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VERSION 2

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# LOW-FODMAP

## *Food Plan*



**Comprehensive Guide**

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# Why is the Low-FODMAP Food Plan recommended?

A Low-FODMAP Food Plan may be recommended when your functional medicine practitioner has good evidence that your digestive symptoms may be related to eating a specific group of foods which contain higher amounts of “FODMAPs.” The Low-FODMAP Food Plan is often intended for those who have been diagnosed with Small Intestinal Bacterial Overgrowth, also known as “SIBO,” as well as some cases of Irritable Bowel Syndrome (IBS), and even some instances of Inflammatory Bowel Disease (IBD).

The Low-FODMAP diet was developed at Monash University in Australia, which has done extensive research on Irritable Bowel Syndrome (IBS) and nutrition. According to Monash University, one in seven people worldwide is affected by symptoms of IBS and many people have one or more foods that are known to trigger symptoms of IBS including gas, bloating, or diarrhea. Many of those IBS sufferers may improve on a low FODMAP diet.

The Low-FODMAP Food Plan aims to limit food sources of certain carbohydrates and sugars which contain higher levels of:

- **F**ermentable
- **O**ligosaccharides (fructans and galactooligosaccharides)
- **D**isaccharides (lactose)
- **M**onosaccharides (fructose)
- **A**nd
- **P**olyols (sugar alcohols including sorbitol, xylitol, maltitol, mannitol, and isomalt)



# Why is the Low-FODMAP Food Plan recommended?



Research indicates that these carbohydrates and sugars, collectively referred to as “FODMAPs,” are not readily absorbed in the digestive tract and are fuel for bacteria in the large intestine. As FODMAPs pass through the small intestine, they attract water. As they move to the large intestine, FODMAPs are digested by bacteria, which in turn, produce gas.

In some people, the digestion of FODMAPs and resulting gas production, causes considerable discomfort. This discomfort may be worsened in individuals with Irritable Bowel Syndrome (IBS) or Small Intestinal Bacterial Overgrowth (SIBO). When someone has IBS or SIBO, eating FODMAPs can produce painful gas, bloating and diarrhea. The foods highest in FODMAPs are:

- **Grains:** wheat, rye
- **Fruits:** apples, pears
- **Vegetables:** garlic, onions
- **Dairy:** milk, soft cheese
- **Sweeteners:** honey, agave
- **Other:** high-fructose corn syrup, sugar alcohols

On the Low-FODMAP Food Plan, all moderate and high FODMAP containing foods are eliminated for 4-6 weeks. For the next 4-6 weeks, one FODMAP subgroup is reintroduced at a time with close monitoring of symptoms. Some people may need to avoid specific foods, or whole FODMAP groups indefinitely.

The Low-FODMAP Food Plan can be customized for those following vegan, vegetarian, Paleo, low-glycemic, dairy-free, and gluten-free diets. Monash University in Melbourne, Australia has an app for the general public which provides a searchable database of foods low and high in FODMAPs, recipes, recommended food products, and more. For information on other resources, visit [the Monash University website](#).

Given the restrictive nature of this food plan, you are strongly advised to work with an experienced functional medicine practitioner who can diagnose and provide additional treatment when following this food plan.

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# Key Features of the Low-FODMAP Food Plan

**No Calorie Restriction:** Since the primary goal of the Low-FODMAP Food Plan is to improve symptoms, calories are not restricted with this food plan. Some individuals may track nutrients to make sure that they are meeting goals for protein, carbohydrates, fats and certain vitamins or minerals. The goal is to focus on having as many nutrient-dense foods within this food plan as possible. It is strongly advised to eat only the foods which appear on the food list to avoid adverse symptoms.

**Promotes Body Awareness to Foods:** Most people with digestive symptoms are very aware when they aren't feeling well. This food plan provides an opportunity to cultivate an awareness of how you feel on the food plan and how you feel when reintroducing specific foods. Many people following this food plan report significant reduction in symptoms and improvements in quality of life. Keeping track of positive changes can strengthen motivation when sticking to the food plan feels difficult.

Under the guidance of a nutritionist or other healthcare practitioner, foods are reintroduced after a specified period of time. This helps identify trigger foods that have the potential to cause ongoing symptoms. During the elimination and reintroduction phase, many people develop an increased awareness of foods that trigger symptoms in the body. Overall, people typically notice that they are much more in touch with their body's response to foods after completing this food plan.

**Identifies Food Triggers:** Many people with digestive concerns or conditions are aware of at least one food trigger that causes negative symptoms. Recent studies are confirming that individuals with digestive conditions experience significant improvement of symptoms when food triggers are removed.

However, you may have more than one food which may be causing problems. The Low FODMAP Food Plan removes common FODMAP triggers from the diet in order to alleviate symptoms and heal the gut. During the reintroduction process, you will work with your healthcare practitioner to reintroduce previously removed foods to identify your specific triggers. In some instances, a practitioner may recommend avoiding a specific food or foods long-term, and therefore, skip the reintroduction of a given food item. This typically occurs when a known allergy is present.



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# Key Features of the Low-FODMAP Food Plan



**Reduces Inflammation:** Food triggers, specifically in the context of digestive symptoms, can cause inflammation in the gut. The Low FODMAP Food Plan works to reduce inflammation by removing specific foods while providing anti-inflammatory foods. Over time, this allows inflammation to subside and promotes gut healing. The intestinal lining is made of cells that replace themselves approximately every two to four days. This means that, in the span of a single week, every cell in the intestinal lining is broken down or sloughed off and a new cell grows to take its place. Removing inflammatory and trigger foods from the diet, while at the same time supplying the body with healthy, anti-inflammatory whole foods, makes the newly-formed gut tissue stronger and healthier.

**Limited Legumes:** Legumes are limited on this plan because they are high in oligosaccharides, specifically galactooligosaccharides. A few types of beans are allowed in the food plan, as the cooking method can greatly reduce the oligosaccharides content. Oligosaccharides leach out of the bean and into the cooking water; thereby leaving few oligosaccharides present as long as the cooking water is discarded. Black beans, green peas, chickpeas, hummus and mung beans are all permitted on this plan in small quantities. A healthcare practitioner may recommend eliminating all legumes for people who experience symptoms with relatively small amounts.

**Eliminates Processed Foods:** Most processed foods are eliminated on this plan. Food processing and hidden ingredients can result in FODMAPs unknowingly making their way into the diet. Additionally, preparation methods such as boiling, straining, canning, and even fermenting can impact the level of FODMAPs in food. Ingredients in food products may contain varying levels of FODMAPs, and it can be challenging to know the exact FODMAP content. An example of this is the type of soy used to make soy milk. Monash University highlights that soy milks made from soy protein are lower in FODMAPs than soy milks made from soybeans due to the galactooligosaccharides found in the beans, versus isolated soy protein. As we shift to a more health-conscious society, the market has responded. As of the writing of this guide, a few companies specializing in convenience foods such as pasta sauce and various seasonings, have been developed to support people following this food plan.

# Key Features of the Low-FODMAP Food Plan



**Restricts Certain Carbohydrates:** The Low-FODMAP Food Plan aims to limit food sources of certain carbohydrates and sugars which contain higher levels of **F**ermentable **O**ligosaccharides (fructans and galactooligosaccharides, **D**isaccharides (lactose), **M**onosaccharides (fructose), **A**nd **P**olyols (sugar alcohols including sorbitol, xylitol, maltitol, mannitol, and isomalt).

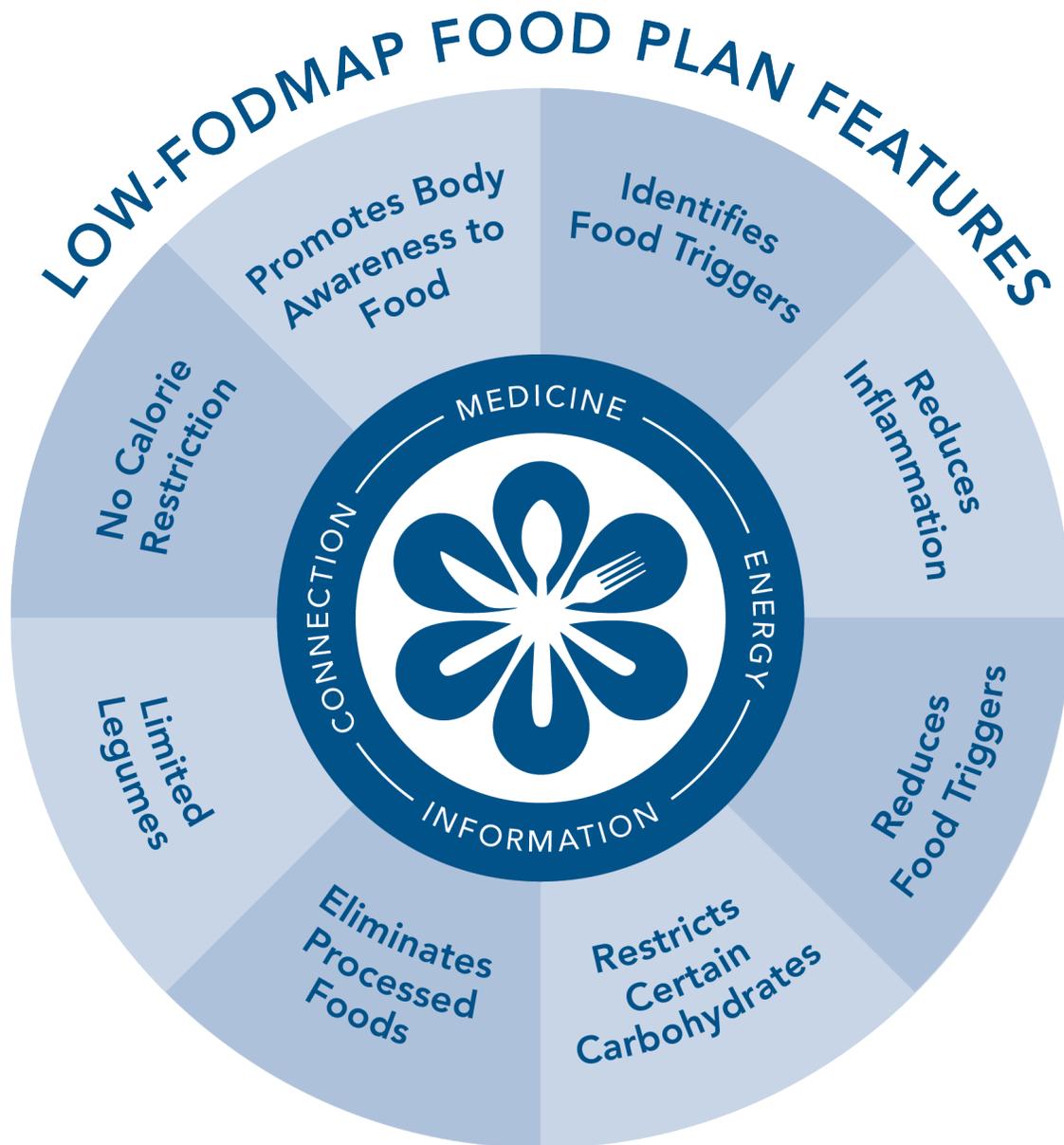
As these certain carbohydrates and sugars pass through the small intestine, they attract water. As they move to the large intestine, the FODMAPs are digested by bacteria, which in turn, produce gas. In some people, the digestion of FODMAPs and resulting gas production causes significant discomfort. Therefore, this food plan aims to reduce or eliminate high to moderate FODMAP containing foods in order to improve symptoms.

**Reduces Food Triggers:** Removing specific foods, such as FODMAPs, that cause adverse food reactions will allow the gut to heal. Common food triggers are minimized or eliminated on the Low-FODMAP Food Plan, while nutrient-dense foods are included to support gut health. As a person follows the Low-FODMAP Food Plan, the body's reaction to specific trigger foods will become clear.

After eliminating moderate-to-high FODMAP foods, a practitioner will guide you through the food reintroduction process over the course of 4-6 weeks. During this period, single foods and specific sub-groups of FODMAPs will be reintroduced to determine your reactivity or tolerance. The goal is to expand the variety of foods available for you to eat as much as possible, rather than continuing a restrictive diet in the long-term. Reintroduction involves adding back one food, or food group, at a time and observing whether that food is associated with symptoms. Foods that continue to cause symptoms are avoided until they no longer cause symptoms. Once the gut is healed, foods that initially caused symptoms may no longer cause symptoms and can then be reintroduced. In the later stage of food reintroduction, the goal is to diversify the diet for optimal gut health.

Some people may need to avoid specific foods, or whole FODMAP groups indefinitely. Because of the restrictive nature of this food plan, you are strongly advised to work with an experienced functional medicine practitioner who can diagnose and provide additional treatment when following this food plan.

# Key Features of the Low-FODMAP Food Plan



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# Touring Through the Low-FODMAP Food Plan

The Low-FODMAP Food Plan is intended to give a snapshot of the foods that people should choose from every day. The Low-FODMAP Food Plan is organized into 10 different categories: Proteins, Legumes, Dairy & Alternatives, Nuts & Seeds, Fats & Oils, Non-starchy Vegetables, Starchy Vegetables, Fruits, Whole Grains, and Beverages, Spices, and Condiments. Each category includes space to record the targeted number of servings per day. As an additional resource, Monash University has an app which provides a comprehensive database of foods including their FODMAP content, recommended serving size, and recipes.

## *Protein*

Animal protein is a low-FODMAP food. There are many sources of protein to choose from, even with vegan, vegetarian, or other dietary preferences. Unless there are medical restrictions, protein should provide about one-third of daily calories. Athletes, the elderly, and those with chronic health conditions may have higher protein needs which should be determined by a nutritionist or qualified healthcare provider.

As with the other food categories, quality is of utmost importance. High-quality proteins include lean, pasture-raised, grass-fed, organic, and non-genetically modified (GMO) sources. Options include low-mercury fish like halibut, herring, mackerel, salmon, and sardines. Wild-caught, sustainable fish choices are preferred, as some farmed fish may contain hormones and harmful chemicals. Other protein options include wild game (such as buffalo, elk, lamb, venison) and poultry (such as chicken, Cornish hen, turkey). Read food labels of any pre-cooked or pre-marinated proteins to ensure that protein sources are free of FODMAP ingredients, like garlic or onion powder. Vegetarian protein choices include eggs, firm tofu, tempeh, hard cheeses, select legumes, and hummus. Protein powders including hemp, bovine collagen, whey isolate, and egg may also be used.

## *Legumes*

Plant foods in the legumes category are hearty sources of both protein and fiber, and an important food for digestive regularity. However, legumes, depending on the type and preparation, may be considered a high FODMAP food. Canned black beans, canned garbanzo beans, hummus (made without garlic), cooked mung beans, and green peas may be included as tolerated on this food plan. Discard the can liquid and make sure you rinse canned beans well.

The main FODMAPs in beans and legumes are oligosaccharides. Oligosaccharides will leach out into cooking water, so some people find that they tolerate beans and legumes more easily when the cooking water is discarded. Depending on individual tolerance, all legumes may be eliminated on stricter versions of this food plan.



# Touring Through the Low-FODMAP Food Plan



## *Dairy & Alternatives*

Regular cow milk, goat milk, buttermilk, evaporated milk, heavy cream, and all lactose containing foods are eliminated on this food plan. Lactose-free milk and lactose-free plain yogurt may be eaten as tolerated. Unsweetened milk alternatives such as almond, flax, and hemp are also included in the food plan. You should read food labels to ensure that store bought dairy alternatives are free of FODMAP containing additives and fillers.

Rice and coconut milk alternatives may be eliminated on stricter versions of this food plan.

## *Nuts & Seeds*

Nuts and seeds, both excellent sources of healthy fat and protein, provide a variety of snack options for those following this food plan. Organic, unsweetened, and unsalted nuts and seeds—and butters made from them—are preferred whenever possible. They can be added to meals for a nutrient and flavor boost—perhaps sprinkled on top of salads or vegetable dishes—and make a great snack choice. Nut butters like almond butter and tahini (sesame seed butter) can be used as condiments, spread on fruit, or drizzled over vegetables. Flaxseeds and hemp seeds can be ground and stirred into smoothies or sprinkled on salads. Eating at least 1 to 2 servings of nuts daily is recommended.

Higher FODMAP nuts like cashews and pistachios are eliminated on this food plan. Almonds, coconut, hazelnuts, tahini, sesame seeds, and sunflower seeds may be eliminated on stricter versions of this food plan.

## *Fats & Oils*

Dietary fat can trigger symptoms for some people, and fat intake can be adjusted within a Low-FODMAP Food Plan to accommodate each person. A large selection of fats and oils can be used for salad dressings and cooking while following this food plan. Approved choices are minimally refined, cold-pressed, organic, non-GMO fats and liquid oils, as these will be the best quality.

Extra-virgin olive oil is a rich source of mono-unsaturated fats and is associated with healthy inflammation and cholesterol levels. Research suggests that consuming minimally processed extra-virgin olive oil provides the greatest health benefits by increasing HDL (healthy cholesterol) and decreasing damage to blood vessels. The health benefits of olive oil are also found in whole olives, which are included in this category.

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# Touring Through the Low-FODMAP Food Plan



Another high-quality fat included in the Low-FODMAP Food Plan is avocado oil. Unlike many other plant-based oils that are pressed from the plants' seeds, avocado oil is pressed from the fruit itself. Avocado oil is a good source of health-promoting mono-unsaturated fats and antioxidants. While avocados are also a healthy food, be mindful of the serving size limit while following this food plan, as the low FODMAP serving size limit is only  $\frac{1}{8}$  of an avocado. Avocados may be eliminated entirely in stricter versions of this food plan.

While ghee is technically a dairy product, all milk sugars are removed in the process of making it. The butter used for making ghee should come from grass-fed cows and be certified organic. Other fats included in this category include almond oil, flaxseed oil, hempseed oil, sesame and walnut oil. Commercially prepared salad dressings and highly processed fats like shortening should be avoided on this food plan and in general. Soybean oil and any dressings/sauces made with high FODMAP additives should be eliminated. Keep all oils in dark glass containers and dispose if they smell rancid.

## *Vegetables*

Colorful vegetables are a major component of all functional medicine food plans as they provide medicinal compounds that can prevent or reverse disease. The Low-FODMAP Food Plan emphasizes eating 10–12 servings of vegetables per day. A serving is  $\frac{1}{2}$  cup of most vegetables or 1 cup of raw leafy greens.



To promote good health, it is important to eat a “rainbow of colors” each day. While darker-colored plants are generally higher in phytonutrients, even vegetables from the white family, like parsnips, have health promoting contributions to make.

Brussels sprouts, cauliflower, dandelion greens, garlic, jicama, leeks, mushrooms, okra, shallots, sugar snap peas, sunchokes, and sweet corn are eliminated on this food plan. Additionally, artichokes, asparagus, beets, broccoli, celery, kimchi, sauerkraut, canned pumpkin, and snow peas may be eliminated on a stricter version of this food plan.

## *Starchy Vegetables*

Starchy vegetables are a good source of complex carbohydrates, especially as many other carbohydrate sources are restricted in this food plan. Winter squash, plantain, potatoes, and other roots vegetables are all acceptable on this food plan.

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# Touring Through the Low-FODMAP Food Plan



## *Fruits*

Fruits offer phytonutrients and antioxidants to support gut, and overall health. However, some fruits are recommended and others are not on the Low-FODMAP Food Plan. Unripe bananas, blueberries, cranberries, melon, grapes, grapefruit, orange, pineapple, raspberry, strawberry, tangelo, and kiwi are all acceptable on this food plan. When eating dried versions of these fruits, smaller portions should be consumed. Pair fruit with a small amount of protein or fat to offset potential blood sugar spikes.

Higher fructose fruits like apples, apricots, blackberries, cherries, dates, figs, mango, nectarines, peaches, pears, persimmon, plums, prunes, watermelon, and all canned fruit are eliminated on this food plan.

## *Whole Grains*

Most gluten-containing grains and grain products are eliminated on this food plan. Depending on tolerance, the gluten-containing grains bulgur and spelt may be eaten in very small quantities, as tolerated. Some gluten-free grains, and products made from these, such as amaranth, corn, quinoa, and oats may also be eliminated on stricter versions of this food plan.

## *Beverages, Spices, and Condiments.*

Hydration helps promote healthy bowel movements, enhances metabolism, and promotes satiety. It is important to drink plenty of clean, filtered water throughout the day. Individual recommendations for fluid intake will depend upon a number of factors, including body weight and activity level. If diarrhea or loose stools are present, hydration needs will increase.

Unsweetened, no sugar added beverages are recommended to help you meet their daily hydration needs. Vegetable juices, homemade broth, and coffee, as tolerated, are all suitable beverages on this food plan. A number of teas are higher in FODMAPS, but green and peppermint teas are acceptable on this food plan.

Many store-bought condiments (e.g., barbeque sauce, glazes, ketchup, teriyaki sauce, etc.) have a fairly high amount of added sugar and salt, and may contain FODMAP additives. For this reason, you are encouraged to make homemade versions of your favorite condiments with herbs, spices, and vinegars. Very limited amounts of maple syrup, molasses, and stevia may be included on this food plan.

All artificial sweeteners, honey, fruit juice (minus those listed), garlic seasonings, and onion seasonings are eliminated on this food plan. Some teas, coconut water, and balsamic vinegar may be eliminated on stricter versions of this food plan.

# Preparing for the Low-FODMAP Food Plan

## *Key Takeaways for the Low-FODMAP Food Plan:*

- This food plan aims to limit foods that are high in carbohydrates and sugars collectively referred to as “FODMAPs”
- Eat nutrient-dense vegetables, high-quality proteins, and high-quality fats daily.
- Use the Low-FODMAP Food Plan as your guide
- Additional recipes and resources can be found on [the Monash University website](#).



# Frequently Asked Questions

## *How long do I need to stay on the Low-FODMAP food plan?*

Most people stay on the Low-FODMAP Food Plan for 4-6 weeks, followed by a period of food re-introduction. Some people, under the guidance of their physician, may stay on the Low-FODMAP Food Plan longer if symptoms and other clinical indicators are resolving more slowly. Most people find that they need to limit certain foods (e.g. garlic), or FODMAP groups (e.g. lactose) indefinitely. In instances where you need to avoid certain foods long-term, talk to your nutritionist about substitutions and other recommendations.

## *What is SIBO?*

Small Intestinal Bacterial Overgrowth, or “SIBO” is a condition where there is an excessive amount of bacteria in the small intestine. SIBO can cause stomach pain, nausea, diarrhea, bloating and other symptoms, including weight loss. Slow digestion, a weakened immune system, and low stomach acid can increase a person’s risk of developing SIBO. SIBO is diagnosed with a lactulose breath test and can be treated with antibiotics, or supplements depending on the severity and symptoms.

## *Do I have to be “gluten-free”?*

The short answer is: it depends. Most people do better when all gluten-containing grains are eliminated on the Low-FODMAP Food Plan. However, some individuals may tolerate bulgur and spelt in small amounts. After the initial elimination of FODMAP foods, some individuals may find that they tolerate limited amounts of gluten in the form of traditional sourdough breads. For those with celiac or non-celiac gluten sensitivity, all gluten should be eliminated during and after the elimination.



# Frequently Asked Questions



## *Does cooking reduce FODMAPs in food?*

It depends. Cooking may reduce FODMAPs in some foods, but predicting which cooking method and the amount of FODMAP content that remains is unpredictable. Until more research is done, using low FODMAP foods in cooking is recommended.

## *What should I do if my symptoms do not resolve or return?*

Talk to your healthcare practitioner. There may be another digestive issue or other aspect of your wellbeing, like stress, that needs to be addressed. It is possible that you will need to repeat the Low-FODMAP Food Plan for another 4-6 weeks, however, you should only do so under the guidance of your healthcare practitioner or nutritionist.

## *Where can I get more information on the Low-FODMAP Diet?*

Monash University in Melbourne, Australia is a leader in IBS and FODMAP research. They have many resources for patients and practitioners, including a comprehensive guide and app. You can find more information on [the Monash University website](#).

## *What is a “stricter version” of a food plan?*

On any elimination diet, the goal is to remove trigger foods so the body can heal. Many times, this starts with the removal of the most common trigger foods and expands to include more foods if symptoms do not improve. The term “stricter version” refers to the latter, in which, more foods are removed from the food plan. Don’t despair, elimination diets are temporary, so if you are following a stricter version, you won’t be limited this way forever.

## *Should I take a probiotic or any other supplements?*

Many healthcare practitioners will recommend probiotics with other supplements while you are following the Low-FODMAP Food Plan; others won’t. Specific strains may be beneficial for certain digestive conditions. For brand and dosing recommendations specific for you, talk to your functional medicine practitioner.

# Frequently Asked Questions

## *Do I need to eat “organic”?*

It's recommended to eat “organic” as often as possible. Organic fruits, vegetables, meat, and dairy do not allow conventional herbicides, pesticides, hormones, and synthetic additives, or irradiation of meat. Since many of these chemicals can irritate the digestive tract and contribute to inflammation, we recommend eating organic whenever possible. If there are financial or access limitations, we recommend using the Dirty Dozen™ and Clean Fifteen™ lists from the Environmental Working Group as guides.

## *Can I go out to eat?*

Yes, depending on the restaurant. Fast food restaurants are not recommended as the quality and ability to accommodate special requests is limited. “Sit down” restaurants are likely to be a better option. You will want to take a look at the menu ahead of time and identify items that are on your recommended food plan. For instance, plain grilled salmon, or chicken and cooked vegetables are available at many restaurants. For breakfast, most restaurants offer eggs and vegetables, which can be customized into an omelet. Make sure that you avoid scrambled eggs as dairy and other additives may be added. Most “sit down” restaurants will accommodate if you explain that you are on a special food plan and need to avoid certain foods and additives.



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# Resources and Tools for Success

Changing food habits, especially in the setting of digestive concerns and conditions, can be a complex and difficult process. To support you, we have included food plans, tracking documents, and other information to make this a “do-able” process. Look over this information carefully. If any questions arise, please contact your functional medicine practitioner.

The following handouts are available to help patients and practitioners with the Low-FODMAP Food Plan:

- [Low-FODMAP Food Plan – Bibliography](#)
- [Overview of the Low-FODMAP Diet](#)
- [Low-FODMAP Food Plan](#)
- [Food Reintroduction Symptoms Tracker](#)

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## *Disclaimer*

The Low-FODMAP Food Plan is best followed under the supervision of a qualified nutritionist or healthcare professional who is experienced in this specialized area.

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