

FODMAPs Fact Sheet

FODMAPs are 4 groups of foods that have clinically been shown to trigger numerous digestive symptoms. The acronym stands for fermentable oligo-, di-, mono-saccharides and polyols. Although high FODMAP foods may cause negative GI symptoms, many are rather nutritious and very beneficial to gut health. Foods such as yogurts and fermented vegetables are full of probiotics that increase good bacteria in your intestines to aid in digestion and nutrient absorption. Foods high in fermentable sugars, such as fruits, are full of fiber, polyphenols, and many other vitamins and minerals. Therefore, it is advised to include these foods in your diet unless they have proven to cause undesirable side effects.

If you regularly experience stomach pains, bloating, excessive gas, diarrhea, etc, it may be beneficial to follow a low FODMAP diet. It has been shown to significantly increase the quality of life in people with IBS, with more research showing improvements in GI symptoms in those with diverticulitis and exercise-induced digestive issues. By temporarily eliminating these potentially harmful foods from your diet, it allows your gut to cool off from any local inflammation that is occurring. High FODMAP foods are digestible by our bodies and even have a prebiotic effect, allowing all the healthy bacteria in our gut biome to thrive. However, a lot of fermentation happens during this process, leading to increased gas production resulting in bloating or stomach pains, or imbalances in the osmotic pressure in your GI tract resulting in side effects such as diarrhea.

The lactose sugar found in many dairy products are fermentable sugars that can lead to these symptoms. Therefore dairy products lower in lactose such as lactose-free dairy products, some cheeses and yogurts, butters, and other dairy products low in lactose are still safe for consumption. Lactose intolerance can originate from 3 causes. One is a congenital defect known as Congenital Alactasia. A mutation of the LCT gene can cause a complete absence of the enzyme lactase, which is necessary for the digestion of lactose sugar. This is most common among natives of Finland. The second possible reason is acquired lactose intolerance, or Hypolactasia. In this case, there is a decrease in the expression of the LCT gene. Your body is able to digest a small amount of lactose, as your body will produce a small amount of the enzyme lactase. Individuals with hypolactasia are usually able to digest up to 15 grams of lactose, equivalence of 8 ounces of milk, per day without experiencing the symptoms of lactose intolerance. Keep in mind this is an average, and may be different from individual to individual. Over 90% of individuals of asian descent and 80% of blacks and hispanics have hypolactasia. The third cause of lactose insufficiency or deficiency is secondary lactose intolerance. This is due to damage of the intestinal mucosa resulting from bacterial overgrowth, chrohns or celiacs. The damage done to the intestinal linings prevent our gut from producing sufficient amounts of the enzyme lactase, among numerous other digestive enzymes, for lactose digestion. It is possible for individuals with secondary lactose intolerance to regain their ability to digest dairy products by resolving the inflammation occurring in their gut or bringing their gut biome back to normal(2).

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Fiber is another hard to digest substance that is best if consumed minimally on a low-FODMAP diet. Our gut is not able to break down and absorb fiber. Rather, it moves along our GI tract and is instead fed to our gut bacteria. The bacteria in our gut have the ability to produce the enzymes that we lack to break down fiber and turn it into food. They are able to ferment and break down these long chains of fiber into short chain fatty acids and monosaccharides(1). In short, the more fiber you consume, the more your gut biome will thrive. In a healthy individual, this is a great thing. However, if your gut is suffering from bacterial overgrowth or inflammation, this will only worsen the condition. Another thing to consider about fiber is the source and type of fiber. One type to look out for in particular is inulin, an oligofructose that is added to many commercial products to increase the fiber content. With most Americans not getting in enough fiber, many processed products now boast of having high fiber content. That fiber is likely in the form of inulin extracted from chicory root fiber. It is added to a wide variety of products, mainly energy bars, diet products, and cereals. Inulin causes a lot of gas, bloating, and abdominal pain if consumed in large quantities or too rapidly. You may be unknowingly consuming more inulin than you think. Even for individuals without GI problems, it may be better to consider natural forms of fiber already in whole foods, rather than supplementation of fiber in their diet. (4)

More and more research is suggesting that fructan, an oligosaccharide, is the real culprit behind the symptoms people with non-celiac gluten sensitivity experience when they consume gluten containing products. Fructan is in many gluten containing foods, making it possible that fructan sensitivity is being mistaken as a gluten intolerance, since gluten is more well known by the general public. People with fructan sensitivity generally experience alleviation of their symptoms after they have eliminated most of the gluten out of their diet. This may be due to the fact that they have inadvertently also eliminated fructan. An individual following a gluten free diet also eliminates about 70% of the fructan in their diet.(3) Unlike gluten intolerances such as celiac, fructan sensitivity does not require the individual to completely eliminate fructan from their diet. That is nearly impossible, seeing as almost everything we consume contains fructan. Onion and garlic are two high FODMAP foods that contain fructan. Simply just minimizing the consumption of fructan is enough to see improvements in symptoms.

High FODMAP foods are eliminated from the diet for 3-8 weeks and are eventually reintroduced into the diet. Reintroduction is important not only because of the health benefits of high FODMAP foods, but also because a variety is essential in maintaining a healthy gut. If your gut issues are not resolved after 8 weeks of elimination, it may be time to see a physician for further actions. If your symptoms have resolved, it is time to reintroduce high FODMAP foods back into your diet. This process is long and tedious. It is very important to do it properly to find out exactly which foods to keep in your diet and which to eliminate.

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Low FODMAP Foods:

Vegetables:

Alfalfa sprouts	Bean sprouts	Bell Pepper	Carrot	Green Beans
Bok Choy	Cucumber	lettuce	tomato	Zucchini
Bamboo shoots	eggplant	ginger	chives	olives
parsnips	potatoes	turnips	pumpkin	yams

Fruits:

oranges	grapes	honeydew	cantaloupe	banana
blueberries	grapefruit	kiwi	lemon	lime
strawberries	kumquat	mandarin	Passion fruit	pineapple
rhubarb	tangerine			

Dairy: lactose free, hard cheeses, ripened cheeses

brie	camembert	Feta cheese	Almond milk	Rice milk
Rice milk ice cream				

Grains: wheat free/gluten free

rice	Rice bran	oats	Oat bran	quinoa
Corn flour	Sourdough spelt bread	Gluten-free bread and pasta		

Meats:

beef	chicken	Canned tuna	eggs	Egg whites
fish	lamb	pork	shellfish	turkey
Cold cuts				

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High FODMAP Foods:

Vegetables:

onions	garlic	cabbage	broccoli	cauliflower
Snow peas	asparagus	artichokes	leeks	beetroot
fennel	Green beans	okra	Summer squash	mushrooms
celery	Sweet corn	Brussels sprouts		

Fruits: particularly stone fruits

peaches	apricots	nectarines	plums	prunes
mangoes	apples	pears	watermelon	cherries
blackberries	lechee	avocado	persimmon	guava
papaya	figs			

Dairy and dairy containing products that contain lactose

milk	Soft cheese	yogurt	Ice cream	custard
pudding	Cottage cheese	buttermilk	chocolate	Creamy/cheesy sauces
Sweetened condensed milk	Evaporated milk	Sour cream	Soy products	

Grains:

Chicory root	inulin	Grains with HFCS	wheat	rye
Graham flour	Semolina flour	White flours	Farina flour	Bromated flour

Sweeteners

High fructose corn syrup	honey	Agave nectar	sorbitol	xylitol
maltitol	mannitol	isomalt		

Drinks/beverages

alcohol	Sports drinks	Coconut water	Anything with HFCS	
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Sources:

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