

IBS and the Low FODMAP diet

Irritable bowel syndrome (IBS):

The causes of IBS are not fully understood. In IBS the gut can be 'hypersensitive' leading to different symptoms including:

- abdominal pain/discomfort;
- bloating;
- wind;
- urgency to open bowels;
- a feeling of being unable to pass all stool (incomplete evacuation);
- diarrhoea or constipation (or variable bowel habit swinging between these);
- nausea
- stomach gurgling
- belching, heartburn and reflux
- tiredness / lethargy

These symptoms may vary over time, be present every day to a degree, or come and go without explanation. Stress, anxiety or a hectic lifestyle can also play a role, which can lead to a flare up or worsening symptoms. IBS can be difficult to manage, but dietary and lifestyle changes can be very helpful in improving symptoms and therefore your quality of life.

Sometimes those with other gut conditions like inflammatory bowel or coeliac disease can have IBS type symptoms alongside these conditions. These people may also benefit from similar changes.

Diet and IBS

Many dietary factors are thought to be triggers for IBS symptoms, e.g. caffeine, alcohol, spicy or fatty foods, along with erratic eating patterns and behaviours. Dietary triggers can often be difficult to spot, especially when you have a flare of IBS symptoms.

Some types of carbohydrates contribute to IBS type symptoms. These carbohydrates are called **FODMAPs**, which stands for **F**ermentable, **O**ligo-saccharides, **D**i-saccharides, **M**ono-saccharides **A**nd **P**olyols - described below.

Fermentable: foods which do not fully digest/absorb in the intestine so ferment in the large bowel.

Oligosaccharides: there are two groups of oligosaccharides that cause symptoms; **Fructans and Galacto-oligosaccharides.** These are poorly absorbed in all people as we do not have the ability to digest them in the small intestine.

Fructans are also known as fructo-oligosaccharides (FOS) and are chains of the sugar fructose of different lengths. Main dietary sources of these are wheat products (bread/breakfast cereal/pasta), some vegetables (e.g. onion, garlic, artichoke) and as an ingredient added to some processed foods as a prebiotic (e.g. FOS, oligofructose or inulin).

Galacto-oligosaccharides (GOS) are chains of sugar galactose. The main dietary sources are pulses, beans, legumes and cashew or pistachio nuts.

Disaccharides: Lactose is a sugar found in all animal milks. Milk and yogurt are main sources of lactose

Monosaccharides: Fructose is a simple sugar but in excessive amounts may be poorly absorbed by some.

And

Polyols: Polyols are sugar alcohols such as sorbitol, mannitol and xylitol. These are poorly absorbed in most people. These occur naturally in some fruits and vegetables, but are also used as artificial sweeteners in sugar free chewing gum, mints, and other low calorie or sugar free products.

Even though some FODMAPs are poorly absorbed in everyone, they only need to be restricted if they cause symptoms. People with IBS-like symptoms appear to be sensitive to the gases produced and water changes in the large intestine that occur when the diet contains lots of FODMAPs. Reducing the intake of FODMAP's has been shown to improve gut symptoms in most individuals with IBS-like symptoms.

Following the diet: How strict do I need to be?

Try to follow the low FODMAP diet as closely as possible to give you the best chance to improve your symptoms. Usually 4-6 weeks is long enough to identify if symptoms will respond to a low FODMAP diet.

After the initial 4-6 weeks it is important that you reintroduce the avoided foods to identify which particular groups of carbohydrate cause you symptoms. Sensitivity to FODMAPs varies between people, and reintroduction to FODMAP containing foods is often well tolerated. Although a low FODMAP diet can be nutritionally balanced, working out what you are most sensitive to helps to increase food choices in your diet.

The tables below provide an overview of the foods needing to be avoided and those that can be eaten whilst following a low FODMAP diet. It is not an exhaustive list. Further details on other foods and safe quantities can be found on the Monash University or low FODMAP food maestro apps:

<https://www.monashfodmap.com/ibs-central/i-have-ibs/starting-the-low-fodmap-diet/>

<https://www.foodmaestro.me/consumer-apps> (scroll down to bottom half of the webpage)

The foods listed below do not contain any FODMAPs and may be eaten freely:

Meat, poultry, fish, eggs or vegetarian protein foods. *Eat 1-2 portions per day. One portion is 75-100g or 2 eggs.*

- Fresh and frozen without sauce or coating: beef, chicken, duck, lamb, pork (including bacon and ham), turkey.
- Fresh or frozen shellfish, white fish, oily fish.
- Tinned fish in brine or oil.
- Eggs (boiled, fried, poached, scrambled).
- Firm tofu, tempeh.
- Quorn (*Check ingredients: some varieties contain onion and/or garlic*)
- Textured vegetable protein (soya mince)

Fats, oils & spreads

For a healthy diet try eating less foods containing fat. Fats are high in calories so use sparingly, and can contribute to IBS symptoms in some people. Choose polyunsaturated or monounsaturated where possible.

- Cooking oils, margarines, low fat spreads, butter, ghee, lard, suet.

Starchy Foods

*Minor wheat ingredients in a food **do not** need to be avoided (e.g. thickeners and flavourings).*

<u>Foods to avoid</u> (high in fructans, GOS or polyols):	<u>Suitable foods</u> <i>But check ingredients label for problem fruit, FOS, inulin, oligofructose.</i>
Cereal Grains - Wheat (including bulghur wheat, couscous, semolina) - Rye, - Barley - Amaranth	Cereal grains and starchy foods Rice (and rice bran), oats (and oat bran), tapioca, potatoes, buckwheat, polenta, corn, quinoa
Bread All wheat bread and rolls: - white, wholemeal, multigrain , sourdough (<i>small amounts may be ok</i>) - Pitta bread, bagels, ciabatta, focaccia, Panini, naan bread, chapatti - Croissants, muffins, brioche, pastries crumpets and most bakery goods - Garlic bread, pizza bases - Rye bread, spelt bread.	Bread - Wheat free / Gluten free bread and rolls - Bread made from: oat, rice, corn, tapioca, potato flours 100% spelt sourdough (only) Wheat free or gluten free pizza bases, pitta bread, ciabatta, naan bread. <i>Homemade wheat free bread using a breadmaker is a good option</i>
Flour - All wheat flour - white, wholemeal, plain, strong, self-raising - Rye, barley, gram (Chick Pea) flours - coconut flour, spelt flour, soya flour	Flour and raising agents - Wheat free / gluten free flour, buckwheat, cornflour, millet flour, maize flour, polenta, potato, rice flour. - Baking powder, bicarbonate of soda, cream of tartar, yeast. arrowroot,
Pasta and noodles - All fresh and dried pasta (white and wholemeal), Gnocchi, spelt pasta, chick pea /lentil pasta - Egg noodles, Hokkein, Udon, Pot noodles, Supernoodles, Ramen	Pasta and noodles - Wheat free / gluten free pasta (<i>not made from lentils/chickpeas</i>), buckwheat, quinoa pasta - Rice noodles, buckwheat noodles, kelp noodles
Breakfast cereals - Wheat or bran based cereals (weetabix, shredded wheat, bran flakes, All-bran, cheerio's, muesli), - wheat bran, wheat germ, - spelt flakes	Breakfast Cereals - Porridge / oat cereals, oat bran - cornflakes, rice krispies, - some wheat free or gluten free muesli and cereals (<i>check fruit</i>).
Savoury Biscuits Water biscuits, crisp breads, Cornish wafers, cream crackers, spelt crackers Rye crispbreads	Savoury Biscuits / snacks Rice crackers, corncakes, oatcakes, wheat free or gluten free crackers. Plain / salted popcorn or plain crisps

Sweet Biscuits All biscuits made with wheat flour (digestives, shortbread, rich tea, custard creams etc)	Sweet biscuits Some Florentines, macaroons, oat based biscuits, flapjacks. Most 'free from' biscuit varieties
Cakes All cakes made with wheat flour (fruit cake, fairy cake, Victoria sponge, chocolate cake etc)	Cakes Flourless cakes, meringues, cornflour sponge. Most 'free from' varieties are wheat free.
Pastry All pastry made with wheat flour (shortcrust, puff, flaky, filo,) Shop brought pastry and pastry goods (pies, quiche, pasties)	Pastry Wheat free or gluten free varieties and mixes.
Breadcrumbs and batter Crumbed fish and poultry, fish fingers, fish in batter, tempura batter, scotch eggs.	Breadcrumbs Polenta, oats, cornflake crumbs, gluten free breadcrumbs/ batter

Fruit and Vegetables

<u>Foods to avoid</u>	<u>Suitable</u>
Fruit (Fresh, dried or juice) Apple, Apricot, Blackberry, Cherries, Dates, Figs, Mango, Nectarine, Peach, Pear, Plum/prune, Sultanas, Watermelon, Tinned fruit in apple or pear juice. Tropical fruit juice, or juices from fruits above Jams, sauces or chutneys containing fruits above.	Fruit <i>Aim for 3 portions, but spread through the day. One portion at a time= 80g fresh fruit, 1tbs dried fruit or 100ml fruit juice. Portion sizes in brackets are for fruits which must be more strictly limited*.</i> Banana, Blueberry, Cantaloupe, Clementine, Cranberries, Galia melon, Grapes, Grapefruit* (<half, small), Honeydew melon, Kiwi, Lemon, Lime, Lychee* (<5), Mandarin, Orange, Passion fruit, Papaya, Pineapple, Pomegranate* (half small), Raspberry, Raisins, Rhubarb, Strawberry
Vegetables <i>Vegetables with * may be eaten in very small quantities (<3tbs / day). Those underlined must be strictly avoided.</i> Artichoke hearts*, <u>Artichoke (Jerusalem)</u>, Asparagus*, Avocado* (<¼). Beetroot*, Broccoli*, Brussels Sprouts*, Butternut squash*, Cauliflower, Celery*, Chicory root, Fennel* (bulb and leaves), <u>Garlic</u>, <u>Leek</u>, <u>Mange tout*</u>, <u>Mushroom</u>, Okra*, <u>Onion (red, white, Spanish, shallots)</u>, Peas*, Savoy Cabbage*, <u>Spring onion (white part)</u>. Sweet potato*, Sweetcorn*, <u>Beans and pulses</u> (chickpeas, broad beans, soy beans, black eyes beans, butter beans, lentils, baked beans, kidney beans, split peas).	Vegetables <i>Try to have at least 2 portions per day. One portion is 80g (2-3tbs). There is no upper limit to the amount you can have at once</i> Alfalfa, Asparagus, Sugar snap peas, Aubergine, Bamboo shoot, Beansprouts, Carrot, Chard, Chilli, Chive, Courgette, Cucumber, Endive, Green beans, Lettuce, Olive, Pak Choy, Parsnip, Pepper (green, orange, yellow and red), Plantain, White Potato, Pumpkin, Radish, Rocket, Seaweed, Spinach, Spring onion (<i>green part only</i>), Swede, Tomato, Turnip, White or red cabbage
Flavoured crisps, soups, stocks, gravy, sauces, dressings, & ready meals These should be <u>avoided</u> as they routinely contain garlic or onion ingredients <u>Garlic or onion ingredients:</u> <i>These should be avoided as they are a concentrated source of FODMAPs. Check ingredients labels.</i> Dried onion or garlic, garlic or onion extract, garlic or onion powder, garlic or onion puree, garlic or onion salt.	Soups, stocks, gravy, sauces, dressings & ready meals Use homemade alternatives with dried herbs and spices or chives below. Garlic infused oil (strained) may be used and Asofoetida powder (hing) can provide onion flavour. Salt, pepper, white/rice vinegar, balsamic vinegar (1tbs only) any herbs, spices, chilli, chives, cinnamon, coriander, ginger, lemon/lime juice green part of spring onion, marmite, mustard,

<u>Foods to avoid</u>	<u>Suitable</u>
Sugars, preserves, sauces and confectionary Honey, Agave nectar, Fructose syrup, Sweet and savoury sauces, snack bars. <i>Check ingredients label for: glucose-fructose syrup, fructose-glucose syrup, high fructose corn syrup and high fructose corn syrup solids.</i> Added Polyols Sugar-free mints, Sugar-free chewing gums, sugar-free lollies, sugar-free chocolate, some 'diet/low calorie' products, protein powders and supplement drinks. <i>Check ingredients label for sorbitol, mannitol, xylitol, isomalt.</i> Added Fructans Foods or tablets with added fibre or prebiotics e.g some yoghurts, fermented milk drinks, snack bars, breakfast cereals. <i>Check ingredients labels for FOS, inulin, oligofructose.</i>	Sugars, preserves and confectionary Sugar, golden syrup, maple syrup, treacle, jam and marmalade (from suitable fruits). <i>Check ingredients in low sugar or reduced sugar jam and marmalade for Polyols.</i> Some artificial sweeteners: aspartame, acesulfame K, saccharin, Canderel, Silver spoon Splenda, Hermesetas. <i>Most people in the UK eat too much sugar. For a healthy diet you should try eating less food containing added sugars. High sugar foods contain more than 15g per 100g and low sugar foods contain up to 5g sugars per 100g.</i>
Nuts and seeds Cashew and Pistachio Nuts. Coconut (dried) in large quantities.	Nuts and seeds Most are suitable in moderation (<i>small handful</i>) Macadamia nuts, peanuts, pecans, pine nuts, pumpkin seeds, sesame seeds, sunflower seeds, walnuts. Coconut, dried (<3 tbs) Almonds and hazelnuts - <i>maximum 10.</i> Peanut butter
Drinks Chicory (Camp), Dandelion tea, <i>Camomile, Chai, Fennel.</i> <i>Check fruit and herbal teas for unsuitable fruit (apple).</i> Alcohol-Rum, Dessert wine.	Drinks Have at least 6-8 glasses or 1.5-2.0 litres of fluid per day. Choose water or non-caffeinated drinks and limit fizzy drinks. Alcohol - is a stimulant and may increase IBS symptoms. While most alcoholic drinks are low in FODMAP's, if alcohol increases your symptoms, limit your intake.

<u>High Lactose Foods - avoid</u>	<u>Suitable lactose alternatives</u>
Milk Whole, skimmed, semi-skimmed milk, goats, sheeps milk, buttermilk* milk powder, evaporated milk, condensed milk.	Milk <i>Ensure alternative milks are calcium enriched. Check alternative milks for apple juice, fructose and inulin.</i> • Lactose free milk (Lactofree, own brands) • Almond or hazelnut milk • < 60ml Soya milk • <200ml Rice milk (Rice Dream, Alpro) • <50ml Oat Milk (Oatly Oat Drink) • *$\frac{1}{4}$ cup (50ml) maximum of whole, skimmed or semi -skimmed milk is permitted in a drink, part of a meal or snack
Yoghurt Whole milk, low fat, greek, drinking yoghurts*. Fromage frais.	Yoghurt <i>Check for problem fruit, FOS, inulin, oligofructose. fruit juice concentrate, fructose.</i> • Lactose free cow's milk yoghurt • Max 125g Soya yoghurt • Coconut yoghurt • *2tbs maximum (check for other FODMAP's) is permitted as part of a meal or snack.
Cheese* Processed cheese, cheese slices, reduced fat cheddar	Cheese *2 tbs maximum Cottage cheese, ricotta, quark, low fat soft cheese, mascarpone, 2 slices halloumi. Cheddar, feta, mozzarella, brie, camembert, blue, cream cheese, Edam, goats.
Other dairy:	Other dairy: Butter, cream, sour cream, crème fraiche are low lactose in small amounts.
Custard* Standard custard made from cows/goats milk	Custard Soya custard /Custard desserts (Alpro - all flavours) *2 tbs maximum of normal custard is allowed. If making from powder use lactose-free milk.
Ice cream* Dairy ice cream, goats milk ice cream	Ice cream <i>check for other FODMAP's</i> • Lactose free ice-cream (Lactofree) • Soya ice cream (Swedish Glace) • *1 scoop maximum of normal ice cream.
Chocolate*	Chocolate: Dark chocolate Ok *30g maximum of milk / white chocolate.

*These foods are tolerated in small amounts - see suitable food column for amounts.

Low FODMAP Meal Plan: Choose from the following meal ideas:

Breakfast

- Porridge or wheat free cereal with suitable milk
- Wheat/rye- free toast with cheese/suitable jam/peanut butter
- 2 eggs on wheat/rye free or 100% sourdough spelt toast
- Cheese and chive omelette
- Smoothie made with suitable fruit and lactose-free yogurt
- Cooked breakfast - bacon, egg, tomato, hash brown with wheat/rye free or sourdough spelt toast

Lunch

- Wheat/rye free sandwich/pitta/wrap or wheat/rye free crispbread with tuna/sardines/salmon/egg/cheese/cold meat/poultry/ham with salad
- Homemade soup made with suitable vegetables and wheat free bread.
- Baked potato or rice with tuna/ cheese or homemade filling (e.g. chilli)
- Salad/rice salad/potato salad/gluten free pasta salad with cold meat/tuna/eggs/cheese
- Sushi/sashimi
- Suitable fruit/yoghurt

Dinner

- Steak /chop/fish/poultry /tofu/Quorn with suitable vegetables and rice/rice noodles/wheat free pasta/gluten free pasta/potato /polenta
- Risotto or omelette with salad
- Gluten free pasta/spaghetti with bolognese (no onion/garlic) with salad
- Corn taco shells with beef mince, crème fraîche and salad
- Suitable fruit/fruit salad/ rice pudding/ice cream/yoghurt/custard.

Beverages

- Water +/- lemon
- Semi-skimmed milk (or alternative milk)
- Tea/coffee
- 1/3 glass (100ml) fruit juice/smoothie made with suitable fruit. Tip: add water to fruit juice to make a longer drink.
- Fruit squash - suitable fruit flavours (*check sweeteners*)

Snacks

- Suitable fruit
- Low fat yoghurt (*check ingredients + lactose free if needed*)
- Vegetable sticks and dip (*check for onion*)
- Cheese and tomato/ peanut butter on rice crackers/corn/oat cakes
- Handful of suitable nuts
- Occasionally: Potato crisps (unsalted, ready salted or salt and vinegar), popcorn, dark chocolate, wheat free / gluten free cakes.

Eating out on a low FODMAP diet

Eating out can be challenging on a low FODMAP diet. You need to choose carefully, but some restaurants and food outlets now provide wheat and gluten free options for those that need it, which can be a useful starting point.

Suitable choices for main meal:

- Fish, poultry or meat with potatoes, salad or vegetables (e.g. steak/fish and chips)
- Risotto (request no onion/leek) with suitable vegetables
- Baked potato with salad and suitable filling.
- Asian style rice or rice noodle dishes (check vegetables), sushi.
- Gluten free pizza (choose your own toppings)

Tips

- Avoid eating coatings, batter, sauces,
- Choose options that are without a sauce (e.g. steak, stir fry, risotto) Ask for sauce or gravy to be served in a separate dish
- Gluten free options avoid wheat but check for other ingredients e.g. leek in gluten free pie.

Enjoy eating out! Some people get symptoms when eating out because it is difficult to avoid all problem ingredients. However, eating out is a social experience and benefits should outweigh the symptoms.

What if my symptoms do not improve on a low FODMAP diet?

The low FODMAP diet is beneficial for many individuals with IBS-like symptoms but not for everyone. If you have followed the closely but your symptoms have not improved after 6 weeks please contact your doctor/dietitian for further advice.

What about foods not listed?

Further details on other foods and safe quantities can be found on the Monash University or low FODMAP food maestro apps:

<https://www.monashfodmap.com/ibs-central/i-have-ibs/starting-the-low-fodmap-diet/>