

Ketogenic Diet Basics:

Our goal is to achieve a state called “ketosis”, which differs from keto acidosis, in that the amount of ketones in the blood and/or urine in ketosis is about 3-5 times lower than in keto-acidosis.

A blood ketone meter is used to test finger-pricked blood several times per day while getting the body into ketosis.

Dietary fuel source intake should be in the following ratios:

Good fats: 70-80%

Good Protein: 15-20%

Complex carbs: 5-10%

Vegetables are the foundation of the carbohydrate portion of the keto diet. Protein here refers primarily to fish and animal protein, but also includes unprocessed legumes for those people who digest them without issue. Fats include saturated as well as unsaturated fatty acids.

Measuring ketones to assess ketosis:

There are 3 types of ketones in circulation, and it is important to measure all of them when testing for ketosis. Unfortunately, urine test strips only test for one type of ketone and are therefore not accurate for monitoring ketosis. Blood levels of ketones are much more reliable. For this reason we recommend using finger prick spot tests to measure the level of your circulating ketones. For diabetics using the ketogenic diet to stabilize their blood sugar and lower overall exogenous insulin demands, it is important to be able to differentiate between keto-acidosis and ketosis.

Ketone Test strips are available on line at multiple website locations. In our preliminary research, Precision Xtra strips look like a good option, whereas the NovaMax brand has some issues. The test strips are not cheap, so although we'd love to test frequently, cost can be prohibitive, so one time per day readings will suffice.

Your ketone level should stay between .5 and 5 mM, and as you get things refined, try to maintain a level between 1.0 mM and 3.0 mM for optimal ketosis. Ketoacidosis technically starts at about 10 mM.

*Generally ketone levels are higher in the evenings and lower in the mornings, so measuring in the evenings is recommended.

Supplement with potassium during your time on the ketogenic diet, as some is lost during ketosis. We recommend Potassium/Magnesium taurate from Cardiovascular Research at 2 caps 2 x day.

Foods to avoid on the ketogenic diet:

SUGAR: brown sugar, beet sugar, palm sugar, powdered sugar, cane sugar, AGAVE syrup (<http://www.NaturalNews.com/024892.html>), corn syrup, honey, maple syrup, sucrose, maltose, fructose, glucose, lactose (milk products), and the sugar alcohols such as sorbitol, erythritol, and xylitol (birch syrup). Not all sweet tasting things contain sugar, such as some amino acids, and sweeteners such as stevia and lo han guo.

Grain and Flour: All grains are out on the ketogenic diet. This means: rice, quinoa, millet, teff, rye, barley, wheat, amaranth, wild rice, etc, etc. It is also important to avoid all products made from **grain flours**. This includes: bread, waffles, pancakes, pasta, muffins, hot and cold cereals, tortillas, crackers, pretzels, and most baked goods.

Starchy Vegetables and Tubers: sweet potatoes, yams, potatoes and associated products (chips, hash browns, etc), corn, lima beans, and peas. Also watch for starchy thickeners in products.

All Corn Containing Products: corn chips, polenta, tamales, **popcorn**. Be sure to watch for corn syrup, starch, etc. as hidden ingredients in packaged foods and restaurants.

Boxed processed foods, because most are high in wheat and sugar and are the worst high carb foods to eat because of the added preservatives and fillers.

Fruit and Fruit Juice: Berries contain the least amount of carbohydrates of all of the “fruits”, so we often recommend a small handful of berries as a snack. Just be sure to watch your ketones, as too much carb can pull you out of ketosis.

Most legumes, including beans and lentils contain considerable amounts of starch.

Vegetable juice: carrot and beet juice is especially high in fructose, and when you take away the fibers and lignans from the vegetables by juicing them, you are left with all of the sugars free floating in solution. This makes the glycemic load go up, and is unwanted for maintenance of ketosis.

Milk of all kinds contains lactose, which is milk sugar. Skim milk is the highest in sugar, and lowest in the good fats. Heavy cream is highest in fats, so if you’re going to risk your ketosis and have some dairy, go for a tiny bit the cream!

Higher carb veggies: Tomatoes, carrots, peppers, and summer squashes

So What Can I Eat?

Veggies:

Here are some low carb veggie option from the Ketogenic Diet Resource page:

Alfalfa Sprouts, Leafy green vegetables, Asparagus, Bamboo Shoots, Bean Sprouts, Beet Greens, Bok Choy, Broccoli, Brussels Sprouts, Cabbage Cauliflower, Celery, Celery Root, Chard, Chives, Collard Greens, Cucumbers, Dandelion, Greens, Dill Pickles, Garlic, Kale, Leeks, Lettuces (watch these in diabetes as they can sometimes cause paradoxical blood sugar spikes) and salad greens (Arugula, Bok Choy, Boston lettuce, Chicory, Endive, Escarole, Fennel, Mache, Radicchio, Romaine, Sorrel.) Mushrooms, Olives, Onions (watch these as they are higher in sugar, and contain high levels of sulfur). Radishes, Sauerkraut, Scallions, Shallots, Snow Peas, Spinach, Swiss Chard, Turnips, Water Chestnuts.

Meats

All organic, free range meats and wild seafood.

Game meats are great when available.

Organic, free range eggs

Good Fats

Coconut butter, milk, and oil

Olive oil

Avocado

Butter or Ghee (Clarified Butter)

Sesame Oil

	Calories	Fat (g)	Carbs (g)	Fiber (g)	Net carbs	Protein (g)
Asparagus, cooked, 1 cup	46	2	6	4	2	5
Beans, cooked (black, kidney, chick peas, lentils) 0.25 cup	55	0	10	3	7	4
Beans, green, cooked, 1 cup	34	.5	8	4	4	2
Blueberries, raw, whole, 0.25 cup	21	0	5	1	4	0
Broccoli, cooked, chopped, 0.5 cup	27	0	6	3	3	2
Brussel Sprouts, raw, 1 cup	38	0	8	3	5	3
Cabbage, green, raw, shredded, 4 oz.	23	0	5	2	3	1
Carrots, baby, raw, 2 oz.	20	0	6	2	4	0
Cauliflower, cooked, 1 cup	28	0	6	2	4	2
Celery, raw, chopped, 1 cup	36	0	7	4	3	2
Cucumber, raw, sliced, 10 oz.	29	0	6	2	4	1
Eggplant, raw, 6 oz.	33	0	8	5	3	1
Garlic, 6 cloves	24	0	6	0	6	0
Green beans, cooked, 0.5 cup	22	0	5	1	4	1
Kale, raw, chopped, 2 oz.	28	0	6	1	5	2
Lemon juice, 1 tbsp.	3	0	1	0	1	0
Lettuce, any green leaf, shredded, 3 cups	24	0	6	3	3	3
Lettuce, iceberg, shredded, 3 cups	24	0	6	3	3	0
Lettuce, Romaine shredded, 3 cups	24	0	6	3	3	3
Lime juice, 1 tbsp.	3	0	1	0	1	0
Mushrooms, button, raw, 6 oz.	37	1	6	2	4	5
Mushrooms, Portabella, raw, 4 oz.	29	0	6	2	4	3
Onion, green, 0.5 cup	16	0	4	1	3	1
Onion, white, raw, 0.5 cup	33	0	7	1	6	1
Pepper, Bell, raw, 4 oz.	23	0	5	2	3	0
Potato, white, cooked, 0.5 cup	95	4	13	2	11	1
Raspberries, raw, whole, 0.5 cup	32	0	7	4	3	1
Rice, white, cooked, 0.25 cup	51	0	11	0	11	1
Shallots, chopped, 2 tbsp.	14	0	4	0	4	0
Spinach, cooked, from frozen, 5 oz.	57	3	5	3	2	4
Spinach, raw, 6 oz.	38	1	6	4	2	1
Squash, Spaghetti, cooked, 1 cup	75	0	10	2	8	1
Squash, summer, cooked, sliced, 1 cup	36	0	8	3	5	2
Strawberries, raw, whole, 0.5 cup	23	0	6	2	4	0
Swiss Chard, chopped coarse, 3 cups	21	0	4	2	2	2
Tomato sauce, 0.5 cup	40	0	8	2	6	2
Tomato, raw, 6 oz.	31	0	7	2	5	1
Turnips, raw, 4 oz.	32	0	7	2	5	1

From "KETOGENIC DIET RESOURCE" - <http://www.ketogenic-diet-resource.com/low-carb-food-list.html>

Super foods with added nutritional value - all items organic, fresh and locally harvested whenever possible

Bone Broth – excellent all around source of many key nutrients: glycosaminoglycans (GAGs), chondroitin sulfate, keratin sulfate, and hyaluronic acid. Glycine and proline, Collagen and Gelatin, Minerals – calcium, phosphorous, magnesium

Fast swimming cold water fish:

Salmon, Trout, Sardines, Herring

Kefir (goat, raw/unpasteurized best, but still contains lactose)

Seaweeds

Sauer kraut (lacto-fermented, Pickled Planet brand is the best!)

Miso

Salmon or salmon jerky (watch for hidden ingredients like sugar!)

Buffalo or buffalo jerky (watch for hidden ingredients like sugar!)

Eggs (organic, farm fresh whenever possible)

Blueberries, or any fresh local berry

Avocado

Olive Oil ~ (extra virgin cold pressed)

Butter/Ghee

Basic Bone Stock Instructions

Beef, lamb, or buffalo bones can usually be acquired from your local food co-op, or a local butcher. If you do not see them on the shelf (often in meat or frozen dept.), ask someone! Look for the pieces with the most marrow.

A crock pot works best, but a stock pot will also work. For a one quart crock, place 2 or 3 large chunks of bone in pot, cover with filtered water, add $\frac{1}{4}$ cup vinegar (white or apple cider vinegar is best) as this helps extract the minerals, especially calcium, out of the bone material. Add a hefty pinch of salt, and simmer for 4-6 hours. If desired, the fat can be partially or completely skimmed off the top. Use immediately, store in fridge for up to a week, or freeze in plastic containers or ziplock freezer bags. If transferring to plastic, make sure to cool first!

For a two quart crock, just double all quantities. Bone cuts can differ dramatically in size, for the quantities stated here I am assuming each bone is roughly the size of an average fist. Making broth is an imprecise art ~ if the broth comes out too heavy (you will know when you eat it what your taste is!), water down the batch and either use less bone material next time, or more water. If it seems to thin, add less water or more bone material to the next batch. You will get the hang of it ~ trust yourself! The broth should have a nice rich deep brown color, and should lend a savory, velvety texture to your soups, stews and sauces.

Replace plain water in any recipe, or when cooking grains, with bone or other meat broth (chicken, beef or fish) for added nutrition. For more information on why and how to use broth and for other excellent nutritional advice, visit westonaprice.org at the Nourishing Traditions website, and search for the "Broth is Beautiful" article.