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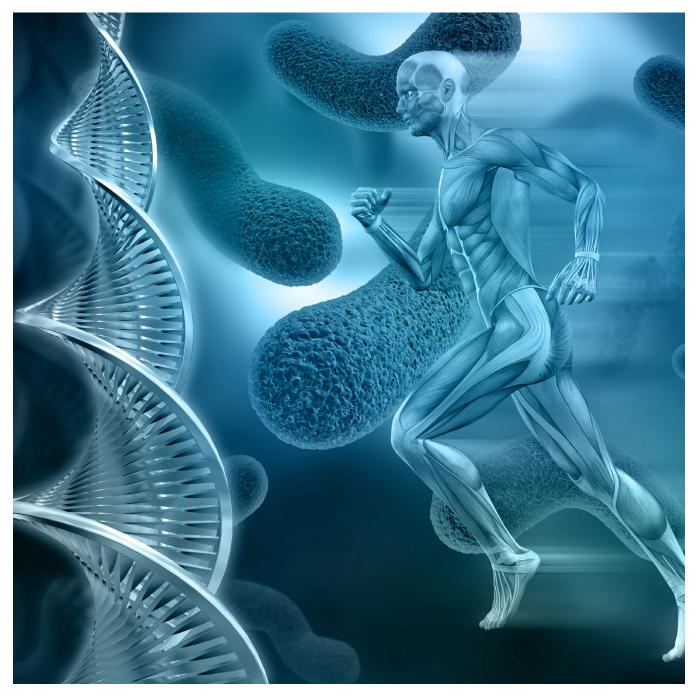
What is the Ketogenic Diet?

The Ketogenic Diet shifts your body from a glucose burning to a fat burning energy system. Fat is the body's second favorite source of energy, after carbohydrates. When you limit your carb supply, your body will turn to fat to get the energy it needs. The ketogenic diet is designed to put you in such a low carb state that the liver breaks down stored body fat into fatty acids. These fatty acids are then broken down into compounds called ketones.



What is Ketosis

Most of the cells in your body can directly use fatty acids for energy. But some cells, such as those in your brain and muscles, cannot. The fatty acids have to be further broken into ketones to be used by them. When you have ketones in your bloodstream, you will be in the state of ketosis.



How Does This Help You Lose Weight?

When you eat a lot of carbs, the body uses them for energy and stores the left over as either glycogen or as triglycerides in your fat cells. But when there are no carbs to call upon, the body will firstly use up its very limited liver glycogen stores. It then turns to fat. This fat comes from the foods you eat as well as the fat that is stored on your body. When it does this, your fat cells will shrink and you will begin to lose weight.



Keto Benefits

Burn Body Fat

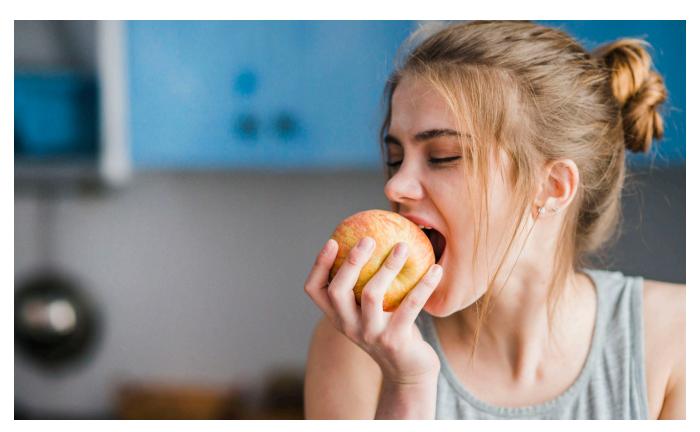
When you switch to a fat-based energy burning system, you'll be making daily inroads into your reserves of stored bodyfat. You will literally be burning fat 24/7!

Reduced Insulin Levels

When you eat sugary foods, your body produces the hormone insulin to clear the glucose from your blood. This causes an energy crash and cravings for more sugary food, setting up a vicious cycle of carb dependency. However, a high fat diet does not induce insulin release. This helps to prevent fat storage.

No More Hunger Pangs

Fats, which have twice as many calories per gram as carbs and proteins, are very filling. The result is that you won't be nearly as hungry as when you were eating a high carb diet. You'll also end up with a reduced daily caloric total to help you lose even more fat.



Toxin Removal

When you excrete ketones through your urine, you also flush out toxins. This provides you with an ongoing daily detox.

Balanced Blood Sugar Levels

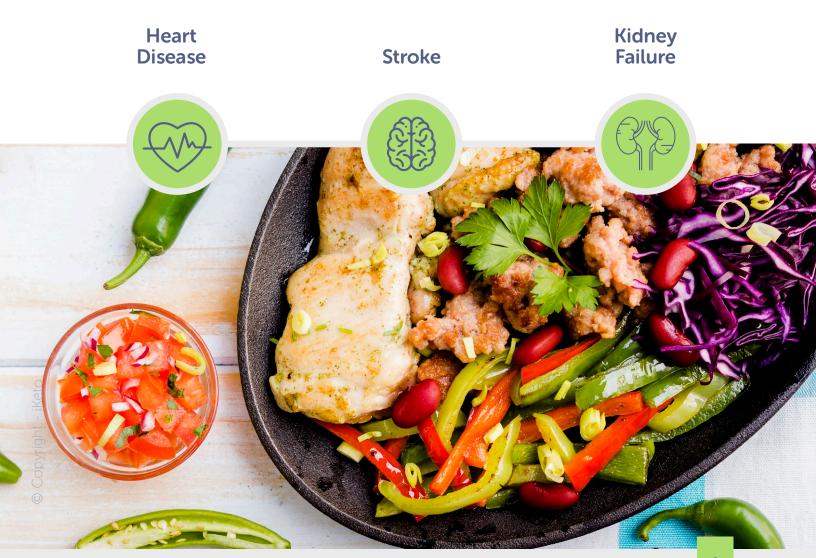
The yo-yo effect that a high carb diet has on your blood glucose levels is eliminated when you switch to keto. That means no more energy crashes or mood swings!

Lowered LDL and Increased HDL Cholesterol Levels

A high carb diet leads to enhanced cholesterol levels as a result of excess glucose intake. But, with its greatly reduced glucose intake, the keto diet reduces your LDL (bad) cholesterol levels. Simultaneously, your HDL (good) cholesterol levels will be enhanced.

Reduced Blood Pressure

Low carb diets have been shown to bring down blood pressure levels. As a result, your risk of the following conditions decreases:



Fast Tracking Your Way to Ketosis

The first step to getting into ketosis is to limit your carbohydrate consumption. However, you need to also limit your intake of protein. That's because the body is able to convert excess protein into glucose. As a result, a ketogenic diet requires very low levels of carbohydrates and moderate amounts of protein.



The exact macronutrient breakdown may vary, but in general, keto macronutrients fall into the following ranges:



60-75
percent of calories from fat



15-30 percent of calories from protein



5–10
percent of calories from carbohydrates

Once you get into a state of ketosis, you need to keep to these macro ratios in order to stay there. If you increase either your carb of protein intake you could easily kick yourself out of ketosis.

So, How Do You Know If You're in Keto?

Getting into ketosis can take anything from a few days to as much as 12 weeks. The length of time may be individual, but the signs that you are in keto are pretty standard . . .

Keto "Flu"

In the first few days of being in keto, most people will experience what has become known as 'keto flu'. It is not the real flu, but the symptoms are very similar. But rather than being the result of a virus, keto flu is caused by carb withdrawal. When you remove carbs, hormonal and electrolyte changes occur that cause the negative reactions known as keto flu. These include:

- Headache
- Nausea
- Upset stomach
- Sleepiness
- Fatigue
- Abdominal cramps
- Diarrhea
- 'Brain fog'

Keto flu can last for anything from a few days to a couple of weeks.

Bad Breath

When you reach ketosis, your body will create acetone as a waste product. Some of it will be released through your breath. This produces a fruity or ammonia like aroma. You can lessen the effect by drinking plenty of water and chewing fresh mint leaves.

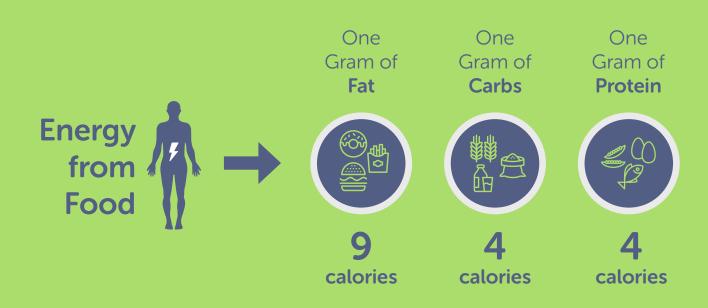
Decreased Appetite

Along with the adaptation to the keto diet, comes a reduced appetite. That's because fat and protein are very satiating, whereas carbohydrates are not. On top of this is the nausea associated with the keto flu, which also reduces the appetite.

Even though you don't feel hungry at this stage, you should still eat. You need your body to be getting plenty of nutrients as it undergoes the major transition from a glucose burning to a fat burning energy system.

Increased Energy

Once you begin to recover from the keto flu, you'll rebound with a noticeable energy increase. That's because fat is actually a superior source of energy to carbohydrate.



Improved Focus

Glucose as an energy supply is not ideal for the brain. It can lead to what is known as neurotoxicity, which is the exposure of the nervous system to toxic substances. But, when the brain starts to use ketones as its energy source, the toxicity level will fall drastically. This produces clearer thinking ability, better focus, and improved memory recall.

Other Signs That You're in Ketosis:

- Cold hands and feet
- Increased urinary frequency
- Difficulty sleeping
- Metallic taste in the mouth
- Dry mouth
- Increased thirst

How to Reduce the Negative Side Effects

The negative symptoms that occur during the transition to keto will go away over time. However, there are things you can do in the meantime to lessen their effect:

Start Slowly

It may be tempting to go cold turkey on carbs and max up your fat intake on Day One, but experience shows that easing into keto helps to reduce the severity of the side effects.

Reduce your intake of carb laden foods, such as soda, desserts, sugary snacks and pizza over a period of weeks. At the same time, slowly increase the amount of fat that you consume by eating such foods as coconut, avocado and cheese.

Snack

Snacking between your main meals on high fat, moderate protein snacks has been shown to reduce keto flu symptoms, including headache and irritability. Fat bombs that contain a concentrated source of healthy fats are a delicious choice. Low carb protein drinks are another good choice.

Drink Water

Quite a few of the symptoms of keto transition, such as bad breath, are also linked to dehydration. Water will dilute the ketone bodies in your system, helping to ease the symptoms. Aim to drink about half a gallon of water each day.



Testing Your Ketone Level

Urine Strips

You can purchase urine strips from most drugstores. They will test the pH level of your urine to give you a general idea of your ketone level. However, urine strips only test for one of the three types of ketones your body produces; acetoacetate (AcAc). These are higher when during your first few weeks on keto. After that the body converts them to another type of ketone called beta hydroxybutyrate (BHB). As a result, urine strips may not give an accurate reading when you are keto adapted.

Blood Test

Blood testing for ketosis involves pricking your fingers with a lancet. You then place a drop of blood on a specialized testing strip. This strip then goes on a meter to give your ketone reading.



Breath Test

Ketone breath monitors assess the levels of acetone in your breath. Acetones on the breath are a byproduct of your body's burning of fat for fuel. This is a far more user-friendly way to test your ketone level than blood testing. But it is not as accurate as blood testing.

To get the most accurate readings, regardless of what method you use, you should test for ketones first thing in the morning.

Calculating Your Keto Macros

Work Out Your Daily Calorie Requirements:

Use this formula . . .



Women

 $10 \times \text{weight (kg)} + 6.25 \times \text{height (cm)} - 5 \times \text{age (y)} + 5$

10 × weight (kg) + 6.25 × height (cm) – 5 × age (y) – 161

EXAMPLE

Female / 30 yrs. old / 160 lb. (72.7kg) / Height 5.5 in. (165.1 cm) . . .

 $10 \times 72.7 \text{ (kg)} + 6.25 \times 165.1 \text{ (cm)} - 5 \times 30 \text{ (y)} - 161$

Total Daily Calories = 1448



Carbs should comprise 5-10% of your daily caloric intake. You will have to try ranges to see what works best for you. Start with 7 percent for the first two weeks.

Work out your carb grams by multiplying your total calories for the day by 7 percent. Then divide that carb calorie number by 4 (because there are 4 grams in every calorie)

EXAMPLE

Total Daily Calories of 1448 Divided by 4

Divided by 7 percent Total Daily Carbs = 25 grams

Total Daily Carbs = 101 calories

Total VS Net Carbs

Net carbs are what is left over when you subtract the grams of fiber from the total grams of carbohydrate. You should only count net carbs. So, if food has 10 grams of fat, but 7 grams are from fiber, then you would only count 3 grams toward your daily carb count.

Fat

Aim to get 75 percent of your calories from fat.

EXAMPLE

Total Daily Calories of 1448 Divided by 9

Divided by 75 percent Total Daily Fats = 121 grams

Total Daily Fats = 1086 calories

Protein

Protein will make up the remainder of your macros. In our example, carbs are 7 percent and fats are 75 percent. This leaves 18 percent for protein.

EXAMPLE

Total Daily Calories of 1448 Divided by 4

Divided by 18 percent Total Daily Proteins = 65 grams

Total Daily Proteins = 261 calories

What to Eat on Keto

Fats & Oils

Fats and oils will form the basis of your ketogenic diet. But that doesn't mean that you should eat any type of fat that you come across. Focus on saturated fats, such as:

- Meat
- Butter
- Eggs
- Poultry
- Coconut
- Bacon
- Sausage

You should also eat plenty of monounsaturated fats such as:

- Olive Oil
- Nuts
- Nut Butter
- Avocado



- Tuna
- Salmon
- Mackerel



You need to avoid the following processed polyunsaturated fats:

- Canola Oil
- Vegetable Oil
- Soybean Oil



Proteins

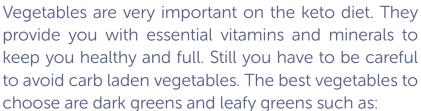
Many of the fat sources that we've listed already are also great sources of protein. These include:

- Meat
- Poultry
- Eggs
- Nuts
- Nut Butter
- Fish
- Bacon
- Sausage

Fruits & Vegetables

You need to cut out a lot of fruits when you're on keto. That's because, even though they are natural, the sugars that they contain will kick you out of keto. The best fruits to choose are those that are high in fiber and low in carbohydrates, such as:

- Blueberries
- Raspberries
- Blackberries
- Strawberries
- Cranberries





- Broccoli
- Cucumbers
- Green beans

- Lettuce
- Asparagus
- Cauliflower
- Mushrooms





The key vegetables to avoid are:

- White potatoes
- Sweet potatoes
- Yams
- Corn

Dairy

Full fat dairy products are a staple of the keto diet. The following foods will help you to meet your high fat content requirements:

- Butter
- Heavy cream
- Sour cream
- Cream cheese
- Hard cheese
- Cottage cheese

You should avoid flavored yogurts as they are usually packed with sugar.

Beverages

As we've already noted, your main beverage on the keto diet is water. You should aim to drink half a gallon of water each day. Add a little variety to your water by infusing it with mint or basil. You can also drink coffee and tea. However, they MUST be sweetened with a keto approved sweetener, such as stevia or erythritol.

Stay away from the following beverages:

- Soda
- Flavored water
- Sweetened tea
- Fruit juice
- Alcohol

Grains & Sugars

Grains and sugars need to be completely avoided on the keto diet. That means kicking out the following:

- Wheat
- Barley
- Rice
- Rye
- Sorghum
- Bread
- Crackers

There are many variants of sugar that you must be aware of. These include:

- White Sugar
- Brown Sugar
- Honey
- Maple Syrup
- Corn Syrup
- Brown Rice Syrup



Fruits and Vegetable Carbohydrate List

| Food | Calories | Total Carbs | Fiber | Net Carbs | Serving Size |
|------------------------|----------|-------------|-------|-----------|---------------------------------|
| Asparagus | 20 | 3.7 | 1.7 | 2.0 | ¹/2 cup |
| Avocado | 167 | 8.7 | 7.0 | 1.7 | 3.5 oz. |
| Broccoli | 27 | 5.6 | 2.6 | 3.0 | ¹ / ₂ cup |
| Baby Carrots | 32 | 8.2 | 2.9 | 5.3 | 3.5 oz. |
| Cauliflower | 34 | 7.0 | 1.8 | 2.9 | 1 cup |
| Celery | 9 | 1.6 | 0.67 | 0.39 | 2 oz. |
| Cucumber | 4 | 1.0 | 0.9 | 0.18 | 1 oz. |
| Garlic | 4 | 1.0 | 0.9 | 2.0 | 1 clove |
| Green Beans | 22 | 4.9 | 2.9 | 1.2 | ¹ / ₂ cup |
| Mushrooms | 6 | 0.9 | 0.61 | 0.87 | 1 oz. |
| Onion, white | 16 | 7.5 | 6.0 | 0.88 | ¹/₂ cup |
| Pepper, Sweet | 6 | 1.3 | 0.8 | 0.2 | 1 oz. |
| Pickles, Dill | 7 | 1.5 | 1.0 | 0.3 | 1 oz. |
| Romaine Lettuce | 5 | 0.9 | 0.3 | 0.3 | 1 oz. |
| Butter head Lettuce | 4 | 0.7 | 0.4 | 0.4 | 1 oz. |
| Shallots | 20 | 4.7 | 4.0 | 0.7 | 1 oz. |
| Snow Peas | 34 | 5.6 | 3.4 | 2.6 | ½ cup |
| Spinach | 33 | 5.0 | 2.0 | 4.0 | 5 oz. |
| Squash, Butternut | 82 | 6.8 | 15 | 1.8 | 1 cup cubes |
| Tomato | 5 | 1.0 | 0.7 | 0.2 | 1 oz. |

Keto Tips

Prepare Your Kitchen

Remove non-keto foods by searching your pantry and fridge for the forbidden items listed above. Be sure to check the labels on your herbs and spices. They may contain sugars or artificial ingredients that you need to avoid.

The next step is to restock your shelves and fridge with keto friendly foods.

| REPLACE | | | | | |
|--------------------|---------------|----------------------------|--------------------|---------------|---------------------------------|
| THIS | | WITH THIS | THIS | | WITH THIS |
| Chocolate | \rightarrow | Nuts, Seeds | Rice / Potatoes | \rightarrow | Cauliflower Rice |
| Sugary Treats | → | Cheese, Cream | Cookies | → | Peanut Butter Cookies |
| Bread, Pasta | → | Lettuce Wraps | Fruit Juice / Soda | → | Water / Smoothie / Green Tea |
| French Fries | \rightarrow | Cauliflower Chips | Ice Cream | → | Low Carb Sorbet |
| Flavored Yogurt | \rightarrow | Sour Cream | Pie Crust | → | Nut Based Crust |
| Cereals | → | Chia Pudding | Flour | → | Almond Flour |
| Oatmeal | → | Flax meal | Breadcrumbs | → | Pork Rinds |
| Pancakes | → | Almond Flour Waffles | Margarine | → | Butter |
| Processed Soups | → | Fresh Cream Based Soups | Vegetable Oil | → | Coconut Oil |
| Pasta | → | Zucchini Noodles | | | |

Ease into the Keto Lifestyle

Give yourself a month to transition into the Keto way of eating. Taking it slowly but deliberately will help to lessen the side effects of the transition. It will also help to build a solid foundation of low carb, high fat eating.

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OUTLINE OF A 4-WEEK TRANSITION



Meal Planning

Planning your meals could be the difference between success and failure on the keto diet. Find time once a week to write down everything you'll be eating for the coming week. Include snacks. Then use that plan as the guide for your grocery shopping list for the week.

Many people find that meal prepping is another great way to stay on track with keto.



| MISTAKE | FIX |
|--------------------------|--|
| | High fat meats |
| Too Much Protein | Chicken with skin on |
| | Keep protein to less than 2grms per kg of bodyweight |
| Relying of | Only use ketone strips for 1st month |
| Ketone Strips | Use a blood sugar monitor |
| Not Foting | Don't feel guilty about eating fat |
| Not Eating Enough Fat | Eat more butter, coconut oil, sour cream, full fat cheese, avocados, full fat Greek Yogurt and whipped cream |
| Too Many | Don't eat if you're not hungry! |
| Calories | Use smaller plates |
| Not | Buy a blood sugar monitor |
| Regulating | Check your level every day |
| Blood Sugar | Cut out ALL grains |



Who Should Not Do Keto?

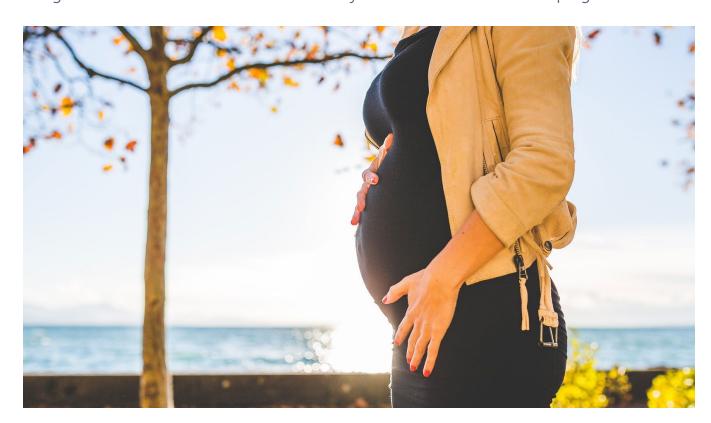
There are certain metabolic and health conditions which may make it unwise for a person to undertake the ketogenic diet. If you have any of the following conditions, you should consult your physician before starting keto:

- Gallbladder disease
- Impaired fat digestion
- History of pancreatitis
- Kidney disease
- Impaired liver function
- Poor nutritional status

- Previous gastric bypass surgery
- Type 1 diabetes
- Impaired insulin production
- Excessive alcohol use
- Carnitine deficiency
- Porphyria

Pregnancy

Women who are pregnant, or who are trying to get pregnant, should avoid the keto diet. A high number of ketones in the blood may cause a risk to the developing fetus.



Keto Beginner Cheat Sheet

| STEP 1 | STEP 2 | STEP 3 | | |
|--|---|---|--|--|
| Work out Your Numbers | Pantry Make-Over | Meal Prep | | |
| Your Daily Caloric | Remove ALL Grains | • Follow a 7 Day Meal | | |
| Goal: calories | Remove ALL Processed Carbs | PlanPrep your week's | | |
| Your Macros:Fat:grams | Remove ALL Sweets Sugary Drink | meals and freeze them | | |
| Protein:grams Carbs:grams | Replace with Keto Friendly Foods | | | |



Keto FAQ

Can Vegetarians Succeed on the Keto Diet?

Yes, vegetarians can succeed on keto, but it will be a challenge. Lacto-ovo vegetarians are able to eat eggs and dairy, both of which are prominent on a keto diet. Lacto vegetarians do not eat eggs though they do consume dairy.

There are many meatless options that you can eat that allow vegetarians to follow the keto diet.

Vegans do not eat any animal sourced foods at all. They rely heavily on grains, which are not consistent with the keto diet. That makes it very difficult for vegans to follow a keto diet.



Can You Build Muscle on Keto?

Most certainly! In fact, the modern day-revival of the ketogenic diet was due to the work of bodybuilding training guru Vince Gironda in the 1960' and '70's. Vince popularized the very low carb, high fat way of eating to create a massive, ripped physique. His ideas were picked up by prominent bodybuilder Dave Palumbo in the 2000s.

The bodybuilding version of the keto diet generally has a higher protein ratio than the standard keto diet to provide the amino acids needed for protein synthesis leading to muscle growth. Bodybuilders also are able to take in some complex carbs directly after a workout in order to replace the glycogen that was used up in the gym.

How Does Keto Differ from the Atkins Diet?

The popularity of low carb dieting can largely be attributed to Dr. Robert Atkins, with his book *The Diet Revolution* in 1972. At first glance, the ketogenic diet looks very similar to the Atkins diet. There are, however some key differences:

- On Atkins you can eat as much protein as you like, whereas on a keto diet you have to moderate your protein intake. The reason is that there is a process known as gluconeogenesis, by where the body will convert excess protein to glucose. This defeats the purpose of going low carb, as your blood stream will be filled with just as much glucose as when you were eating high carb.
- On Atkins, you start with zero carbs and, therefore, put yourself in a ketogenic state (though Dr. Atkins never actually used the term 'ketogenic'). This is known as the induction phase of the Atkins program. From there, carbs are slowly reintroduced to the diet. With the keto diet, you do not re-introduce carbs.
- With Atkins, you go through a number of phases: Induction, Ongoing Weight Loss, Pre-maintenance, Life-time maintenance. At each stage you manipulate your carb intake. There are no such phases on the keto diet.

How Does Keto Differ from the Paleo Diet?

They key difference between keto and paleo is that, while they are both low carbohydrate focused, the food choices differ. On Paleo you eliminate grains, processed foods and dairy products. Once those are gone, there is no requirement to eat low carb.

Paleo is an attempt to follow the way of eating followed by our Paleolithic ancestors. It was a diet that was rich in wild game, fish, nuts, fruits and vegetables. Paleo dieters do not attempt to go into a ketogenic state.

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