

LOW-FODMAP DIET

A temporary diet to identify food intolerance

The low-FODMAP diet is a 2–6 week elimination diet that involves removing certain foods from your diet to assess whether they are triggering GI symptoms.

The low-FODMAP diet is a temporary diet (not a long-term approach). After the low-FODMAP phase, you will re-introduce FODMAPs to assess your tolerance to various FODMAP-containing foods. At this point, many people can relax their diet and only cut out some high-FODMAP foods.

Following a low-FODMAP diet can be hard to do without the help of a registered dietitian. Be sure to discuss with your doctor whether a low-FODMAP diet is appropriate for you.

What are FODMAPs?

FODMAPs are a type of carbohydrate found in certain foods. People with IBS (irritable bowel syndrome) and other digestive disorders may not tolerate FODMAP foods well. Symptoms of FODMAP intolerance include abdominal pain, bloating, gas, reflux, diarrhea and/or constipation.

What does FODMAP stand for?

They are foods that are:

- Fermentable
- Oligosaccharides (fructans and galactans)
- Disaccharides (lactose)
- Monosaccharides (excess fructose)
- And
- Polyols (sugar alcohols)

How to Start a Low-FODMAP Diet

Step 1: Review the list of high-FODMAP foods listed on the following pages. Cut out any foods listed that you currently eat, and use the list in this handout to help with substitutions. FODMAPs are only in foods containing carbohydrates. Meat, poultry, fish, eggs, butter, oils, and hard cheeses do not contain FODMAPs, though high-fat foods can be a trigger from some people with IBS or other digestive disorders.

Step 2: Avoid all high-FODMAP foods for 4 weeks or 28 days. Some people may find that they feel better within a few hours while it may take up to 2 weeks for others to notice a difference.

Step 3: After 4 weeks of following a low-FODMAP diet, you can start the Challenge Phase to reintroduce foods. This will help you recognize which foods cause your symptoms to occur.

See pages 5-6 for a guide on the Challenge Phase.



AVOID – Foods Containing FODMAPs

| | | |
|--|---|--|
| <p>Grains Barley, rye, wheat (crackers, cereal, pasta, bread, baked goods), wheat berry, all-purpose flour, couscous, kamut</p> | <p>Fruits Apple/apple juice/cider, apricot, Asian pear, blackberry, coconut, cherry, date, fig, fruit in natural juices, grapefruit, mango, nectarine, peach, pear/pear juice, persimmon, plum, prune, watermelon</p> | <p>Vegetables Artichoke, asparagus, beet, cauliflower, garlic, leek, mushroom, onion/shallot, sugar snap pea</p> |
| <p>Dairy Cow's milk, custard, frozen yogurt, ice cream, pudding, soft cheese (cottage, ricotta), yogurt</p> | <p>Nuts/Legumes Black beans, black-eyed peas, butter beans, broad beans, chickpeas and lentils (¼ cup or less), lima beans, red kidney beans, baked beans, silken tofu, soy beans, split peas, cashews, pistachios</p> | <p>Beverages/Other Agave, high-fructose corn syrup, honey, sugar alcohols (sorbitol, mannitol, xylitol, maltitol, erythritol, isomalt), chamomile tea, oolong tea, fennel tea, chai tea, coffee with chicory, rum</p> |

INCLUDE – Keep These Foods in Your Diet

| | | |
|--|--|---|
| <p>Grains & Starches Cheerios* (plain), corn flakes*, corn tortillas, gluten-free bread/cereal*, gluten-free crackers*, gluten-free pasta, rice, quinoa, corn, grits, oatmeal* (½ cup dry), polenta, popcorn, potato, potato chips*, quinoa, rice-brown or white, rice cakes, rutabaga, soba noodles, sourdough bread* (2 slices), sweet potato (½ cup), tortilla chips</p> | <p>Fruit Avocado (1/8th), banana (1 medium unripe or 1/3 ripe banana with brown spots), blueberries, cantaloupe, clementine, shredded coconut (¼ cup), cranberries, dried cranberries, raisins, currants (1 tbsp.), grapes, honeydew, kiwi, lemons/limes, mandarin oranges, orange, papaya, pineapple, pomegranate (½ of one), raspberries, rhubarb, strawberries</p> <p>(Limit fruit to 1 serving per meal/snack. (One serving is a tennis ball-size piece; 1 cup berries or chopped fruit, or a ½ cup juice.)</p> | <p>Vegetables Alfalfa sprouts, bamboo shoots, bean sprouts, bell pepper, bok choy, broccoli (1 cup), Brussel sprouts (½ cup), carrots, celery (¼ stalk), cabbage, cucumber, endive, eggplant, fennel bulb, green beans, kale, lettuce (iceberg, romaine, butter, etc.), okra (6 pods), olives, parsnips, pumpkin (¼ cup), radish, snow peas (5 pods), spring onion/scallion (green part only), squash, butternut (¼ cup), swiss chard, tomato, turnip, water chestnuts, zucchini (¾ cup)</p> |
| <p>Dairy Almond milk*, goat's milk yogurt*, hard/aged cheese-including feta, hemp milk*, kefir*, lactose-free products: ice cream, milk, yogurt, cottage cheese, rice milk* (¾ cup), whey protein isolate powder*</p> | <p>Proteins Beans (1 cup shelled edamame, ¼ cup lentils, or ¼ cup chickpeas), beef, chicken, egg, fish, lamb, pork, seafood, turkey, tempeh* (½ cup), tofu, firm, venison</p> | <p>Fats Butter, cream (1 tbsp.), cream cheese (1 tbsp.), cooking sprays, margarine, mayonnaise*, nuts (small handful, about 10) all except pistachio and cashew, oils (all), natural peanut butter/almond butter, seeds-pumpkin, sunflower, hemp, flax, chia, sour cream (1 tbsp.)</p> |
| <p>Flavor Aids Capers (1 tbsp.), garlic-infused oil, herbs, lemon juice, miso paste (2 tsp.), mustard*, salt and pepper, soy sauce, Tabasco sauce, tahini paste (1 tbsp.), tomato paste (2 tbsp.), vanilla extract, vinegar, Worcestershire sauce (2 tbsp.)</p> | <p>Sweets Gluten-free cookies, cocoa powder (3 tsp.), dark and milk chocolate (1 oz.), lactose-free ice cream, pure maple syrup (2 tbsp.)</p> | <p>Beverages Coffee, beer (12 oz.), wine (avoid dessert wine), tea (all except chamomile, oolong, chai, fennel)</p> |

Foods with a portion listed in () have a small amount of FODMAPs, but in the indicated portions may be included during the elimination phase.

Additional Suggestions

- **Read labels to ensure they don't have high-FODMAP ingredients** like high-fructose corn syrup, onion, garlic, etc.
- **A note on low-FODMAP sourdough breads.** Look for the following in stores/bakeries:
 - Starter culture on ingredients.
 - Fermented for 18-36 hours.
 - Typically found in bakeries or bakery section of grocery store.
 - Avoid breads with yeast in ingredient list.
 - Check ingredients for other high-FODMAP items (honey, high-fructose corn syrup, etc.).
 - Some local sourdough options include: Trader Joe's, Izzo, Rocky Mountain Sourdough, Grateful Bread, Babette's Artisan Bread, and Whole Foods.
- **To making dining out easier,** there are a few things you can do ahead of your visit:
 - Visit the restaurant's website to review their menu.
 - Call the restaurant ahead of time to ask about food preparation and menu modification possibilities.
 - Choose simple items, like seafood, sushi, steak houses, salads with plain grilled protein, omelets, and gluten-free menu items.
- **When grocery shopping,** be careful when reading nutrition information labels. Some foods contain high FODMAP ingredients including:
 - "Sugar-free" foods; they often have sugar alcohols.
 - Protein bars often contain inulin, chicory root, and sugar alcohols.
 - Sweetened food and drinks often contain fructose, crystalline fructose, honey, and sorbitol.
 - Dairy and cheese is considered low FODMAP if it contains less than 1 gram of sugar per serving.

| Ingredients Allowed | | Ingredients Not Allowed | |
|------------------------------------|--------------------------|--------------------------|--|
| arrowroot | molasses | agave | honey |
| aspartame (NutraSweet/Equal) | pectin | amaranth | isomalt |
| brown sugar | rice syrup | bulgur wheat | kamut |
| cane sugar | saccharine | carob | maltitol |
| coconut milk (canned) | soy lecithin | chicory root/insulin | mannitol |
| confectioner's sugar | soy sauce | crystalline fructose | natural flavors (in savory foods such as broth) |
| corn starch | stevia | couscous | onion powder/salt* |
| corn syrup (not high- fructose) | sucrose | dry milk solids | polydextrose |
| dextrose | sucralose (Splenda) | erythritol | seasoned salt/pepper |
| glucose | tabasco | fructo-oligosaccharides | sorbitol |
| granulated sugar | tapioca | fruit juice concentrate | spelt |
| guar gum | vinegar | garlic powder/salt* | sprouted wheat |
| invert sugar | wheat dextrin | glycerin | textured vegetable protein |
| maltodextrin | wheat gluten | glycerol | wheat berries |
| | whey/soy protein isolate | goat's milk | xylitol |
| | | high-fructose corn syrup | |

*See next page for important information about onion and garlic.

Hidden FODMAP Ingredients

Be careful of hidden sources of FODMAP ingredients, especially onion and garlic.

They are often found in sauces and tomato products, soups, broths, and bouillon, salad dressings, marinades, seasoning packets/blends, condiments, deli meat, frozen dinners, and packaged foods.

Garlic

FODMAPs are not soluble in oil, so you can still enjoy the flavor without eating the garlic clove itself. Sauté whole peeled garlic in oil for 1-2 minutes to develop the flavor in the oil, then remove the garlic clove.

Onion

Onion is a major problem, even when eaten in small amounts. Check commercially prepared products for hidden sources of onion, e.g., sauces, soups, and canned tuna. Consider Asafetida powder (found in Indian markets) for onion flavor, or use other herbs and spices to flavor food. You can use the green portion of a scallion to provide an onion flavor, but avoid the white part until you have challenged this food to assess tolerance.

Mind Your Medications

Some medications, like liquid pain relievers, cough medicines, and cough drops, may contain lactose or sugar alcohols (sorbitol, mannitol, xylitol, maltitol, isomalt). When possible, choose a tablet or caplet form instead of liquid medicine.

Additional Resources

- **Kaiser Permanente IBS Class** – Designed to help members who struggle with irritable bowel syndrome, this class is offered in collaboration with the departments of Gastroenterology, Centers for Complementary Medicine, Behavioral Health, and Nutrition Services. To attend this class, held at the Kaiser Permanente Franklin Medical Offices, call the GI Department at **303-861-3655**. (Please allow 48 hours for your referral to be reviewed by GI clinical staff.)
- **Kaiser Permanente Nutrition Services** – Our registered dietitians are available to assist you with following a low FODMAP plan. In-office or phone appointments are available; call **303-614-1070** to schedule an appointment, or visit **kphealthyme.com** for more information.
- Monash University: Low FODMAP Diet for IBS: **monashfodmap.com**
- *The Complete Low-FODMAP Diet: A Revolutionary Plan for Managing IBS and Other Digestive Disorders*, by Sue Shepherd, PhD, Peter Gibson, MD, and William D. Chey, MD
- *The Low-FODMAP Diet Cookbook: 150 Simple, Flavorful, Gut-Friendly Recipes to Ease the Symptoms of IBS, Celiac Disease, Crohn's Disease, Ulcerative Colitis, and Other Digestive Disorders*, by Sue Shepherd, PhD
- Monash University Low FODMAP Diet App – Go to the iOS Apple or Google Android app store to download this app to your smart device.

Questions?

If you have any nutrition question or concerns, please call **303-614-1070** or send an email to your doctor or registered dietitian through **kp.org**. For all other questions, call the Kaiser Permanente 24-hour Appointment and Advice Contact Center at **303-338-4545** or **1-800-218-1059** (TTY 711).

FODMAP Challenge Phase

How to reintroduce foods

Challenge one FODMAP group at a time and assess if it is tolerated. The goal is to learn which groups you tolerate and which ones to limit/avoid. For each challenge, pick one food that has only one FODMAP.

Allow yourself 3 days to test your tolerance of a food.

- Day 1: Start with a ½ portion of that food.
- Day 2: Eat a full portion of that food.
- Day 3: Increase the amount from day 2.

After the challenge, stay on the low-FODMAP diet for 1-2 days before challenging the next group. If you notice symptoms get worse with a certain food, then eat only low-FODMAP foods until you feel better (this could take a few days). Make sure you are symptom-free for 1-2 days before starting the next challenge.

Use the chart on the next page to record your Challenge Phase progress.

Galactans Challenge

Canned, rinsed, and cooked beans, will have the lowest FODMAP amounts.

- Legumes: chickpeas, lentils (>1/4 cup)
- Beans: black, butter, pinto, kidney
- Butternut squash (> ¼ cup)
- Green peas

Fructose Challenge

- Agave
- Asparagus
- Figs
- Honey
- High-fructose corn syrup
- Mango
- Rum
- Sugar snap peas
- Apple/apple juice**
- Artichoke**
- Asian pear**
- Cherries**
- Pear/pear juice**
- Watermelon**

Lactose Challenge

Listed from lowest to highest lactose content.

- Yogurt (Greek is lowest in lactose)
- Pudding
- Ice cream/frozen yogurt
- Soft cheese
- Milk

Polyols Challenge

Sorbitol:

- Apricot
- Avocado (>1/8)
- Blackberries
- Peach
- Sweet corn (>½ cobb)
- Apples/apple juice**
- Asian pear**
- Cherries**
- Coconut
- Nectarine**
- Pears/pear juice**
- Plums/prunes**

Mannitol:

- Cauliflower
- Celery (>¼ stalk)
- Mushrooms
- Snow peas (>5 pods)
- Sweet potato (<½ cup)
- Butternut squash (>¼ cup)
- Watermelon**

Fructans Challenge

- Banana (>1/3 ripe)
- Barley
- Beets
- Broccoli (>1 cup)
- Cabbage (>½ cup)
- Dates
- Dried fruit (>1 tbsp.)
- Garlic
- Grapefruit
- Inulin/chicory root
- Okra (>6 pods)
- Onions/shallots/leeks
- Persimmon
- Pistachio/cashews
- Pomegranate (>½ small fruit)
- Pumpkin (>¼ cup)
- Rye
- Tea-chamomile, oolong, fennel, chai
- Wheat
- Artichoke**
- Nectarine**
- Plum/prunes**
- Watermelon**

**Foods appear in more than one FODMAP group.

| FODMAP | Day 1 | Day 2 | Day 3 | Day 4 Back to low- FODMAP | Notes |
|--|----------------------------|----------------------------|-----------------------------|---------------------------------|-------|
| Lactose <i>Ex: Greek yogurt or milk</i> | ¼ cup yogurt or ½ cup milk | ½ cup yogurt or 1 cup milk | 1 cup yogurt or 12 oz. milk | X | |
| Symptoms? | | | | | |
| Polyols: sorbitol <i>Ex: peach</i> | ½ peach | 1 peach | 2 peaches | X | |
| Symptoms? | | | | | |
| Polyols: mannitol <i>Ex: mushrooms or celery</i> | ½ cup mushrooms or celery | 1 cup mushrooms or celery | 1 ½ cup mushrooms or celery | X | |
| Symptoms? | | | | | |
| Fructose <i>Ex: honey</i> | 1 tsp. honey | 1 tbsp. honey | 2 tbsp. honey | X | |
| Symptoms? | | | | | |
| Fructans <i>Garlic</i> | ¼ clove garlic | ½ clove garlic | 1 clove garlic | X | |
| Symptoms? | | | | | |
| Fructans <i>Onion</i> | ¼ onion | ½ onion | ¾ onion | X | |
| Symptoms? | | | | | |
| Fructans <i>Wheat</i> | 1 slice white bread | 2 slices white bread | 3 slices white bread | X | |
| Symptoms? | | | | | |
| Galactans GOS <i>Ex: black beans</i> | ¼ cup black beans | ½ cup black beans | 1 cup black beans | X | |
| Symptoms? | | | | | |