

Health & Nutrition Sciences

A Map to FODMAPs

What are FODMAPs?

FODMAP is an acronym that stands for:

Fermentable, **O**ligosaccharides, **D**isaccharides, **M**onosaccharides, **A**nd **P**olyols.

These are a group of short-chain carbohydrates that are not completely digested or absorbed in the gut. FODMAPs can create gastrointestinal discomfort and pain in some people, like those with irritable bowel syndrome (IBS) experience.

FODMAP Category	Description ¹
Fermentable	Gastrointestinal (GI) bacteria can break down undigested carbohydrates to produce energy and gas
Oligosaccharides	Fructo-oligosaccharides (FOS)
	Galacto-oligosaccharides (GOS)
Disaccharides	Lactose
Monosaccharides	Fructose
Polyols	Sorbitol
	Mannitol

What is a Low FODMAP Diet?

A group of researchers at Monash University¹ created a 3-phase low FODMAP diet that temporarily restricts foods that are high in FODMAPs. Following a low FODMAP diet can help individuals with IBS see positive outcomes such as improvement in symptom severity and quality of life.²

The 3-Step FODMAP Diet

Following the FODMAP diet can be made easy using resources like the Monash Low FODMAP App to find foods to avoid and swap.

Elimination:

- 2-3 weeks
- Replace all high FODMAP foods with low FODMAP options



Reintroduction:

- 8-12 weeks
- Gradually reintroduce one FODMAP at a time, one food at a time, over 3 days
- Increase serving sizes each day and monitor tolerance



Personalization:

- Long-term
- Balance between tolerated FODMAP-rich foods and avoidance of foods that exacerbate symptoms

Nutrition Considerations

While patients adhering to the Low FODMAP diet can meet their nutrient requirements, adequate intake of certain nutrients should be monitored.^{12,13,14}



Energy:

Carbohydrate intake may be reduced when following a low FODMAP diet which can lead to reduced energy intake^{15,16,17,18}



Calcium

It is important to assess patients' calcium intake to ensure they are meeting calcium recommendations when restricting intake of lactose-containing dairy products^{15,19}



Fiber

Individuals with IBS have been reported to consume lower amounts of fiber than what is recommended^{12,20}

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High and Low FODMAP Foods³


Although FODMAPs are found in a wide range of foods, it is still possible to incorporate all food groups while following a low FODMAP diet. Low FODMAP options are available within each food category.

Food Category	High FODMAP Foods	Low FODMAP Food Alternatives
Vegetables	Artichoke, asparagus, cauliflower, garlic, peas, leeks, mushrooms, onions, sugar snap peas	Eggplant, green beans, bok choy, bell peppers, carrots, cucumbers, lettuce, potatoes, tomatoes, zucchini
Fruits	Apples, apple juice, cherries, dried fruits, mango, nectarines, peaches, pears, plums, watermelon	Cantaloupe, grapes, kiwi, mandarin oranges, oranges, pineapples, strawberries
Dairy and alternatives	Cow's milk, custard, evaporated milk, ice cream, soy milk (made from whole soybeans), sweetened condensed milk, yogurt	Almond milk, Brie cheese, Camembert cheese, feta cheese hard cheeses, lactose-free milk, soy milk (made from soy protein)
Protein sources	Most legumes/pulses, some marinated meats/poultry/seafood, some processed meats	Eggs, firm tofu, plain cooked meats/poultry, and seafood, tempeh
Grains and grain-products	Wheat/rye/barley-based breads, breakfast cereals, biscuits, snack products	Corn flakes, oats, quinoa flakes, quinoa/rice/corn pasta, rice cakes (plain), sourdough spelt bread, wheat/rye/barley-free breads
Sugars and sweets	High fructose corn syrup, honey, sugar-free candies and sweets	Dark chocolate, maple syrup, rice malt syrup, table sugar
Nuts and seeds	Cashews, pistachios	Macadamias, peanuts, pumpkin seeds, walnuts


The Role of FODMAPs in IBS Symptoms⁴

While the etiology of IBS is not well understood, research suggests that the inclusion of high FODMAP foods may exacerbate symptoms through a few key mechanisms in individuals with IBS.






1. Increased small intestinal water⁴⁻⁷
 ↑ Bloating
 ↑ Abdominal pain



2. Increased GI motility^{8,9}
 ↑ Small intestinal absorption
 ↑ Colonic fermentation



3. Increased colonic gas production^{6,7,10,11}
 ↑ Colonic fermentation ► production of gas
 Possible alteration in GI microbiota composition
 ↑ Luminal distention

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