greens with pumpkin seeds</i>	<i>Chicken mayonnaise salad with cucumber, avocado, tomato, almonds, and onion</i>	<i>Beef stew made with mushrooms, onions, celery, herbs, and beef broth</i>	<i>Smoothie with almond milk, nut butter, chia seeds, and spinach Olives</i>
Wednesday	<i>Omelet with mushrooms, broccoli, and peppers</i>	<i>Avocado and egg salad with onion and spices, served in lettuce cups</i>	<i>Cajun spiced chicken breast with cauliflower rice and Brussels sprout salad</i>	<i>Nuts Slices of cheese and bell peppers</i>
Thursday	<i>Smoothie containing almond milk, nut butter, spinach, chia seeds, and protein powder</i>	<i>Shrimp and avocado salad with tomatoes, feta cheese, herbs, lemon juice, and olive oil</i>	<i>Garlic butter steak with mushrooms and asparagus</i>	<i>A boiled egg Flax crackers with cheese</i>
Friday	<i>2 eggs, fried in ghee, with avocado and blackberries</i>	<i>Grilled salmon with a salad of mixed leafy greens and tomato</i>	<i>Chicken breast with cauliflower mash and green beans</i>	<i>Kale chips Slices of cheese and bell peppers</i>
Saturday	<i>Scrambled eggs with jalapeños, green onions, and tomatoes sprinkled with sunflower seeds</i>	<i>Tuna salad with tomatoes and avocado plus macadamia nuts</i>	<i>Pork chops with non-starchy vegetables of choice</i>	<i>Celery sticks with almond butter dip A handful of berries and nuts</i>
Sunday	<i>Yogurt with keto-friendly granola</i>	<i>Grass-fed beef burger (no bun) with guacamole, tomato, and kale salad</i>	<i>Stir-fried chicken, broccoli, mushrooms, and peppers, with homemade satay sauce</i>	<i>Sugar-free turkey jerky An egg and vegetable muffin</i>

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