

Information about

Low FODMAP Diet

To improve Irritable Bowel Syndrome (IBS) symptom control

Rationale

Irritable Bowel Syndrome (IBS) is a common functional gastrointestinal (GI) disorder affecting one in seven adults.

IBS is commonly characterised by GI symptoms such as bloating and distension, excess wind (flatulence), abdominal pain and altered bowel habits (diarrhoea and/or constipation).

These symptoms can create anxiety and stress, interfere with busy schedules, and may compromise everyday life.

The underlying pathology of IBS is not well understood and a number of factors may trigger symptoms.

Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols (FODMAPs) are found in the foods we eat. FODMAPs are sugars that are poorly absorbed in the small intestine and reach the large intestine where they produce gas and attract water.

FODMAPs are found in everyday foods including specific dairy products, wheat and other grains, and fruits and vegetables.

It's important to remember FODMAPs are not the cause of IBS, but managing them in the diet provides an opportunity for reducing IBS symptoms.

Studies have shown that ingesting FODMAPs exacerbates symptoms in most people with IBS, while dietary restriction of FODMAPs improves symptom control.

However, if you are experiencing symptoms of IBS it is important not to 'self-diagnose'. Seek medical advice before changing your diet. Your doctor can assess your symptoms and rule out any other GI diseases or more suitable eating plans.



An information leaflet for patients and interested members of the general public prepared by the Digestive Health Foundation

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What is the Low FODMAP Diet?

The Low FODMAP diet involves many dietary changes that are best reviewed in consultation with an accredited dietitian. However a brief overview and sample meal plan is shown below.

What are FODMAPs?

FODMAPs are a large group of dietary sugars found in many common foods such as specific dairy products, wheat and other grains, and fruits and vegetables.

FODMAPs are found in many foods we commonly eat and is an acronym for:

Fermentable

Oligosaccharides - Fructans and galacto-oligosaccharides (GOS)

Disaccharides - Lactose

Monosaccharides - Fructose in excess of glucose

And

Polyols - Sorbitol, Mannitol, Maltitol, Xylitol and Isomalt

FODMAPs can be classified into two groups:

- Those FODMAPs that are partly absorbed (fructose, lactose, polyols)
- Those FODMAPs that are not absorbed in anyone (fructans and GOS)

How do FODMAPs affect people with IBS?

FODMAPs are small in size and will therefore have an osmotic effect (draw fluid) in the gut that results in increased delivery of water through the bowel.

FODMAPs are also poorly absorbed in the small intestine. They continue along the digestive tract to the large intestine where they are fermented by bacteria in the large intestine, which produces gas. The gas production can lead to wind (flatulence), bloating, discomfort and abdominal pain. In addition, the large intestinal gas and increased water delivery can alter 'motility' or movement, which may contribute to diarrhoea and/or constipation.

Do FODMAPs affect everybody?

While FODMAPs are poorly absorbed in all people, those with specific gut disorders such as IBS are thought to experience the uncomfortable symptoms due to the gut being unusually sensitive. Distension or 'stretch' in the large intestine from gas or water can trigger symptoms.

Diagnosis

There is no diagnostic test for IBS. Diagnosis is made on symptoms. It is therefore important to work with medical professionals to exclude other serious GI conditions (e.g. inflammatory bowel disease, coeliac disease and bowel cancer) and also some gynaecological conditions.

TABLE 1: REDUCE FOODS HIGH IN FODMAPs

EXCESS FRUCTOSE	FRUCTANS	LACTOSE	GOS	POLYOLS
Apples	Artichoke	Custard	Chickpeas	Apples
Corn syrup solids	Asparagus	Condensed milk	Legume beans	Apricots
High-fructose corn syrup	Beetroot	Dairy desserts	(e.g. baked beans, kidney beans, borlotti beans)	Avocado
Honey	Chicory	Evaporated milk	Lentils	Cherries
Mango	Dandelion leaves	Ice cream		Isomalt (953)
Pear	Garlic	Milk		Longon
Watermelon	Leek	Milk powder		Lychee
	Lettuce	Unripened cheeses		Maltitol (965)
	Onion	(e.g. ricotta, cottage, cream, mascarpone)		Mannitol (421)
	Onion powder	Yoghurt		Mushrooms
	Spring onion (white part)			Nectarines
	Rye			Pears
	Wheat			Plums
				Prunes
				Sorbitol (420)
				Xylitol (967)

Testing for poor absorption

Hydrogen/methane breath-testing is a valuable way to identify if a person absorbs fructose, lactose and sorbitol effectively. It may also be helpful in tailoring the Low FODMAP Diet.

If breath tests are not available, a FODMAP restriction diet – under dietitian guidance – may help determine if FODMAPs influence gut symptoms.

How do I follow the Low FODMAP Diet?

It is essential to develop a strategy and plan ahead. Work with your dietitian to develop easy and tasty meal plans. Ask for a low FODMAP shopping guide. Maintaining a low FODMAP pantry is key to sustaining a Low FODMAP Diet.

When reducing FODMAPs in the diet it is still important to balance good nutrition with symptom control and eat from the five food groups:

Food Group	per / day
Vegetables	5-7 servings
Bread, cereals, rice, pasta, noodles	4 servings
Fruit	2 servings
Meat, fish, poultry	1-2 servings
Dairy	2-3 servings



Low FODMAP food tips

- Choose colourful fruits low in FODMAPs such as strawberries, bananas, blueberries, grapes, rockmelon, pineapple, oranges and kiwifruit
- Select vegetables such as spinach, carrots, capsicum, eggplant, bok choy, tomatoes, zucchini and potatoes
- Purchase wheat and rye free, all-purpose flour blends that are free of soy

- Select low lactose dairy foods such as ripened cheeses including parmesan and swiss, and lactose-free yoghurt and lactose-free kefir milk
- Select a variety of meats, fish and poultry, and oils that are all FODMAP-free
- Choose nuts and seeds low in FODMAPs such as walnuts, almonds, peanuts, pecans, pine nuts, macadamia nuts and sesame seeds.

What are some of the barriers to following a Low FODMAP Diet?

The Low FODMAP Diet is somewhat restrictive but can provide adequate nutrients with careful planning, and potentially reduce symptoms of IBS. Your dietitian can ensure that restricted foods are replaced with suitable alternatives. Your dietitian can also advise on the need and suitability of vitamin and mineral supplements.

For people suffering from lactose intolerance, meeting calcium and vitamin D requirements can be more challenging. This can be achieved by consuming sufficient lactose-free milk; low lactose cheeses such as swiss, cheddar, feta and mozzarella; enriched rice milk; spinach; and canned salmon – for low FODMAP calcium sources.

Your doctor and dietitian will advise whether a low FODMAP diet is recommended for you if you have other conditions.

Fibre intake can decrease when you follow the Low FODMAP Diet. See **Table 2** for good low FODMAP fibre sources.

TABLE 2: FIBRE WITHOUT FODMAPs

Food	Portion size	Fibre content (grams)
Oatmeal	1/2 cup - dry	4.1
Oat Bran	1/2 cup - dry	7.2
Rice Bran	1/4 cup - dry	6.2
Strawberries	1 cup - halves	3
Blueberries	1 cup	3.6
Orange	1 medium	3.1
Spinach	1/2 cup - cooked	2.2

Is this a lifetime diet?

No. This diet is usually recommended for 6-8 weeks at a time. Progress should be assessed by an accredited dietitian. They will help advise which foods can be gradually re-introduced into your specific diet.

Many people can liberalise the diet and may only need to avoid large amounts of a few high FODMAP foods.

Low FODMAP Diet sample meal plan

Breakfast

- Gluten-free or spelt toast with Vegemite®
- Cereal (oats, porridge, cornflakes)*
- Poached egg and spinach
- Serve of suitable fruit (e.g. banana)
- Tea or coffee (use lactose-free milk if you have lactose malabsorption).

* Add oat or rice bran for extra dietary fibre.

Lunch

- Gluten-free or spelt sandwich with fillings (ham/salad, tuna/salad, cheese/salad, egg/lettuce etc.)
- Frittata
- Homemade soup with low FODMAP vegetables
- Fresh salads with lemon juice or olive oil
- Gluten-free pizza with low FODMAP vegetables
- 1/2 cup blueberries and lactose-free vanilla yogurt
- Almonds.

Dinner

- Grilled chicken, salmon, steak
- Lamb shanks
- Tofu
- Baked potato with skin (butter optional)
- Sautéed spinach and capsicum seasoned with green part of spring onion, salt, pepper, olive oil and pine nuts
- Kiwifruit.

Safe snack

- Glutino pretzels and a mozzarella cheese stick
- Two rice cakes spread with peanut butter
- One banana and a handful of almonds
- Blue Diamond Almond Nut Thins and swiss cheese
- Lactose-free yogurt with blueberries
- One celery stick with peanut butter.

Take home points

- FODMAPs are sugars commonly found in everyday foods
- Dietary restriction of FODMAPs may improve IBS symptom control
- Work with a dietitian to develop a personal eating, shopping and dining-out plan
- This diet is usually recommended for 6-8 weeks. Once symptoms are relieved foods may be gradually re-introduced.

Digestive Health Foundation

This information leaflet has been designed by the Digestive Health Foundation (DHF) as an aid to people who have been recommended a Low FODMAP Diet or for those who wish to know more about this topic. This is not meant to replace personal advice from your medical practitioner.

The DHF is an educational body committed to promoting better health for all Australians by promoting education and community health programs related to the digestive system.

The DHF is the educational arm of the Gastroenterological Society of Australia (GESA), the professional body representing the specialty of gastrointestinal and liver disease. Members of the Society are drawn from physicians, surgeons, scientists and other medical specialties with an interest in gastrointestinal (GI) disorders. GI disorders are the most common health-related problems affecting the community.

Research and education into gastrointestinal disease are essential to contain the effects of these disorders on all Australians.

Further information on a wide variety of gastrointestinal conditions is available on our website – www.gesa.org.au

dhf

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