

## PATIENT EDUCATION

# *Eating a Ketogenic Diet:* For Those Receiving Cancer Treatment

## What Is a Ketogenic Diet?

A ketogenic diet is high in fat content and low in carbohydrates. The name ketogenic refers to ketones. Ketones form when the body uses fat for its energy source. You most often hear this diet called a keto diet.

Usually, the body uses carbohydrates, also called carbs, for energy. When people eat fewer carbs, the body then needs to get energy another way. Eating fewer carbs causes the body to burn fat for energy. This process creates ketones to bring energy to the cells.

Research suggests that following a keto diet may help some people with certain types of cancer to do better with their cancer treatments. However, the diet may not help in all types of cancer and does not treat cancer.

But for some cancers, a keto diet may change the environment where cancer cells grow. Without a fuel source to grow, such as sugar and insulin, cancer cells may weaken. If that happens, some people may respond better to chemotherapy and radiation.

Health care providers have recommended keto diets for many years to help with certain medical conditions. For example, it has been used to help control seizures in children.

This resource describes the ketogenic diet. It explains how to manage side effects you may face from eating this diet. It gives you tips about how to get enough proteins and fats. It explains how to limit carbs.

To help you make good food choices, the text includes tables that list the nutrient content of many foods.

Before you start a keto diet during your cancer treatment, be sure to talk with your health care provider.

### How many grams to eat each day

Your goal when you follow a ketogenic diet is to:

- Eat mostly fats.
- Eat a limited amount of protein.
- Eat very few carbohydrates, called carbs.

Talk with your provider for information about the types of fat to eat for your specific plan. Ask your dietitian or health care provider to help you fill in this table with the amount of fat, protein and carbs you should eat each day.

Nutrients	Grams per day	Comment
Fats		Eat plenty of fat each day. Fats provide most of the body's energy on the keto diet.
Protein		Eat a limited amount of meat or non-meat protein at each meal.
Carbohydrates		Eat very few carbs. Spread them evenly throughout the day.

## Fats

When you follow a keto diet, it is important to eat a good amount of fat so that you can meet your calorie needs. You need to get most of your daily calories from fats.

#### The following foods contain a lot of fats and have limited carbs.

- Butter.
- Ghee.
- Oil, such as olive, avocado, coconut, macadamia and MCT oil.
- Mayonnaise.
- Cream.
- Margarine.

# The following are healthy fats that may include some carbs. Be sure to include the amount of carbs in these foods in your daily carbohydrate totals.

- Avocado.
- Nuts, such as almonds, macadamia nuts, walnuts and peanut butter.
- Seeds, such as pumpkin, flax or chia.
- Some salad dressings. Before you choose a salad dressing, read the food label to see whether it has carbs.

#### **Protein**

On a keto diet, fats are the biggest part of the foods you eat each day. But you need some protein as well.

Protein is important to build and maintain cells. It also helps the immune system. Foods that contain protein include meats, fish, poultry and meat substitutes. Some proteins may have carbs too. For example, beans and some dairy products have protein, but they also may have carbs.

When you prepare meat or meat substitutes, add fat. For example, cook meats with avocado, coconut or olive oil, low-carbohydrate salad dressing or other fats.

# The following foods contain a lot of protein and do not have carbs. In limited amounts, these are good choices for you.

- Cheese, sliced or string.
- Eggs.
- Shellfish and fish, such as salmon, tuna and sardines.
- Meats and poultry, such as chicken, turkey, beef, pork, lamb and game, that are not breaded.

#### **Carbohydrates**

Carbohydrates include starches. You eat them on a limited basis when you are on a keto diet. Some carbs can be healthy, such as beans, lentils and other vegetables. However, many carbs are processed and not as healthy. Follow the guidelines your dietitian gives you.

The following are examples of foods high in carbohydrates.

#### Grains

- Cereal.
- Hamburger or hot dog buns.
- Pizza crusts.
- Pasta.
- Sandwich bread.
- Tortillas.

#### **Starchy vegetables**

- Potatoes, white and sweet.
- Corn.

#### Legumes

- Beans.
- Lentils.
- Peas.

## **Dairy products**

- Milk.
- Yogurt.
- Puddings and custard.
- Ice cream.

### Desserts

- Cakes.
- Pies.
- Cookies.

## Fruits and fruit juices

- Fresh, canned and dried fruit.
- Fruit juices, such as orange, apple and grape.

## Sugars

- Honey.
- Jellies and jams.
- White and brown sugar.
- Drinks sweetened with sugar.

#### **Net carbohydrates**

Foods are made up of many types of carbs, such as fiber, sugars, added sugars and sugar alcohols.

Fiber is a type of carbohydrate that is not absorbed by the body. This means it is not changed into sugar in your body like other types of carbs.

To find the amount of carbs in a food, subtract the amount of fiber from the total carbohydrate count. The result is the net carbs.

For example, if a food has 18 grams of carbs and 4 grams of fiber, the net carbs total is 14 grams. Figure 1 shows a food label for chocolate chip keto cookies. These cookies have 14 grams of net carbs.

1 servings per container Serving Size	2 cookies (45g)		
Amount per serving Calories	200		
	% Daily Value*		
Total Fat 18g	23%		
Saturated Fat 6g	30%		
<i>Trans</i> Fat Og			
Cholesterol 25mg	8%		
Sodium 170mg	7%	Total Carbohydrate:	18 grams
Total Carbohydrate 18g	7%	Dietary Fiber:	<u>- 4 grams</u>
Dietary Fiber 4g	14%		14 grams of net ca
Total Sugars 1g			
Includes Og Added Sugars	0%		
Sugar Alcohol 5g			
Protein 6g			
Vitamin D 3mcg	15%		
Calcium 61mg	4%		
Iron 2mg	10%		
Potassium 173mg	4%		

#### **Chocolate Chip Keto Cookie**

#### **Sweeteners**

You can use sugar substitutes on the keto diet. Stevia and monk fruit sweeteners are good choices because they have no calories or carbs.

Sugar substitutes may cause you to crave sweet foods. If you are one who is easily tempted to eat sweet foods, you may find it best to limit how often you use these sweeteners.

#### **Sugar alcohols**

When you follow a keto diet, it is best to avoid sugar alcohols, such as sorbitol, xylitol, erythritol, mannitol and maltitol. These sugar alcohols can still add small amounts of sugar.

Sometimes a food product may state it has low net carbs, but the sugar alcohol content has been subtracted along with the fiber. This means small amounts of sugar from the sugar alcohol were not counted.

The extra sugar alcohol means you get more carbs than you think. That can make the keto diet less effective.

#### Seasonings

The following are seasonings that contain no carbs.

- Salt.
- Pepper.
- Lemon.
- Vinegar.
- Spices and herbs, 1/2 teaspoon or less. If using more, count it as a 1/2 gram carb.
- 1 teaspoon of mustard.
- 1 teaspoon of soy sauce.

Some condiments, such as ketchup and barbecue sauce, can be high in carbohydrates. Be sure to read the nutrition label.

#### **Beverages**

Drink at least 64 ounces of fluid every day unless your health care provider has told you something else. This helps your body's cells and tissues to work better. If your body does not have enough fluid, you can become dehydrated.

Water is the best fluid to drink throughout the day. Other fluids include:

- Sugar-free sodas.
- Unsweetened beverage mixes.
- Flavored waters that are sugar- and carbohydrate-free.
- Coffee and tea with no sugar or creamer.

## Before You Begin

Talk with a dietitian before you start a keto diet. A dietitian can help make sure your diet plan has the right amount of nutrients for you.

Your body typically uses carbs for energy. It may take your body 1 to 2 weeks to get used to using ketones instead. While your body makes this change, you may have some side effects.

## Side effects

Side effects can cause you to feel more tired than usual. You also may find that you get irritable more easily. Other side effects may include:

- Headaches.
- Trouble focusing.
- Dizziness.
- Sugar cravings.
- Nausea.
- Muscle cramps.
- Constipation.
- Weight loss.

## Managing side effects

Sometimes small changes throughout the day can help you manage or prevent some side effects. Talk to your dietitian. Find out how you may be able to prevent some side effects. Find out how to manage other side effects you may have.

- Increase sodium and fluid intake, if approved by your health care provider.
- Eat at least every 3 to 4 hours to maintain blood glucose.
- Make sure you meet your fat goal for the day.
- Limit caffeine to 300 mg or less.
- Make sure you eat food with enough magnesium and potassium.
  - Magnesium is found in pumpkin seed kernels, brazil nuts, almonds, spinach, swiss chard, cashews, edamame and avocados.
  - Potassium is found in leafy greens, tomatoes, broccoli and avocados.

#### Constipation

To help prevent constipation, make sure you are getting fluids and fiber along with magnesium.

**Fluids.** Unless your health care provider tells you otherwise, drink at least 64 ounces each day. Choose fluids that do not have caffeine.

**Fiber.** Plant-based carbs should be a part of your daily carb count. Add a fiber supplement, such as psyllium husk. Make sure there are no added sugars in the supplement. You can buy fiber supplements at your local pharmacy.

**Magnesium.** Magnesium supplements also may help with constipation. But check first with your health care provider to make sure it is OK to take magnesium, especially if you have kidney disease.

Stool softeners. Ask your health care provider about the best option for you.

#### Low energy level

Eat three meals and three snacks a day to help you keep up your energy level. Eating every 3 to 4 hours also helps balance your glucose level. Make sure you keep a good count on the nutrients you get each day, especially fats.

Also, make sure you drink enough fluids. You can feel tired when you are dehydrated.

When you start the diet, electrolyte beverages may help to keep up your electrolyte levels. Electrolytes are minerals in your blood that help your body function. Ask your dietitian whether drinking electrolyte beverages is a good option for you.

Some electrolyte drinks are made for people on a keto diet. They typically do not have added sugars or carbohydrates.

#### **Unwanted weight loss**

If you begin to lose more weight than you expected, eat more fat and protein. Eat snacks regularly. Talk to your dietitian about other ways to prevent weight loss.

#### **High cholesterol**

Have your cholesterol checked before you start a keto diet. If it is high, choose more foods with unsaturated fats. Examples include fatty fish, nuts, seeds and oils. Make sure your provider checks your cholesterol levels and monitors how well the diet is working for you.

#### Vitamin and mineral levels

Take a multivitamin or mineral supplement that meets 100% of the Daily Value for vitamins and minerals. If you need help choosing a multivitamin and mineral supplement, talk to your health care provider.

Gummy or chewable vitamins may have carbs, such as sugar. Be sure to check the label. Ask your pharmacist to check for carbs in all your medicines as well.

#### Lab and home testing

Before you start the keto diet, your health care provider may order lab tests to find out your blood levels. Your provider may check your levels of cholesterol, triglycerides and glucose and your kidney and liver function. While you follow a keto diet, you may need other blood tests, such as thyroid tests.

You may be asked to check the ketones in your urine, your breath or your blood. You also may be asked to check your glucose. Ask your health care provider or dietitian how to check your glucose and ketones.

## **Final Thoughts**

Taking steps to change your diet can be a challenge. The food lists and sample diets that follow are to help you track and plan the foods you eat. If you need help after you start the diet, be sure to talk with your health care team.

See "Frequently Asked Questions to answer some of your questions. If you still have concerns, talk to your health care provider or dietitian.

## Counting Carbs

Count the grams of carbohydrates you eat each day. Make sure you do not eat too many. Remember to look for the net carbs when you count. In the following list, the net carbs are already figured for you. Pay attention to the portion sizes. To make sure you eat the correct amount, keep measuring cups and spoons handy.

#### Vegetables

Vegetables contain important nutrients for your health. But the amount of carbs in vegetables varies. Starchy vegetables have more carbs.

As part of your keto diet, choose vegetables that are not starchy. Add oils, butter, margarine or other fats to the vegetables. Or stir fry vegetables in oil.

Vegetables	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Asparagus, cooked	1/2 cup	4	2	2
Avocado	1 large	17	13	4
Beans, green, cooked	1/2 cup	5	2	3
Beets, cooked	1/2 cup	4	1	3
Broccoli, cooked	1/2 cup	6	3	3
Brussels sprouts, cooked	1/2 cup	6	2	4
Cabbage, cooked	1/2 cup	4	2	2
Carrots, raw	1/2 cup	6	2	4
Cauliflower, cooked	1/2 cup	3	2	1
Celery, raw	1/2 cup	2	1	1
Corn, canned	1/2 cup	15	2	13
Cucumber, raw, sliced	1 cup	4	1	3
Eggplant, cooked	1/2 cup	4	1	3
Garlic	1 clove	1	<1	1
Lettuce	1 cup	2	1	1
Lime juice	1 tablespoon	1	<1	<1
Mushrooms, raw, sliced	1 cup	2	<1	2
Olives, green	1/2 cup	<1	<1	<1
Onions, raw, chopped	1/2 cup	8	1	7
Onions, cooked	1/2 cup	11	2	9
Peas, cooked	1/2 cup	11	4	7
Peapods, cooked	1/2 cup	6	3	3
Pepper, raw, sliced	1 cup	4	1	3

Vegetables	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Potatoes, white, small	1 potato, 2 inches across	29	3	26
Potatoes, sweet, small	1 potato, 2 inches across	23	4	19
Radishes	3 radishes, 1 inch across	1	<1	<1
Sauerkraut, canned	1/2 cup	5	3	2
Spinach, cooked	1/2 cup	3	2	1
Spinach, raw	1 cup	1	1	<1
Summer squash, cooked	1/2 cup	4	1	2
Squash winter, cooked	1/2 cup	11	1	10
Tomatoes, cooked	1/2 cup	5	1	4
Tomato juice	1/2 cup	5	1	4
Tomato, raw	1 medium	5	2	3

## Grains

Grains are high in carbs. You can eat grain products on the keto diet, but each day you must count them in the total grams of carbs.

Grain Products	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Barley, cooked	1/3 cup	15	2	13
Bread, white	1 ounce	15	1	14
Cassava	1/2 cup	39	2	37
Cassava flour	1/4 cup	27	2	25
Cereal	Check label for t	hose not mentione	d here.	
- Bran flakes	1/2 cup	16	3	13
- Cheerios	1/2 cup	10	1	9
- Cornflakes	1/2 cup	13	1	12
- Oatmeal, cooked	1/2 cup	14	2	12
- Puffed rice	1 cup	13	<1	12
- Puffed wheat	1 cup	10	1	9
Crackers, saltine	1 square	2	0	2
Pasta, cooked	1/3 cup	14	1	13
Rice, brown, cooked	1/3 cup	15	1	14
Rice, white, cooked	1/3 cup	15	<1	14
Rice, wild, cooked	1/3 cup	12	1	11
Quinoa, cooked	1/3 cup	13	2	11

## Fruits

Fruits are high in carbs. You can eat fruit on the keto diet, but each day you must count them in the total grams of carbs.

Fruits	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Apple	1 small, 2 inches across	21	4	17
Apricots	2	8	1	7
Banana	Half of a 7-inch banana	14	2	12
Blackberries	1/2 cup	7	3	4
Blueberries	1/2 cup	11	2	9
Cantaloupe	1 cup	14	2	12
Cherries, sweet	1/2 cup	12	1	11
Cranberries, raw	1/2 cup	7	3	4
Dates, Medjool	1	18	2	16
Figs, raw	1 medium	10	2	8
Grapefruit	Half large	13	1	12
Grapes	1/2 cup	14	1	13
Honeydew melon	1 cup	16	2	14
Kiwi	1 medium	10	2	8
Mango, slices	1/2 cup	13	1	12
Nectarine	1 medium, 2 inches across	15	2	13
Orange	1 medium, 2 inches across	15	3	12
Peach	1 medium, 2 inches across	15	2	13
Pear	1 medium, half	14	3	11
Pineapple, raw	1/2 cup	11	1	10
Plantain, green	1 cup	40	4	36
Plantain, ripe	1 each	86	5	81
Plum	1 medium, 2 inches across	8	1	7
Prunes	1	5	<1	5
Raisins	2 tablespoons	14	<1	14
Raspberries	1/2 cup	7	4	3
Rhubarb, raw	1 cup	6	3	3
Strawberries, whole	1 cup	11	3	8
Watermelon, diced	1 cup	12	1	11

#### Legumes

Legumes are high in carbs. You can eat legumes on the keto diet, but each day you must count them in the total grams of carbs.

Legumes	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Black, dried, cooked	1/2 cup	20	7	13
Chickpeas (garbanzo beans), dried, cooked	1/2 cup	23	7	16
Edamame, cooked	1/2 cup	10	4	6
Hummus	2 tablespoons	4	2	2
Kidney, dried, cooked	1/2 cup	20	5	15
Lentils, dried, cooked	1/2 cup	20	8	12
Lima dried, cooked	1/2 cup	20	7	13
Pinto, dried, cooked	1/2 cup	22	7	15
Soybeans, cooked	1/2 cup	9	6	3
Split peas, dried, cooked	1/2 cup	21	8	13

## Nuts and seeds

Nuts and seeds are typically lower in carbs compared to other foods, but be sure to watch the portion sizes. Notice that most are one ounce.

Nuts and Seeds	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)
Almonds	1 ounce	6	4	2
Almond meal (flour)	1 ounce	6	3	3
Brazil nuts	1 ounce	4	3	1
Cashews	1 ounce	9	1	8
Chia seeds	1 ounce	12	10	2
Flaxseeds, ground	1 ounce	11	7	4
Hazelnuts	1 ounce	5	3	2
Macadamia nuts	1 ounce	4	2	2
Peanut butter	2 tablespoons	6	2	4
Peanuts	1 ounce	6	2	4
Pecans	1 ounce	4	3	1
Pistachios	1 ounce	8	3	5
Pumpkin seeds	1 ounce	5	1	4
Sesame seeds	1 ounce	7	4	3
Sunflower seeds	1 ounce	5	3	2
Walnuts	1 ounce	4	2	2

## Dairy

Dairy products can vary in the amount of carbs they have. Always check the labels to be sure. Here are a few examples of carbs in some dairy products.

Dairy Products	Portion Size	Carbs (g)	Fiber (g)	Net Carbs (g)	
Cottage cheese	1/2 cup	3	0	3	
Ice cream, vanilla	1/2 cup	16	1	15	
Milk, whole	8 ounces	13	0	13	
Sour cream	1 tablespoon	1	0	1	
Soy milk	8 ounces				
Yogurt, Greek, plain	6 ounces	1			
Yogurt, plain	6 ounces	These can vary. Check label.			

## Sample Diets

The following sample diets provide ideas for meals and snacks to help you get started. Each food has the portion size and calories listed along with the grams of carbs, fiber, net carbs, protein and fat. The totals for the day for each diet are at the bottom of the table.

Once you learn the various foods and portion sizes, you can begin to make changes for other meals.

### Sample Diet 1

Foods and p	ortion size	Calories	Carbs	Fiber	Net carbs	Protein	Fat
Breakfast			Numbers below are in grams				
Eggs	2 eggs	142	0	0	0	12	10
Avocado oil	1 tablespoon	124	0	0	0	0	14
Spinach	1/2 cup	3	1	<1	<1	0	0
Strawberries	1/4 cup	24	6	2	4	0	<1
Directions: Scramb	ole eggs in avocado	oil and add sp	pinach. Serv	e strawberr	ries on the side.		
Lunch							
Spring mix lettuce	2 cups	9	1	1	<1	0	0
Chicken breast, cooked	3 ounces	80	0	0	0	20	1
Avocado	Half	160	9	7	2	2	15
Olive oil	1 tablespoon	120	0	0	0	0	14
Balsamic vinegar	1/2 tablespoon	7	1	0	1	0	0
Directions: Mix let	tuce, diced chicker	and avocado.	Drizzle wit	h olive oil a	and vinegar.		
Dinner							
Salmon	4 ounces	161	0	0	0	22	7
Olive oil	1 tablespoon	120	0	0	0	0	14
Mushrooms	1/2 cup	8	1	<1	1	1	0
Blackberries	1/2 cup	31	7	4	3	1	0
Directions: Saute n	nushrooms in olive	oil. Add salm	on and cool	k. Serve wit	h blackberries.		
Snacks							
Chia seeds	2 tablespoons	138	12	10	2	5	9
Coconut milk	1/3 cup	148	2	0	2	2	16
Sliced almonds	2 tablespoons	78	3	2	1	3	7
Walnuts	1 ounce	185	4	2	2	4	19
Directions: Mix chi	a seeds and coconu	ıt milk. Refrige	erate until th	ickened. Se	rve with almor	nds.	
То	tals from above	1,538	47	28	19	72	126

## Sample Diet 2

Foods and p	ortion size	Calories	Carbs	Fiber	Net carbs	Protein	Fat	
Breakfast	Breakfast			Numbers below are in grams				
Spinach	1 cup	7	1	1	<1	0	0	
Blackberries	1/2 cup	31	7	4	4	0	0	
<b>Protein powder:</b> Refor exact serving siz grams. Some proteino carbs.	ze and nutrient	150	8	8	0	30	2	
Cocoa butter	3 tablespoons	360	0	0	0	0	42	
Unsweetened almond milk	1 cup	60	1	0	1	0	0	
<b>Directions:</b> Mix all	ingredients in a bl	ender until sn	nooth.					
Lunch								
Spinach	2 cups	14	2	1	1	0	0	
Radishes	3 large, sliced	5	1	<1	1	0	0	
Raw celery	1/2 cup, diced	5	2	1	1	0	0	
Macadamia nuts	1 ounce	204	4	2	2	2	21	
Brazil nuts	1 ounce	186	4	2	1	4	19	
Chicken breast, cooked	3 ounces	140	0	0	0	26	3	
Olive oil and apple cider vinegar	2 tablespoons oil 2 teaspoons vinegar	240	0	0	0	0	28	
Directions: Mix the	e first 6 salad ingre	dients togethe	r. Toss with	olive oil an	d vinegar.			
Dinner								
Grass-fed beef cut into strips	4 ounces	264	0	0	0	26	17	
Broccoli	1½ cups	15	11	8	3	0	0	
Hummus	2 tablespoons	50	4	2	2	2	3	
Avocado oil	3 tablespoons	372	0	0	0	0	42	
Directions: Stir-fry	beef strips and bro	occoli in olive	oil. Top with	n hummus a	and avocado oi	1.		
То	tals from above	2,103	45	29	16	90	177	

## Sample Diet 3

Foods and p	ortion size	Calories	Carbs	Fiber	Net carbs	Protein	Fat
Breakfast			Numbers below are in grams				
Eggs	2 eggs	144	0	0	0	12	10
Olive Oil	1 tablespoon	119	0	0	0	0	14
Avocado	Half	114	6	5	1	2	10
Directions: Scramb	le eggs in olive oil.	Serve with av	vocado.				
Lunch							
Tuna packed in olive oil	5 ounces	160	0	0	0	30	12
Mayonnaise	2 tablespoons	188	0	0	0	0	21
Diced celery	1 tablespoon	1	0	0	0	0	0
Lettuce leaves	3 large	5	1	1	1	1	0
Olive oil	1½ tablespoons	179	0	0	0	0	21
Directions: Mix tur	na with mayonnais	se, celery and l	lettuce. Driz	zle with oli	ve oil.		
Dinner							
Chicken breast	4 ounces	124	0	0	0	36	4
Olive oil	1½ tablespoons	179	0	0	0	0	21
Asparagus	1 cup	27	5	3	2	3	0
Butter	1 tablespoon	102	0	0	0	0	12
Cucumber	1/2 cup	7	1	1	1	0	0
Sour cream	2 tablespoons	52	1	0	1	0	5
Directions: Cook ch	nicken in olive oil. S	Saute asparagu	s in butter. N	Mix cucumb	per and sour cre	eam.	
Snacks							
Raw celery sticks	1/2 cup	6	1	1	1	0	0
Cream cheese	2 tablespoons	102	2	0	2	2	10
Almond butter	2 tablespoons	196	6	3	3	7	18
Unsweetened coconut flakes	2 tablespoons	90	2	0	2	0	4
Apple	1 small	63	21	4	17	0	0
Directions: Dip cel	ery into cream che	ese. Mix almo	nd butter ar	nd coconut f	or apple dip.		
To	tals from above	1,858	46	18	31	93	162

## Frequently Asked Questions

#### What does ketosis mean?

When you eat a very low amount of carbs, the body uses fat instead of carbs for energy. As the body turns fat into ketones, this is called ketosis.

#### I have heard of the keto flu. What is it, and how long does it last?

It can take time for the body to get used to getting energy from fat. During that time, you may lose weight, feel weak and lack energy. These symptoms are similar to how the flu can make you feel.

On a keto diet, these symptoms usually go away in 2 to 3 weeks. To help prevent these symptoms, you can add more sodium to your diet and drink more water. Be sure to eat enough fat during the day and eat regularly. This can help keep glucose levels balanced.

#### I feel too bad on this diet. How can I stay on it?

It is possible the amount of carbs you eat may need to be increased. Talk to your dietitian or health care provider to see whether what you eat needs to change.

#### Do I need to track what I eat?

Tracking the food you eat helps make sure you eat the right balance of carbs, protein and fat.

### How long do I stay on this diet?

The time you stay on the diet depends on several things. Talk about this with your health care provider.

#### What happens if I do not follow the diet as I should?

If you do not eat the right amounts of fat, protein and carbs, your body may start to use carbs again for energy. If you find it hard to stick to the diet, talk with your dietitian or health care provider.

#### How can I tell if the diet is working?

Monitor your ketones and blood glucose to know whether your body is in ketosis. Ask your dietitian or health care provider about what levels are right for you. Your health care provider may order other lab work for monitoring to check on your levels.

#### When should I check my ketone and glucose levels?

Check your ketone and glucose before breakfast and two hours after lunch and dinner.

#### **Can I exercise?**

For the first 4 to 6 weeks, the body adjusts to the diet. During this time, do only light activities, such as walking, stretching and gentle yoga. Talk with your health care provider if you want to be more physically active.

#### I am vegetarian. Can I follow this diet?

Following a vegetarian and keto diet is possible with proper planning. However, there are limits on common plantbased protein sources because of the amount of carbohydrates. That can make it hard to get enough protein. Talk with your health care provider or dietitian if you are vegetarian.

#### Can I eat as much protein as I want?

Too much protein can affect glucose levels and make the keto diet less effective. Your dietitian can help you know how much protein you need.

If you have questions about this information, contact your health care provider or dietitian.

This material is for your education and information only. This content does not replace medical advice, diagnosis or treatment. New medical research may change this information. If you have questions about a medical condition, always talk with your health care provider.