

General Nutritional Considerations for IBD Patients

Educational Resource for Healthcare Providers

Malnutrition is common in Inflammatory Bowel Disease (IBD), especially in Crohn's disease, with rates of 20-85% cited in the literature¹. The goals of nutrition therapy are to maintain or restore nutritional balance, manage GI symptoms, and possibly reduce inflammation. A recent study² from the Crohn's & Colitis Foundation found that nearly 60% of those with IBD consider nutrition to be a very important part of their IBD management, yet very few are discussing diet with their healthcare providers. This guide is based on current evidence, taking into account important factors such as disease activity, disease location, surgical history, medication use, and bowel function. It is the responsibility of the experienced clinician to provide individualized care based on patient need.

1. Diet: Food avoidance is common in IBD³. Even though patients are commonly instructed to limit fiber or residue (whole nuts, seeds, raw fruits/vegetables, dairy) and lactose (dairy products) in order to help manage symptoms, there is limited data to support these recommendations, and a recent study actually showed an association with avoidance of fiber intake amongst patients with Crohn's disease and a greater risk of flares^{4,5}. Patients with intestinal stenosis/luminal narrowing or severe diarrhea may benefit from a low insoluble fiber diet (less raw fruits/vegetables, whole grains). In all patients self-restricting fiber, encourage intake of soft, peeled, cooked fruits and vegetables, and refined grains. Lactose intolerance has been reported in up to 44-70% of IBD patients^{6,7}. If lactose is avoided, encourage alternate high calcium and vitamin D food sources (tofu, collard greens, low lactose cheese or lactose free milk, fortified milk substitutes).

For ulcerative colitis (UC):

- Active UC: reduce intake of foods that may increase symptoms (insoluble fiber, concentrated sweets, high fat, caffeine/alcohol, and sugar alcohols)⁸. Increase fluid intake.
- Remission: in general, high fiber diet with as few restrictions as tolerated⁹.

For Crohn's disease (CD):

- Active CD: reduce intake of foods that may increase symptoms (insoluble fiber, concentrated sweets, high fat, caffeine/alcohol, and sugar alcohols)⁸. Increase fluid intake. For motivated patients, consider 4-12 week trial period of Exclusive Enteral Nutrition (EEN) via polymeric or elemental formula (see table 1), as this has been shown to induce remission, improve nutri-

tion status, improve body composition, heal mucosa, decrease pro-inflammatory cytokines, and reduce serum inflammatory markers, especially in patients with newly-diagnosed, mild-moderate CD^{9,10}. It is recommended that patients on EEN be followed closely in conjunction with a dietitian.

- Remission: in general, high fiber diet with as few restrictions as tolerated⁹. In motivated patients, consider Partial Enteral Nutrition or PEN (defined as 30-50% of energy needs provided by PEN) as this has been associated with higher maintenance of remission in small studies^{9,10}.

Nutrition Support:

- Enteral nutrition (via polymeric formula) should be considered in patients who are unable to maintain nutrition status sufficiently by mouth⁸. If there is concern for malabsorption or compromised GI function, consider a semi-elemental or elemental formula.
- Parenteral Nutrition (PN) should not be considered a primary therapy for IBD. PN should be considered in patients who are unable to tolerate enteral nutrition or in those with a nonfunctional gut (prolonged obstruction, enteric fistula, short gut (<150 cm functional small bowel))⁸.

2. Energy and Protein goals: Patients with active disease can find it difficult to maintain macronutrient balance due to inflammatory cytokines decreasing appetite, reduced intake due to GI symptoms, or malabsorption. Therefore, it is imperative that patients consume adequate calories and protein to prevent complications associated with malnutrition!¹¹

• Estimated energy needs based on BMI:⁸

BMI <15:	36-45 kcals/kg
BMI 15-19:	31-35 kcals/kg
BMI 20-29:	26-30 kcals/kg
BMI >30:	15-25 kcals/kg

- › Most IBD patients do not have a higher resting energy rate than the average patient.
- › Severely malnourished patients (i.e. BMI<18.5), or those without adequate nutrition intake for a prolonged period, are at risk for refeeding syndrome.
 - Correct any electrolyte abnormalities (potassium, magnesium, phosphorus) before initiating PO diet or nutrition support and monitor these electrolytes carefully for the first few days, or until stable. Start with 25-50% of estimated calorie goals and advance to 100% calorie goal over 3-5 days.²
- › Can generally recommend patients add ~250-500 calories in those with significant weight loss (>5% weight loss in last month, >10% otherwise). Consider medium-chain triglyceride (MCT) oil in those with fat malabsorption, up to 50 g (8 tablespoons) in small amounts throughout the day.⁸

• **Estimated Protein Needs:** In general, daily protein needs are 1-1.5 g/kg.⁸ Protein needs should be based on disease status (active disease closer to 1.5g/kg) and body weight. Use Ideal Weight (Hamwi equation) to calculate protein needs in the obese (BMI >30) patient. Patients with renal (not on dialysis) or liver impairment may need to restrict protein intake.

3. Oral Nutrition Supplements: Consider oral nutrition supplements (*see table 1*) if intake is inadequate, or if weight loss is recent or significant.¹¹ Polymeric formulas tend to be the most palatable, while elemental or semi-elemental may be better tolerated in patients with moderate-severely active IBD.

Table 1:

List of Commonly Available Oral Nutrition Supplements (ONS)

Supplement Name	Supplement Type
• Ensure, [®] Ensure Plus, [®] Boost, [®] Boost Plus [®] • ProNourish (low FODMAP; not suitable for EEN) • Ensure Clear, [®] Boost Breeze [®] (fat free, suitable on a clear liquid diet; not suitable for EEN)	Polymeric
• Peptamen with Prebio, [®] Peptamen 1.5 [®]	Semi-Elemental
• Vivonex, [®] Vital [®]	Elemental

4. IBD Drug-Nutrient Interactions:

- Consider 1-2 mg folic acid daily in patients on methotrexate, sulfasalazine.
- Consider increase calcium (1000-1500mg/d), vitamin D (>600IU/d), and protein (1.5 g/kg) intake in patients on high dose steroids (>7.5mg/d).
- Consider water soluble versions of the fat soluble vitamins (vitamin A, D, E, K) if on cholestyramine.
- Consider B6 supplementation when on isoniazid.

Patient education resources:

The following links contain brochures and webcasts for patients on topics such as diet, nutrition, treatment, and more:



online.ccfa.org/brochures



www.ccfa.org/resources/webcasts.html



References:

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