

Module 4

Summary Factsheet

1. Introduction

This module describes the initial dietetic assessment that should occur in patients presenting with diagnosed or suspected IBS. A thorough dietetic assessment at the outset helps to ensure that red flags are identified and that an appropriate dietetic management plan is devised.

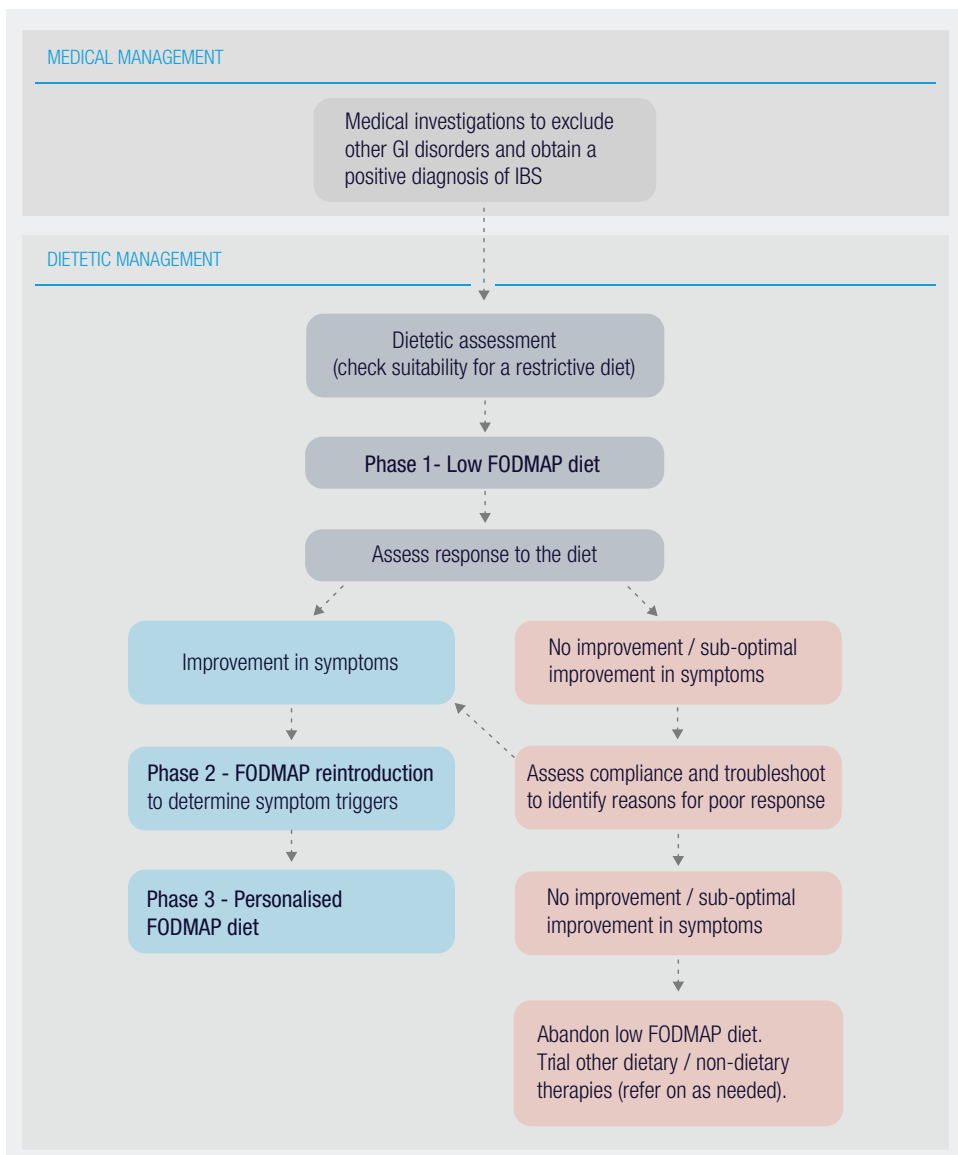


Figure 1: Overview of clinical management

2. Components of clinical assessment

The aim of the dietetic assessment is to rule out red flags and then devise a tailored management plan. The key components of the dietetic assessment are outlined below.

2.1 Bowel & GI symptoms

When assessing bowel and GI symptoms, take note of the type, severity, duration, pattern and impact of these symptoms (Figure 2).

In addition:

- Consider the patient's predominant bowel habit, including stool form using the Bristol Stool Chart
- Remember that some gastrointestinal symptoms are normal, such as small amounts of wind (gas/flatus), so try to establish what the patient perceives as 'problematic'.
- Understanding how long the patient has experienced symptoms for can help to establish a diagnosis of IBS and to rule out certain red flags. If symptoms have been experienced for a shorter duration, further questioning about the onset of symptoms can be helpful

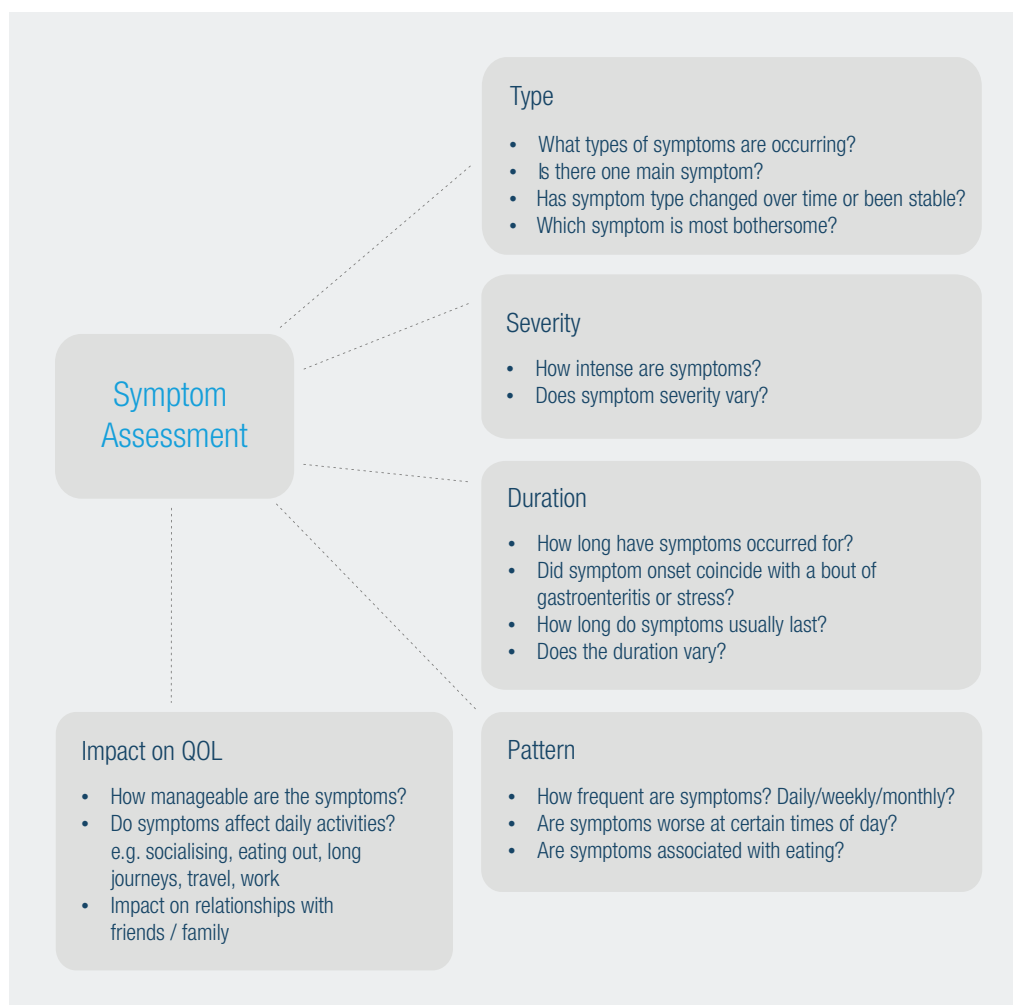


Figure 2: Dietetic assessment of gastrointestinal symptoms

2.2 Family history

Family history of the following conditions should be considered to rule out red flags:

- Colon cancer - 1 first degree relative (FDR) <60 years, or >1 FDR of any age [1]
- IBD - 1 FDR in a symptomatic patient [1]
- Coeliac disease - 1 FDR in a symptomatic patient [1]
- Other autoimmune conditions such as Sjogren's syndrome, type 1 diabetes and lupus

2.3 Medical history

Relevant past medical history will include presence of autoimmune conditions (such as type 1 diabetes or rheumatoid arthritis), previous anaemia or other micronutrient deficiencies.

2.4 Investigations

Examples of investigations needed and conditions:

- Coeliac screening (most patients)
- Bowel cancer screening (older patients)
- Presence of inflammation (via CRP or faecal calprotectin)

2.5 Confirming the diagnosis

Consider the following:

- Has the patient been assessed by a GP or gastroenterologist?
- Has IBS (or some other FBD) been formally diagnosed? Consider the patient's symptoms in reference to the Rome IV criteria (Box 1)
- Have red flags been ruled out (Figure 3)?
- Has the patient has undergone coeliac screening? If so, confirm that gluten intake was adequate at the time of testing.

Box 1 - Rome IV diagnostic criteria for IBS [2]

Recurrent abdominal pain on average at least 1 day per week in the last 3 months, associated with two or more of the following:

1. Related to defecation
2. Associated with a change in a frequency of stool
3. Associated with a change in form (consistency) of stool.

Symptoms must have started at least 6 months ago.

2.6 Red flags

If red flags are identified and you do not believe they have been considered by the patient's GP or gastroenterologist, refer the patient back to their GP or gastroenterologist **before commencing dietary modifications**.

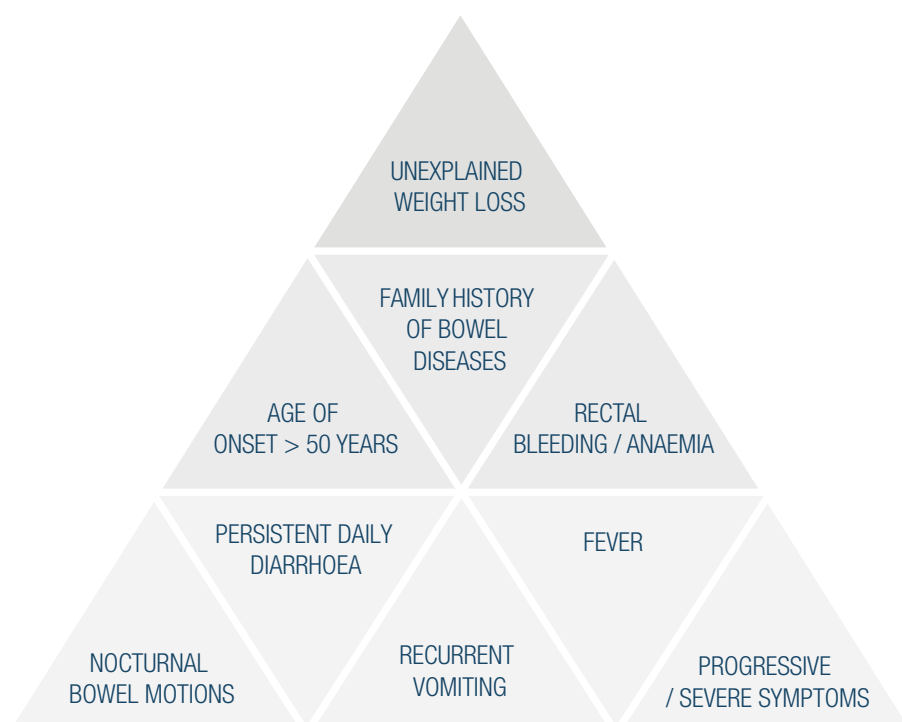


Figure 3: Red flags in the diagnosis of IBS

2.7 Medications, supplements and herbal remedies

Consider whether current medications patients are taking may have gastrointestinal side effects

MEDICATION	INDICATION FOR USE	POSSIBLE SIDE-EFFECTS
Antibiotics	Bacterial infections	Diarrhoea, upset stomach
Codeine	Pain relief	Constipation
Iron	Supplement	Constipation
Metformin	Type 2 diabetes mellitus	Diarrhoea, nausea and abdominal pain
Magnesium	Supplement	Stomach upset, nausea, vomiting, diarrhea

Dietary assessment

Table 1 - Considerations when assessing dietary intake in patients with IBS

FIBRE	<p>Check</p> <ul style="list-style-type: none"> • Total fibre • Fermentability of fibre consumed (Figure 4) • Tendency for fibre and FODMAPs to co-exist (Figure 5)
FLUID	<p>Check</p> <ul style="list-style-type: none"> • Total fluid • Specific questioning about caffeine, alcohol, milk and fruit juice intake
SPECIAL DIETARY REQUIREMENTS	<ul style="list-style-type: none"> • Vegetarian or vegan patients will require suitable protein-rich foods as many are high in FODMAPs • Patients with diabetes may need specific advice about suitable carbohydrate foods as many low glycaemic index, high fibre carbohydrate foods are also high in FODMAPs (bread, pasta and cereals)
FODMAPs	<ul style="list-style-type: none"> • The patient's current FODMAP intake can help to determine the degree of FODMAP restriction required and the extent to which the patient may need to change their diet • For example, if a patient regularly has a very high FODMAP intake, but only moderate symptoms, adequate symptom relief may be achieved using a 'simplified' low FODMAP diet. • Consider the quantity of food typically consumed to provide insight into the total FODMAP load at each meal
KNOWN OR SUSPECTED DIET TRIGGERS AND CHANGES TO DIET ALREADY MADE [3-6]	<p>Key questions to ask:</p> <ul style="list-style-type: none"> • Did they remove all traces of the food trigger, or only major forms (e.g. gluten)? • Did symptoms improve in response to this change? • Which symptoms improved and to what extent? • Have they continued to avoid the food trigger or have they re-introduced it? • How long ago did they make this change?
LIFESTYLE	<p>Consider these factors that may influence barriers to implementing dietary changes:</p> <ul style="list-style-type: none"> • Living and work situation • Cultural background • Cooking skills and ability to modify meals • Eating out and the flexibility of modifying the meals they choose to be low FODMAP • Other potential compliance issues
EXERCISE	<p>Physical activity can have various effects on the gastrointestinal tract:</p> <ul style="list-style-type: none"> • increase gastrointestinal motility - used to promote laxation [7-10] • may also help to relieve stress, so may be used to relieve symptoms in patients with stress-induced symptoms [11] • heavy or strenuous exercise may worsen gastrointestinal symptoms e.g. 'runner's diarrhoea' [12]
IS THE PATIENT SUITABLE FOR A RESTRICTIVE DIET?	<p>Diet therapy may be contraindicated in patients who:</p> <ul style="list-style-type: none"> • are malnourished, or are at risk of malnutrition • have a history of disordered eating • have symptoms that are not suspected to be triggered by diet <p>These patients should be assessed to ensure nutritional adequacy, then referred onto other 'non-diet' therapies, such as medications or psychological approaches.</p>






FIBER TYPE	FOOD SOURCES	FIBRE SUPPLEMENTS	EFFECTS IN IBS
SOLUBLE			
Highly and rapidly fermentable (oligos) e.g. FOS, GOS 	<ul style="list-style-type: none"> Vegetables (onion, garlic, artichoke) Grains (wheat, rye, pulses) 	<ul style="list-style-type: none"> FOS 	<ul style="list-style-type: none"> ↑ Growth beneficial bacteria ↑ SCFA production <p>But, rapidly fermented, so may cause gas, bloating, distension and pain</p>
Highly fermentable 'fibre' (e.g. RS, pectin, inulin) 	<ul style="list-style-type: none"> Vegetables (cooked and cooled potato and corn) Fruit (passionfruit, avocado, citrus, canteloupe, jams, strawberries, kiwifruit, firm bananas) Grains (millet, cooked and cooled rice, pasta (spelt), bread (gluten free, fibre-enriched white bread), Konjac noodles / pasta) Pulses (canned chickpeas and lentils), tofu, tempeh) 	<ul style="list-style-type: none"> Inulin (Fibresure) Resistant starch (Hi Maize) Wheat dextrin (Benefibre) Partially hydrolysed guar gum (Sunfiber) 	<ul style="list-style-type: none"> RS slowly fermented, so may cause less distension, pain & bloating than FODMAPs Guar gum, pectin, wheat dextrin, PHGG have gel-forming properties May increase overall bacterial species May increase SCFA production <p>But, rapid fermentation may cause gas, flatus and GI symptoms in IBS. No well-designed studies in IBS</p>
INTERMEDIATE SOLUBLE			
Moderately fermentable fibre 	<ul style="list-style-type: none"> Grains (oats, psyllium husks) 	<ul style="list-style-type: none"> Psyllium husk (Metamucil Original) Plantago ovata seeds, ispaghula husks (Agiofibre) Unprocessed oat bran 	<ul style="list-style-type: none"> ↑ bacterial mass → stool bulking Gel-forming properties Improved laxation <p>But, may cause gas / flatus</p>
INSOLUBLE			
Moderately fermentable 	<ul style="list-style-type: none"> Vegetables (corn, eggplant, green beans, broccoli, spinach) Fruit (grapes, strawberries, raspberries, pineapple, blueberries, currants, raisins) Bread (gluten free multigrain, wholemeal) Grains (puffed amaranth, brown rice, burghal, buckwheat kernel, quinoa) Seeds (Flaxseed) 	<ul style="list-style-type: none"> Unprocessed wheat / rice / oat bran Linseed / flaxseed 	<p>Slowly fermented Promotes laxation</p> <ul style="list-style-type: none"> ↑ overall bacterial species ↑ SCFA production <p>But, wheat bran may cause excessive gas, wind & bloating – possibly due to fructans in bran</p>
Non-fermentable 	<ul style="list-style-type: none"> Vegetables (celery, stalks of green leafy vegetables) Fruits (rhubarb, skins of fruits) Nuts (peanuts, almonds, walnuts) Seeds (chia, pumpkin, sesame) 	<ul style="list-style-type: none"> Methylcellulose (Citrucel) Sterculia (Normafibe) 	<ul style="list-style-type: none"> Stool bulking (cellulose) Gel-forming properties (methylcellulose and sterculia) <p>But, most suited to IBS-C</p>

Figure 4: Fermentability of different fibres

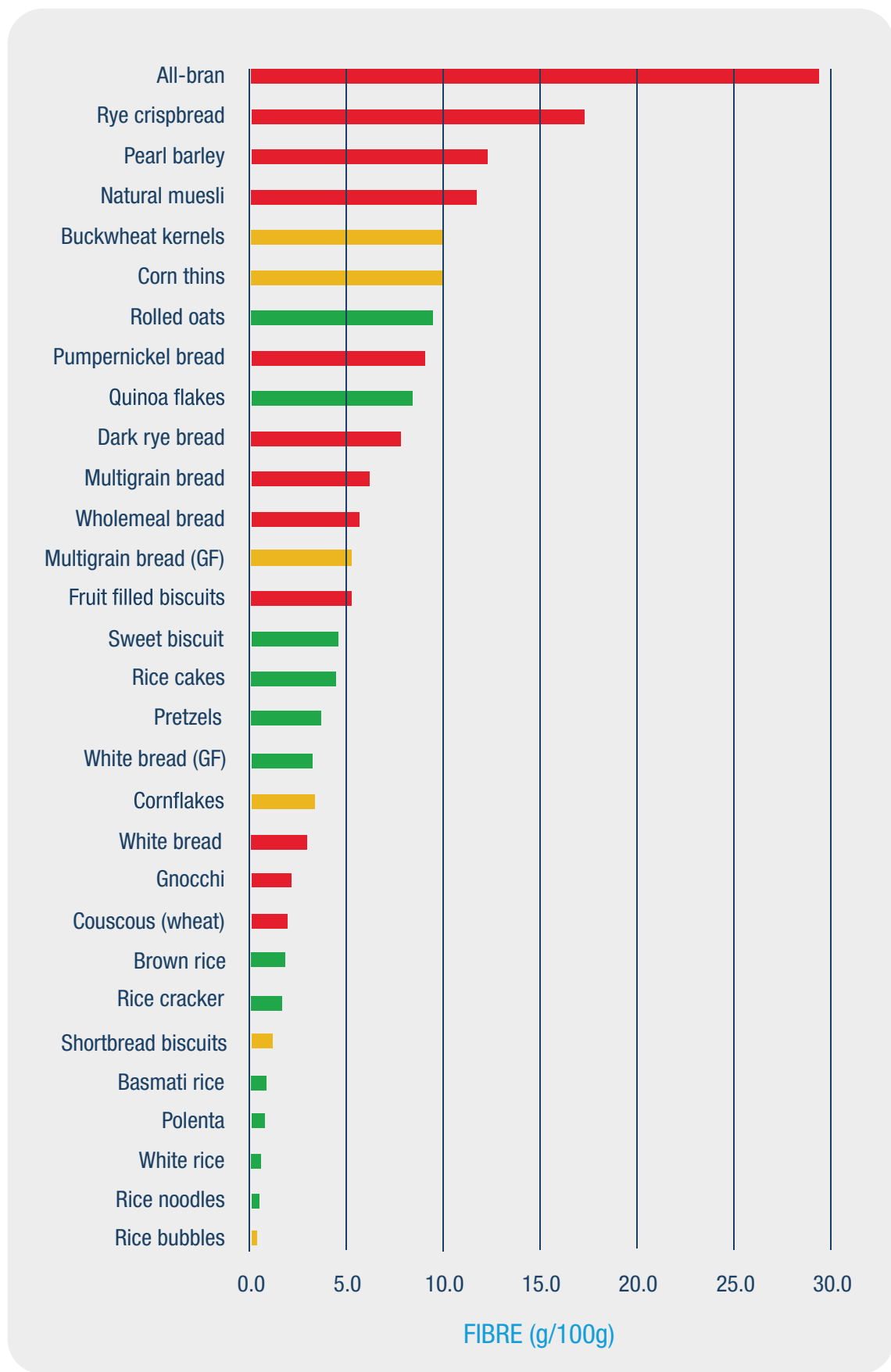


Figure 5: Fibre content versus Monash FODMAP rating

2.7 Predicting response to the low FODMAP diet

Although a number of markers have been proposed to predict response to a low FODMAP diet, none of these are recommended for use in clinical practice due to a lack of evidence to support their reliability. Examples of predictive markers include:

- Predominant stool pattern - A more watery stool type has been hypothesised to respond better to a low FODMAP diet. However, feeding studies that assessed the effect of a low FODMAP diet on faecal water content found minimal changes [13].
- IBS subtype - Most studies have lacked the statistical power to confirm the IBS subgroup most likely to respond to a low FODMAP diet [14].
- Microbiota characteristics - The negative predictive value of these tests are poor, meaning many patients would be unnecessarily deterred from following this diet [15].
- Breath test - As mentioned in Module 1, breath tests are not a valid tool for determining dietary restrictions or predicting response to the diet [16]. Problems associated with the test include:
 - An exaggerated dose of sugar is used for testing
 - Test re-test reliability is poor
 - Protocols and cut-offs used to classify malabsorption can vary between centres
 - Fructose and sorbitol malabsorption are considered normal physiological phenomenon and equally common in people with and without IBS.
- Anecdotal evidence - Dietitians report that IBS patients who normally consume a high FODMAP intake and/or are motivated to make dietary changes are more likely to respond to this diet.

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