Irritable Bowel Syndrome

Irritable bowel syndrome (IBS) is a relapsing functional bowel disorder in which abdominal pain or discomfort is associated with defecation or a change in bowel habit. Bloating and distension are often associated. IBS is defined by symptom-based diagnostic criteria, in the absence of detectable organic causes. The symptoms are not specific for IBS. The diagnosis of IBS rarely alters over time, but always be prepared to reconsider the diagnosis if the clinical picture changes. IBS has a significant negative impact on quality of life and social functioning in many patients, but it is not associated with the development of serious disease or with excess mortality.

Epidemiology

- IBS occurs in 10-20% of the population in the UK, but prevalence is thought to be higher than this as many people with the disorder do not seek medical advice.
- A systematic review of global prevalence showed significant geographical differences (between 1% and 45%).
- It is more common in women than in men, with a ratio of 1.67:1. Certain subtypes of IBS show different gender variability.
- Peak prevalence is between the ages of 20 and 30.

Aetiology

- There is no structural lesion, and no single explanation has been found to explain the condition. However, it seems to involve abnormal smooth muscle activity ± visceral hypersensitivity, and abnormal central processing of painful stimuli.
- IBS is associated with increased levels of psychiatric distress and poor coping strategies.
- There is evidence of abnormal bowel transit time in affected individuals, suggesting possible disturbed gastrointestinal motility.
- Balloon distension of the bowel in affected individuals leads to perception of pain at lower thresholds than those without it, suggesting some role of the central pain processing system.
- There can be aggregation of the condition in families.
- Subclasses of IBS have been identified as follows:
  - Approximately one third of patients have IBS with constipation (IBS-C) = loose stools <25% and hard stools >25% of the time.
  - Approximately one third of patients have IBS with diarrhoea (IBS-D) = loose stools >25% and hard stools <25% of the time.
  - The remainder have IBS-mixed (IBS-M) = both hard and soft stools >25% of the time.

Presentation

National Institute for Health and Care Excellence (NICE) positive diagnostic criteria for IBS

Patients must give at least a six-month history of either:
- Abdominal pain or discomfort.
- Bloating.
- Change in bowel habit.

Consider positively diagnosing IBS only if abdominal pain is either relieved by defecation, or associated with altered bowel frequency or stool form:

AND at least 2 of the following are present:
- Altered passage of stool (straining, urgency, incomplete evacuation).
- Abdominal bloating (women >men), distention tension or hardness.
- Symptoms aggravated by eating.
- Passage of mucus rectally.

Lethargy, nausea, backache and bladder symptoms may be used to support diagnosis.

Further notes on IBS features

- Most patients have abdominal pain and disordered bowel habit, continuous or intermittent. This may be predominantly diarrhoea, predominantly constipation, or alternating between the two. A ‘morning rush’ is common: patients feel the urgent need to defecate several times on getting up, during and after breakfast.
- Symptoms are chronic, with remissions interrupted by relapses precipitated by stress or changes in bowel flora produced by antibiotics.
- Symptoms may begin following an episode of gastroenteritis. Around one in ten people with IBS believe their symptoms began in this way. Diarrhoea tends to be the predominant symptom in this group.
- Upper gastrointestinal symptoms may include nausea, heartburn, dysphagia, and early satiety.
Extra-intestinal symptoms such as headaches and migraine, asthma, backache, lethargy, dyspareunia, urinary frequency, and urgency are more commonly reported by patients with IBS. Psychological problems (anxiety and depression) are also more common, although some psychological morbidity appears to be associated with health care-seeking rather than with IBS per se.

**Signs**

On abdominal examination, signs may be few and nonspecific (eg, tender, palpable colon). A rectal ± pelvic examination may be appropriate.

**Differential diagnosis**

- **Colonic cancer.**
- **Inflammatory bowel disease (IBD):** Crohn's disease, ulcerative colitis.
- **Bile acid malabsorption.**
- **Coeliac disease.**
- **Gastroenteritis - eg, giardiasis.**
- **Diverticular disease.**
- **Gynaecological problems - eg, pelvic inflammatory disease, endometriosis, ovarian tumours.**
- **Anxiety ± depression, somatisation and panic disorders.**

**Investigations**

The diagnosis of IBS should be made positively on symptom-based criteria, NOT as a diagnosis of exclusion after ruling out organic disease by exhaustive investigation.

Carefully and sympathetically elicit a history and carry out an appropriately thorough physical examination. Ask about a family history of IBD or colon cancer, at age <50 - as this should lower the threshold for investigation/referral.

All patients meeting the symptomatic criteria for IBS should have the following investigations:

- **FBC.**
- **ESR.**
- **CRP.**
- **Coeliac screen.**
- **CA 125 for women with symptoms which could be ovarian cancer** [12].
- **Faecal calprotectin for those with symptoms which could be IBD** [3].

The following tests are NOT required to confirm IBS in those who meet the diagnostic criteria:

- **TFTs.**
- **Ultrasound.**
- **Colonoscopy/sigmoidoscopy/barium enema.**
- **Faecal occult blood.**
- **Faecal ova and parasite tests.**
- **Hydrogen breath tests.**

**Referral criteria**

Refer patients in the event of diagnostic uncertainty, alarm symptoms, or severe resistant symptoms.

<table>
<thead>
<tr>
<th>Referral to secondary care</th>
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<tr>
<td>Refer patients with possible IBS for further investigation if any red flag symptoms are present:</td>
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<tr>
<td>• Unintentional weight loss.</td>
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<tr>
<td>• Rectal bleeding.</td>
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<tr>
<td>• Family history of bowel or ovarian cancer.</td>
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<tr>
<td>• If aged over 60, and with a change in bowel habit &gt;6 weeks with looser or more frequent stools.</td>
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<tr>
<td>Refer patients with possible IBS for further investigation if any red flag signs are present:</td>
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<tr>
<td>• Anaemia.</td>
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<tr>
<td>• Abdominal or rectal masses.</td>
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<tr>
<td>• Raised inflammatory markers (ie may have IBD).</td>
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An urgent two-week referral is occasionally appropriate - eg, weight loss, rectal bleeding, jaundice, abdominal mass, etc.

- **Lower bowel investigations - colonoscopy, or sigmoidoscopy ± barium enema.** A rectal biopsy may be appropriate (to diagnose IBD bowel disease).
- **Gastroscopy may be appropriate if upper gastrointestinal symptoms predominate.**
- **Gynaecological referral may help rule out endometriosis and pelvic infection.**
• Consider psychological referral if the main problems are inability to cope with symptoms.

Beware of unnecessary specialist referral and interventions - eg, hysterectomy and cholecystectomy. Referral may prolong anxiety as
much as allay it.

Management\textsuperscript{[6, 7]}

Having confidently made the diagnosis, reassurance and explanation are vital, including frank explanation of the likely course of disease.
Many patients may have a fear of cancer, but careful and often-repeated explanations of the nature of the disease reduce this.

Lifestyle and physical activity

• Provide information about the condition and self-help, covering lifestyle, physical activity, diet and symptom-targeted
medication.
• Encourage patients to identify and make best use of leisure time, and create times in the day for relaxation.
• Assess physical activity levels and give advice on increasing activity if appropriate. There is evidence that increasing physical
activity has a positive effect on symptoms\textsuperscript{[13]}.

Diet

General dietary advice

• Have regular meals - ie avoid long gaps between meals and don't rush them.
• Drink plenty of fluids (at least eight cups per day) but restrict tea/coffee to three cups or so per day.
• Reduce intake of alcohol and fizzy drinks.
• Consider limiting high-fibre foods (eg, wholemeal flour or bran), and resistant starches (often in processed or recooked foods,
and fresh fruits - limit to three portions per day).
• For diarrhoea - avoid sorbitol.
• For wind - consider increasing oats and linseeds (one tablespoon/day).

Fibre

Review fibre intake and adjust this in line with symptoms. Those with constipation as a predominant symptom may need to increase
fibre intake, whereas those with diarrhoea may find the opposite helpful.

The results of the most recent meta-analyses of the benefits of soluble and insoluble fibre for IBS contradict each other. A Cochrane
review found no benefit for either\textsuperscript{[14]}. Another review, however, found a benefit for soluble fibre, as ispaghula\textsuperscript{[15]}.

Fermentable oligosaccharides, disaccharides, monosaccharides, and polyols (FODMAPs)

Recently there has been interest in the role of FODMAPs in causing symptoms of IBS. Foods high in FODMAPs, such as apples,
cherries, peaches, nectarines, artificial sweeteners, most lactose-containing foods, legumes, and many green vegetables (broccoli,
Brussels sprouts, cabbage, and peas) may have fermentation and osmotic effects, increasing symptoms. Diets low in FODMAPs have
therefore been advocated in helping symptoms. There is evidence to support this approach\textsuperscript{[16, 17, 18]} . Up to 86% of people with IBS are
said to report an improvement in symptoms, specifically bloating, abdominal pain, flatus and altered bowel habit, when using a low-
FODMAP diet\textsuperscript{[19]}.

Dietician

For those who find diet plays a significant role in their symptoms, referral to a dietician may be helpful for advice about exclusion diets,
etc.

Probiotics

There is some evidence for probiotics being helpful in alleviating symptoms of IBS, but further studies are needed to make more specific
recommendations about optimal regimes and products\textsuperscript{[20, 21]} . NICE guidelines suggest if used, they should be taken for four weeks at
the dose recommended by the manufacturer, while monitoring the effect.

Pharmacological treatments

• There is a high rate of placebo effect in IBS, even when the patient knows they are taking a placebo\textsuperscript{[22]}.
• Pharmacological options should target the individual symptoms, such as diarrhoea, abdominal spasm, bloating or
constipation.
• Loperamide is the medication of choice for diarrhoea.
• Antispasmodics should be used as required for abdominal pain and spasms. A number of options are used. Otilonium,
cimetropium, hyoscine, pinaverium, and dicycloverine have been demonstrated to be more effective than placebo in meta-
analyses\textsuperscript{[15]}.
• Peppermint oil has also been shown to be effective, as an antispasmodic and for bloating, with very few adverse effects\textsuperscript{[15]}.
• Laxatives may be used as required for constipation. Linaclootide has recently been added to recommendations, to be
considered when other laxatives have not worked and constipation has been present for 12 months. Avoid lactulose.
• Antidepressants have been shown to be of benefit, as in other chronic pain conditions. Both tricyclic antidepressants
(TCA) and selective serotonin reuptake inhibitors (SSRIs) have been shown convincingly to be effective, although studies
have not been done in primary care\textsuperscript{[14, 23]} . NICE guidelines advocate the use of an SSRI only if a low-dose TCA has not been
effective. Treatment should be started at a low dose (for example, 10 mg amitriptyline) and increased if necessary to no more
than 30 mg.
Antibiotics may have a role in IBS by altering the bacterial composition of the gastrointestinal tract. Short-course therapy with rifaximin or neomycin has been shown to be of benefit, but further studies are needed[23, 24, 25].

Emerging therapies under evaluation include:
- Tegaserod (a 5HT4 partial agonist) for those with constipation[26].
- Lubiprostone for constipation[7, 27].
- Bile acid sequestrants (such as colesuvelam), bile acid transporter inhibitors, and pancreatic enzyme supplements are also under investigation.

Clinical Editor’s notes (August 2017)
Dr Hayley Willacy draws your attention to the latest decision by NICE to approve eluxadoline[28]. This treatment will be available routinely under the NHS for the treatment of patients with irritable bowel syndrome and diarrhea (IBS-D) from within secondary care. Eluxadoline acts by binding to specific receptors in the digestive system and slowing down the passage of food through the gut, relieving stomach cramps and the urgent need to open the bowels. Treatment should not be continued beyond four weeks, if there is no clinical response. It may be given along with existing therapies for IBS-D, including antispasmodics or hypnotherapy.

Other therapies
- Psychological therapy may be considered for individuals not responding to other treatment options after a year. This may include cognitive behavioural therapy (CBT), mindfulness training, hypnotherapy or psychotherapy. There is limited evidence for efficacy of these options[23, 29]. The best evidence available currently is for hypnotherapy, but it is only effective when used in specialised centres[30].
- Acupuncture has been used although a Cochrane review found no benefit[31]. NICE guidance advises against the use of acupuncture or reflexology for IBS.
- Benefits of herbal therapies remain unclear. There is limited evidence for a commercially available preparation known as STW 5, or Iberogast®[32]. Further trials are needed on herbal remedies before advice can be given on their use[33]. Aloe vera is not recommended.

Prognosis[34]
- Symptoms fluctuate over many years. More than 50% will continue to have symptoms after seven years.
- People with a long history of IBS are less likely to improve.
- Ongoing stress may hinder recovery.
- IBS is not associated with the long-term development of any serious disease, although individuals with IBS are more likely to undergo certain surgical operations (eg, hysterectomy or cholecystectomy) than controls. Those with IBS have been shown to have an increased risk of cholecystectomy which is not due to an increased risk of gallstones[35]. It appears to be related to abdominal pain, increased awareness of gallstones and inappropriate surgical indications.
- The postinfective subgroup appears to have a better prognosis, with symptoms resolving in many within 5-6 years[36, 37].

Further reading & references
- Irritable bowel syndrome in adults; NICE Quality Standard, February 2016

1. Irritable bowel syndrome: a global perspective; World Gastroenterology Organisation Global Guideline, April 2009
3. Faecal calprotectin diagnostic tests for inflammatory diseases of the bowel; NICE Diagnostics Guidance (Oct 2013)
6. Irritable bowel syndrome in adults; NICE Clinical Guideline (February 2008)
12. Ovarian cancer - the recognition and initial management of ovarian cancer; NICE Clinical Guideline (April 2011)


28. Irritable bowel syndrome (diarrhoea) - eluxadoline [ID870]; NICE Technology appraisal (in development) expected publication August 30th 2017


34. Irritable bowel syndrome; NICE CKS, February 2013 (UK access only)


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