An overview of inflammatory bowel disease

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Abstract
Inflammatory bowel disease (IBD) is a term that refers to two main conditions: Crohn's disease and ulcerative colitis. It is a lifelong inflammatory disorder that affects the gastrointestinal tract. Managing IBD requires a multidisciplinary team approach, and specialist IBD nurses have an important role in this, providing education, support and advocacy to patients with IBD. This article provides an overview of the symptoms of Crohn's disease and ulcerative colitis, as well as the medical, nutritional and surgical management strategies that can be used. It discusses the nurse's role in management and the importance of using a multidisciplinary team approach to provide optimum patient care and support.

Aims and intended learning outcomes
The aim of this article is to enhance nurses' understanding of inflammatory bowel disease (IBD), including its symptoms, diagnosis and the strategies that can be used in its management. After reading this article and completing the time out activities you should be able to:
- Define IBD and explain the similarities and differences between its two main conditions: Crohn's disease and ulcerative colitis.
- Describe the signs and symptoms of IBD.
- Outline medical, nutritional and surgical management strategies for IBD.
- Understand the role of the nurse and the wider multidisciplinary team in caring for and supporting patients with IBD.

Introduction
IBD is an umbrella term for two main conditions: Crohn's disease and ulcerative colitis. Both are chronic, inflammatory disorders of the gastrointestinal (GI) tract, characterised by periods of active disease and remission (Langmead and Irving 2008). More than 300,000 people in the UK are affected by IBD (Crohn's and Colitis UK 2018), and this number is increasing. While the condition predominately affects young people, with a significant number diagnosed under the age of 25 years, and many as children (Sandler and Eisen 2000), there is also increasing evidence of a second peak of onset in people aged 60 years and over (Charpentier et al 2014). There is no medical cure for either Crohn's disease or ulcerative colitis and surgery often results in either temporary or permanent stoma formation, which can be challenging for people to adapt to (Ghosh and Mitchell 2007). Many people living with IBD will require lifelong use of medicines to manage their symptoms, alongside ongoing monitoring and management from healthcare services. Specialist IBD nurses have an important role in providing specialist services for people living with IBD in many hospitals in the UK and internationally (Kemp et al 2018). However, nurses in all areas of practice may encounter people with IBD; therefore, it is important that all nurses are able to recognise its signs and symptoms, as well as understand what is involved in the management of this condition.

TIME OUT 1
A patient who has been recently diagnosed with IBD tells you that he does not know what this means. How would you explain the conditions that this term refers to and
Characteristics of inflammatory bowel disease

Crohn’s disease and ulcerative colitis are often considered together under the term IBD because they share several features, including: idiopathic inflammation of the GI tract; a relapsing and remitting pattern of disease course; and aetiology that is not well understood (Langmead and Irving 2008). However, there are several important differences between the two conditions, as outlined in Table 1.

Ulcerative colitis causes mucosal inflammation of the colon (large bowel). Inflammation begins in the rectum and continues to a variable extent around the rest of the colon. Depending on how much of the colon is affected, ulcerative colitis can be further classified into ‘proctitis’ (inflammation of the rectum), ‘distal’ or ‘left-sided’ disease (rectum and sigmoid colon), or ‘extensive’ when inflammation extends into the transverse colon and beyond (Langmead and Irving 2008, Barrett 2016). Understanding a patient’s disease distribution is important in ulcerative colitis because it can guide treatment decisions.

Crohn’s disease can affect any part of the GI tract, from the mouth to the anus. ‘Skip lesions’ (areas of inflammation interspersed with normal mucosa) are considered a diagnostic feature of the condition, and the inflammation is often transmural (involving all of the layers of the bowel wall). Common sites for Crohn’s disease inflammation are the terminal ileum, small bowel and colon, although often the rectum is not affected (Gomollón et al 2017).

TABLE 1. Differences between ulcerative colitis and Crohn’s disease

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<thead>
<tr>
<th>Characteristic</th>
<th>Ulcerative colitis</th>
<th>Crohn’s disease</th>
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<tr>
<td>Location</td>
<td>Limited to the colon and rectum</td>
<td>Can occur in any part of the gastrointestinal tract, from the mouth to the anus</td>
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<tr>
<td>Ulceration</td>
<td>Continuous</td>
<td>Patchy – presence of skip lesions (areas of inflammation interspersed with normal mucosa)</td>
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<tr>
<td>Bowel lining affected</td>
<td>Affects the mucosa only</td>
<td>All layers of the bowel lining can be affected</td>
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<tr>
<td>Affected population</td>
<td>More common in adults than Crohn’s disease</td>
<td>More common in children than ulcerative colitis</td>
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(Adapted from Barrett 2016)

Diagnosis

National Institute for Health and Care Excellence (NICE) (2015a) guidelines recommend that a diagnosis of IBD is made in an age-appropriate specialist setting using a combination of haematological, endoscopic, histological and imaging-based investigations. Patients presenting to their GP with symptoms that suggest IBD should be promptly referred for a specialist opinion and ideally seen within four weeks of referral.

Faecal calprotectin (FCP) stool testing is increasingly undertaken in primary care to assist in differentiating between irritable bowel syndrome (IBS) (a non-inflammatory condition that presents with similar symptoms to IBD, but in the absence of any inflammatory process) and IBD. Calprotectin is a protein released in the presence of inflammation in the gut, and can be measured from a stool sample, making it a useful non-invasive test to assess levels of inflammation. It is elevated in IBD, but also in other conditions that can cause gut inflammation such as neoplasia and infective colitis. However, measurement of FCP levels as part of an overall assessment of suspected IBD can assist in identifying patients who should be referred for further investigation. Guidelines recommend that in the absence of infective causes, an FCP greater than 50µg/g measured in primary care, in combination with a medical history suggestive of IBD, warrants referral for further assessment (NICE 2013, Barrett 2016).

A full medical history should be undertaken, including asking the patient about the onset of their symptoms, family history, travel and drug history, as well as a physical examination and appropriate screening blood tests (full blood count, renal and liver function, and biochemical markers of inflammation such as C-reactive protein) (Gomollón et al 2017). Asking the patient questions about nocturnal symptoms and the presence of any extraintestinal symptoms, including joint pain, red eyes or skin lesions, is also recommended. Infectious causes of diarrhoea should be excluded. Endoscopic and radiological investigations are used to identify the site and severity of disease activity, and microscopic features from biopsies taken at endoscopy can assist in confirming diagnosis (Langmead and Irving 2008).

Phenotyping

As more is understood about IBD, classification of a person’s IBD ‘phenotype’ has become possible. The phenotype is the person’s specific disease characteristics based on factors including age at presentation, disease site and disease behaviour at diagnosis. Phenotype classifications have been developed to predict outcome of disease, based on these factors, which can guide discussions and decisions regarding treatment (Satsangi et al 2006).

Signs and symptoms

Although the aetiology of IBD remains largely unknown, it is widely accepted that a complex interaction between the genetic, environmental or microbial factors and the patient’s immune response results in inflammation in the GI tract (Langmead and Irving 2008).

IBD typically runs a relapsing and remitting course. When there is inflammation present, the disease is considered to be in an ‘active’ phase, or a ‘flare-up’.
When the degree of inflammation is less or absent, symptoms are reduced, and the disease is classed as ‘in remission’; however, even in remission the effects of IBD on an individual’s quality of life can remain significant (Ghosh and Mitchell 2007).

Symptoms of IBD will vary from person to person, depending on the disease type and the distribution of inflammation. Furthermore, symptoms can vary in the same person during different flare-ups. Typical symptoms that patients with IBD describe include (Hanauer 2006):

» Abdominal pain.
» Diarrhoea – often bloody and sometimes with mucus present.
» Loss of appetite.
» Weight loss.
» Fatigue.
» Increased frequency of bowel movements.
» Occasional incontinence.

A diagnosis of IBD can result in significant psychosocial effects for individuals. Increased levels of anxiety and depression have been reported by people living with Crohn’s disease and ulcerative colitis, both in relation to the disease itself and the effect of symptoms, but also relating to the effect of the unpredictability of symptoms, and the effect this can have on day-to-day activities and planning for future events (Ghosh and Mitchell 2007). Symptoms of anxiety and depression can manifest both alongside or independently of active disease, and those caring for patients with IBD should regularly ask them about the effects it has on their quality of life to identify any issues (Dibley et al 2018).

Extraintestinal manifestations
In addition to GI symptoms, people with IBD can also experience a variety of non-GI, or ‘extraintestinal’ manifestations (EIMs), including arthralgia (joint pain) or arthritis, eye and skin complications, and inflammation of the liver (Ardizzone et al 2008). When assessing disease activity, it is important to ask the patient about the presence of EIMs because they can be more debilitating, or in the case of liver complications, potentially more harmful to the patient than their bowel symptoms. It should be noted that EIMs may be the initial presenting symptoms of IBD. As many as 50% of patients with IBD have at least one EIM, with the probability of developing further EIMs increasing with disease duration (Harbord et al 2016). Some EIMs are more commonly related to the active phase of IBD, such as joint, skin, eye, and oral manifestations, while others, for example liver complications such as primary sclerosing cholangitis (inflammation and scarring of the bile ducts), can run a course independent of whether the disease is in the active phase or not (Ardizzone et al 2008, Harbord et al 2016).

Key points

- Inflammatory bowel disease (IBD) is an umbrella term for two main conditions: Crohn’s disease and ulcerative colitis. Both are chronic, inflammatory disorders of the gastrointestinal (GI) tract, characterised by periods of active disease and remission (Langmead and Irving 2008). More than 300,000 people in the UK are affected by IBD (Crohn’s and Colitis UK 2018), and this number is increasing.

- Studies examining the effects that IBD can have on an individual’s overall well-being have demonstrated that symptoms of anxiety and depression can manifest both alongside or independently of active disease.

- Even in remission, the effects of IBD can be significant, with psychological implications such as fear of not being able to access a toilet when needed, fatigue, effects on sexual function and relationships, and anxiety and depression reported by many patients, even when their disease is not currently active (Ghosh and Mitchell 2007, Burkhalter et al 2015).

Medical management
The primary aim of medical treatment for IBD is reduction of mucosal inflammation, resulting in fewer active phases, and improved quality of life (Hanauer 2006, Langmead and Irving 2008, Mowat et al 2011). Medical therapies, including immunomodulating and biological agents acting on specific cytokines (specific proteins in the body that act as ‘signal’ cells) involved in the inflammatory process are often used (Mowat et al 2011). Management plans should consider the activity, site and behaviour of an individual’s disease, and should always be discussed with the patient (Gomollón et al 2017).

Optimal management of IBD aims to achieve the induction and maintenance of remission using the least toxic therapy possible so that the risks and side effects of treatment are minimised. Regular assessment of the effectiveness of therapy is essential to ensure that the goals of therapy are being achieved, and that the patient is not being undertreated. Nurses who understand the disease processes and available treatment strategies are well placed to enable discussions about therapy and assist patients in making decisions about their treatment (Kemp et al 2018).

Table 2 lists the drugs used to treat IBD and their side effects.

Aminosalicylates
Aminosalicylates are bowel-specific anti-inflammatory drugs released into the bowel via pH control. They are thought to act on epithelial cells by a variety of mechanisms to moderate the release of cytokines to reduce inflammation, although the exact mechanism of action is not fully understood (NICE 2015a). They can be administered both orally and topically (via the rectum in both suppository and enema form) and are considered standard first-line therapy in the treatment
of ulcerative colitis, although the evidence for their usefulness in Crohn’s disease is less evident (Gomollón et al 2017).

Corticosteroids
Corticosteroids are synthetic drugs that resemble the hormone cortisol, which is responsible for regulating metabolism and immune response, as well as having a role in the physiological response to stress. By increasing the amount of cortisol in the body, and exceeding normal levels, anti-inflammatory effects can be achieved (NICE 2015a, British National Formulary (BNF) 2018). Their onset of action is more rapid than that of aminosalicylates. Corticosteroids, typically oral prednisolone, or intravenous hydrocortisone in severe disease, have been the mainstay of management for ulcerative colitis since the 1950s (Truelove and Witts 1955), and are also effective in reducing inflammation in Crohn’s disease. However, up to 50% of patients receiving oral prednisolone or intravenous hydrocortisone report side effects, including agitation, sleep disturbances and acne, as well as the risk of glucose intolerance and osteoporosis in the long term (Mowat et al 2011). Therefore, prolonged or repeated courses of corticosteroids are not recommended (Mowat et al 2011, BNF 2018).

Potential side effects can be minimised by prescribing the lowest dose possible for the shortest time, using alternatives to systemic oral or intravenous corticosteroids wherever possible, such as suppositories or enema preparations, and ensuring a tapered reduction to reduce the risk of adrenal insufficiency occurring (NICE 2015a, BNF 2018).

Standard oral prednisolone treatment courses in IBD start at 40mg daily for 1-2 weeks, reducing thereafter by 5mg each week over a total treatment period of 8-9 weeks (BNF 2018). It is essential to ensure that a response has been achieved to avoid overexposure for patients. In at-risk patients, such as those with suboptimal nutrition, significant corticosteroid exposure (resulting from taking multiple courses of corticosteroids, or long-term use of corticosteroids) or older patients, concomitant supplementation with calcium should be considered (Mowat et al 2011). During therapy, adrenal atrophy can develop. Therefore, a gradual reduction is advised when doses of 40mg daily for one week or more have been used, to minimise withdrawal side effects, including malaise, arthralgia and weight loss, as well as the more serious complication of acute adrenal insufficiency (BNF 2018).

Immunomodulators
Immunomodulating drugs work by inhibiting the production of white blood cells as a result of purine synthesis inhibition (BNF 2018). As white cell activity is increased during active inflammation, the inflammatory process is lessened by reducing the availability of white cells. Immunomodulators, such as azathioprine, mercaptopurine and methotrexate, are typically used in patients where symptoms have become either’steroid dependant’ and are only controlled while they are taking corticosteroids or ‘steroid refractory’ symptoms of active inflammation continue even while taking corticosteroids, and they are therefore referred to as ‘steroid-sparing’ agents. If a patient has required two or more courses of corticosteroids to manage their disease, immunomodulatory therapy should be considered (Mowat et al 2011).

The primary concern with immunomodulators is the risk of bone marrow toxicity, which reduces white blood cell production to a level that puts the individual at risk of opportunistic infections. Regular blood monitoring is essential, initially undertaken weekly while the therapy is being established, and no less than three monthly for the duration of treatment.

Side effects of immunomodulators include malaise, nausea and vomiting, and myalgia, particularly at the beginning of therapy. If possible, patients who experience these side effects should be encouraged to persevere with treatment – for example, by taking

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<th>TABLE 2. Drugs used to treat inflammatory bowel disease</th>
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<td>Aminosalicylates (5-ASAs)</td>
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(Adapted from Barrett 2016)
medicines at night, splitting doses or using antiemetics to attempt to manage the side effects – unless serious complications occur or the side effects are intolerable. Azathioprine and mercaptopurine doses are calculated by the patient’s weight, typically between 2-2.5mg/kg for azathioprine and 1-1.5mg/kg for mercaptopurine (BNF 2018). However, some people have either low or elevated levels of the enzyme thiopurine methyltransferase known to metabolise thiopurines, and this should be measured before initiation of treatment to ensure safe dosing (Mowat et al 2011, BNF 2018). In addition to an increased risk of lymphoma, azathioprine and mercaptopurine may increase the risk of non-melanoma skin cancer, and patients should be monitored for this and given appropriate sun protection advice (NICE 2017a). Methotrexate is taken weekly, as tablets if tolerated; however, it can also be administered as a subcutaneous injection to assist with tolerability if required (BNF 2018). Concurrent folic acid supplementation can also reduce side effects, although should not be taken on the same day as methotrexate. Methotrexate is a known teratogenic drug (an agent that can disturb the development of an embryo or fetus by halting the pregnancy or producing congenital malformations) and should be avoided for women who are planning a pregnancy.

Second-line immunomodulators, including tacrolimus, mycophenolate mofetil and ciclosporin may also be used in refractory IBD, typically initiated in specialist centres.

**Biological agents**
The introduction and expansion of the formulation of monoclonal antibodies targeting specific processes or cytokines involved in the inflammatory process for the treatment of IBD has significantly improved outcomes for patients with ulcerative colitis and Crohn’s disease, reducing hospitalisations and surgical interventions (Moss 2015). These are often reserved for patients who have proved refractory to or are intolerant of immunomodulators, although they can be introduced earlier in a patient’s treatment pathway, if appropriate (Sandborn et al 2014).

Careful assessment and pre-treatment screening is essential to reduce the risks of opportunistic infections and other complications associated with biological therapies. IBD specialist nurses have a significant role in the selection, screening, administration and monitoring of biological therapies in IBD in many centres, and therefore should have an understanding of these therapies and how they are incorporated into IBD management (Kemp et al 2018). Biological agents licensed in the management of IBD that are commercially available and approved by NICE (2015b, 2015c, 2015d, 2017b) are:

» Anti-tumour necrosis factor alpha (TNFα) therapy – infliximab, adalimumab, certolizumab pegol and golimumab bind to and inhibit the production of tumour necrosis factor, a protein produced chiefly by monocytes and macrophages, which mediates inflammation.

» Anti-integrin therapy – vedolizumab binds to gut-specific inflammatory signal cells and prevents their migration into the bowel wall resulting in a reduction in GI inflammation.

» Anti-interleukin (IL) therapy – ustekinumab binds to IL-12 and IL-23, two cytokines involved in the inflammatory ‘cascade’ process in the body. By interfering with their action, the inflammatory process is interrupted and reduced, resulting in less inflammation in the body.

**TIME OUT 4**

**Nutritional management**

Exclusive enteral nutrition is a drug-free alternative approach to symptom and disease management, whereby no solid food is taken by mouth and supplements are used to meet the patient’s calorific needs, enabling bowel rest and healing. This approach is favoured in children with Crohn’s disease (Day and Lopez 2015). Typically, the patient will complete a treatment regimen of 6-8 weeks after this diet, before undertaking a tailored food reintroduction programme under the strict monitoring of specialist dieticians. Children presenting with IBD symptoms will often already have significant weight loss and potential nutritional deficiencies at the time of diagnosis, and ongoing inflammation and impaired nutrition can affect pubertal development, as can the use of corticosteroid therapy, making it a less attractive option for these patients (Day and Lopez 2015).

Studies have demonstrated that exclusive enteral nutrition can induce remission as effectively as prednisolone in children, with a mechanism of action that has been shown to actively reduce levels of proinflammatory cytokines, in addition to providing bowel rest (Grover et al 2014). Exclusive enteral nutrition can also be considered as an alternative to corticosteroid therapy in adults; however, adherence to the exclusion of solid foods by mouth can be challenging and therefore success rates within the literature are limited (Mowat et al 2011).

**Nutritional considerations**

Malnutrition, particularly in Crohn’s disease, can be common. The most common nutritional deficiencies in IBD are of macronutrients, vitamins such as vitamin B12 and vitamin D, folic acid, and minerals such as iron, calcium, magnesium, selenium or zinc. Many patients with IBD will make dietary modifications to attempt to reduce their symptoms. There is no one dietary approach that has been found to be effective in reducing IBD activity, and it is therefore important to encourage patients to consume a varied diet when they feel able, with referral to a dietician if there are significant concerns about restrictive eating. Patients will often discuss their concerns about diet and its association with their IBD with nurses at all levels and this is an opportunity for education and
referral to appropriate sources of information such as dieticians or online resources (Kemp et al 2018).

**Surgical management**

About 20% of patients with ulcerative colitis and up to 80% of patients with Crohn’s disease will require surgery for disease control at least once in their lives (Sica and Biacone 2013). Surgical interventions for ulcerative colitis include subtotal colectomy (surgical removal of the colon), or more frequently panproctocolectomy (removal of the colon and rectum), leaving the patient with either an ileostomy, or an ileo-anal ‘pouch’, formed at a later date using the small bowel and enabling the ileostomy to be reversed. Removal of the inflamed large bowel in ulcerative colitis is considered curative; however, many patients have significant concerns about life with a stoma or pouch and require support and education to enable them to make an informed decision about this.

In Crohn’s disease, small bowel resection, subtotal colectomy and ileo-rectal anastomosis (bringing the end of the small bowel down to join the rectum), or panproctocoletomy and permanent ileostomy may be necessary. Surgical resection of the affected bowel is sometimes indicated for isolated disease or strictures (narrowing of the bowel lumen as a result of scarring from inflammation), but is not a cure for Crohn’s disease. While surgery can improve quality of life for patients with ulcerative colitis and Crohn’s disease, EIMs may remain (Harbord et al 2016).

**Management of fistulising Crohn’s disease**

Fistulising Crohn’s disease is defined as the presence of fistulae, often arising in the perianal area as a communication between the intestine and perianal skin, or in the abdominal wall or other organs (Gionchetti et al 2017), and remains one of the most significant challenges for patients and the people involved in their care (Tozer et al 2011, Garrick et al 2013, Kemp et al 2018).

A combination of medical, surgical, nursing, nutritional, radiological and other specialist intervention is required to manage complications of fistulising Crohn’s disease, which can include sepsis, nutritional deficiencies and effects on health-related quality of life (Tozer et al 2011). Nurses can have a significant role in wound management, protecting skin integrity and promoting comfort for patients (Garrick et al 2013, Kemp et al 2018), often working in collaboration with stoma or wound care nurse specialists. Surgical intervention to manage fistulae may include abscess drainage and insertion of a seton but can, in severe cases, require diversion surgery or proctectomy (Gionchetti et al 2017).

**Role of the nurse**

IBD can affect many aspects of a patient’s daily life, including relationships, schooling, socialising and work life. In one survey that examined the effects of IBD on quality of life, one quarter of respondents reported taking significant time off work (over 25 days in one year) because of their symptoms, and 31% had changed their job or job role (European Federation of Crohn’s and Ulcerative Colitis Associations 2014). Even in remission, the effects of IBD can be significant, with psychological implications such as fear of not being able to find a toilet when needed, fatigue, changes in sexual function and relationships, and anxiety and depression reported by many patients, even when their disease is not currently active (Ghosh and Mitchell 2007, Burkhalter et al 2015).

In the European Federation of Crohn’s and Ulcerative Colitis Associations (2014) survey, 83% of respondents reported feeling tired, weak or worn out at least once per week, even between flares. Fatigue can persist even when no clinical cause can be identified. It can be challenging for patients and healthcare practitioners to manage, but must not be ignored because addressing this symptom can lead to significant benefits in quality of life. Evidence suggests that, as with other chronic conditions, fatigue can also be linked with higher levels of depression in patients with IBD, although it is challenging to determine which precedes the other (Czuber-Dochan et al 2013).

The role of specialist IBD nurses is to provide education, support and advocacy for their patient group, interacting with the wider multidisciplinary team and other specialties as appropriate; supporting patients from diagnosis, and pre-diagnosis in some centres, and throughout their continuing care (Mason and Leary 2018). Nursing interventions such as telephone clinics, support lines, nurse-led follow-up care and health promotion are valued by patients with IBD and have been demonstrated to be cost effective (Sack et al 2012, Kemp et al 2018).

Discussions about treatments and surgery to manage IBD can be distressing for patients, and it is important they feel they have someone supporting them and ensuring their voice is heard in discussions about their care. Nurses working at all levels, with an understanding of IBD, its management and effects, can provide this support (Kemp et al 2018).

**Multidisciplinary team working**

Multidisciplinary team working for IBD has evolved in response to the increasing recognition that Crohn’s disease and ulcerative colitis are chronic and progressive in nature. The severity and complexity of symptoms of IBD varies between patients and changes over time, and therefore an individualised approach to management and continued collaboration between the patient and all members of the multidisciplinary team is required.

Care delivered by multidisciplinary teams, particularly when guided by current consensus, is an effective model for long-term follow up of patients with IBD (Mawdsley et al 2006, Panés et al 2014). In addition, cost-effectiveness in relation to specialist IBD services has been demonstrated (Sack et al 2012). As such, multidisciplinary team working in IBD is becoming the favoured approach across Europe (The IBD Standards Group 2013, Mikocka-Walus et al 2014, Panés et al 2014).

A core IBD team should include, as a minimum, gastroenterologists, specialist IBD nurses, surgeons,
radiologists and pathologists (The IBD Standards Group 2013, Panés et al 2014). Other team members should include dieticians, specialist pharmacists and psychologists (The IBD Standards Group 2013). There should be clear processes and agreements in place to enable referral to relevant associated specialists when needed, such as rheumatologists, dermatologists or hepatologists (The IBD Standards Group 2013, Mikocka-Walus et al 2014, Panés et al 2014). Specialist IBD nurses work in this team, and as well as being an aware of the wider multidisciplinary team and its role in providing IBD care, they can ensure that patients’ clinical and non-clinical concerns can be met through appropriate referrals and patient advocacy.

Conclusion

IBD is a life-changing disease that can have significant effects on an individual’s quality of life. Its management involves potentially toxic medical therapies, and in some cases surgery. Nurses in all clinical areas who encounter patients with IBD can enhance patients’ understanding and knowledge of the condition and its management. Nurses should also be aware of the opportunities to develop their role in IBD care to further support this patient group.

TIME OUT 5
Consider how the diagnosis and management of IBD relates to The Code: Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates (Nursing and Midwifery Council 2018) or, for non-UK readers, the requirements of your regulatory body.

TIME OUT 6
Now that you have completed the article, reflect on your practice in this area and consider writing a reflective account: rcni.com/reflective-account

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Inflammatory bowel disease
TEST YOUR KNOWLEDGE BY COMPLETING THIS MULTIPLE-CHOICE QUIZ

1. What is inflammatory bowel disease (IBD)?
   a) An umbrella term for two main conditions: Crohn’s disease and ulcerative colitis  
   b) A condition in which multiple pouches (diverticula) form in the wall of the colon  
   c) The development of ulcers on the lining of the stomach  
   d) A disorder of the gastrointestinal tract that predominately affects adults aged between 25 years and 60 years

2. Ulcerative colitis:
   a) Is characterised by the presence of skip lesions  
   b) Can occur in any part of the gastrointestinal tract  
   c) Is limited to the colon and rectum  
   d) Can affect all layers of the bowel lining

3. Faecal calprotectin stool testing is primarily used to differentiate between IBD and which condition?
   a) Chronic constipation  
   b) Irritable bowel syndrome  
   c) Bowel cancer  
   d) Gastroparesis

4. Which of these is not a typical symptom of IBD?
   a) Abdominal pain  
   b) Increased bowel frequency  
   c) Weight loss  
   d) Increased appetite

5. One extraintestinal manifestation of IBD is:
   a) Diarrhoea  
   b) Inflammation of the liver  
   c) Constipation  
   d) Incontinence

6. Which of the following is a significant side effect of corticosteroids?
   a) Osteoporosis  
   b) Pancreatitis  
   c) Liver damage  
   d) Increased susceptibility to infections

7. When are immunomodulators typically used in the medical management of IBD?
   a) As the first-line therapy in Crohn’s disease and ulcerative colitis  
   b) If a patient’s IBD symptoms have become either ‘steroid dependant’ or ‘steroid refractory’  
   c) If biological agents have proven ineffective in managing a patient’s IBD symptoms  
   d) To enhance the effects of aminosalicylates

8. In exclusive enteral nutrition:
   a) The patient consumes a gluten-free and lactose-free diet for up to four weeks  
   b) The patient consumes a high-fibre diet until their symptoms subside  
   c) The patient consumes no solid food by mouth, and supplements are used to meet their calorific needs, enabling bowel rest and healing  
   d) The patient consumes regular meals for five days per week, then eats nothing for two days

9. Which statement is false?
   a) Most patients with Crohn’s disease will require surgery for disease control at least once in their lives  
   b) Removal of the inflamed large bowel in ulcerative colitis is considered curative  
   c) Subtotal colectomy is undertaken more frequently than panproctocolectomy in ulcerative colitis  
   d) While surgery can improve quality of life for patients with ulcerative colitis and Crohn’s disease, they may still experience extraintestinal manifestations

10. The role of the specialist IBD nurse may involve:
    a) Selecting, screening, administering and monitoring of biological therapies for IBD  
    b) Providing education and advocacy for patients with IBD  
    c) Supporting patients with IBD from diagnosis and throughout their continuing care  
    d) All of the above

How to complete this quiz
This multiple-choice quiz will help you to test your knowledge. It comprises ten questions that are broadly linked to the CPD article. There is one correct answer to each question.
» You can test your subject knowledge by attempting the questions before reading the article, and then go back over them to see if you would answer any differently.
» You might like to read the article before trying the questions.
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This multiple-choice quiz was compiled by Alex Bainbridge
The answers to this multiple-choice quiz are:

This activity has taken me ___ minutes/hours to complete. Now that I have read this article and completed this assessment, I think my knowledge is:

Excellent ☐  Good ☐  Satisfactory ☐  Unsatisfactory ☐  Poor ☐

As a result of this I intend to: ________________________________

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