

Limiting Certain Carbs May Help IBS

Some foods, from beans to sugar-free gum, contain carbs called FODMAPs, which may trigger symptoms if you have irritable bowel syndrome.

FODMAPs are a group of carbohydrates known to contribute to IBS symptoms, including gas, bloating, abdominal pain, diarrhea and/ or constipation. The FODMAP family includes:

- Lactose, found in milk and milk products
- Fructose, when found at higher levels in foods than glucose, such as the case in apples, pears, honey and agave syrup
- Fructans, found in foods like wheat, onion and garlic
- Galacto-oligosaccharides (GOS,) found in beans, lentils and soybeans
- Polyols, such as sorbitol and mannitol, found in fruits such as cherries, apricots, and apples, and a sweetener added to sugar-free gum and mints

A low FODMAP diet can help manage the symptoms of irritable bowel syndrome (IBS,) a condition that afflicts one out of five people in the U.S. The low FODMAP diet was first described in 2005 by researchers from Australia's Monash University; since then, evidence is mounting on the diet's effectiveness in managing IBS.

Unlike simply limiting lactose or sorbitol consumption to minimize IBS distress, the low FODMAP diet reduces all poorly absorbed FODMAPs as they cumulatively impact symptoms.

Why low FODMAP? A 2006 study in *Journal of the American Dietetic Association* found that 75 percent of IBS patients

What's a FODMAP?

FODMAP is an acronym for fermentable, oligo-, di-, and mono-saccharides, and polyols.

- F** fermentable carbohydrates
- O** oligo-saccharides
- D** di-saccharides
- M** mono-saccharides
- P** polyols

who followed a low FODMAP diet noted symptom improvement. In a follow up study, those with improvement in IBS symptoms experienced exacerbation of symptoms when the FODMAPs, fructose or fructans, were reintroduced (*Clinical Gastroenterology*

Hepatology, 2008.) In a 2011 study in the *Journal of Human Nutrition and Dietetics*, researchers found the low FODMAP diet conferred 86 percent better symptom response than traditional IBS diet therapy.

People with Crohn's disease and ulcerative colitis may also benefit from a low FODMAP diet. A study in the *Journal of Crohn's and Colitis* in 2009 evaluated the effectiveness of a low FODMAP diet in individuals with these disorders, and found that overall abdominal pain, bloating, gas and diarrhea improved.

How do FODMAPs impact IBS symptoms? When people have problems absorbing FODMAPs, extra water is drawn into their intestines, contributing to diarrhea. In addition, these carbohydrates are fermented by intestinal bacteria, causing gas. In a 2010 study in *Alimentary Pharmacology Therapeutics*, researchers evaluated stool output in a small group of individuals who required an ileostomy bag, finding that water content in their ileostomy bag increased by 20 percent on a high FODMAP diet compared to a low FODMAP diet. Scientists also demonstrat-

ed that intestinal gas levels increase in both healthy individuals and those with IBS following a high FODMAP diet, with higher levels among those with IBS (*Journal of Gastroenterology Hepatology*, 2010.)

Who can't handle FODMAPs? Everyone, whether they have IBS or not, may have some problems absorbing FODMAPs. Humans lack the enzymes to break fructans and GOS into digestible sugars. And lactose is malabsorbed in people who are lactose-intolerant and lack the intestinal enzyme lactase. Fructose is malabsorbed in 30 - 40 percent of individuals, likely because of its slow absorption in the intestine. Fructose is best absorbed when glucose is also present in a similar amount in the food, such as is found in fruits like bananas, cantaloupe and grapes. Polyols are large sugar molecules that are poorly digested by most people.

Not all individuals will malabsorb all FODMAPs. If you have IBS, it's a good idea to see a health care professional, who can determine (through a breath test)

A Low FODMAP Menu

- ▶ Breakfast: Oatmeal, strawberries, lactose-free milk and chopped walnuts.
- ▶ Lunch: Spinach salad, grilled chicken and oil and lemon juice dressing, and an orange
- ▶ Snack: Lactose-free yogurt and blueberries
- ▶ Dinner: Salmon, baked potato, sautéed green beans and carrots

whether you malabsorb fructose or lactose. People with adequate absorption of these carbohydrates will not need to restrict them. Individuals with IBS seem to be more vulnerable to the aftermath of poorly digested FODMAPs, perhaps because of the greater amount of gas produced in their intestine, or because the disordered movement of their intestine traps gas and fluid.

How to start a FODMAP diet? If you suffer from IBS, you may want to consider trying an elimination diet, in which all FODMAP food sources are removed from your diet for two to six weeks. Then foods from each FODMAP group are re-introduced methodically to identify which ones trigger symptoms, so that you're not avoiding all FODMAPs unnecessarily. Due to the complexity of the low FODMAP diet, it may be helpful to consult a registered dietitian knowledgeable with this diet. ☐

—Kate Scarlata, R.D., L.D.N.

High and Low FODMAP Foods

FOOD	High FODMAP	Low FODMAP alternative
Dairy and substitutes	Milk, yogurt, cottage cheese	Hard cheeses, lactose-free milk, coconut or rice milk.
Protein foods	Kidney beans, peas	Tofu, poultry, beef, pork, fish
Vegetables	Asparagus, artichoke, onion, garlic, sugar snap peas, cauliflower	Bean sprouts, bell pepper, bok choy, cabbage, carrot, cucumber, eggplant, kale, lettuce, potato, radish, Swiss chard, tomato, turnip, zucchini
Fruits	Apples, apricots, boysenberry, cherries, figs, mango, peaches, pears, plums, watermelon	Banana, blueberry, cantaloupe, Clementine, dragon fruit, grapes, kiwifruit, lemon, lime, orange, papaya, passion fruit, pineapple, star fruit, strawberry
Breads, cereals and grains	Wheat, wheat bread or pasta, bran, flakes, rye bread, barley	Gluten-free bread and pasta, corn flakes, puffed rice, oatmeal, oat bran, rice, quinoa, buckwheat
Nuts, seeds, legumes	Cashews, pistachios	Peanuts, pecans, walnuts, pumpkin seeds
Snacks	Wheat crackers, snacks that contain inulin or chicory root	Rice cakes or rice crackers with peanut butter or hard cheese
Sweet treats	Ice cream, wheat-based cookies	Gluten-free baked goods made with low FODMAPs
Baking supplies	Wheat flour, honey, agave	Brown rice flour, oat flour, maple syrup, table sugar