

Irritable bowel syndrome

What to do when dietary manipulation fails

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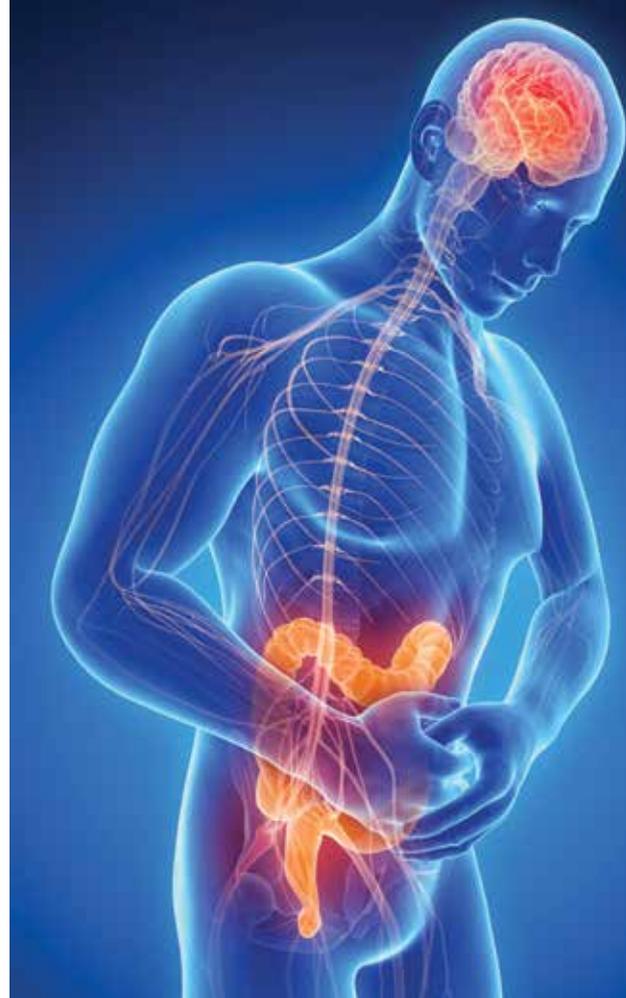
Dietary interventions, particularly low-FODMAP diets, are commonly recommended as initial therapy for irritable bowel syndrome; however, a significant proportion of patients respond suboptimally or are unable to comply with long-term dietary modification. If appropriate dietary therapy has failed, pharmacological interventions should be targeted at the dominant symptoms. Psychological therapies may also be a useful adjunct.

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Remember

- A positive diagnosis of irritable bowel syndrome (IBS) can be made in the presence of the characteristic symptoms of abdominal pain and altered bowel habit. Simple blood and stool tests should be performed to exclude conditions that may present with similar symptoms (Box 1).¹ IBS can be further subtyped based on the predominant symptom. Subtypes include IBS with diarrhoea (IBS-D), IBS with constipation (IBS-C) and mixed type (IBS-M).
- A vast spectrum of severity can be seen in cases of IBS. Most cases can be appropriately managed in the primary care setting without referral provided the principles of management are understood.
- Visceral hypersensitivity is a common feature of IBS and is characterised by abnormal processing of central and peripheral pain.
- A positive diagnosis associated with a plan of therapy is an essential step in the management of patients with IBS and may obviate unhelpful repeated investigations. Reassurance and an understanding of symptoms, triggers and the role of psychological factors may be all that is required to help the patient.
- A strong doctor–patient relationship will have a significant psychotherapeutic effect in patients with IBS. The placebo effect is extremely powerful and makes a significant contribution to the therapeutic use of medication for IBS. GPs who recognise and utilise the factors that promote the placebo effect may achieve better outcomes.

1. ROME III CRITERIA FOR DIAGNOSIS OF IRRITABLE BOWEL SYNDROME (2006)¹

Recurrent abdominal pain or discomfort associated with two or more of the following:

- improvement with defaecation
- onset associated with change in frequency of stool
- onset associated with change in form (appearance) of stool.

Plus duration of symptoms greater than six months, with the presence of symptoms on at least three days a month for the preceding three months.

- In the absence of a defined underlying pathophysiology, treatment of patients with IBS is based on symptomatic therapies focusing on the altered bowel habit and pain. GPs and patients should understand that IBS is a chronic condition, and that severity and manifestations may change over time. Patient expectations must be appropriate (i.e. a cure is unlikely); however, by using symptom-based therapies based on diet and also pharmacological and psychological therapies, patients can be empowered to manage their own symptoms and improve their quality of life.
- Emotional and cognitive centres of the brain modulate the enteric nervous system (the brain–gut axis; Figure)² and provide the basis of action for psychologically-based therapies, for which there is excellent evidence of efficacy.

Assessment

- Failure by the patient to respond to treatment should prompt reconsideration of the diagnosis of IBS. A review of the patient’s red flags should be conducted and further investigation may be required (Box 2). However, both the doctor and patient need to acknowledge that IBS is a chronic condition that may fluctuate in symptomatology and severity, as well as being associated with a range of extraintestinal manifestations. Therefore, every change in the patient’s symptoms does not require investigation.
- In addition to a routine blood screen and review of nutritional markers, appropriate tests to consider for patients with IBS-D include measurement of C-reactive protein (CRP) levels, coeliac serology and thyroid function tests, and stool collection for microscopy/culture and faecal calprotectin and faecal occult blood tests (in this context occult blood testing is used as screening for inflammatory bowel disease and is not appropriate in testing symptomatic patients for colorectal cancer).
- For patients with IBS-C, measurement of serum calcium levels and thyroid function tests should be considered. If routine testing is negative in patients with chronic symptoms, endoscopic investigation is highly unlikely to change the diagnosis and is not required.
- If previous dietary therapy has been unsuccessful, it is essential to define what intervention(s) have previously been attempted and the degree of compliance. For example, some dietary therapies previously recommended for patients with IBS (e.g. increasing fibre intake) may

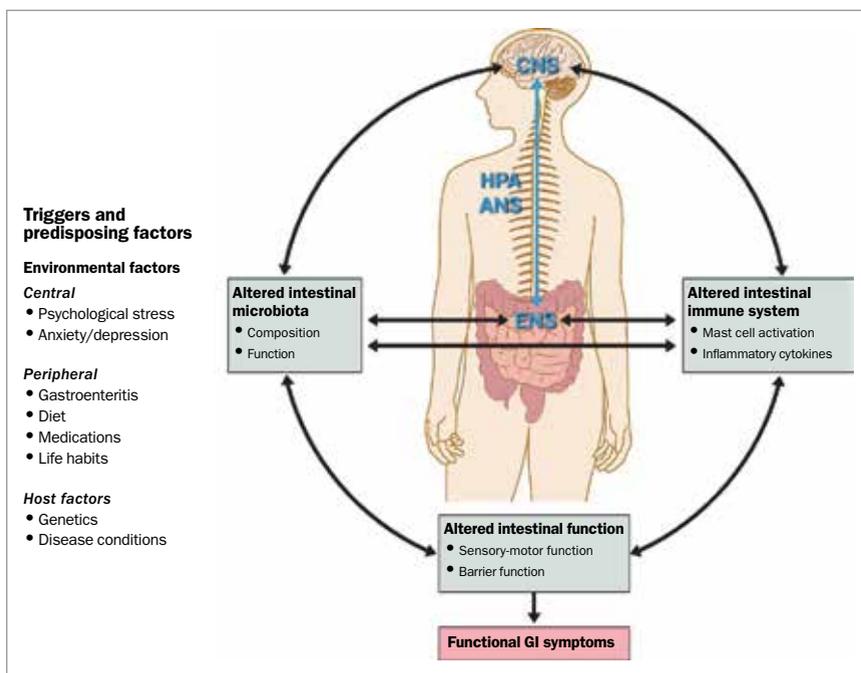


Figure. Interactions between the intestinal microbiota, immune system and brain–gut axis, and their effects on intestinal function and functional gastrointestinal (GI) symptoms.

Several factors and triggers, from both the environment and the host, combine to drive the complex interactions between the brain–gut axis, intestinal microbiota and immune system towards altered intestinal functions and functional GI symptoms. Altered intestinal microbiota may affect the brain–gut axis directly via effects on the mucosal barrier and intestinal neuroimmune system or indirectly via generation of bacterial-related metabolites. Immune activation (e.g. increased levels of proinflammatory cytokines) may affect the mucosal barrier, enteric nervous system (ENS) and other modulating systems (i.e. autonomic nervous system [ANS], hypothalamic–pituitary–adrenal axis [HPA], central nervous system [CNS]). The outcome of these complex interactions may alter the intestinal sensorimotor function and lead to functional GI symptoms.

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actually increase symptoms and these incorrect dietary changes do not necessarily indicate a failure of dietary therapy in general.

Management

- The therapeutic relationship is paramount to the ongoing management of patients with IBS. People with functional gut disorders can exhibit a strong placebo response, and the factors that promote this response should be optimised (i.e. trust and empathy within the doctor–patient relationship, with a clear explanation of symptoms and an agreed plan of action).
- Although psychological therapies have been shown to be effective in the management of IBS, the availability of practitioners with specific expertise in the psychological treatment of people with gastrointestinal disorders is limited, and these treatments incur an out-of-pocket cost to the patient. Online psychological therapies (such as those provided by IBSclinic.org.au) may be a useful alternative.
- Providing information about patient support groups such as the Irritable Bowel Information and Support Association of Australia (www.ibis-australia.org) can help to reinforce the diagnosis and reduce patient anxiety surrounding the condition. However, patients should be counselled that the condition is variable, so the experiences of others will not necessarily be applicable to them, and to avoid commencing therapies found on the internet without discussion with their GP. Patients should be directed to appropriate websites for reliable information on the condition (Box 3).
- It is vital to assess, identify and treat concomitant anxiety and depression if present in patients with IBS. However, some antidepressants (especially selective serotonin reuptake inhibitors) may aggravate some IBS symptoms, so psychological therapies are preferred for less severe forms of anxiety and depression. Cognitive behavioural therapy, mindfulness therapy and gut-focused hypnotherapy have all been shown to be of benefit.
- Many diets have been suggested to help patients with IBS, but many have little evidence of effectiveness and some may even aggravate the symptoms of bloating and discomfort (especially where excessive fibre is ingested). Patients with IBS need to understand that although they may be eating a ‘healthy’ diet, it may be aggravating their symptoms.
- The diet with the most evidence of efficacy for patients with IBS is the FODMAP diet. This is a restrictive diet that is liberalised to suit each patient once a response has been established; however, the long-term effects of the FODMAP diet on the bowel have not been defined. Information about the diet is available on the internet and

2. FEATURES OF IRRITABLE BOWEL SYNDROME PROMPTING POSSIBLE FURTHER INVESTIGATION

- Abnormalities on investigation, particularly anaemia, elevated inflammatory markers, positive faecal calprotectin or faecal occult blood tests (in those with IBS-D), positive coeliac serology (not just the presence of HLA DQ2/8)
- Age at onset >50 years
- Significant and unexplained weight loss
- Recurrent vomiting
- Rectal bleeding, steatorrhoea or nocturnal diarrhoea
- Fever
- Family history of bowel cancer (particularly first-degree relatives age <50 years at diagnosis), coeliac disease, inflammatory bowel disease or ovarian cancer
- Abnormality on examination of the abdomen other than mild tenderness

a FODMAP diet app is available to help patients follow the diet (Box 3). Patients may only need to omit a subset of low FODMAP foods to achieve a response, and referral of the patient to a dietitian experienced in the low FODMAP diet is invaluable in cases where more detailed assessment and modification is required. It is important to be aware that some patients may be prone to developing eating disorders involving inappropriate and excessive restriction of dietary intake in the belief that this will control their symptoms.

- For patients with IBS-C, a trial of a stool bulking agent (e.g. sterculia) and judicious osmotic laxative use (e.g. macrogol 3350) can be helpful. These medications need to be taken with sufficient fluid to maintain hydration, but excessive fluid intake alone does not help constipation. Physical exercise can also assist patients with IBS-C and should be encouraged as part of a healthy lifestyle.
- For patients with IBS-D, symptomatic management with an opioid-receptor agonist such as loperamide is reasonable. A subset of patients may respond to treatment with cholestyramine if bile acid malabsorption is present, especially in the setting of a prior cholecystectomy. Opiates (e.g. diphenoxylate, codeine) should be avoided because of their side effects and the risks of dependence.
- Pain and bloating are often difficult symptoms to manage. Antispasmodics such as hyoscine butylbromide, mebeverine or peppermint oil can be useful. Prucalopride may be helpful in patients with IBS-C, in whom it has been shown to reduce bloating, improve bowel frequency and reduce overall symptoms.
- A low-dose tricyclic antidepressant, such as amitriptyline 10 to 30 mg (off-label use), is effective in some individuals

3. PATIENT RESOURCES ON IRRITABLE BOWEL SYNDROME

- American Neurogastroenterology and Motility Society:
www.motilitysociety.org
- European Society of Neurogastroenterology and Motility:
www.esnm.eu
- Gastroenterological Society of Australia:
www.gesa.org.au
- IBIS Irritable Bowel Information & Support Association of Australia Inc:
www.ibis-australia.org
- IBSclinic.org.au:
www.ibsclinic.org.au
- International Foundation for Functional Gastrointestinal Disorders:
www.iffgd.org
- Low FODMAP diet for irritable bowel syndrome (Monash University, Melbourne) – including a downloadable booklet and a smartphone app:
www.med.monash.edu.au/cecs/gastro/fodmap
- Mayo Clinic:
www.mayoclinic.org

with IBS, particularly where pain is a major feature. It is vital when prescribing this therapy to provide the patient with a full explanation of the purpose of the medication (i.e. for its neuromodulating effect on the gut nervous system rather than to treat depression). Treatment should be started at a very low dose (e.g. 5 to 10 mg) to help prevent side effects, and the patient allowed to increase the dosage slowly at their own rate to improve tolerability and achieve a therapeutic dose.

- Natural therapies such as Iberogast[®] (a liquid formulation of nine herbs) or Phlo^e™ (kiwifruit extract) can be helpful to manage pain and bloating in some patients.
- Patients' expectations of each pharmacological therapy used should be managed. It can be useful to discuss dosage range and negotiate agreed parameters for self-modification of dose to help empower the patient in their care and encourage self-management.
- Several new pharmacological therapies are in development or used in other countries; however, most are only useful in a subset of patients.

Conclusions

- IBS is a common condition that can be successfully managed in general practice, with a minority of patients requiring specialist referral. The diagnosis of IBS requires the presence of altered bowel habit and abdominal pain, with appropriate exclusion of other conditions that may cause similar symptoms (all of which are much less common). An unnecessary and

wasteful 'merry-go-round' of investigations should be avoided. Typically, longstanding (more than six months) symptoms in a young patient with no abnormalities on blood or stool testing is very unlikely to be due to a serious underlying condition and does not require endoscopic investigation.

- After making a positive diagnosis and providing patient education, dietary therapy is an appropriate step, and should be tailored to the patient's symptoms. Reasons for suboptimal response to diet should be evaluated and adjunct psychological and pharmacological therapies considered in those with refractory symptoms.
- There is no 'magic bullet' for IBS, and treatment needs to be individualised to the patient. Reassurance, explanation of the role of the gut-brain axis and a strong therapeutic relationship are the cornerstones of effective management. Management of expectations and empowering the patient to manage their condition using the tools of dietary modification, medication and psychological therapies is essential.

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2. Ringel Y, Maharshak N. Intestinal microbiota and immune function in the pathogenesis of irritable bowel syndrome. *Am J Physiol Gastrointest Liver Physiol* 2013; 305: G529-541.

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