CENTER FOR DIGESTIVE HEALTH & NUTRITION
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The FODMAP Diet: A Diagnostic Tool

A "FODMAP diet" is typically defined as one low in specific carbohydrates (sugars) known to cause intestinal distress, called FODMAPs. This diet plan is a test diet intended to help individuals identify which if any, foods cause symptoms such as gas, bloating, diarrhea, and abdominal pain.

Not a Long-term Diet
It is important to realize that the low-FODMAP diet is NOT meant to be a long-term diet. It is very restrictive and would be impossible and unhealthy to follow indefinitely. Rather, this diagnostic process determines what foods may be troublesome.

Understanding FODMAPs
FODMAP stands for Fermentable Oligosaccharides, Disaccharides, Monosaccharides, and Polyols. These are short-chain carbohydrates that are poorly absorbed in the small intestine and can ferment, leading to gas and discomfort. Some people experience digestive distress after eating them. Symptoms include

- Crampy Abdominal Pain
- Diarrhea
- Constipation
- Stomach Bloating
- Gas and Flatulence

What Are FODMAPs?

FODMAPs are:

- **Fermentable.** These are all foods that your gut bacteria feed on, converting them to gasses in a chemical process called fermentation.

- **Oligosaccharides.** These soluble plant fibers, known as prebiotics, feed the beneficial bacteria in your gut. Oligosaccharides include onions, garlic, beans/lentils, and wheat products. Sensitivity to oligosaccharides may help explain some cases of non-celiac gluten sensitivity. Since gluten-free grains are lower in fermentable sugars than grains that have gluten, some people who think they are sensitive to gluten may be sensitive to the oligosaccharides in wheat products.

- **Disaccharides.** Lactose is the fermentable sugar in dairy and human milk in this group. Lactose intolerance is one of the most common food intolerances worldwide.

- **Monosaccharides**. Fructose, the sugar in fruit, is the fermentable sugar in this group. However, not all fruits are affected in certain quantities and proportions.

- **Polyols.** These are sugar alcohols commonly used as artificial sweeteners. They are also found naturally in some fruits.

Who Should Try the Low FODMAP Diet?

First, see your doctor. If you have chronic digestive symptoms, it is important to first see a physician for a consultation and examination to exclude a serious illness or condition. Only a qualified doctor can make that determination and suggest a treatment plan.

The diet is primarily recommended for individuals with IBS. IBS is more common than most people realize, affecting about 1 in 7 adults. The low FODMAP diet - developed by Monash University in Australia – was designed to reduce symptoms of IBS. Research has found that it is helpful in about 75% of those affected.

It's important to note that the low FODMAP diet is not a weight loss plan and should be followed under the guidance of a healthcare professional to ensure

nutritional needs are met. This is especially important for underweight individuals or those with other health conditions.

How Does the Low FODMAP Diet Work?
Low FODMAP is a three-step elimination diet:

- First, you stop eating certain foods (high FODMAP foods).
- Next, you slowly reintroduce them to see which ones are troublesome.
- Once you identify the foods that cause symptoms, you can avoid or limit them while enjoying everything else worry-free.

The Three Phases

1. Elimination Phase: This initial phase involves removing high FODMAP foods from the diet for a period of 2-6 weeks. This step is crucial for identifying which specific carbohydrates cause discomfort. Common high FODMAP foods include dairy products with lactose, wheat-based products, fruits like apples and pears, and vegetables like onions and garlic. During this phase, it's important to monitor symptoms closely to see if there is any improvement in digestive health. If there's no improvement, the diet is abandoned.

2. Reintroduction Phase: If the Elimination Phase seems helpful, patients are asked to move on to the Reintroduction Phase. In this phase, high FODMAP foods are gradually reintroduced into the diet. Patients are advised to bring back foods one at a time at a rate of one item per week. They might discover that they are sensitive to only one or two FODMAP carbs, not all of them. This process helps in pinpointing the specific foods that trigger symptoms. It's essential to reintroduce one food at a time and monitor reactions to understand personal tolerance levels. The patient should carefully document progress in a daily food diary. This phase is critical for identifying which foods can be included in the diet and in what quantities.

3. Personalization Phase: A long-term diet plan is formulated based on the Reintroduction phase observations. This personalized diet includes low-FODMAP foods and reintroduces tolerable high-FODMAP foods in

moderation. The goal is to maintain a balanced diet while managing symptoms, ensuring that nutritional needs are met, and the diet remains varied and enjoyable.

Foods to Eat and Avoid on a Low FODMAP Diet

Low FODMAP Foods: These include dairy alternatives like almond milk, proteins such as eggs and meat, grains like rice and quinoa, and fruits and vegetables like oranges, grapes, carrots, and potatoes. Meals should be based on foods such as:

- Eggs and meat
- Certain cheeses, such as brie, Camembert, cheddar, and feta
- Almond milk
- Grains like rice, quinoa and oats
- Vegetables like eggplant, potatoes, tomatoes, cucumbers and zucchini
- Fruits such as grapes, oranges, strawberries, blueberries and pineapple

These foods are less likely to cause digestive issues and can form the basis of a balanced diet.

High FODMAP Foods to Avoid:

It's essential to avoid high FODMAP foods that aggravate the gut, including:

- Dairy-based milk, yogurt, and ice cream
- Wheat-based products such as cereal, bread and crackers
- Beans and lentils
- Some vegetables, such as artichokes, asparagus, onions and garlic
- Some fruits such as apples, cherries, pears, and peaches

Avoiding these foods during the Elimination Phase can help identify triggers and improve symptoms.

Preparation and Commitment Are Key
Before starting, it's crucial to clear your pantry of high-FODMAP foods and plan your meals. Committing fully to the diet is essential for it to be effective. Keeping a food diary during this time can help track symptoms and food intake.

Duration:
The Elimination Phase should last no more than six weeks to prevent nutritional deficiencies. The Reintroduction and Personalization phases vary based on individual tolerance and reactions. It's important to approach these phases methodically to identify food triggers accurately.

Helpful Resources

Monash FODMAP App
Researchers at Monash University were the ones who first developed the low FODMAP diet. They have constructed a corresponding smartphone and iPad app to assist with the diet. A copy of the app can be downloaded from the iPhone App Store for a one-time fee. There are also Google and Android versions available.

Color Guide (attached below)

What If It Doesn't Work For Me?
Since it's an experiment, it might not succeed. But you can try it safely for up to 6 weeks. For those with IBS, the low-FODMAP diet has a high projected success rate; however, up to 25% of individuals may not benefit. Research on the other illnesses is more limited, although there is reason to think that it could help manage symptoms in SIBO, IBD, and functional dyspepsia instances. If it doesn't work out, you can still attempt other types of elimination diets, testing, and therapies under your doctor's care.

Robert Fusco MD
November 2023

Low FODMAP Food Chart

Low FODMAP	High FODMAP
Vegetables and Legumes	
Bamboo shoots Bean sprouts Broccoli (3/4 cup) Cabbage, common and red (3/4 cup) Carrots Celery (less than 2 inch stalk) Chick peas (1/4 cup max) Corn (1/2 cob max) Courgette / Zucchini (65g) Cucumber Eggplant (1 cup) Green beans Green pepper (1/2 cup) Kale Lettuce e.g. Butter, iceberg, rocket Parsnip Potato Pumpkin Red peppers Scallions / spring onions (green part) Squash Sweet potato (1/2 cup) Tomatoes (1 small) Turnip (1/2 turnip)	Garlic Onions Aparagus Beans e.g. black, broad, kidney, lima, soya Cauliflower Cabbage, savoy Mange tout Mushrooms Peas Scallions / spring onions (white part)
Fruit	
Bananas, unripe (1 medium) Blueberries (1/4 cup) Cantaloupe (3/4 cup) Cranberry Clementine Grapes Melons e.g. Honeydew, Galia (1/2 cup) Kiwifruit (2 small) Lemon Orange Pineapple Raspberry (30 berries) Rhubarb Strawberry	Apples Apricot Avocado Bananas, ripe Blackberries Grapefruit Mango Peaches Pears Plums Raisins Sultanas Watermelon

Meat and Substitutes	
Beef	Sausages (check ingredients)
Chicken	Processed meat (check ingredients)
Lamb	
Pork	
Quorn mince	
Cold cuts e.g. Ham and turkey breast	
Breads, Cereals, Grains and Pasta	
Oats	Barley
Quinoa	Bran
Gluten free foods e.g. breads, pasta	Cous cous
Savory biscuits	Gnocchi
Buckwheat	Granola
Chips / crisps (plain)	Muesli
Cornflour	Muffins
Oatmeal (1/2 cup max)	Rye
Popcorn	Semolina
Pretzels	Spelt
Rice e.g. Basmati, brown, white	Wheat foods e.g. Bread, cereal, pasta
Tortilla chips	
Nuts and Seeds	
Almonds (max of 10)	Cashews
Chestnuts	Pistachio
Hazelnuts	
Macademia nuts	
Peanuts	
Pecans (10 halves)	
Poppy seeds	
Pumpkin seeds	
Sesame seeds	
Sunflower seeds	
Walnuts	
Milk	
Almond milk	Cow milk
Coconut milk (125ml)	Goat milk
Hemp milk (125ml)	Sheep's milk
Lactose free milk	Soy milk made with soy beans
Oat milk (30ml max)	
Rice milk	
Soya milk made with soy protein	
Dairy and Eggs	
Butter	Buttermilk
Dark chocolate (5 squares)	Cream
Eggs	Custard
Milk chocolate (4 squares max)	Greek yoghurt
White chocolate (3 squares max)	Ice cream
	Sour cream (over 2tbsp)
	Yoghurt

Cheese	
Brie	Cream cheese (over 2tbsp)
Camembert	Ricotta cheese
Cheddar	
Cottage cheese	
Feta	
Mozzarella	
Parmesan	
Swiss	
Condiments	
Barbeque sauce (check ingredients)	Hommus dip
Chutney (1 tbsp max)	Jam (mixed berries)
Garlic infused oil	Pasta sauce (cream based)
Golden syrup (1 tsp)	Relish
Strawberry and raspberry jam / jelly	Tzatziki dip
Mayonnaise	
Mustard	
Soy sauce	
Tomato sauce	
Sweeteners	
Aspartame	Agave
Acesulfame K	High Frucose Corn Syrup (HFCS)
Glucose	Honey
Saccharine	Inulin
Stevia	Isomalt
Sucralose	Maltitol
Sugar / sucrose	Mannitol
	Sorbitol
	Xylitol
Drinks	
Beer (one max)	Apple juice
Coffee, black	Pear juice
Drinking chocolate powder	Mango juice
Herbal tea (weak) Orange	Sodas with HFCS
juice (4 oz max)	Fennel tea
Peppermint tea	Herbal tea (strong)
Water	
Wine (one max)	