



The Low FODMAP Diet (FODMAP=Fermentable Oligo-Di-Monosaccharides and Polyols)

FODMAPs are carbohydrates (sugars) that are found in foods. Not all carbohydrates are considered FODMAPs.

The FODMAPs in the diet are:

- Fructose (fruits, honey, high fructose corn syrup (HFCS), etc)
- Lactose (dairy)
- Fructans (wheat, onion, garlic, etc)(fructans are also known as inulin)
- Galactans (beans, lentils, legumes such as soy, etc)
- Polyols (sweeteners containing sorbitol, mannitol, xylitol, maltitol, stone fruits such as avocado, apricots, cherries, nectarines, peaches, plums, etc)

FODMAPs are osmotic (means they pull water into the intestinal tract), may not be digested or absorbed well and could be fermented upon by bacteria in the intestinal tract when eaten in excess.

Symptoms of gas, bloating, cramping and/or diarrhea may occur in those who could be sensitive to the effects of FODMAPs. A low FODMAP diet may help reduce symptoms, which will limit foods high in fructose, lactose, fructans, galactans and polyols.

The low FODMAP diet is often used in those with irritable bowel syndrome (IBS). The diet also has potential use in those with similar symptoms arising from other digestive disorders such as inflammatory bowel disease.

This diet will also limit fiber as some high fiber foods have also high amounts of FODMAPs. (Fiber is a component of complex carbohydrates that the body cannot digest, found in plant based foods such as beans, fruits, vegetables, whole grains, etc)

Low FODMAP Food Choices

| Food Group | Foods to Eat | Foods to Limit |
|-------------------------------------|---|--|
| Meats, Poultry Fish, Eggs | beef, chicken, canned tuna, eggs, egg whites, fish, lamb, pork, shellfish, turkey, cold cuts | foods made with high FODMAP fruit sauces or with HFCS |
| Dairy | lactose free dairy, small amounts of: cream cheese, half and half, hard cheeses (cheddar, colby, parmesan, swiss), mozzarella, sherbet | buttermilk, chocolate, cottage cheese, ice cream, creamy/cheesy sauces, milk (from cow, sheep or goat), sweetened condensed milk, evaporated milk, soft cheeses (brie, ricotta), sour cream, whipped cream, yogurt |
| Meat, Non-Dairy Alternatives | almond milk, rice milk, rice milk ice cream, nuts, nut butters, seeds | coconut milk, coconut cream, beans, black eyed peas, hummus, lentils, pistachios, soy products |
| Grains | <u>wheat free grains/wheat free flours (gluten free grains are wheat free):</u> bagels, breads, hot/cold cereals (corn flakes, cheerios, cream of rice, grits, oats, etc), crackers, noodles, pastas, quinoa, pancakes, pretzels, rice, tapioca, tortillas, waffles | chicory root, inulin, grains with HFCS or made from wheat (<i>terms for wheat: einkorn, emmer, kamut, spelt</i>), wheat flours (<i>terms for wheat flour: bromated, durum, enriched, farina, graham, semolina, white flours</i>), flour tortillas, rye |
| Fruits | bananas, berries, cantaloupe, grapes, grapefruit, honeydew, kiwi, kumquat, lemon, lime, mandarin, orange, passion fruit, pineapple, rhubarb, tangerine | avocado, apples, applesauce, apricots, dates, canned fruit, cherries, dried fruits, figs, guava, lychee, mango, nectarines, pears, papaya, peaches, plums, prunes, persimmon, watermelon |
| Vegetables | bamboo shoots, bell peppers, bok choy, cucumbers, carrots, celery, corn, eggplant, lettuce, leafy greens pumpkin, potatoes, squash, yams, (butternut, winter), tomatoes, zucchini | artichokes, asparagus, beets, leeks, broccoli, brussel sprouts, cabbage, cauliflower, fennel, green beans, mushrooms, okra, snow peas, summer squash |
| Desserts | any made with allowed foods | any with HFCS or made with foods to limit |
| Beverages | low FODMAP fruit/vegetable juices (limit to ½ cup at a time), coffee, tea | any with HFCS, high FODMAP fruit/vegetable juices, fortified wines (sherry, port) |
| Seasonings, Condiments | most spices and herbs, homemade broth, butter, chives, flaxseed, garlic flavored oil, garlic powder, olives, margarine, mayonnaise, onion powder, olive oil, pepper, salt, sugar, maple syrup without HFCS, mustard, low FODMAP salad dressings, soy sauce, marinara sauce (small amounts), vinegar, balsamic vinegar | HFCS, agave, chutneys, coconut, garlic, honey, jams, jellies, molasses, onions, pickle, relish, high FODMAP fruit/vegetable sauces, salad dressings made with high FODMAPs, artificial sweeteners: sorbitol, mannitol, isomalt, xylitol (cough drops, gums, mints) |

Tips for a low FODMAP diet:

- Follow the diet for 6 weeks. After this, add high FODMAP foods one at a time back into the diet in small amounts to identify foods that could be "triggers" to your symptoms. Limit foods that trigger your symptoms.
- Read food labels. Avoid foods made with high FODMAPs such as high FODMAP fruits, HFCS, honey, inulin, wheat, soy, etc. However, a food could be an overall low FODMAP food if a high FODMAP food listed as the last ingredient.
- Buy gluten free grains as they are wheat free. However, you do not need to follow a 100% gluten free diet as the focus is on FODMAPs, not gluten. Look for gluten free grains made with low FODMAPs, such as potato, quinoa, rice or corn. Avoid gluten free grains made with high FODMAPs.
- Limit serving sizes for low FODMAP fruits/vegetables and high fiber/low FODMAP foods such as quinoa to a $\frac{1}{2}$ cup per meal ($\frac{1}{2}$ cup=size of a tennis ball) if you have symptoms after eating these foods. The symptoms could be related to eating large amounts of low FODMAPs or fiber all at once.

Low FODMAP Meals and Snack Ideas

1. gluten free waffle with walnuts, blueberries, maple syrup without HFCS
2. eggs scrambled with spinach, bell peppers and cheddar cheese
3. oatmeal topped with sliced banana, almonds and brown sugar
4. fruit smoothie blended with lactose free vanilla yogurt and strawberries
5. rice pasta with chicken, tomatoes, spinach topped with pesto sauce
6. chicken salad mixed with chicken, lettuce, bell peppers, cucumbers, tomatoes, balsamic vinegar salad dressing
7. turkey wrap with gluten free tortilla, sliced turkey, lettuce, tomato, slice of cheddar cheese slice, mayonnaise, mustard
8. ham and swiss cheese sandwich on gluten free bread, with mayonnaise, mustard
9. quesadilla with corn or gluten free tortilla and cheddar cheese
10. beef and vegetable stew (made with homemade broth, beef, allowed vegetables)

Resources:

"Evidence Based Dietary Management of Functional Gastrointestinal Symptoms: The FODMAP Approach" Journal of Gastroenterology and Hepatology February 2010

"Clinical Ramifications of Malabsorption of Fructose and Other Short Chain Carbohydrates" Nutrition Issues in Gastroenterology (in Journal of Practical Gastroenterology) August 2007

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Direct inquiries to Digestive Health Center at Stanford Hospital and Clinics

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Moderate FODMAPs (limit)

There are some foods that are considered moderate FODMAPs. Follow the serving sizes listed below for these foods. Avoid the foods only if you have symptoms.

| Fruits | Vegetables | Nuts |
|--|---|--------------------------------|
| ¼ avocado <3 cherries ½ grapefruit (medium) <10 longan <5 lychee ½ pomegranate (small) <3 rambutan < ¼ cup shredded coconut <10 dried banana chips | ¼ cup artichoke hearts (canned) <3 asparagus spears 4 beet slices < ½ cup broccoli < ½ cup brussels sprouts < ¼ cup butternut pumpkin < 1 cup cabbage (savoy) 1 celery stick < ½ cup green peas 3 okra pods <10 pods snow peas ½ corn cob < ½ cup sweet potato | < 10 almonds < 10 hazelnuts |

Tips for a low FODMAP diet:

- Review food lists, collect recipes and go grocery shopping first. Once you are ready, start and follow the diet for 6 weeks.
- Read food labels. Avoid foods made with high FODMAP fruits/vegetables, HFCS, honey, inulin, wheat, soy, etc. However, a food could be low in FODMAPs if a high FODMAP food is listed at the end of the ingredient list.
- Buy gluten free grains as they do not have wheat, barley or rye in them. However, you do not need to be on a strict gluten free diet as the focus is to limit FODMAPs, not gluten.
- Limit serving sizes for low lactose dairy to small amounts and low FODMAP fruits/vegetables to a ½ cup per meal (½ cup=size of a tennis ball) if you have symptoms after eating these foods. The symptoms could be related to eating large amounts of FODMAPs all at once.
- Include low FODMAP foods rich in fiber such as oatmeal if you develop constipation while on the diet. Drink plenty of water as well.
- After the trial is over, add high FODMAP foods one at a time back in the diet in small amounts to identify foods that could be "triggers" to your symptoms. Limit those foods if so.