

Nutritional Management of Fistulising Crohn's Disease

Translating Evidence into Dietetic Practice



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Fistulising Crohn's disease (CD) is one of the more challenging and distressing manifestations of inflammatory bowel disease. Up to one-third of individuals with CD will develop a fistula during their lifetime.¹ This typically occurs when inflammation becomes deep and penetrating, extending through the full thickness of the bowel wall and into nearby structures. From a patient perspective, this can be associated with recurrent sepsis, the need for surgery, reduced quality of life, and a significant psychological burden.

Introduction

Perianal CD is the most common presentation and refers to the presence of one or more fistula tracts between the anal canal and surrounding skin or adjacent structures, such as the vagina.²

Medical therapy, particularly anti-tumour necrosis factor (anti-TNF) drugs, such as infliximab and adalimumab, remain the first-line treatment for perianal disease.³ Alongside this, European and UK consensus guidelines highlight the importance of multidisciplinary care, including dietetic assessment and nutritional optimisation. The 2025 British Society of Gastroenterology (BSG) guideline,² while primarily medically focused, emphasises the importance of multidisciplinary care and the need for comprehensive assessment and nutritional optimisation, particularly prior to interventions such as surgery. Similarly, both the 2025 European Crohn's and Colitis Organisation (ECCO) consensus⁴ and the 2023 British Dietetic Association (BDA) consensus guideline⁵ provide a framework for nutritional assessment and dietary management in Crohn's disease more broadly, but condition-specific recommendations for fistula management remain limited.

The 2023 European Society for Clinical Nutrition and Metabolism (ESPEN) guideline on clinical nutrition in inflammatory bowel disease⁶ reinforces these principles. It highlights the high prevalence of malnutrition in CD and the importance of routine malnutrition screening, assessment and correction of nutritional deficiencies, and appropriate use of enteral or parenteral nutrition where indicated.^{6, 7} However, similar to the BDA and ECCO guidance, recommendations specific to fistulising disease remain limited. In practice, this means that we are often applying general IBD nutrition principles alongside clinical judgement, in order to tailor a nutritional plan for an individual.

Although diet alone is not a primary treatment for fistula closure, nutritional strategies can play an important role in overall disease management, perioperatively and, importantly, improve patient outcomes.

Pathophysiology & nutritional risk

Fistula formation is as a result of deep, transmural inflammation leading to abnormal connections between the bowel and neighbouring structures.² The level of nutritional risk varies depending on factors such as fistula location (proximal versus distal), output (low *versus* high), and the extent of small bowel involvement – see **Table 1**.

Table 1: Types of fistula – Clinical features and dietetic considerations

Type of fistula	Simple definition	Common clinical features	Dietetic considerations
Perianal	Tract between anal canal and perianal skin or adjacent structures	Pain, discharge, abscess, incontinence	From a dietetic perspective, a reduced intake is often seen due to pain, food fear and impact on quality of life
Enteroenteric	Between two parts of intestine	Often asymptomatic or malabsorption	May present with subtle nutritional deficiencies or weight loss
Enterocutaneous	Between bowel and skin	External drainage, often high output	Significant fluid and electrolyte losses, increased protein requirements, risk of zinc deficiency
Enterovesical	Between bowel and bladder	Pneumaturia, recurrent UTIs	Less direct dietary impact, but active disease may still increase nutritional risk
Enterovaginal	Between bowel and vagina	Vaginal discharge, infection	Often associated with psychological distress and reduced intake
Enterocolic	Between small bowel and colon	Diarrhoea, malabsorption	Increased risk of energy and protein deficits

Source: Adapted from Fansiwala K, *et al.* (2023). Use of oral diet and nutrition support in management of strictureing and fistulizing Crohn's disease. *Nutr Clin Pract.*; 38(6): 1282–1295.

From a general IBD perspective, malnutrition is well recognised, particularly in active CD. However, what we often see in clinic with fistulising disease is an added layer of complexity.

Patients may experience:

- Reduced oral intake due to pain or fear of symptoms
- Malabsorption, particularly where small bowel is involved
- Increased metabolic demand driven by inflammation
- And, in some cases, direct nutrient and fluid losses.

High output from proximal fistulae tends to be the most nutritionally challenging and are often where more advanced nutritional support is required.

Dietetic management

Nutritional assessment

A comprehensive dietetic assessment remains fundamental to manage this patient population. This should include weight history, dietary intake, symptom evaluation, fistula characteristics (including location and output), and relevant biochemical markers, including micronutrients.

The BDA and ECCO emphasise structured nutritional assessment in CD, while ESPEN reinforces the importance of routine screening and ongoing monitoring.⁶ In practice, this is often where key issues are identified early, in particular unintentional weight loss (>10% in 6 months is deemed clinically significant), restrictive eating behaviours and micronutrient deficiencies.

Oral intake & first-line strategies

Where possible, maintaining oral intake is the starting point. However, from a dietetic perspective, this is not always straightforward.

What we often see in clinic is that patients significantly reduce their intake due to fear of worsening symptoms or increasing fistula output. Over time, this can contribute to reduced nutritional status.

ESPEN recommends oral nutrition supplements (ONS) as a first-line approach⁶ when a patient's intake is insufficient. In practice, it is well known that their compliance to such a plan depends on tolerance, palatability and how well they fit into the patient's routine.

Dietary strategies are often symptom-led and may include:

- Small, frequent meals
- Texture modification
- Reduced fibre approaches where appropriate.

Enteral nutrition (EN)

From a general IBD perspective, ECCO⁴ and ESPEN⁶ support the use of EN, particularly in CD, and recommend this approach with a functioning gut. In fistulising disease, this needs to be interpreted more carefully.

In clinical practice, EN is often suitable for distal or low-output fistulae. It may be taken orally or via tube feeding and can help maintain nutritional status and support gut integrity. However, tolerance varies, and decisions often need to be individualised.

Parenteral nutrition (PN)

ESPEN recommends PN where enteral feeding is not possible or insufficient.⁶

From a practical perspective, this is most relevant in patients with:

- Proximal fistulae
- High output fistulae
- Intestinal failure or obstruction.

These are often the more complex patients we see, where PN may be required either as a supplement or, in some cases, as the primary source of nutrition.

See **Table 2** for an overview of the different approaches to nutritional management.

Nutritional therapies in practice

Evidence from individual studies suggests that EN may play a role in improving outcomes in patients with complex CD. For example, a multicentre study demonstrated mucosal healing in 85.7% of patients receiving exclusive enteral nutrition (EEN) alongside biologic or immunomodulatory therapy, compared with 23.7% receiving advanced biologic or immunomodulatory therapy alone.⁸ In addition, data from patients with enterocutaneous fistulae suggest that enteral nutrition may support clinical response in selected cases.⁹

Building on this, several systematic reviews and meta-analyses have demonstrated that EN can improve clinical, biochemical and, in some cases, radiological outcomes in CD, including in patients with more complex forms of the disease, such as stricturing or fistulising disease.¹⁰⁻¹²

A review by Mitrev *et al.*, which included 79 studies in adults, reported improvements across clinical, biomarker and imaging outcomes, with some evidence of benefit in patients with fistulas and strictures.¹⁰

However, from a practical perspective, we often see in clinic that adherence can be challenging, particularly in adults, due to palatability and the social impact of a liquid-only diet. We therefore need to be pragmatic in our assessments and plans, considering what is realistic for the individual to optimise outcomes. Outcomes also appear to be more favourable in those with newly diagnosed disease or where inflammatory activity is more prominent. EEN is therefore best considered for selected, motivated patients and may be particularly useful in the context of active inflammation or preoperative optimisation.

Table 2: What are the different approaches to nutritional management?

Approach	What it involves	Main role	Evidence in fistulising CD	Practical considerations
EEN	100% nutrition from liquid supplements	Induction, pre-op optimisation	Limited but supportive evidence (including fistula cohorts)	Can be challenging to adhere to; requires significant support
PEN	Supplements + normal diet	Maintenance, nutritional support	Not fistula-specific	More flexible and sustainable
CDED + PEN	Structured exclusion diet + supplements	Induction (paediatrics), emerging adult use	Very limited (case-based evidence in fistula)	More acceptable than EEN but still restrictive
PN	Intravenous delivery of nutrition (bypassing the gut)	Nutritional support in intestinal failure, high output or proximal fistulae	No direct evidence for fistula healing; supports nutritional optimisation and surgical outcomes	Requires central access, monitoring and MDT input; higher complication risk than EN

Fluid & electrolyte management

This is an area where fistulising disease clearly differs from general IBD management.

ESPEN highlights the importance of monitoring fluid balance⁶ and adjusting intake accordingly, particularly in high-output states. In practice, this often involves:

- Reducing hypotonic fluids
- Encouraging oral rehydration solutions
- And, where required, intravenous fluids.

Protein, energy & micronutrients

Protein requirements increase during active disease, with ESPEN suggesting approximately 1.2-1.5 g/kg/day.⁶ In practice, achieving this can be challenging, particularly in those with reduced appetite, restrictive intake or high output fistulae. What we often see in clinic is that patients can tolerate small volumes but struggle to meet protein needs through food alone.

Practical strategies are therefore often needed to help patients meet requirements in a way that feels manageable. These may include:

- Fortifying foods where possible (e.g. adding milk powder, cheese, nut butters or yoghurt to meals and snacks)
- Encouraging little and often intake, focusing on protein-containing foods at each eating opportunity
- Using ONS, particularly higher-protein formulations where tolerated.

In addition, modular protein supplements can be particularly useful. These allow protein intake to be increased without significantly increasing volume, which is often key for patients with poor appetite or early satiety. For example, products such as protein powders or ready-to-use liquid or jelly protein supplements can be used to 'top up' intake alongside food or drinks.

From a practical perspective, these can be easier for patients to incorporate into their day compared to full ONS, particularly where intake is already limited. They may also be useful in patients requiring more targeted protein support – for example, in the context of wound healing or high output fistulae. Semi-elemental or elemental feeds may also have a role in some patients, particularly where there is co-existing malabsorption or poor tolerance to standard feeds.

Alongside protein and energy intake, we will often see micronutrient deficiencies amongst this cohort of patients. In clinic, we may find patients have deficiencies in iron, vitamin D, B12 and zinc, particularly in those with small bowel involvement or ongoing losses. Regular monitoring and targeted supplementation are therefore essential components of care.

Psychological considerations

Fistulising CD can have a significant psychological impact, and this is something we frequently see in clinical practice. While much of the focus is often on physical symptoms and medical management, the emotional and social burden for patients can be substantial. Patients may experience ongoing anxiety around symptoms, particularly where there is pain, discharge or unpredictability in fistula activity. Qualitative studies in patients with perianal fistula describe chronic worry, low mood and mental exhaustion, often linked to fear of abscess formation, recurrence or loss of control over symptoms.¹²⁻¹⁴

This can then translate into anxiety around eating, reduced confidence in managing symptoms and, in some cases, increasingly restrictive dietary behaviours. From a dietetic perspective, this is often where we see the overlap between physical symptoms and psychological response begin to influence nutritional intake.

More broadly, studies exploring patient experience highlight the wider impact on quality of life, including relationships, work and social functioning.¹²⁻¹⁵ Patients may withdraw from social situations due to concerns around leakage, odour or urgency, and some describe feeling 'different' or isolated because of their condition. In those with enterocutaneous or perianal fistulae in particular, symptoms such as drainage and discomfort can contribute to reduced confidence in both social and professional settings.¹²⁻¹⁴

However, it is also important to recognise that patients can develop a range of coping strategies over time. Some studies describe elements of resilience and positive adaptation, particularly following successful treatment or improved symptom control.¹²

From a dietetic perspective, this highlights the importance of taking a holistic and patient-centred approach. Supporting patients is not only about optimising nutritional intake, but also about rebuilding confidence around food, addressing unnecessary restriction and acknowledging the psychological impact of symptoms. In practice, even small interventions such as validating concerns, and helping patients regain a sense of control can make a meaningful difference to both nutritional intake and overall wellbeing.

Surgical considerations

Nutritional optimisation prior to surgery is widely recognised as important. The BSG and ESPEN both highlight the need to improve nutritional status before surgical intervention, as this can reduce postoperative complications and support recovery. Where possible, surgery may be delayed in severely malnourished patients to allow time for nutritional support. This reinforces the importance of early dietetic involvement.

Future directions

There remains limited high-quality evidence specifically addressing nutritional management in fistulising CD.

Future research is needed to better understand:

- The role of EN *versus* PN in fistula healing
- The impact of dietary approaches
- And, how nutrition integrates with medical therapies.

Conclusion

Nutritional management is an important component of care in fistulising CD, supporting both clinical outcomes and patient wellbeing. While the BSG, BDA and ECCO provide a strong framework for nutritional care in CD, ESPEN offers more practical guidance on how nutritional support can be delivered. However, in the absence of condition-specific guidance, much of the approach to fistulising disease relies on applying general principles alongside clinical experience. From a dietetic perspective, this highlights the importance of individualised care, ongoing assessment, and supporting patients in a way that is both evidence-based and realistic within the context of their condition.

References: 1. Schwartz DA, *et al.* (2002). The natural history of fistulizing Crohn's disease in Olmsted County, Minnesota. *Gastroenterology*; 122(4): 875-880. 2. Moran GW, *et al.* (2025). British Society of Gastroenterology guidelines on inflammatory bowel disease in adults. *Gut*; 74(Suppl 1): s1-s101. 3. Gecece KB, *et al.* (2014). A global consensus on the classification, diagnosis and multidisciplinary treatment of perianal fistulising Crohn's disease. *Gut*; 63(9): 1381-1392. 4. Svolos V, *et al.* (2025). ECCO consensus on dietary management of inflammatory bowel disease. *J Crohns Colitis*; 19(9): jja1122. 5. Lomer MCE, Wilson B, Wall CL (2023). British Dietetic Association consensus guidelines on the nutritional assessment and dietary management of patients with inflammatory bowel disease. *J Hum Nutr Diet*; 36(1): 336-377. 6. Bischoff SC, *et al.* (2023). ESPEN guideline on clinical nutrition in inflammatory bowel disease. *Clin Nutr*; 42(3): 352-379. 7. Hu D, *et al.* (2014). Exclusive enteral nutritional therapy can relieve inflammatory bowel stricture in Crohn's disease. *J Clin Gastroenterol*; 48(9): 790-795. 8. Yan D, *et al.* (2014). Predictors of response to enteral nutrition in abdominal enterocutaneous fistula patients with Crohn's disease. *Eur J Clin Nutr*; 68(8): 959-963. 9. Mitrev N, *et al.* (2021). Review of exclusive enteral therapy in adult Crohn's disease. *World J Gastroenterol*; 27(47): 8072-8094. 10. Wall CL, Day AS, Geary RB (2013). Use of exclusive enteral nutrition in adults with Crohn's disease: A review. *World J Gastroenterol*; 19(43): 7652-7660. 11. Narula N, *et al.* (2018). Enteral nutritional therapy for induction of remission in Crohn's disease. *Cochrane Database Syst Rev*; 4(4): CD000542. 12. Adegbola SO, *et al.* (2020). Burden of disease and adaptation to life in patients with Crohn's perianal fistula: a qualitative exploration. *Health Qual Life Outcomes*; 18(1): 370. 13. Iqbal N, *et al.* (2022). Living with cryptoglandular anal fistula: a qualitative investigation of the patient experience through semi-structured patient interviews. *Qual Life Res*; 31(8): 2505-2518. 14. Khalil C, *et al.* (2023). Patients' Perspectives, Experiences, and Concerns with Perianal Fistulae: Insights From Online Targeted-Disease Forums. *Crohns Colitis* 360; 5(4): otad073. 15. Spinelli A, *et al.* (2023). The Impact of Crohn's Perianal Fistula on Quality of Life: Results of an International Patient Survey. *Crohns Colitis* 360; 5(3): otad036.