



WAKEMED BARIATRIC SURGERY & MEDICAL WEIGHT LOSS

## Low Carb & Ketogenic Diet

The ketogenic diet is an eating plan which places your body into ketosis. Ketosis is a state where the body uses fat as its primary fuel source instead of carbohydrates. Research shows that a keto diet can suppress hunger. When following a high-fat, very low-carb ketogenic (keto) diet, it's important to take a daily complete multivitamin to make sure vitamin and mineral needs are met. A strict ketogenic diet is typically 60-80 percent fat. It's also important to remember that not all fats are created equal. Certain fat sources should be limited or avoided on a keto diet, as they may negatively affect your health. These include processed meats, fried foods and anything containing trans fat. Most people maintain ketosis with approximately 20 grams of net carbohydrates per day, while a low-carb eating plan is typically less than 50 grams of net carbs daily. Your provider will help to set these numbers (lower amounts may be necessary). Net carbohydrates are total carbohydrates minus fiber. If constipation is an issue, a daily fiber supplement may be added along with a minimum of 64 ounces (8 cups) of water per day.

Some sources of fat are better for you than others, and it's important that you fill your plate with the healthiest options to successfully reach your health goals.

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## HEALTHY SOURCES OF FAT ON KETO

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### Avocados and avocado oil

Avocados are not only an excellent source of heart-healthy fats but also provide fiber and essential vitamins and minerals.

Enjoy an avocado by itself, use it to make guacamole, or add it to smoothies and salads to boost fat and nutrient content. Drizzle avocado oil on grilled or steamed veggies or use it to make salad dressings and other keto-friendly sauces.

### Olives and cold-pressed olive oil

Olives contain heart-healthy fats, vitamin E, and various plant compounds known to reduce inflammation and your risk of chronic conditions like heart disease, cancer and osteoporosis. Cold-pressed extra virgin olive oil can be drizzled over grilled or lightly sautéed veggies to boost fat content or use it as a base for a dressing or marinade for roasted meats, vegetables or fresh salad.

### Coconuts and unrefined coconut oil

Coconuts and coconut oil are popular keto fat sources because they offer a natural source of medium chained triglycerides (MCTs), a type of fat that your body can easily absorb and use.

MCTs are more likely to be burned as energy and less likely to be stored as fat, which may aid weight loss.

### Butter

A little butter is perfect for your keto lifestyle, as it's carb-free and about 80% fat. Roast or sauté vegetables in butter or spread it on after cooking. Try to avoid artificial sources of butter if possible.

## FATS TO LIMIT ON KETO

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### Artificial Trans fats

Trans fats are created when hydrogen is added to liquid vegetable oils to make them more solid. Trans fats are frequently found in processed foods, such as cakes, cookies, pastries, biscuits, crackers and other snacks.

Trans fats may be indicated on an ingredient label under the names "partially hydrogenated oils" or "shortening." It's best to avoid foods that contain these ingredients as much as possible.

### Fried foods

Deep-fried foods are included in some ketogenic diet plans, but you may want to think twice before adding them to yours. Although you are on a diet that is high in fats, focus on the ones that are unsaturated and more heart healthy.

Certain types of highly refined oils typically used for frying, such as corn oil, often contain small amounts of trans fats.

Fried food absorbs large amounts of these fats, and frequent consumption could lead to detrimental health effects over time. Therefore, keep your intake of fried foods to a minimum to support your health while following a ketogenic diet.



## NUTS AND SEEDS

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Including different types of nuts in your diet is a great way to boost your intake of healthy fats, plant-based protein and fiber. Pistachios, walnuts, almonds, pecans, cashews and Brazil nuts are all great options for low-carb, high-fat diets like keto. With anything, you can have too much of a good thing so make sure to watch serving sizes.

Nut and seed butters offer the same benefits as eating whole nuts and seeds. Try spreading sunflower butter over keto crackers or use almond butter as a dip for vegetables.

### Flax seeds

Flax seeds are an excellent source of anti-inflammatory omega-3 fats and fiber.

Flax seeds and their oil may help prevent heart disease, cancer and diabetes. Add flax seeds to smoothies or sprinkle them on salads, soups or a keto yogurt parfait.

### Chia seeds

Chia seeds are rich in healthy fats and fiber. One tablespoon of chia seeds contains 4 grams of fat, mostly omega-3s, as well as 4 grams of fiber.

Chia seeds may reduce inflammation and prevent chronic conditions, such as cancer, heart disease and diabetes. Chia seeds absorb water. When soaked in a liquid for a few hours, they become very gelatinous. They can be used to make chia pudding.

### Cacao nibs

If you think chocolate doesn't belong in your keto diet, think again. Cacao nibs are a form of unsweetened, unprocessed raw chocolate.

Add cacao nibs to homemade smoothies, energy bites or trail mix. If you have a sweet tooth, make keto hot chocolate by melting cacao nibs in unsweetened coconut milk on the stovetop.

## EGGS

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Eggs are as nutritious as they are versatile, making them an easy addition to a ketogenic diet. Make a scramble loaded with low-carb veggies, have eggs with sliced avocado and tomato or enjoy a boiled egg as a snack.

## FRUITS AND VEGETABLES

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Fruit and veggies are healthy food groups and can work well in a low-carb lifestyle when eaten correctly. Try to make half your plate veggies. Focus on ones that grow above the ground (i.e. leafy greens, eggplant, zucchini and cauliflower) as these tend to be less starchy.

Fruits are healthy and contain natural sugars, but should be limited due to the high carbohydrate content. Certain fruits such as berries, star fruit and kiwi are okay in small amounts.

## DAIRY PRODUCTS

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Dairy products are milk based and may contain a moderate amount of milk sugars. If you are on a low carb diet, please make sure to check with your provider to ensure that you are staying within your goals.

### Full-fat Greek yogurt

Though it contains some carbs, unsweetened, full-fat Greek yogurt can be a healthy addition to a ketogenic diet.

### Cheese

Cheese is another good high-fat, low-carb option for keto dieters. There are hundreds of varieties to choose from. Cheese is also a good source of protein and calcium.

Enjoy slices of cheese with fresh veggie sticks or melt it over roasted or steamed vegetables. Try adding shredded cheese or feta cheese to salads or grilled meats.

**Avoid or use sparingly: cream.**

## PROTEINS

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The ketogenic diet has moderate protein content. For most people, a gram of protein per kilogram of body weight will meet protein needs.

Choose grass-fed beef, fatty fish such as salmon, shrimp and crab, chicken thighs (dark meats have a higher fat content) or other parts of the chicken. There are also vegetable sources of protein as well. Tofu, tempeh, nuts and nut butters all provide great benefits and are low in carbs.

**Avoid or use sparingly: fried or breaded meats or meats that have been marinated in sugary sauces.**

## FATTY FISH

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Fatty fish like salmon, tuna, anchovies and sardines are great additions to a healthy ketogenic diet. Bake or grill a filet of wild-caught, fatty fish to serve over a salad or alongside roasted vegetables.

## PROCESSED MEATS

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Processed meats such as deli meat, sausages, salami, hot dogs and cured or smoked meats are frequently advertised as keto friendly.

While these foods technically fit into a ketogenic diet plan, several studies have found an association between high intake of processed meats and an increased risk of cancers. It's best to keep your intake of these foods minimal. Instead, focus on eating whole, minimally processed foods as much as possible.

**Avoid or use sparingly: bacon, lard, fat back.**

## SAMPLE KETO MENUS

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### Day 1

- Breakfast** Eggs and vegetables omelet topped with 2 TBSP of salsa
- Snack** Full fat Greek yogurt topped with cacao nibs
- Lunch** Spinach salad with mushrooms, walnuts, boiled eggs and Balsamic vinaigrette
- Snack** Kale chips
- Dinner** Grass-fed burger in a lettuce wrap with avocado and a side salad

### Day 2

- Breakfast** Smoothie made with almond powder, greens and protein powder
- Snack** Sunflower seeds
- Lunch** Tomato stuffed with tuna
- Snack** Celery sticks and almond butter
- Dinner** Beef and broccoli over cauliflower rice

### Day 3

- Breakfast** Boiled eggs and avocado mashed into an egg salad
- Snack** ¼ c of cashews
- Lunch** Chicken thighs with asparagus and cauliflower mash with butter
- Snack** Raw vegetables and guacamole
- Dinner** Salmon with grilled vegetables drizzled in olive oil



### Tiffany Lowe-Payne, DO, ABOFP, DABOM

Dr. Lowe-Payne aims to assist patients in losing weight with a comprehensive non-surgical approach. She is committed to empowering her patients to reach their health goals by utilizing her training as an osteopathic medical physician to address the needs of the “whole person” so that the patient can achieve and sustain his/her health goals.