Irritable bowel syndrome: management

The management of irritable bowel syndrome (IBS) is often difficult and varies considerably between patients. NICE issued guidelines in 2008

First-line pharmacological treatment - according to predominant symptom

- pain: antispasmodic agents
- constipation: laxatives but avoid lactulose
- diarrhoea: loperamide is first-line

Second-line pharmacological treatment

- low-dose tricyclic antidepressants (e.g. amitriptyline 5-10 mg) are used in preference to selective serotonin reuptake inhibitors

Other management options

- psychological interventions - if symptoms do not respond to pharmacological treatments after 12 months and who develop a continuing symptom profile (refractory IBS), consider referring for cognitive behavioural therapy, hypnotherapy or psychological therapy
- complementary and alternative medicines: 'do not encourage use of acupuncture or reflexology for the treatment of IBS'

General dietary advice

- have regular meals and take time to eat
- avoid missing meals or leaving long gaps between eating
- drink at least 8 cups of fluid per day, especially water or other non-caffeinated drinks such as herbal teas
- restrict tea and coffee to 3 cups per day
- reduce intake of alcohol and fizzy drinks
- consider limiting intake of high-fibre food (for example, wholemeal or high-fibre flour and breads, cereals high in bran, and whole grains such as brown rice)
- reduce intake of 'resistant starch' often found in processed foods
- limit fresh fruit to 3 portions per day
- for diarrhoea, avoid sorbitol
- for wind and bloating consider increasing intake of oats (for example, oat-based breakfast cereal or porridge) and linseeds (up to one tablespoon per day).

Dyspepsia

In 2004 NICE published guidelines for the management of dyspepsia in primary care. These take into account the age of the patient (whether younger or older than 55 years) and the presence or absence of 'alarm signs':

- chronic gastrointestinal bleeding

- progressive unintentional weight loss
- progressive difficulty swallowing
- persistent vomiting
- iron deficiency anaemia
- epigastric mass
- suspicious barium meal

Deciding whether urgent referral for endoscopy is needed

Urgent referral (within 2 weeks) is indicated for patients with any alarm signs irrespective of age

Routine endoscopic investigation of patients of any age, presenting with dyspepsia and without alarm signs is not necessary, however

Patients aged 55 years and over should be referred urgently for endoscopy if dyspepsia symptoms are:

- recent in onset rather than recurrent and
- unexplained (e.g. New symptoms which cannot be explained by precipitants such as NSAIDs) and
- persistent: continuing beyond a period that would normally be associated with self-limiting problems (e.g. Up to four to six weeks, depending on the severity of signs and symptoms)

Managing patients who do not meet referral criteria ('undiagnosed dyspepsia')

This can be summarised at a step-wise approach

- 1. Review medications for possible causes of dyspepsia
- 2. Lifestyle advice
- 3. Trial of full-dose PPI for one month*
- 4. 'Test and treat' using carbon-13 urea breath test

*it is unclear from studies whether a trial of a PPI or a 'test and treat' should be used first

Inflammatory bowel disease: key differences

The two main types of inflammatory bowel disease are Crohn's disease and Ulcerative colitis. They have many similarities in terms of presenting symptoms, investigation findings and management options. There are however some key differences which are highlighted in table below:

	Crohn's disease (CD)	**Ulcerative colitis (UC)**
Features	Diarrhoea usually non-bloody Weight loss more prominent Upper gastrointestinal symptoms, mouth ulcers, perianal disease Abdominal mass palpable in the right iliac fossa	Bloody diarrhoea more common Abdominal pain in the left lower quadrant Tenesmus

Extra-intestinal		Primary sclerosing cholangitis more common
Complications	Obstruction, fistula, colorectal cancer	Risk of colorectal cancer high in UC than CD
Pathology	Lesions may be seen anywhere from the mouth to anus	Inflammation always starts at rectum and never spreads beyond ileocaecal valve
	Skip lesions may be present	Continuous disease
Histology	Inflammation in all layers from mucosa to serosa • increased goblet cells • granulomas	No inflammation beyond submucosa (unless fulminant disease) - inflammatory cell infiltrate in lamina propria • neutrophils migrate through the walls of glands to form crypt abscesses • depletion of goblet cells and mucin from gland epithelium • granulomas are infrequent
Endoscopy	Deep ulcers, skip lesions - 'cobble-stone' appearance	Widespread ulceration with preservation of adjacent mucosa which has the appearance of polyps ('pseudopolyps')
Radiology	Small bowel enema • high sensitivity and specificity for examination of the terminal ileum • strictures: 'Kantor's string sign' • proximal bowel dilation • 'rose thorn' ulcers • fistulae	Barium enema • loss of haustrations • superficial ulceration, 'pseudopolyps' • long standing disease: colon is narrow and short -'drainpipe colon'

Alcohol - problem drinking: detection and assessment

Screening

AUDIT

- 10 item questionnaire, please see the link
- takes about 2-3 minutes to complete
- has been shown to be superior to CAGE and biochemical markers for predicting alcohol problems
- minimum score = 0, maximum score = 40
- a score of 8 or more in men, and 7 or more in women, indicates a strong likelihood of hazardous or harmful alcohol consumption
- a score of 15 or more in men, and 13 or more in women, is likely to indicate alcohol dependence

- AUDIT-C is an abbreviated form consisting of 3 questions

FAST

- 4 item questionnaire
- minimum score = 0, maximum score = 16
- the score for hazardous drinking is 3 or more
- with relation to the first question 1 drink = 1/2 pint of beer or 1 glass of wine or 1 single spirits
- if the answer to the first question is 'never' then the patient is not misusing alcohol
- if the response to the first question is 'Weekly' or 'Daily or almost daily' then the patient is a hazardous, harmful or dependent drinker. Over 50% of people will be classified using just this one question

1 MEN: How often do you have EIGHT or more drinks on one occasion?
WOMEN: How often do you have SIX or more drinks on one occasion?

2 How often during the last year have you been unable to remember what happened the night before because you
had been drinking?

3 How often during the last year have you failed to do what was normally expected of you because of drinking?

4 In the last year has a relative or friend, or a doctor or other health worker been concerned about your drinking or
suggested you cut down?

CAGE

- well known but recent research has questioned it's value as a screening test
- two or more positive answers is generally considered a 'positive' result

C Have you ever felt you should **C**ut down on your drinking?

A Have people **A**nnoyed you by criticising your drinking?

G Have you ever felt bad or **G**uilty about your drinking?

E Have you ever had a drink in the morning to get rid of a hangover (**E**ye opener)?

Diagnosis

ICD-10 definition - 3 or more needed

- compulsion to drink
- difficulties controlling alcohol consumption
- physiological withdrawal
- tolerance to alcohol
- neglect of alternative activities to drinking
- persistent use of alcohol despite evidence of harm

Drug-induced liver disease

Drug-induced liver disease is generally divided into hepatocellular, cholestatic or mixed. There is however considerable overlap, with some drugs causing a range of changes to the liver

The following drugs tend to cause a hepatocellular picture:

- paracetamol
- sodium valproate, phenytoin
- MAOIs
- halothane
- anti-tuberculosis: isoniazid, rifampicin, pyrazinamide
- statins
- alcohol
- amiodarone
- methyldopa

The following drugs tend to cause cholestasis (+/- hepatitis):

- oral contraceptive pill
- antibiotics: flucloxacillin, co-amoxiclav, erythromycin*, nitrofurantoin
- anabolic steroids, testosterones
- phenothiazines: chlorpromazine, prochlorperazine
- sulphonylureas
- fibrates
- rare reported causes: nifedipine

Liver cirrhosis

- methotrexate
- methyldopa
- amiodarone

*risk may be reduced with erythromycin stearate

Dysphagia

The table below gives characteristic exam question features for conditions causing dysphagia:

Oesophageal cancer	Dysphagia may be associated with weight loss, anorexia or vomiting during eating Past history may include Barrett's oesophagus, GORD, excessive smoking or alcohol use

Oesophagitis	May be history of heartburn Odynophagia but no weight loss and systemically well
Oesophageal candidiasis	There may be a history of HIV or other risk factors such as steroid inhaler use
Achalasia	Dysphagia of both liquids and solids from the start Heartburn Regurgitation of food - may lead to cough, aspiration pneumonia etc
Pharyngeal pouch	More common in older men Represents a posteromedial herniation between thyropharyngeus and cricopharyngeus muscles Usually not seen but if large then a midline lump in the neck that gurgles on palpation Typical symptoms are dysphagia, regurgitation, aspiration and chronic cough. Halitosis may occasionally be seen
Systemic sclerosis	Other features of CREST syndrome may be present, namely Calcinosis, Raynaud's phenomenon, oEsophageal dysmotility, Sclerodactyly, Telangiectasia
Myasthenia gravis	Other symptoms may include extraocular muscle weakness or ptosis Dysphagia with liquids as well as solids
Globus hystericus	May be history of anxiety Symptoms are often intermittent

Diarrhoea

The table below gives characteristic features for conditions causing diarrhoea:

Usually acute

Gastroenteritis	May be accompanied by abdominal pain or nausea/vomiting
Diverticulitis	Classically causes left lower quadrant pain, diarrhoea and fever
Antibiotic therapy	More common with broad spectrum antibiotics *Clostridium difficile* is also seen with antibiotic use
Constipation causing overflow	A history of alternating diarrhoea and constipation may be given May lead to faecal incontinence in the elderly

Usually chronic

Irritable bowel syndrome	Extremely common. The most consistent features are abdominal pain, bloating and change in bowel habit. Patients may be divided into those with diarrhoea predominant IBS and those with constipation predominant IBS. Features such as lethargy, nausea, backache and bladder symptoms may also be present
Ulcerative colitis	Bloody diarrhoea may be seen. Crampy abdominal pain and weight loss are also common. Faecal urgency and tenesmus may be seen
Crohn's disease	Crampy abdominal pains and diarrhoea. Bloody diarrhoea less common than in ulcerative colitis. Other features include malabsorption, mouth ulcers perianal disease and intestinal obstruction

Colorectal cancer	Symptoms depend on the site of the lesion but include diarrhoea, rectal bleeding, anaemia and constitutional symptoms e.g. Weight loss and anorexia
Coeliac disease	In children may present with failure to thrive, diarrhoea and abdominal distension In adults lethargy, anaemia, diarrhoea and weight loss are seen. Other autoimmune conditions may coexist

Other conditions associated with diarrhoea include:

- thyrotoxicosis
- laxative abuse
- appendicitis

Hepatobiliary disease and related disorders

The table below gives characteristic exam question features for conditions causing hepatobiliary disease and related disorders:

Viral hepatitis	Common symptoms include: • nausea and vomiting, anorexia • myalgia • lethargy • right upper quadrant (RUQ) pain Questions may point to risk factors such as foreign travel or intravenous drug use.
Congestive hepatomegaly	The liver only usually causes pain if stretched. One common way this can occur is as a consequence of congestive heart failure. In severe cases cirrhosis may occur.
Biliary colic	RUQ pain, intermittent, usually begins abruptly and subsides gradually. Attacks often occur after eating. Nausea is common. It is sometimes taught that patients are female, forties, fat and fair although this is obviously a generalisation.
Acute cholecystitis	Pain similar to biliary colic but more severe and persistent. The pain may radiate to the back or right shoulder. The patient may be pyrexial and Murphy's sign positive (arrest of inspiration on palpation of the RUQ)
Ascending cholangitis	An infection of the bile ducts commonly secondary to gallstones. Classically presents with a triad of: • fever (rigors are common) • RUQ pain • jaundice
Gallstone ileus	This describes small bowel obstruction secondary to an impacted gallstone.

	It may develop if a fistula forms between a gangrenous gallbladder and the duodenum. Abdominal pain, distension and vomiting are seen.
Cholangiocarcinoma	Persistent biliary colic symptoms, associated with anorexia, jaundice and weight loss. A palpable mass in the right upper quadrant (Courvoisier sign), periumbilical lymphadenopathy (Sister Mary Joseph nodes) and left supraclavicular adenopathy (Virchow node) may be seen
Acute pancreatitis	Usually due to alcohol or gallstones Severe epigastric pain Vomiting is common Examination may reveal tenderness, ileus and low-grade fever Periumbilical discolouration (Cullen's sign) and flank discolouration (Grey-Turner's sign) is described but rare
Pancreatic cancer	Painless jaundice is the classical presentation of pancreatic cancer. However pain is actually a relatively common presenting symptom of pancreatic cancer. Anorexia and weight loss are common
Amoebic liver abscess	Typical symptoms are malaise, anorexia and weight loss. The associated RUQ pain tends to be mild and jaundice is uncommon.

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Non-alcoholic fatty liver disease

Non-alcoholic fatty liver disease (NAFLD) is now the most common cause of liver disease in the developed world. It is largely caused by obesity and describes a spectrum of disease ranging from:

- steatosis - fat in the liver
- steatohepatitis - fat with inflammation, non-alcoholic steatohepatitis (NASH), see below
- progressive disease may cause fibrosis and liver cirrhosis

NAFLD is thought to represent the hepatic manifestation of the metabolic syndrome and hence insulin resistance is thought to be the key mechanism leading to steatosis

Non-alcoholic steatohepatitis (NASH) is a term used to describe liver changes similar to those seen in alcoholic hepatitis in the absence of a history of alcohol abuse. It is relatively common and though to affect around 3-4% of the general population. The progression of disease in patients with NASH may be responsible for a proportion of patients previously labelled as cryptogenic cirrhosis

Associated factors

- obesity
- hyperlipidaemia
- type 2 diabetes mellitus
- jejunoileal bypass
- sudden weight loss/starvation

Features

- usually asymptomatic
- hepatomegaly
- ALT is typically greater than AST
- increased echogenicity on ultrasound

Management

- the mainstay of treatment is lifestyle changes (particularly weight loss) and monitoring
- there is ongoing research into the role of gastric banding and insulin-sensitising drugs (e.g. Metformin)

Hepatitis B serology

Interpreting hepatitis B serology is a dying art form which still occurs at regular intervals in medical exams. It is important to remember a few key facts:

- surface antigen (HBsAg) is the first marker to appear and causes the production of anti-HBs
- HBsAg normally implies acute disease (present for 1-6 months)
- if HBsAg is present for > 6 months then this implies chronic disease (i.e. Infective)
- Anti-HBs implies immunity (either exposure or immunisation). It is negative in chronic disease
- Anti-HBc implies previous (or current) infection. IgM anti-HBc appears during acute or recent hepatitis B infection and is present for about 6 months. IgG anti-HBc persists
- HbeAg results from breakdown of core antigen from infected liver cells as is therefore a marker of infectivity

Example results

- previous immunisation: anti-HBs positive, all others negative
- previous hepatitis B (> 6 months ago), not a carrier: anti-HBc positive, HBsAg negative

- previous hepatitis B, now a carrier: anti-HBc positive, HBsAg positive

Coeliac disease

Coeliac disease is caused by sensitivity to the protein gluten. Repeated exposure leads to villous atrophy which in turn causes malabsorption. Conditions associated with coeliac disease include dermatitis herpetiformis (a vesicular, pruritic skin eruption) and autoimmune disorders (type 1 diabetes mellitus and autoimmune hepatitis). It is strongly associated with HLA-DQ2 (95% of patients) and HLA-B8 (80%) as well as HLA-DR3 and HLA-DR7

In 2009 NICE issued guidelines on the investigation of coeliac disease. They suggest that the following patients should be screened for coeliac disease:

Signs and symptoms

- Chronic or intermittent diarrhoea
- Failure to thrive or faltering growth (in children)
- Persistent or unexplained gastrointestinal symptoms including nausea and vomiting
- Prolonged fatigue ('tired all the time')
- Recurrent abdominal pain, cramping or distension
- Sudden or unexpected weight loss
- Unexplained iron-deficiency anaemia, or other unspecified anaemia

Conditions

- Autoimmune thyroid disease
- Dermatitis herpetiformis
- Irritable bowel syndrome
- Type 1 diabetes
- First-degree relatives (parents, siblings or children) with coeliac disease

Complications

- anaemia: iron, folate and vitamin B12 deficiency (folate deficiency is more common than vitamin B12 deficiency in coeliac disease)
- hyposplenism
- osteoporosis
- lactose intolerance
- enteropathy-associated T-cell lymphoma of small intestine
- subfertility, unfavourable pregnancy outcomes
- rare: oesophageal cancer, other malignancies