Overview

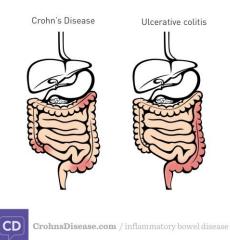
Inflammatory bowel disease (IBD) is a chronic disorder of the gastrointestinal tract characterized by intestinal inflammation. Approximately 1.5 million people in the U.S. are affected by IBD. There are two types of IBD, Crohn's Disease and Ulcerative Colitis, both of which cause swelling and sores in the lining of the digestive tract. Complications of IBD include colon cancer, blood clots, malnutrition, and fistulas. Diet and lifestyle factors play a large role in managing side effects and preventing complications associated with IBD.

Crohn's Disease

Crohn's disease is a chronic illness in which the intestine becomes inflamed and ulcerated. Although it can occur in any part of the digestive tract, it more commonly affects the lower part of the small intestine. The most common complication of Crohn's disease is blockage of the intestine due to swelling and scar tissue followed by the development of sores or ulcers within the intestinal tract that can develop into fistulas.

Ulcerative Colitis

Ulcerative colitis is a chronic inflammatory disease that affects the lining of the large intestine (colon) and rectum. Individuals with ulcerative colitis develop small ulcers that sporadically flare up and cause bloody stools and diarrhea. The main difference between Crohn's and ulcerative colitis is that Crohn's can



develop anywhere in the digestive tract and affects all layers of the intestinal lining. Ulcerative colitis only disrupts the lining of the colon and can generally be cured by removing that portion of the colon.

Risk Factors

There is no known cause of IBD, however, there are certain factors that may increase your risk for developing it. These include:

- Age
- Ethnicity
- Family history of IBD

- Tobacco use
- Nonsteroidal anti-inflammatory medications

Symptoms

Symptoms can range from mild to severe depending on the severity of inflammation and where it occurs. Typically, symptoms have periods of active illness followed by periods of remission.

- Chronic abdominal pain
- Diarrhea
- Unintended weight loss
- · Loss of appetite

- Fever
- Fatigue
- Blood in your stool

Nutrition and IBD

Because IBD affects the digestive system, diet and nutrition are impacted in a variety of ways. Food choices can become complicated since certain foods may worsen symptoms. Nutrition therapy is highly individualized depending on the severity of symptoms and amount of affected intestine. A major complication of IBD is malnutrition due to limited absorption of nutrients during periods of acute inflammation. Although there is no diet that can prevent or cure IBD, eating a well-balanced, nutrient rich diet that avoids foods which worsen, or trigger disease symptoms can prevent nutritional deficiencies and significantly improve overall quality of life.

Diet Recommendations During Acute Illness

During acute illness the body's requirements for calories and nutrients are increased due to increased metabolic stress. During disease flares it may be difficult to maintain adequate nutrition to support the healing and recovery process due to increased needs and impaired nutrient absorption. Here are some general recommendations on which foods may be better tolerated during times of acute illness:

General Recommendations:

- Eat smaller, more frequent meals.
- Stick with bland, soft foods (no spicy food).
- May need to eat more protein during this time.
- If necessary, add an oral nutrition supplement, such as Boost or Ensure to help you meet your nutrient needs.
- Stay hydrated. Drink slowly and avoid using a straw to prevent gas.

Foods to Include:

- **Vegetables:** Vegetables that are easier to digest (e.g. asparagus, potatoes); Cooked, pureed, or peeled vegetables; Vegetable stock added to rice or pasta
- **Fruits:** Fruits that are easier to digest and have less insoluble fiber (e.g. applesauce, melons, bananas); Cooked, pureed, canned or peeled fruits
- **Grains:** Grains that are more refined with less insoluble fiber (e.g. oatmeal, sourdough bread)
- **Protein:** Lean sources of protein (e.g. fish, chicken, eggs, tofu); Smooth nut butters (e.g. peanut, almond, cashew)
- Dairy: Lactose free milk and yogurt; Hard cheese (e.g. cheddar, parmesan)

Foods to Limit or Avoid:

- **Insoluble Fiber Foods:** Fruit with skin and/or seeds; Raw green vegetables, especially cruciferous vegetables (e.g. broccoli, cauliflower, anything with a peel, whole nuts, whole grains)
- Lactose: Lactose is a sugar found in diary (e.g. milk, yogurt, soft cheeses)
- Non-Absorbable Sugars: Sugar alcohols (e.g. sorbitol, mannitol) which can be found in sugar-free gum, candy, ice cream, and certain types of fruits and fruit juices (e.g. pears, peaches, prunes)
- Sugary Foods: Pastries; Sweets; Juice; Sugar-sweetened beverages
- High Fat Foods: Butter; Coconut; Margarine; Cream; Foods that are fatty, fried or greasy
- Alcohol: Beer; Wine; Liquor

- Caffeinated Drinks: Coffee; Certain teas; Sodas
- Spicy Foods

Fiber

Consuming fiber during times of flares or strictures can cause abdominal cramping, bloating, and worsening diarrhea. It is important to note that although all fiber should be limited during acute illness, not all sources of fiber exacerbate symptoms.

Soluble Fiber: Soluble fiber helps absorb water in the gut and reduces diarrhea by forming a gel-like consistency that helps delay transit time of food through the digestive tract. Sources include oats, peas, beans, apples, citrus fruits, carrots, barley, and psyllium.

Insoluble Fiber: Insoluble fiber is more difficult to digest because it pulls water from the body into the gut and makes food move more quickly through the digestive tract. Sources include whole wheat flour, wheat bran, flaxseeds, chia seeds, leafy greens and vegetables such as cauliflower y green beans.

Micronutrient Deficiencies

Inflammation in the digestive tract affects the process of digestion and interferes with the absorption of nutrients. Many people with IBD will need to supplement specific vitamins and minerals to avoid deficiencies. Speak to your healthcare provider or registered dietitian to discuss if specific nutrient supplementations will benefit you. Nutrients are better absorbed when acquired from food sources than when delivered via a supplement. If you can meet your daily nutrient needs from diet alone that is always recommended over taking a supplement. Please see below for food sources containing the nutrients of concern for IBD patients.

Nutrients of Concern and their Dietary Sources

- Calcium: Low fat milk products (if tolerated); Kale; Collard greens; Bok choy; Broccoli; Oranges; Salmon; Shrimp
- Folic Acid (Folate): Legumes; Citrus fruits and juices; Whole grains; Wheat bran; Dark leafy greens; Rice; Vegetables; Poultry; Pork; Shellfish; Liver
- Vitamin B12: Mollusks (especially clams and mussels); Beef liver; Sockeye salmon; Trout; Oysters; Crab; Pork
- **Iron:** Soybeans; Chicken liver; Oysters; Grits; Beef; Clams; Poultry; Dried beans; Dried fruits; Egg yolks; Whole grains; Dark green leafy vegetables; Almonds
- Vitamin A: Beef liver; Carrots; Sweet potatoes; Spinach; Cantaloupe; Kale; Red peppers; Broccoli; Mangos; Apricots; Black-eyed peas
- Vitamin D: Butter; Eggs; Fish oils; Beef or chicken liver; Salmon; Tuna
- Vitamin E: Wheat germ oil; Almonds; Safflower oil; Corn oil; Peanuts; Sunflower seeds
- Vitamin K: Cabbage; Cauliflower; Spinach and other green leafy vegetables; Cereals; Soybeans
- Magnesium: Halibut; Nuts and nut butters; Cereals; Soybeans; Spinach; Potatoes (with skin); Black-eyed peas; Salmon
- **Potassium:** Sweet potatoes; Potatoes; Tomatoes and tomato products; Beet greens; Yogurt; White beans; Soybeans; Prune juice; Bananas; Winter squash

General Nutrition and Lifestyle Guidelines for IBD

- See a dietitian with expertise in IBD.
- Eat a well balanced diet. Try incorporating a variety of vegetables and fruits.
- Eat small, frequent meals throughout the day as they may be better tolerated.
- Avoid eating foods that trigger or exacerbate symptoms.
- Boil, grill, broil, steam, poach, or sauté foods and limit sauces and spices to prevent aggravating symptoms.
- Choose foods with more fiber (e.g. oat bran, beans, barley, nuts, whole grains) unless your healthcare team advises you to continue a low fiber diet long term.
- Aim to eat fish at least twice per week. Fatty fish (e.g. salmon, tuna, herring, mackerel) are high in omega 3 fatty acids, which can help reduce inflammation.
- Reduce the amount of greasy or fried foods and avoid saturated and trans fats.
- Limit sugary foods and beverages.
- Drink plenty of fluids. Aim to drink eight 8-ounce glasses of water per day.
- Use of a daily probiotic may enhance the normal flora of the gastrointestinal tract. Speak to your registered dietitian to see if a specific probiotic is necessary.
- Keep a food journal to track your symptoms.
- Slowly introduce new foods and keep a food journal to track and symptoms.

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