

# Gastro-intestinal Short Cases

## Introduction

Gastro-intestinal problems are common in primary care. Clinicians are usually concerned with the early detection of serious illnesses, such as colo-rectal carcinoma and inflammatory bowel disease, but are aware that early symptoms of serious disease may mimic more benign conditions. These conditions are important but are fortunately relatively infrequent. Much of the work for primary health care clinicians in this area relates to less serious but common and troublesome GI conditions. Following an online discussion group of primary care clinicians four common GI conditions were identified.

The clinical conditions presented in this module are:

- the diagnosis, immediate and long-term management of coeliac disease
- the management of diverticular disease
- the diagnosis and management of irritable bowel syndrome (IBS)
- the diagnosis and management of anal fissure

After feedback from our piloting groups we have added additional information about the Q-FIT test and more diagnostic information relating to bowel and ovarian cancer. As in other short cases modules, each case is followed by the relevant information section and then its case commentary.

### **Case One: Ellie, a 22-year-old woman**

#### **Part One**

Ellie attends you as she is concerned about her bowels. She has had frequent bouts of diarrhoea and abdominal discomfort, including bloating, over the last two or three years. She has noticed that it is worse after eating bread and wheat-containing products and she is wondering about the benefits of going on a gluten-free diet. Some of her friends have recommended this and she has found information about it on social media. Ellie has a normal BMI, is a non-smoker, and enjoys her job as a care assistant in a local nursing home.

***What further history and investigations would you wish to obtain?***

## Part Two

The results of Ellie's blood tests have returned. Her FBC, U&Es, LFTs, TFTs, bone biochemistry and CRP are all normal and serology for coeliac disease is negative. A year later, Ellie returns and reports that she is experiencing further symptoms, which are increasingly debilitating. She is tired all the time, the diarrhoea and abdominal pain are worse, and she has lost about 3kg in the last three months. In the last two weeks, she has stopped taking gluten in her diet and feels better.

### *How would you proceed?*

## Part Three

After re-introducing gluten to her diet for four weeks (gluten challenge), you repeat coeliac serology and bloods, which come back positive. You refer Ellie to the local GI clinic for duodenal biopsy. All Ellie's investigations confirm coeliac disease.

### *Is there anything else you would consider doing for Ellie?*

#### Information Section – Coeliac Disease

1. Coeliac disease is an autoimmune condition in which ingestion of gluten activates an abnormal mucosal response with chronic inflammation and damage (villous atrophy) to the lining of the small intestine<sup>1</sup>. Estimated prevalence of coeliac disease is 1% in the western world although many people with the condition are undiagnosed. The incidence has increased over the past 50 years with theories that this is due to developing nations, traditionally reliant on gluten-free grains such as rice and maize, increasingly incorporating wheat-based food into their diets. In addition, various environmental factors other than gluten have been implicated in the pathogenesis of coeliac disease, from vitamin D to season of birth<sup>2</sup>. People with a parent, sibling or child with coeliac disease have a 4–17% increased relative risk of developing it in their lifetime. There is increased risk if an individual has other autoimmune conditions such as type one diabetes mellitus or thyroid disease.
2. A diet with a high gluten load, especially as an infant, may be a contributing factor in developing coeliac disease. Gluten is the term for the storage proteins of the cereal grains wheat, rye and barley<sup>2</sup>. The term 'gluten intolerance' is sometimes erroneously used to describe coeliac disease<sup>2</sup>.
3. The inflammatory process which occurs as a response to gluten, results in the production of tissue transglutaminase (tTG) antibodies, and these contribute to systemic manifestations of coeliac disease such as dermatitis herpetiformis (DH)<sup>2</sup>. DH is characterised by herpetiform clusters of intensely itchy urticated papules and small blisters distributed on the extensor aspects of the elbows and knees and over the buttocks and the scalp<sup>3</sup>.

#### Box 1: Suggestions for testing for coeliac disease<sup>4</sup>

Coeliac disease should be suspected and serology testing offered to patients with:

- o Persistent, unexplained abdominal or gastrointestinal symptoms
- o Faltering growth in children
- o Prolonged fatigue
- o Unexpected weight loss
- o Severe or persistent mouth ulcers
- o Unexplained iron, vitamin B12, or folate deficiency
- o Type 1 diabetes mellitus
- o Autoimmune thyroid disease
- o Irritable bowel syndrome in adults
- o A first-degree relative with coeliac disease

4. People who suspect that they have coeliac disease should not remove gluten from their diet as any test is accurate only if a gluten-containing diet is eaten before the diagnostic process<sup>1</sup>. They should continue to eat gluten-containing foods (at least twice every day) until the intestinal biopsy has been performed following a positive serology test<sup>4</sup>.

If a patient has already removed gluten from the diet, there needs to be a 'gluten challenge', where gluten-containing foods are eaten twice daily for at least four weeks before testing. [Expert reviewer comments: in practice we tend to ask patients to eat gluten containing foods regularly for six weeks.] Patients commonly experience gastrointestinal symptoms during this but they are usually short lived (often limited to two - three days). Importantly, the development of symptoms in response to the gluten challenge is insufficient and inaccurate to diagnose coeliac disease. Conversely, relief of symptoms in response to a gluten-free diet has no role in diagnosis. If there are patient concerns about gastrointestinal symptoms that might develop due to a gluten challenge, suggesting gluten-containing products with less fermentable sugars (such as spelt flour-based breads) can help reduce symptoms<sup>5</sup>.

5. For serological testing to investigate suspected coeliac disease in young people and adults, laboratories should include a test for total immunoglobulin A (IgA) and IgA tissue transglutaminase (tTG) as the first choice. Use IgA endomysial antibodies (EMA) if IgA tTG is weakly positive and consider using IgG EMA, IgG deamidated gliadin peptide (DGP) or IgG tTG if IgA is deficient<sup>1</sup>.

6. Following positive serology, the patient should be referred to a gastroenterologist for endoscopy and biopsy of the duodenum. Children should be referred to a paediatric gastroenterologist for further investigation<sup>1,2</sup>. Re-testing should be considered if new symptoms present despite negative serology in the past.

After coeliac disease is diagnosed the treatment is a strict, life-long gluten-free diet. Once this diet is started the intestinal mucosa usually starts to heal, but this is a gradual process, and the median time to achieve a normal villous height was estimated to be 3.8 years in one

study of adults who had serial follow-up biopsies<sup>6</sup>. Symptoms will usually resolve within four weeks<sup>2</sup>.

7. Adherence to a gluten-free diet is a cause of anxiety for many patients. This is often due to hidden sources of gluten, which include: oats (unless harvested separately from wheat), sauces (marinades, soy sauce), drug fillers (prescription and over the counter items, including dietary supplements) and shared food preparation equipment (pasta pot, toaster, deep fat fryer)<sup>2</sup>. People with coeliac disease should be encouraged to eat naturally occurring gluten-free foods and alternative sources of starch (corn, rice, potatoes etc)<sup>3</sup>. Foods labelled as 'gluten-free' should contain less than 20 parts per million of gluten. This gluten content is accepted as safe for the coeliac population by the WHO, the European Commission and the US Food and Drug Administration<sup>3</sup>.

8. Common complications of coeliac disease are caused by malabsorption, such as anaemia, due to deficiency of iron, folate, or vitamin B12, and osteoporosis, due to malabsorption of calcium and/or vitamin D<sup>1</sup>. Newly diagnosed patients should be referred to a dietitian to discuss dietary management. This enables education about the avoidance of gluten but also an opportunity to review the patient's intake of nutrients, vitamins, fibre and calcium<sup>3</sup>. Calcium and vitamin D supplements may be required if dietary intake is not sufficient. High-dose folic acid supplementation (5mg once daily) would be advised for women who are pregnant, or planning a pregnancy<sup>1</sup>.

9. Patients with coeliac disease should have an annual review which includes measuring weight and height, review of symptoms, assessment of diet and adherence to the gluten-free diet. There may be a need for specialist dietetic and nutritional advice to address any concerns about possible complications or co-morbidities<sup>1</sup>. At diagnosis, patients should be encouraged to join the national coeliac support group: Coeliac UK which has many branches across the country. <https://www.coeliac.org.uk>

10. Community pharmacies in Scotland offer a gluten-free foods service. Patients register with their community pharmacy and choose which staple foods they require from the local formulary up to their maximum allocated units (units are based on age and sex). Patients have more control over the amount and type of gluten-free staple foods ordered and can amend their order each month. An annual health check is part of the service. Patients will have their height and weight checked and can ask questions relating to coeliac disease and their gluten-free diet. The review allows the pharmacist to signpost or refer the patient to healthcare services if needed<sup>7</sup>.

11. Patients with coeliac disease are at increased risk of cancer, including a two-fold to four-fold increased risk of Non-Hodgkin's Lymphoma and a more than 30-fold increased risk of small bowel adenocarcinoma<sup>8</sup>. [Expert reviewer comments: More recent data has shown that the risks of malignant change may not be as high as this.]

12. The term non-coeliac gluten sensitivity (NCGS) is used to encompass those people who report symptoms that respond to withdrawal of gluten from the diet in the absence of coeliac disease and wheat allergy<sup>9</sup>. NCGS is typically a self-diagnosis or a diagnosis made by alternative health practitioners, with patients reporting both gastrointestinal and extra-intestinal symptoms. After gluten exposure those with NCGS report more symptoms than those with coeliac disease. People who avoid gluten rarely have coeliac disease excluded before adopting a gluten-free diet, and alternative diagnoses such as fructose intolerance or small bowel bacterial overgrowth may be identified<sup>9</sup>.

13. FODMAPs (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols) are dietary compounds which can trigger an increase in flatulence, diarrhoea, and bloating that may lead to abdominal pain in sensitive individuals<sup>10</sup>. Up to a quarter of adults with coeliac disease will continue to have persistent gastrointestinal symptoms despite strict adherence to a gluten-free diet and complete intestinal healing. There may be overlap between coeliac disease and irritable bowel syndrome (IBS). There has been renewed interest in the low FODMAP diet which temporarily restricts fermentable carbohydrates to relieve gut symptoms in those with treated coeliac disease but persistent IBS symptoms. Studies have shown that most patients with coeliac disease had significant reduction in both abdominal pain and distension following a low FODMAP diet (LFD) in addition to an improvement in wellbeing<sup>10,11</sup>. Specialist dietitian advice should be sought by individuals wishing to follow a LFD.

14. The risk of malabsorption or poor dietary calcium intake in coeliac disease may reduce bone mineral density (BMD) and it is recommended that fragility fracture risk is assessed in all women aged 50–64 years and all men aged 50–74 years with coeliac disease. This may be assessed using online risk calculators: QFracture® (preferred) or FRAX®, and a dual-energy X-ray absorptiometry (DEXA) scan may be required depending on the level of risk. Those with a late diagnosis of coeliac disease may be at greater risk of osteoporosis. A DEXA scan should be offered if there is a history of fragility fractures in patients over 50<sup>12</sup>.

## **Case Commentary: Case One - Ellie, a 22-year-old woman**

### ***What further history and investigations would you wish to obtain?***

It would be useful to know whether Ellie has any relatives with coeliac disease as this would increase suspicion about it (info point 1). If this is suspected, bloods (FBC, U & Es, LFTs and CRP) and serology (tTG) testing should be undertaken (info point 3, 5).

### ***How would you proceed?***

Retesting bloods and coeliac serology would be advisable. It is possible that Ellie had reduced her gluten ingestion before the first test resulting in negative results (info point 4). It

would be best to explore this with her. Ellie's age and absence of other red flags reduce the likelihood of malignancy and whilst the symptoms may be explained by irritable bowel syndrome, it would be useful to exclude coeliac disease as a cause (Box 1). As she has already started excluding gluten from the diet, a gluten challenge would need to be instigated. Ellie should start to eat gluten-containing foods at least twice a day for four weeks and be tested after this (info points 4, 5).

### ***Is there anything else you would consider doing for Ellie?***

Ensure that a referral has been made to a dietitian so that Ellie can understand dietary changes to reduce her symptoms and improve small bowel absorption (info points 6, 8). A FODMAP diet, under the direction of a dietitian, may be considered useful in her case, especially if there is a possible overlap between coeliac disease and IBS (info point 13). A referral should be made to the community pharmacy gluten-free food service so that Ellie can receive free supplies of staple foods (info point 10). Monitor her height and weight on an annual basis and consider the requirement for supplements (calcium and vitamin D if dietary calcium intake is poor, folic acid if considering pregnancy). Give advice regarding patient support services and sign post to organisations such as Coeliac UK (info point 9).

## **Case Two: Tom, a 65-year-old man**

### **Part One**

Tom attends the surgery having recently undergone a colonoscopy, after a positive bowel screening test. He has a diagnosis of pre-diabetes, is a smoker of ten cigarettes per day, and has a BMI of 31. He is an infrequent attender to the practice. He has come to find out the results of his colonoscopy having been directed to you after phoning the medical secretary at the hospital. The colonoscopy report is as follows: "Proximal sigmoid: multiple diverticulae. No abnormality seen other than moderate diverticulosis."

Tom explains that he was a bit groggy after the procedure and was given an information leaflet on diverticulosis to take home. He doesn't really understand what the problem is, as he doesn't have any symptoms, and wonders if he requires treatment.

### ***How would you advise Tom?***

### **Part Two**

Tom returns two years later concerned about lower abdominal pain he's had for six days and increasing difficulty in opening his bowels. Usually he would defaecate once a day and he thinks his last bowel motion was four days ago. He feels nauseated but has not vomited. He is not aware that he has had a fever. Observations show a borderline tachycardia but otherwise no other abnormalities. Abdominal examination reveals left iliac fossa tenderness, no guarding, and bowel sounds are present.

## How would you treat Tom?

### Part Three

Six months later, Tom returns with similar symptoms. He tells you his bowel habit has never really returned to normal since the last 'episode'. As before he feels nauseated and has been off his food for the last few days. The pain is in a similar distribution to his last presentation.

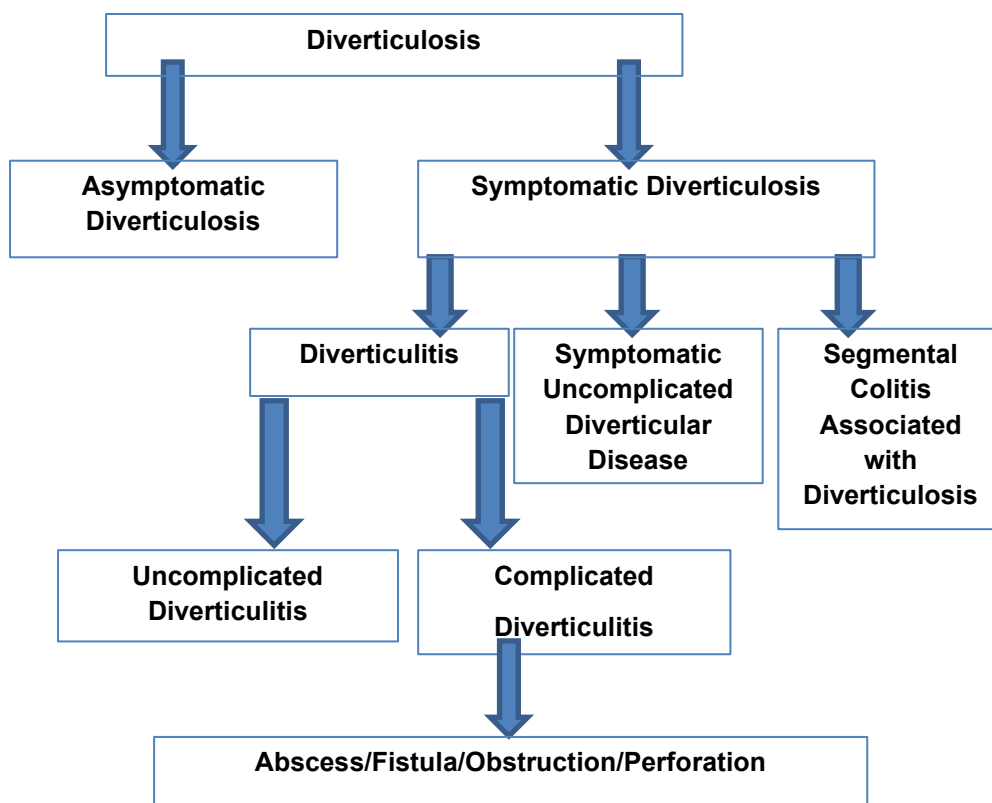
## What would you do now?

### Information Section – Diverticular Disease

15. Diverticular disease is an umbrella term used to describe all conditions where diverticulae protrude from the wall of the large intestine. There are three main forms:

- Asymptomatic diverticulosis – the condition where diverticulae are present
- Symptomatic diverticulosis – symptomatic condition where diverticulae are present, but there is no evidence of infection
- Diverticulitis - inflammation of the sacs usually caused by an infection. These can cause complications such as abscesses, fistula formation, bowel obstruction, perforation, and haemorrhage<sup>13</sup>.

Diagram 1: Flow chart of the taxonomy of diverticular disease





The prevalence of diverticular disease is known to be as high as 45 - 60% in those patients over 70 who have died and had a post-mortem examination. The incidence increases with age although most individuals will remain asymptomatic<sup>14</sup>. It is the most common abnormality found at colonoscopy<sup>15</sup>.

**Box 2: Risk factors for diverticular disease<sup>13</sup>**

Low dietary fibre  
Western diet  
Age over 50 years old  
Obesity, with BMI >30  
Non-steroidal anti-inflammatory drugs (NSAID)  
Smoking

16. In patients with asymptomatic diverticulosis no specific treatment is recommended. However, reducing risk factors (see Box 2 above) can help prevent the development of symptomatic diverticulosis/acute diverticulitis. GUT UK provides clear information leaflets which can be downloaded or printed and given to patients. [GUT UK](#)

17. All patients with left lower abdominal pain should be considered to have diverticular disease, even without known diverticulae on colonoscopy. In older patients with known diverticulosis, a diagnosis of acute diverticulitis is highly probable. Some of the potential diagnostic factors are described below in Box three. Right sided diverticulitis may mimic acute appendicitis, but patients are unlikely to describe the typical prodromal symptoms of appendicitis<sup>16</sup>. NICE guidance recommends checking a FBC which usually reveals a polymorphonuclear leucocytosis. A CRP would detect any signs of an inflammatory response<sup>17</sup>.

**Box 3: Key diagnostic factors<sup>13</sup>**

presence of risk factors  
left lower quadrant abdominal pain  
bloating  
constipation  
fever  
leukocytosis (in full blood count)  
tenderness or guarding in left lower quadrant  
rectal bleeding (uncommon)  
diarrhoea (uncommon)  
right lower quadrant pain (uncommon)

The decision about treatment for acute diverticulitis in primary care is based on clinical presentation and judgment. An algorithm for use in primary care, based on guidance from the Royal College of Surgeons, is detailed in Appendix 1<sup>17</sup>.



18. A systematic review in 2018 assessed the use of probiotics in the treatment of diverticular disease. Overall, studies were equivocal, although there was evidence that *Lactobacilli paracasei* F19 was beneficial in improving abdominal pain and bloating in symptomatic, uncomplicated diverticulitis. There was increased benefit when used alongside a high fibre diet<sup>18</sup>.

19. A high-fibre diet is recommended in NICE guidelines for the treatment of symptomatic diverticular disease, although evidence supporting this is inconsistent and of low quality<sup>19</sup>. Fibre intake should be increased gradually (to minimise flatulence and bloating) and adults should aim to consume 30g of fibre per day. Advise patients that the beneficial effects of increasing dietary fibre may take several weeks<sup>17</sup>. The British Dietetic Association has useful fact sheets which can be given to patients to encourage a healthy balanced diet.

- [Fibre Dietary Guide](#)
- [Fruit and Vegetable Dietary Guide](#)

Some guidance suggests the use of a low fibre diet during an acute episode of diverticulitis with re-introduction of fibre once the episode has resolved<sup>13</sup>. Evidence specifically pertaining to acute diverticulitis is limited. Bulk-forming drugs are used, but evidence of their effectiveness is lacking. NICE guidance suggests that they are considered in patients who are unable to maintain a high fibre diet (e.g. ispaghula husk or methylcellulose)<sup>19</sup>.

20. A Cochrane Review undertaken to assess the effects of antibiotic therapy in uncomplicated diverticulitis reviewed three RCTs. They did not find a statistical difference in outcome between those patients who did or did not receive antibiotic treatment. Outcome measures included: complications, emergency surgery, recurrence, late complications, duration of hospital stay and recovery of signs of infection. It was concluded that as there were only three RCTs, further studies were required before it could be safely implemented in clinical guidance<sup>20</sup>.

As a result of this review, the American Gastroenterological Society recommended that antibiotics should be used selectively rather than routinely in uncomplicated diverticulitis<sup>21</sup>. However, many guidelines, including the NICE guidance encourage the use of oral antibiotics. Specific antibiotics to treat gram positive and anaerobic bacteria are given in Appendix 2.

21. Elective surgery to provide symptomatic relief or prevent recurrence, should be considered for patients following recovery from an episode of complicated diverticulitis, although the specific criteria for this are unclear. These include episodes associated with free perforation, abscess, fistula, obstruction, or stricture. Urgent sigmoid colectomy is required for patients with diffuse peritonitis or for those in whom non-operative management of acute diverticulitis fails<sup>22</sup>. Consider arranging referral to a specialist in colo-rectal surgery if there are persistent or refractory symptoms:

- despite optimal management in primary care
- that cannot be explained by a possible alternative cause<sup>22</sup>

## **Case Commentary: Case Two – Tom, a 65-year-old man**

### ***How would you advise Tom?***

Overall there is nothing that Tom needs to take to treat this problem as his condition is asymptomatic and an incidental finding (Diagram 1, info point 15). It would be important to clarify Tom's understanding of diverticulosis and what the information leaflet provided by the hospital had detailed. It may reassure Tom to mention that diverticular disease is one of the most common findings at colonoscopy (Info point 15). Although he needs no medicines, he could look at his diet and increase the amount of dietary fibre he ingests. A low fibre diet is a risk factor for diverticular disease (Box 2).

This would be a good opportunity to explore Tom's dietary intake and emphasise the importance of a regular well-balanced diet (info point 16). Recommendations for adults is to eat 30g fibre per day, gradually increasing to prevent bloating. A high fibre diet should be maintained for life to prevent the development of diverticular disease. Maintaining hydration is also beneficial.

Weight loss and smoking cessation have been shown to prevent development of diverticular disease (Box 2). Bulking forming laxatives (e.g. ispaghula husk) can be considered in patients with symptomatic diarrhoea or constipation (diverticular disease). No further follow up is needed.

### ***How would you treat Tom?***

A decision to admit Tom to hospital should be based on NICE guidance and clinical judgement (info point 17). In this case, Tom does not have any other co-morbidity, and it appears reasonable to undertake a 48-hour trial of antibiotics (info point 20). Tom should be reviewed at this time to ensure improvement. If symptoms persist he should be admitted.

### ***What would you do now?***

As before it would be important to undertake an assessment of Tom and his observations. Clarify the quantity of diarrhoea and if there has been any PR bleeding. Assessing his hydration would be essential. This would allow you to decide if Tom could be managed at home or if he requires admission (info point 21). Tom explains he has now had altered bowel habit for almost six months. There are no other red flags, but re-referral should be considered to exclude pathological causes such as bowel cancer.

### **Case 3: Janice, a 47-year-old woman**

#### **Part One**

Janice is well known to you for various minor conditions over the years. Today, she is concerned as she has had repeated bouts of diarrhoea, which have been unpredictable. There is no blood or mucus in the diarrhoea. The diarrhoea has been associated with sharp abdominal pains and bloating and this has been troubling her for the last six months. Janice reports feeling more tired than normal. She has suffered similar symptoms periodically for over 20 years but is usually able to manage the symptoms herself. She is worried it may be something more serious. She has three teenage children, has a full-time job in the NHS, and is under a lot of pressure in her current role.

#### ***What examination and investigations would you carry out?***

#### **Part Two**

Janice is peri-menopausal, has not lost any weight of late (despite trying, with a BMI of 28) and has had a history of similar GI problems, usually brought on by stressful events. She remembers similar symptoms when she was a student doing her final exams and when she was getting married. She is a non-smoker and exercises regularly, including the weekly park run, as she finds this helps with the stress of her job.

Abdominal examination is unremarkable and blood tests, including FBC and CRP are normal. On probing, you find that she has been reading some information about ovarian cancer and is worried about this.

#### ***What management advice would you give Janice?***

#### ***How would this differ if Janice was 55 and a smoker?***

### **Information Section – Irritable Bowel Syndrome**

22. Irritable bowel syndrome (IBS) is a chronic, relapsing, and often lifelong disorder of the lower gastrointestinal tract, with no discernible structural or biochemical cause<sup>23</sup>. Typical symptoms include abdominal pain and may be associated with a change in stool form and/or frequency. The pain may be related to defaecation, and there may be associated bloating. People suffering from IBS may complain of lethargy, nausea, back pain, headache, bladder symptoms (such as nocturia, urgency, and incomplete emptying), dyspareunia, or faecal incontinence<sup>23</sup>. To make a diagnosis, symptoms should have been present for at least six months<sup>24</sup>.

23. IBS occurs in about 15% of the adult population. It most commonly affects young people aged 20 – 30 years, is twice as common in women than men, and the prevalence decreases with increasing age<sup>23,25,26</sup>. There is uncertain information about the aetiology of IBS despite much research. It is considered to be a disorder associated with gastrointestinal

motility. Intestinal inflammation was postulated as a cause but mucosal biopsies are normal and intestinal microbiota may be involved as there is an association with less diversity in the gut flora in those who have active IBS symptoms<sup>26</sup>.

24. Evidence from both clinical and experimental studies showed that acute or chronic psychological stress occurring in early life or adulthood, has marked impact on intestinal sensitivity, motility, secretion and permeability. The underlying mechanism has a close correlation with mucosal immune activation, alteration in central nervous system, peripheral neurons and gastrointestinal microbiota<sup>28</sup>. A strong correlation can be observed between the severity of IBS and co-morbid psychiatric disorders, especially depression and anxiety<sup>29</sup>.

Symptoms sometimes overlap with other gastrointestinal disorders such as non-ulcer dyspepsia or coeliac disease. IBS has different classifications depending on the predominant symptoms (Rome IV sub-typing):<sup>25</sup>

1. IBS with constipation (IBS-C): hard or lumpy stools for  $\geq 25\%$  of bowel movements and loose (mushy) or watery stools for  $\leq 25\%$  of bowel movements
2. IBS with diarrhoea (IBS-D): loose (mushy) or watery stools for  $\geq 25\%$  of bowel movements and hard or lumpy stool for  $\leq 25\%$  of bowel movements
3. Mixed IBS (IBS-M): hard or lumpy stools for  $\leq 25\%$  of bowel movements and loose (mushy) or watery stools for  $\leq 25\%$  of bowel movements.
4. Unspecified IBS: insufficient abnormality of stool consistency to meet criteria for IBS-C, IBS-D, or IBS-M.

25. There may be associations with certain foodstuffs, for example, lactose or fructose containing foods<sup>25</sup>. Keeping a food diary can help identify trigger foods. Examination of the abdomen is usually unremarkable. There may be mild and poorly localised tenderness in the right lower quadrant and/or left lower quadrant<sup>25</sup>. Check weight and BMI, assessing for any unexplained weight loss. Perform a rectal examination to exclude perianal or rectal pathology<sup>23</sup>.

If symptoms of anaemia, weight loss, or fever are present, then these require more thorough investigation. In suspected IBS the following blood tests should be performed:<sup>26</sup>

- full blood count (FBC)
- erythrocyte sedimentation rate (ESR) or plasma viscosity
- c-reactive protein (CRP)
- antibody testing for coeliac disease (endomysial antibodies [EMA] or tissue transglutaminase [tTG])

26. A faecal calprotectin test and C-reactive protein (CRP) may help to differentiate IBS from inflammatory bowel disease. A CRP of  $< 0.5$  mg/L and faecal calprotectin of  $< 40$  micrograms/g may effectively exclude inflammatory bowel disease<sup>29</sup>. Stool cultures should be arranged for patients with persistent diarrhoea with bloating. Parasites, particularly *Giardia lamblia*, can cause bloating and diarrhoea<sup>25</sup>.

27. Quantitative faecal immunochemical test (Q-FIT) is used to estimate for occult blood loss from bowel malignancy. It is being tested by a number of health boards in NHS Scotland and at the time of module publication, is not available to primary care clinicians in all board areas.<sup>30</sup> Q-FIT should not be used for patients who have described blood loss to their clinician. It is more accurate than the earlier FOB (faecal occult blood) test which could report false positives after animal blood (red meat) had been ingested by patients. Tests are considered positive when the level is above 10mcg of Hb/gram of faeces.

28.

<b>Urgent referral for suspicion of bowel cancer - high-risk features</b> <sup>31</sup>	
<b>Bleeding</b>	Repeated rectal bleeding without an obvious anal cause Any blood mixed with the stool
<b>Bowel habit</b>	Persistent (more than four weeks) change in bowel habit especially to looser stools - not simple constipation)
<b>Mass</b>	Unexplained abdominal mass Palpable ano-rectal mass
<b>Pain</b>	Abdominal pain with weight loss (also consider upper GI cancer)
<b>Iron deficiency anaemia</b>	Unexplained iron deficiency anaemia

In 2013, in the UK, 41,112 people were diagnosed with bowel cancer and 15,903 patients died as a result of this malignancy. The cardinal symptoms of bowel cancer are: change in bowel habit, weight loss, rectal bleeding and iron-deficiency anaemia. Screening for bowel cancer began some years ago. The older FOB test was replaced with Q-FIT in Scotland in November 2017 (England – June 2019, Wales – Sept 2019 and Northern Ireland in early 2020)<sup>30</sup>. The screening test adopts a higher level of 80mcg/g compared to the level of 10mcg/g for patients with symptoms. Screening using the test now needs only one faecal sample sent in by patients rather than the three needed for the previous test.

Clinicians with concerns about the risk of colo-rectal cancer should perform an appropriate examination looking for an abdominal mass and perform a rectal examination to identify rectal carcinoma. Raised platelets in a full blood count (thrombocytosis) is increasingly recognised as a marker of malignancy of various types and is worth checking. There is no value in measuring carcino-embryonic antigen (CEA)

29. Ovarian cancer symptoms can present in a similar way to those of IBS. Risk factors for ovarian cancer include being aged over 50, nulliparity, late menopause, family history of ovarian or breast cancer, use of hormone replacement therapy (HRT), history of endometriosis, being overweight or obese, smoking, lack of exercise and exposure to asbestos<sup>32</sup>.

30. Arrange specialist referral to a gastroenterologist if there are ongoing symptoms, which persist despite optimal management in primary care or if there is uncertainty about the underlying diagnosis<sup>23,26</sup>. Referral to a dietitian to assist with diet management may be advisable if exclusion diets or FODMAP diets are to be attempted as management<sup>23,26</sup>.

31. If the abdominal examination is normal, measure serum CA125 concentration in women over 50 years as testing is recommended where symptoms suggestive of irritable bowel syndrome have occurred within the last 12 months<sup>32</sup>. Suspect ovarian cancer and carry out pelvic ultrasound in any woman (particularly if over 50 years of age) if any of the following symptoms are persistent or frequent (particularly more than 12 times per month):

- Abdominal distension (bloating)
- Feeling full (early satiety) and/or loss of appetite
- Pelvic or abdominal pain
- Increased urinary urgency and/or frequency

Unexplained weight loss, malaise and change in bowel habit in women would also indicate urgent investigation<sup>32</sup>.

32. Treatment options, including self-help such as exercise, diet and relaxation, are important measures in the treatment of IBS. Treatment needs to consider the management of stress or any other psychological factors. It is important to review the fibre intake of people with IBS, adjusting (usually reducing) it while monitoring the effect on symptoms. People with IBS should be discouraged from eating insoluble fibre such as bran. If an increase in dietary fibre is advised, it should be soluble fibre such as ispaghula powder or foods high in soluble fibre e.g. oats<sup>26</sup>.

Other dietary advice helpful in IBS include: having regular meals and taking time to eat; avoiding missed meals or leaving long gaps between eating; drinking at least eight cups of fluid per day, especially water or other non-caffeinated drinks, for example herbal teas. Restrict tea and coffee to three cups per day; reduce intake of alcohol and fizzy drinks and limit fresh fruit to three portions per day - a portion should be approximately 80 g<sup>26,33</sup>.

33. If standard dietary and lifestyle advice does not improve symptoms, further dietary management may include single food avoidance and exclusion diets, for example, a low FODMAP [fermentable oligosaccharides, disaccharides, monosaccharides and polyols] diet but this advice should only be given by a healthcare professional with expertise in dietary management<sup>26</sup>. Adherence to a FODMAP diet can be problematic<sup>25</sup>.

Probiotic use has been associated with a significant reduction in IBS symptoms and improvement in pain scores compared with placebo<sup>23,26,34</sup>. There are multiple strains, and different probiotics may have different actions on gut function and it is difficult to recommend



a preferred choice of probiotic. If people choose to self-purchase a probiotic, a four-week trial is recommended to assess benefits. If it is beneficial, then it may be continued.

34. Pharmacological treatment is based on predominant symptoms: laxatives, for constipation symptoms, usually with a bulk-forming agent such as ispaghula. Lactulose is not recommended for the treatment of constipation in people with IBS<sup>25,28</sup>. If diarrhoea symptoms are predominant, the first-choice agent would be loperamide. If symptoms of severe constipation persist for at least 12 months, and optimal or maximum tolerated doses of previous laxatives from different classes have not helped, consider a trial of the secretory drug linaclotide, depending on local prescribing guidelines. Review the person after 12 weeks and stop treatment if there is no symptom improvement following this trial<sup>23,26</sup>.

35. Patients with IBS should be advised how to adjust their doses of laxative or anti-motility agent according to the clinical response. The dose should be titrated according to stool consistency, with the aim of achieving a soft, well-formed stool (corresponding to Bristol Stool Form Scale type 4)<sup>26</sup>. Anti-spasmodic choices are hyoscine butylbromide, or mebeverine with peppermint oil also available, and may be helpful as a gastro-intestinal muscle relaxant.

36. Amitriptyline has been shown to be significantly more effective than a placebo in adults with IBS in producing global improvements, increased feelings of wellbeing, reduced abdominal pain and increased satisfaction with bowel movements<sup>35</sup>. Consider tricyclic antidepressants (TCAs) as second-line treatment for people with IBS if laxatives, loperamide or anti-spasmodics have not helped. Start treatment at a low dose (5–10 mg equivalent of amitriptyline), taken once at night, and review regularly. Increase the dose if needed, but not usually beyond 30 mg as there is an increased risk of unacceptable side effects as the dose increases. An SSRI should only be considered if a TCA is ineffective<sup>26</sup>.

Psychological therapies such as CBT and hypnotherapy are known to be effective and guidelines recommend referral for these services if pharmacological therapy is ineffective<sup>24,26</sup>, however local pathways and access to these will vary.

### **Case Commentary: Case 3 - Janice, a 47-year-old woman**

#### ***What examination and tests would you carry out?***

Abdominal and rectal examinations would be standard practice and the taking of blood tests to rule out anaemia or inflammatory bowel disease (FBC, ESR, CRP) (info points 25, 26, 28). A blood sample to exclude coeliac disease would be useful, particularly if there is weight loss or other symptoms that warrant this. A weight recording would be helpful to track changes too. Measurement of faecal calprotectin would help to exclude inflammatory bowel disease also (Info point 26). Bloating is a symptom of ovarian cancer and thus checking a CA-



125 blood test and arranging urgent pelvic ultrasound to visualise the ovaries would be good practice (info point 29).

***What management advice would you give Janice?***

***How would this differ if Janice was 55 and a smoker?***

Irritable bowel syndrome is the most likely diagnosis, based on the history (info points 22, 23). To improve IBS symptom management, a food diary can often be helpful and offering the Food Fact sheet from the British Dietetic Association to reinforce their advice. (see BDA – in resources and info point 26). This may highlight the need to reduce insoluble fibre or reduce fruit intake. There may be an option to refer to a dietitian if diet management has been problematic and causing symptoms (Info points 31, 32). Continuing the healthy lifestyle with regular exercise is to be encouraged and consideration of relaxation focused activities (e.g. yoga, meditation) or Cognitive Behavioural Therapy based treatments, depending on local referral pathways and availability (info points 24, 31, 35).

Loperamide may be prescribed to assist with diarrhoea and abdominal pain, adjusting the dose as necessary to encourage soft stool formation (info point 33). Ongoing symptoms may warrant a trial of amitriptyline, reviewing the response to this after four weeks.

A CA-125 blood test and pelvic ultrasound to exclude ovarian cancer would be necessary (info point 29). However, reassuring Janice that there are no other red flags for ovarian cancer (and factors that reduce her risk include her three children and that she is peri-menopausal). The risk of ovarian cancer increases with age, smoking, lack of exercise, history of endometriosis, HRT use and family history of ovarian or breast cancer.

Colon cancer may be a risk if the patient is over 50 years (info point 28). A flexible sigmoidoscopy may be sufficient or a colonoscopy may be required. Opportunistic health improvement advice to give up smoking and increase exercise as there is some motivation and worry around implications for Janice and this can be capitalised on.

#### **Case 4: Scott a 38-year-old man**

##### **Part One**

Scott attends an appointment after having a discussion with his community pharmacist and being pestered by his wife to seek help. Scott has been purchasing haemorrhoid treatments over the counter, and has used this for the last two weeks, longer than recommended on the patient information leaflet. He has had episodes of piles on and off over the years, but this episode is lasting longer than normal and is much more painful. He is a long-distance lorry driver and admits to not having the best diet. Scott is overweight and claims he does not get a chance to take much exercise.

***What further information or examination would you require?***

**Part Two**

Scott reports he has frequent problems with constipation, but this has been a long standing complaint and he requests some laxatives from you for this. In the past he has had itchy, irritated skin around the anal region with piles but this has not occurred this time. However, the pain has been intense every time he defecates and there is usually bright red blood on the toilet paper. He is not taking any other medicines, there are no other symptoms (no feeling of fullness or of a lump in the anal area) and he is otherwise well.

***What other potential diagnoses should be considered?***

***What diagnosis do you suspect and what management would you recommend, including the use of laxatives?***

**Information Section - Anal Fissure**

37. An anal fissure is a tear or ulcer in the lining of the anal canal, immediately within the anal margin. They are classified as acute if present for less than six weeks and chronic if present for six weeks or longer<sup>37</sup>.

Primary anal fissures have no clear underlying cause. Secondary anal fissures have a clear underlying cause such as constipation, conditions that cause ulceration of the anal mucosa such as inflammatory bowel disease, sexually transmitted diseases (HIV, syphilis and herpes simplex), colorectal cancer and dermatological conditions such as pruritis ani or psoriasis. Anal trauma due to previous anal surgery or anal sex, as well as pregnancy and child birth, due to the pressure on the perineum are also causes. Drug causes include opioids, nicorandil or chemotherapy. Although rare, suspect sexual abuse if an anal fissure is present in children once other causes have been excluded<sup>37</sup>.

38. Anal fissures are common, affecting 1 in 350 people and most commonly occur in people aged between 15 to 40 years<sup>38</sup>. It is thought that primary anal fissures are ischaemic ulcers associated with spasm of the internal anal sphincter (IAS) and a resulting increased anal tone. This may occur in response to pain from anal trauma (such as from passing hard stools), leading to reduced blood flow and ischaemia, increased risk of tearing, and poor healing of a resulting fissure<sup>37</sup>.

39. Anal pain is always present on defaecation, which is sharp and severe. Bleeding may occur, seen as bright red blood on the paper<sup>37</sup>. When considering a differential diagnosis, haemorrhoids are not always associated with pain although there is likely to be bright red blood due to rectal bleeding<sup>39</sup>.

Haemorrhoids are abnormally swollen vascular mucosal cushions that are present in the anal

canal<sup>39</sup>. They are classed as external or internal, depending on their origin in relation to the dentate line: external haemorrhoids originate below the dentate line and are covered by modified squamous epithelium (anoderm), which is richly innervated with pain fibres. Internal haemorrhoids arise above the dentate line and are covered by columnar epithelium, which have no pain fibres. External haemorrhoids can be itchy and painful whereas internal haemorrhoids are not sensitive to touch, temperature, or pain (unless they become strangulated). Internal and external haemorrhoids may be present at the same time<sup>39</sup>.

40. Digital rectal examination is not recommended in primary care to assist diagnosis of anal fissure, as it can be very painful for the patient. Suspect thrombosed haemorrhoids when typical symptoms of haemorrhoids (such as perianal itch and discomfort) precede severe pain and are associated with the feeling of a lump being present.

Referral for rectal cancer investigations would be recommended for patients aged 40 and over with unexplained weight loss and abdominal pain or if they are aged 50 and over with unexplained rectal bleeding or if they are aged 60 and over with iron-deficiency anaemia or changes in their bowel habit<sup>40</sup>.

41. Conservative treatment is first line for acute primary anal fissures and includes dietary management, exercise and pain relief. This usually resolves the problem within 6 - 8 weeks but if duration is longer, then more intensive treatment such as pharmacological treatment with a topical agent, so called 'chemical sphincterotomy' may be required, or if this fails, surgery.

42. Surgery for anal fissure has included anal stretch, posterior sphincterotomy through the base of the fissure later replaced by lateral internal sphincterotomy, and most recently advancement flaps to cover the mucosal defect. Anal stretch is a non-standardised procedure and the resultant disruption to the sphincter mechanism may be significant and lead to permanent damage to the sphincter mechanism. Incontinence for flatus and soiling is reported in up to 39% of patients and up to 16% have faecal incontinence and recurrence of fissure following anal stretch occurs in as many as 56%. Lateral internal sphincterotomy, which relaxes the internal anal sphincter by cutting the muscle, is generally performed as a day case procedure under general anaesthetic. Pain from the sphincterotomy is usually mild and is often less than the pain of the fissure itself. Patients often return to normal activity within one week<sup>39</sup>. However there are still issues with up to 35% of people suffering from incontinence following the procedure<sup>42</sup>.

43. Simple pain management advice may be necessary to help relieve burning pain associated with anal fissures such as either paracetamol or ibuprofen (avoid opiates due to complications with constipation) and a shallow warm bath may be soothing. For severe pain on defaecation, consider prescribing a short course (a few days) of a topical anaesthetic (lidocaine 5% ointment) for use before passing a stool<sup>39</sup>.

Dietary advice and adequate fluids to avoid constipation or straining on defaecation are important to reduce recurrence of anal fissure or haemorrhoids, ensuring that the stools are easy and soft to pass. Adults should aim to eat 30g fibre a day. There are useful diet fact sheets available from the British Dietetic Association which may assist healthy food choices<sup>43</sup>.

44. Advice on anal hygiene is important to aid healing and prevent recurrence, especially in children. The area needs to be kept clean and dry<sup>39</sup>. Haemorrhoidal creams and suppositories usually contain multiple ingredients, including astringent, lubricants, antiseptic, local anaesthetic, and/or corticosteroids. There is no evidence that any topical haemorrhoidal preparation is more effective than another and many are available to buy without prescription. Anaesthetic-containing preparations should only be used for a few days because they may cause sensitisation of the anal skin. Corticosteroid-containing preparations should be used for no longer than seven days because prolonged use may lead to skin atrophy, contact dermatitis, and skin sensitisation<sup>40,45</sup>.

Rectal glyceryl trinitrate 0.4% ointment applied to the anal canal twice a day can help to heal an anal fissure if symptoms have been present for longer than a week. The GTN relaxes the sphincter muscle allowing more blood to flow to the lining of the anus so that the fissure can heal. It should be used twice a day for six - eight weeks but has been associated with headaches<sup>37,45</sup>. Topical diltiazem hydrochloride comes as a 2% cream or ointment but is not licensed for use in the UK to treat anal fissures. A Cochrane Review and two additional RCTs found that the efficacy of 2% topical diltiazem hydrochloride was not statistically significantly different from topical glyceryl trinitrate in adults, but limited evidence indicated a reduced frequency of headaches<sup>45</sup>.

45. Laxatives may be offered where dietary measures are ineffective and aim to increase stool frequency as well as make them easier to pass. Bulk forming laxatives should be first line options, these products work by absorbing water and increasing stool bulk, increasing bowel opening and softening stools. Bulk-forming laxatives are safe, but side effects may include increased flatus and bloating, especially when they are first started. If stools still remain hard, an osmotic laxative such as lactulose liquid or a macrogol compound powder (e.g. Laxido) may be used instead, or in addition to the bulk forming laxative. Stimulant laxatives such as senna or bisacodyl are not first line options as they are potentially associated with harmful long-term colonic effects. They can be used where a person complains of inadequate bowel emptying, opioid-induced constipation or for the treatment of faecal impaction as well as for treatment of chronic constipation if there is an inadequate response to the bulk-forming or osmotic laxatives<sup>49, 44</sup>.

46. Prolonged use of laxatives should not normally be necessary, except occasionally in the elderly, or in palliative care associated with opiate use. In a Cochrane review<sup>46</sup>, polyethylene glycol preparations (also known as macrogol) were superior to lactulose for adults and children. Choice of laxative is therefore based on presenting symptoms, cost and

personal preference. Laxatives should be used with caution if there is fluid or electrolyte imbalance and where there is a history of prolonged use, as there may be a risk of hypokalaemia. Laxatives should not be prescribed where intestinal obstruction or perforation, paralytic ileus, colonic atony, faecal impaction, Crohn's disease, ulcerative colitis or toxic megacolon is suspected. Lactulose is contraindicated in galactosaemia and should be used with caution where there is lactose intolerance and bisacodyl should not be used if there is severe dehydration<sup>47</sup>. Abuse of laxatives is generally driven by psychiatric problems and should not be considered an adverse effect<sup>48</sup>.

47. Laxatives should be gradually withdrawn when regular bowel movements occur without difficulty (e.g. two – four weeks after defaecation has become comfortable) and a regular bowel pattern with soft, formed stools has been established. The rate at which doses are reduced should be guided by the frequency and consistency of the stools. Doses should be reduced in a gradual manner to minimise the risk of requiring 'rescue therapy' for recurrent faecal loading. If a combination of laxatives has been used, reduce and stop one laxative at a time. Stimulant laxatives doses should be reduced first, if possible. However, it may be necessary to adjust the dose of the osmotic laxative to compensate. The patient should be advised that it can take several months to be successfully weaned off from all laxatives. It is common to get relapses and these should be treated early with increased doses of laxatives<sup>47</sup>.

### **Case Commentary: Case 4 - Scott, a 38-year-old man**

***What further information or examination would you require?***

***What other potential diagnoses should be considered?***

It would be important to rule out red flags or symptoms suggestive of colorectal cancer, for example, unexplained weight loss, family history, change in bowel habit or abdominal pain associated with defaecation (info points 37,38). Further information about symptoms would be needed, including duration and bowel habits. An examination of the perianal area would be advisable but should not include a rectal examination as this can be particularly painful if a fissure is present (info points 37,38).

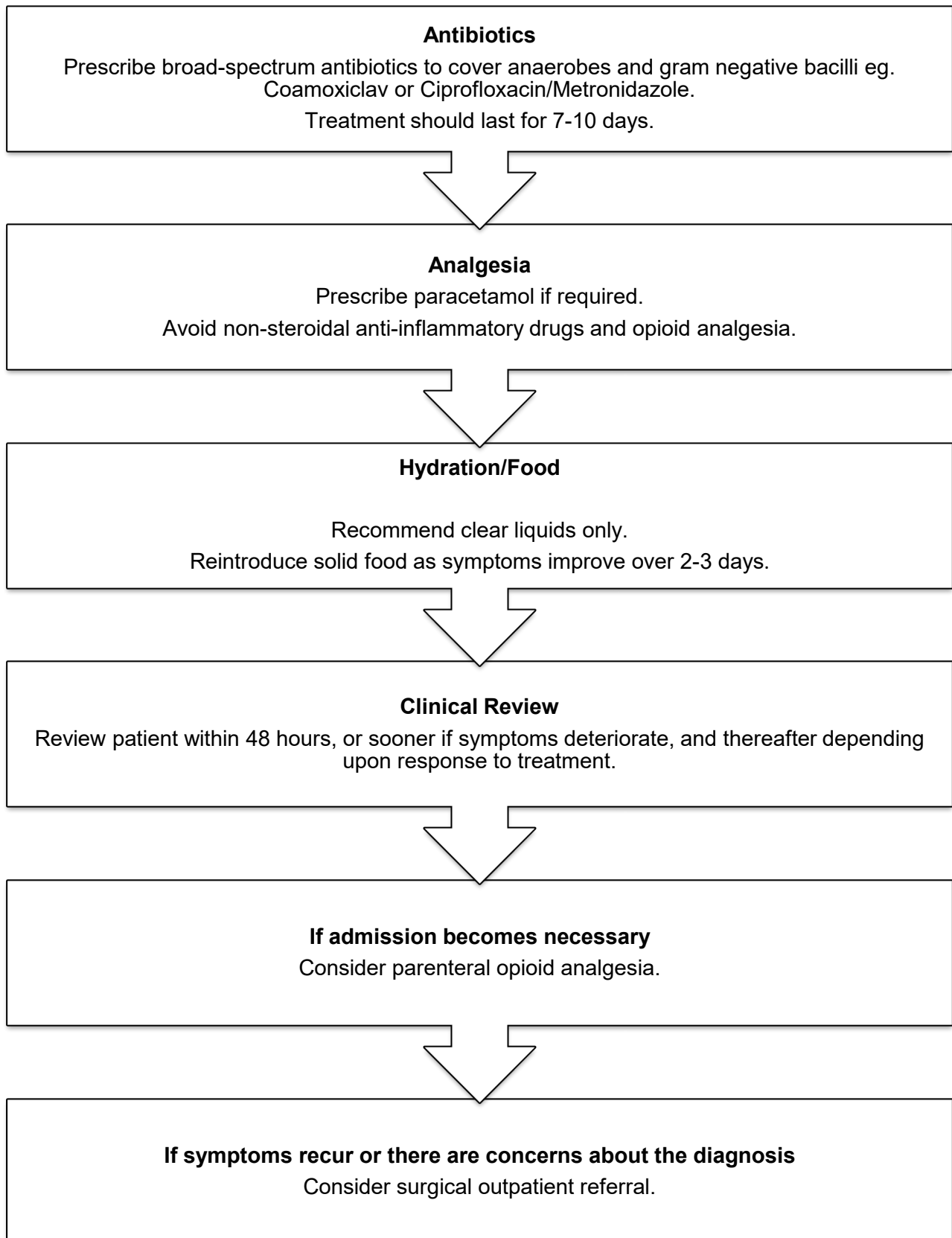
***What diagnosis do you suspect and what management would you recommend, including consideration of laxatives?***

Given the age and lifestyle habits of Scott, an anal fissure or haemorrhoids are likely possibilities, but with the presence of pain on defecation, anal fissure is most likely. Pain relief should be recommended, such as paracetamol or ibuprofen (info point 40) and dietary advice, including increasing fibre content and fluid intake to prevent constipation (Info point 43). As the duration of symptoms has been longer than a week, rectal glyceryl trinitrate ointment may

be offered, for application twice a day for six to eight weeks (Info point 43). Regular exercise would be beneficial in preventing constipation, especially as Scott's occupation can lead to long periods of inactivity. It may be helpful to suggest how he could achieve this, for example a 30 minute walk for five days out of seven may be achievable.

Scott had requested laxatives, and, given his regular problems with constipation and the difficulty with maintaining a good diet and sufficient exercise, a bulk forming laxative such as ispaghula husk or methylcellulose, may be a helpful option as long as sufficient fluids are taken as this would help produce soft stools (Info points 43,44,45).

**Appendix 1: Advanced Surgical Standards Flow-chart for management of acute diverticulitis in primary care**





**Appendix 2: Treatment Options for diverticular disease**

<b>Appendix 2: Treatment Options for diverticular disease</b>		
<b>Asymptomatic Diverticulosis</b>	No treatment	
<b>Symptomatic Diverticulosis</b>	Dietary modification	
	Oral Antibiotic (if suspected infection)	Co-amoxiclav 625mg tds for 7 days
		Ciprofloxacin 500mg bd for 7-10 days AND Metronidazole 500mg tbd for 7-10 days
<b>Symptomatic Diverticulitis (Uncomplicated)</b>	Analgesia	Paracetamol Tramadol Morphine
	Oral Antibiotic	Co-amoxiclav 625mg tds for 7 days
		Ciprofloxacin 500mg bd for 7-10 days AND Metronidazole 500mg tbd for 7-10 days
<b>Symptomatic Diverticulitis (Complicated)</b>	Intravenous antibiotics	Ceftriaxone 1-2g od AND Metronidazole 500mg tds
		Tazosin 3.375g qds
	Endoscopic haemostatis/angiographic embolisation	
	Surgical intervention maybe required if complications cannot be managed.	

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## PBSGL Individual reflection sheet

Topic:

Date:

Main learning points for me	Application to practice – what will I change?

If it is helpful, you can use this sheet to record your own learning points and how this may impact on your practice. This will help inform the discussion that is focussed on completion of the PBSGL log-sheet towards the end of your meeting and also may form a personal record of your learning for appraisal purposes. **Note to facilitators: the group log sheet – a very different document to this one - is much easier to complete online: Please log in to the CPD connect website <http://www.cpdconnect.nhs.scot/login> then click on your group code which you will find just under 'My Group(s)/Membership'. Once you click on this you will be taken into Log sheet Administration where you can add new log sheets or view, edit, delete existing log sheets. Completing that is an important part of the group's reflection on a topic, so please leave enough time to do so at the end of each meeting. Thank you.**

## Resources

All hyperlinks were effective at time of publication

<https://www.coeliac.org.uk>

British Dietetic Association [Food Fact Sheet for Irritable Bowel Syndrome](#)  
IBS network – a charity supporting people living with irritable bowel syndrome.

<https://www.theibsnetwork.org/>

Guts UK – a charity providing support for sufferers for any digestive system diseases, including IBS. <https://gutscharity.org.uk/>

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