Understanding FODMAPs

Canadian Digestive Health Foundation

What are FODMAPs?

FODMAPs are a group of small carbohydrate (sugar) molecules found in everyday foods. Carbohydrates are made up of carbon, hydrogen and oxygen and provide an important source of energy for the body. FODMAPs are carbohydrates that may be poorly absorbed in the small intestine of some people.

FODMAPs move through the digestive tract to the large intestine (colon), where they can draw water into the colon and are rapidly fermented (digested) by naturally-occurring gut bacteria. The fermentation of FODMAPs produces gas and otherby-products.

FODMAP is an acronym for Fermentable – Oligosaccharides – Disaccharides – Monosaccharides – And – Polyols.

It is estimated that 50% of people with IBS may benefit from a low FODMAPs diet, however the quality of scientific evidence is very low. Of these people, there is possible benefit for overall symptoms such as abdominal pain, cramping, bloating, excess gas, constipation and/or diarrhea.

F **Fermentable:** Fermentable carbohydrates are sugars that are broken down and digested by bacteria in our intestines, producing gas and other by-products.

O **Oligosaccharides:** Oligosaccharides are short chains of carbohydrate molecules linked together. Fructans (a chain of fructose molecules) and galacto-oligosaccharides (a chain of galactose molecules) are oligosaccharides that humans cannot break down and properly absorb in the small intestine.

D **Disaccharides:** Disaccharides are two carbohydrate molecules linked together. Lactose, the sugar found in milk and dairy products, is a disaccharide composed of glucose and galactose. Lactose must be broken down by the digestive enzyme lactase before it can be absorbed in the small intestine. In people with lactose intolerance, the level of lactase enzyme is insufficient to properly digest lactose and lactose travels to the colon where fermentation occurs.

M **Monosaccharides:** Monosaccharides are single carbohydrate molecules. Fructose, the sugar found in many fruits and some vegetables, is a monosaccharide and does not require and digestion before it is absorbed. When foods containing equal amounts of fructose and glucose are eaten, glucose helps fructose to be completely absorbed. However, when fructose is present in greater quantities than glucose, fructose absorption depends upon the activity of sugar transporters located in the intestinal wall. The ability to absorb excess fructose varies from person to person. In people with fructose malabsorption, the capacity of sugar transporters is limited and excess fructose travels to the colon where fermentation occurs.

A **AND**

P **Polyols:** Polyols, or sugar alcohols, are a type of carbohydrate that humans can only partially digest and absorb in the small intestine. Polyols, such as sorbitol, mannitol, xylitol, maltitol and isomalt, mimic the sweetness of sucrose (table sugar), however, because their absorption is much slower, only a small amount of what is eaten is actually absorbed. Polyols are often used as low-calorie sweeteners in sugar-free and diet products.

Low FODMAP Grocery List:

Keep this list on you and handy as a reference sheet while cooking or making trips to the grocery store. Replace any high-fodmap foods you may have been eating with these items instead. This is just a basic list, remember to always work with a registered dietitian while on this diet. diet.

Vegetables

- Auberguine/ eggplant
- beans (green)
- bok choy
- bell pepper
- carrot
- cucumber
- lettuce
- potato
- tomato
- zucchini

Fruits

- Cantaloupe
- grapes
- kiwi fruit
- mandarine oranges
- pineapple
- strawberries

Dairy & Alternatives

- Almond milk
- brie/camembert
- feta cheese
- lactose free milk
- soy milk
- hard cheeses:
  - cheddar
  - parmasean
  - swiss
  - mozzerella

Breads & Cereals

- Corn flakes
- oats
- quinoa flakes
- quinoa
- rice
- corn pasta
- rice cakes
- sourdough
- spelt bread
- wheat/ rye/barley free breads

Protein Sources

Eggs, firm tofu, plain cooked meats, poultry, seafood, tempeh

Sugars & Sweeteners

Dark chocolate, maple syrup, rice malt syrup table sugar

Nuts & Seeds

Macadamias, peanuts, pumpkin seeds, walnuts

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Eliminate these foods:

Keep this list on you and handy as a reference sheet while cooking or making trips to the grocery store. Replace any high-fodmap foods you may have been eating with the low FODMAP items listed on the previous page. This is just a basic list, remember to always work with a registered dietitian while on this diet.

Vegetables

Artichoke
Asaragus
cauliflower
garlic
green peas
leek
mushroom
onion
sugar snap peas
sundried tomatoes

Fruits

Apples, apple juice, cherries dried fruit, mango, nectarines, peaches
pears, plums
watermelon

Dairy & Alternatives

Cows Milk
custard
evaporated milk
ice cream
soy milk (made from whole soy beans)
sweetend condensed milk,
yoghurt,
ricotta cheese
cottage cheese

Breads & Cereals

Wheat, rye barley based breads
snack products
breakfast cereals
biscuits

Protein Sources

Most legumes/pulses, some marinated meats, marinated poultryand seafood, some processed meats

Sugars & Sweeteners

High fructose corn syrum, honey, sugar free confectionary

Nuts & Seeds

Cashews, pistachios

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FODMAP diet & IBS

Does the FODMAP diet relieve digestive symptoms?

The low FODMAP diet, originally developed in Australia by dietitian, Dr. Sue Shepherd, and gastroenterologist, Dr. Peter Gibson, is increasingly recognized as an effective dietary treatment for IBS. **It is estimated that around 50% of people with IBS may benefit from a low FODMAPs diet, however, the quality of scientific evidence for this is very[1] low.** The low FODMAP diet is intended for people with functional bowel disorders, such as IBS, and may provide no benefit for healthy individuals.

Partnering for best health

Working collaboratively with your health care professional will help you protect your body from digestive diseases and maximize your digestive health. When you report your health status completely, concisely and accurately, your physician can provide you with the best care and treatment plan. Be sure to stay informed on ways to maintain your health and well-being, track and record your symptoms, and write down questions and concerns to discuss at your next appointment.

Who Should follow a low FODMAP diet?

If you experience any of the symptoms commonly associated with IBS, consult your physician. In addition to other treatments your doctor may recommend, following a low FODMAP diet may be an effective strategy to ease the pain, gas and altered bowel patterns commonly experienced in IBS.

When reducing FODMAPs in the diet, it is important to replace restricted foods with nutritious alternatives and ensure that your diet is healthy and well-balanced. A re-introduction of FODMAP foods should be done gradually to help identify which FODMAPs can be tolerated over the long term.

The low FODMAP diet is best implemented under the supervision of a qualified health care professional, such as a registered dietitian. This diet is a new and evolving area of nutritional science. Additional research into the role of FODMAPs in IBS and the FODMAP content of specific foods is continually emerging. We encourage you to seek additional sources that are supported by recent scientific evidence.

1. Ford AC et al, American College of Gastroenterology Monograph on Management of Irritable Bowel Syndrome. Am J Gastro 2018; 113:1-18)