

# Jason A. Ohayon MD FRCPC

Consulting Allergy and Clinical Immunology

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## Low FODMAP Diet

Adapted from the University of Virginia Health System: Digestive Health Centre forms on the "Low FODMAP Diet"

### What does FODMAP stand for?

**F**ermentable

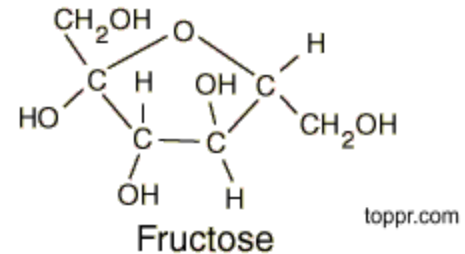
**O**ligosaccharides (*oligo* - "few," *saccharide* - "sugar")

**D**isaccharides ("two sugars")

**M**onosaccharides

**A**nd

**P**olyols ("sugar alcohols")

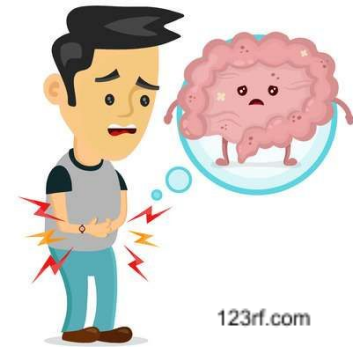


### What are FODMAPs and who should avoid them?

FODMAPs are types of "sugar," also known as carbohydrates, that are found in certain foods. Along with other molecules like fats and proteins, carbohydrates give us energy. However, for some people with conditions such as fructose malabsorption (intolerance), specific types of carbohydrates that are FODMAPs can trigger gastrointestinal symptoms like bloating, abdominal discomfort, gas (flatulence), nausea, and stomach pain. Foods that do not contain carbohydrates are generally not a concern, such as meat, fish, eggs, butter, and oils.

### What are examples of FODMAP carbohydrates?

Fructans and Galactans	Polyols	
Fructose	Erythritol	Mannitol
Lactose	Isomalt	Sorbitol
Fructooligosaccharides	Lactitol	Xylitol
Galactooligosaccharides	Maltitol	



**Fructose:** Fructose is a carbohydrate that is found naturally in fruits, vegetables, and honey. Some individuals cannot tolerate fructose, even small amounts from fruits and fruit juices, and will develop digestive symptoms such as abdominal cramping and diarrhea. Foods and drinks that are higher in glucose (another type of sugar) as opposed to fructose may be better choices if you have FODMAP intolerance.

**High Fructose Corn Syrup (HFCS):** HFCS is an ingredient found in many processed foods. It is made from glucose and fructose, similar to table sugar ("sucrose"). Some individuals can tolerate HFCS, such as in soft drinks, but for others, even small amounts may cause digestive symptoms.

**Sorbitol:** Sorbitol (or sorbose) is a sugar alcohol that is found naturally in fruits and fruit juices. It is used as an artificial sweetener and can be found in "diet" foods such as diet soft drinks and sugar-free gum. It can also be found in certain medications. It creates similar effects to fructose.

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**Medications:** Liquid medications and personal care products may contain FODMAPs such as lactose or the polyols, such as liquid pain relievers, cough medicines, and cough drops. It may be helpful to select a tablet/caplet form instead of liquid medication if you are following a low FODMAP diet. You can also check with your pharmacist whether any of your medications contain lactose or polyols.

## Three Steps to Following a Low FODMAP Diet

*A low FODMAP diet is not like a traditional diet, but it is instead a learning process to determine which foods worsen your symptoms, without eliminating foods that don't.*

1. Look over the list of high FODMAP foods (below). If there are any that you eat a lot, try eliminating these first.
2. If you feel better from the above step, continue avoiding these foods. If not, try removing all high FODMAP foods from your diet for 6-8 weeks.
3. After 6-8 weeks, reintroduce foods one at a time. This can help you determine which foods are causing your symptoms.

There are a few options for how to reintroduce foods, which include:

1. Bring back lower FODMAP foods first, then slowly work up to high FODMAP foods
2. Bring back high FODMAP foods first
3. Bring back your favourite FODMAP foods first

## Tips for Starting a Low FODMAP Diet:

- ✓ Eliminate products with ingredients that list fructose, crystalline fructose (not HFCS), honey, and sorbitol on the label
- ✓ Avoid polyols (sugar alcohols), listed above. They are often found in "diet" or "diabetic" foods such as diet drinks, candy, ice cream, processed foods, etc
- ✓ Limit drinks with HFCS. If you do drink them, drink less than the recommended serving size (12 oz). It may help to drink them at a meal.
- ✓ Check your medications for fructose and sorbitol. They are not always listed on the label, so check with your pharmacist or the manufacturer.
- ✓ Keep in mind the amount of fructose in 2 apples (or 2 oz. of honey) is the same as the amount of fructose in 1 can of soda. However, apples have other nutritional benefits.
- ✓ Follow the guidelines on the next page to choose fruits, vegetables, and other foods that are healthier for your intestines!

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## Guidelines for starting your low FODMAP diet based on content in common foods:

Food Group	Low FODMAP (PREFERRED)	Moderate FODMAP	High FODMAP (AVOID)	Serving Size and Suggestions
<b>Fruits</b>	<p>Bananas Blueberries Cantaloupe Grapefruit Grapes Honeydew Kiwi Limes Oranges</p> <p>Papaya Passion fruit Pineapple Raspberries Rhubarb Strawberries Tangelos</p> <p><i>Note: avoid eating large amounts of any fruit</i></p>	Canned fruit	<p>Apples Applesauce Avocados Blackberries Dried fruits (e.g. raisins, dates) Fruit juice Lychees Pears Persimmons Watermelons</p>	<ul style="list-style-type: none"> <li>✓ ½ cup of cut fruit or a medium (baseball size) whole fruit</li> <li>✓ Limit to 1 to 2 servings per day</li> <li>✓ Fresh or fresh frozen fruit may be better tolerated than canned fruit</li> <li>✓ Tolerance may depend on the amount you eat at one time</li> <li>✓ Limit concentrated sources of fruit, such as dried fruit and fruit juices.</li> </ul>
<b>Vegetables</b>	<p>Bamboo shoots Bok choy Carrots Celery Chives Cucumber Eggplant Green beans Kale Lettuce</p> <p>Parsnips Pumpkin Radish Red bell pepper Spinach Squash Sweet potato Turnip White potato Zucchini</p>	<p>Corn Green peas Tomatoes</p>	<p>Artichokes Asparagus Beets Broccoli Brussel sprouts Cabbage Cauliflower Fennel Garlic</p> <p>Green bell peppers Leeks Mushrooms Okra Onions Shallots Sweet corn Tomato paste</p>	<ul style="list-style-type: none"> <li>✓ ½ cup for most vegetables or 1 cup of leafy greens</li> <li>✓ Limit to 1 ½ to 3 servings per day</li> <li>✓ Cooked vegetables may be tolerated best since cooking causes a loss of free sugars</li> <li>✓ Keep in mind tolerance may depend on the amount you eat at one time</li> </ul>
<b>Dairy</b>	<p>Kefir Lactose-free milk Lactose-free cottage cheese Lactose-free yogurt Hard or aged cheeses Butter Cream Cream cheese</p>	American cheese	<p>Milk Yogurt Ice cream Cottage cheese Ricotta cheese</p>	
<b>Grains</b>	<p>Quinoa Rice Millet Cornmeal Gluten-free products</p>	<p>Oats Buckwheat Sourdough white bread</p>	<p>Wheat Barley Rye</p>	
<b>Legumes and Nuts</b>	<p>Firm and medium tofu Pumpkin seeds Sesame seeds Sunflower seeds</p>	<p>Canned and drained chickpeas and lentils</p> <p>Nuts and nut butters, except pistachios and cashews</p> <p>Flax seeds</p>	<p>Soy (silken tofu, textured vegetable protein, edamame, soy nuts, soy milk) Beans Chickpeas, hummus Lentils Pistachios Cashews</p>	
<b>Beverages</b>	<p>Espresso Filtered coffee Green tea Peppermint tea Black tea</p>		<p>Soft drinks that include high-fructose corn syrup or crystalline fructose; Apple juice Other fruit juices Apple cider Instant coffee Chamomile tea Fennel tea</p>	
<b>Sweeteners</b>	<p>Granulated sugar Evaporated cane juice Brown sugar Brown rice syrup Pure maple syrup Corn syrup Sugar cane molasses Aspartame Saccharin Sucralose Stevia</p>	Cocoa	<p>High-fructose corn syrup Crystalline fructose Honey Agave Sugar beet molasses Sorbitol Xylitol Mannitol Maltitol</p>	