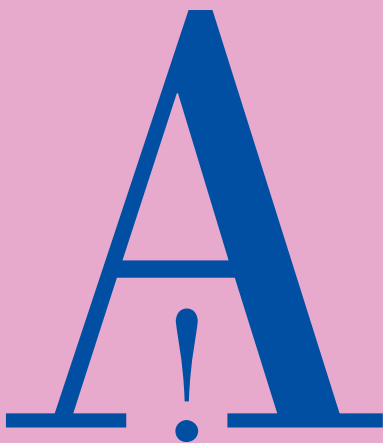


Crohn's Disease and Ulcerative Colitis:
Diet and Nutrition



CROHN'S
&
COLITIS
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OF AMERICA

The Crohn's & Colitis Foundation of America is a non-profit, volunteer-driven organization dedicated to finding the cure for Crohn's disease and ulcerative colitis. CCFA sponsors basic and clinical research of the highest quality. The foundation also offers a wide range of educational programs for patients and healthcare professionals, and provides supportive services to help people cope with these chronic intestinal diseases. CCFA programs are supported solely by contributions from the public.

We hope that this brochure will help you to better understand these illnesses, and to become an active member of your healthcare team.

Since Crohn's disease and ulcerative colitis are digestive diseases, patients have many questions about diet and nutrition. You may be surprised to learn that there is no evidence that dietary factors cause or contribute to these inflammatory bowel diseases (IBD). Once you develop IBD, however, attention to diet may reduce symptoms and promote healing. The purpose of this brochure is to provide an overall dietary guide for patients and their families. This information is based on the results of ongoing studies and the accumulation of knowledge gained in recent years. As this research continues, we will learn even more about the relationship between nutrition and IBD.

HOW DO CROHN'S DISEASE AND ULCERATIVE COLITIS INTERFERE WITH DIGESTION?

The real work of digestion goes on in the small intestine, which lies just beyond the stomach.

In the small intestine, digestive juices from both the liver (termed bile) and the pancreas mix with food. This mixing is powered by the churning action of the intestinal muscle wall. After digested food is broken down into small molecules, it is absorbed through the surface of the small intestine and distributed to the rest of the body by the blood stream. Watery food residue and secretions that are not digested in the small intestine pass on into the large intestine (the colon). The colon reabsorbs much of the water added to food in the small intestine. This is a kind of water conservation or recycling mechanism. Solid, undigested food residue is then passed from the large intestine as a bowel movement.

When the small intestine is inflamed—as it often is with Crohn’s disease—the intestine becomes less able to digest and absorb food nutrients fully. Such nutrients, as well as unabsorbed bile salts, can escape into the large intestine to varying degrees, depending on how extensively and how severely the small intestine has been injured by inflammation. This is one reason why people with Crohn’s disease become malnourished, in addition to just not having much appetite. Furthermore, incompletely digested foods that travel through the large intestine interfere with water conservation, even if the colon itself is not damaged. Thus, when Crohn’s disease affects the small intestine, it may cause diarrhea as well as malnutrition. Should the large intestine also be inflamed, the diarrhea is likely to be worse.

In ulcerative colitis, only the colon is inflamed; the small intestine works normally. Because the inflamed colon does not recycle water properly, diarrhea can be severe.

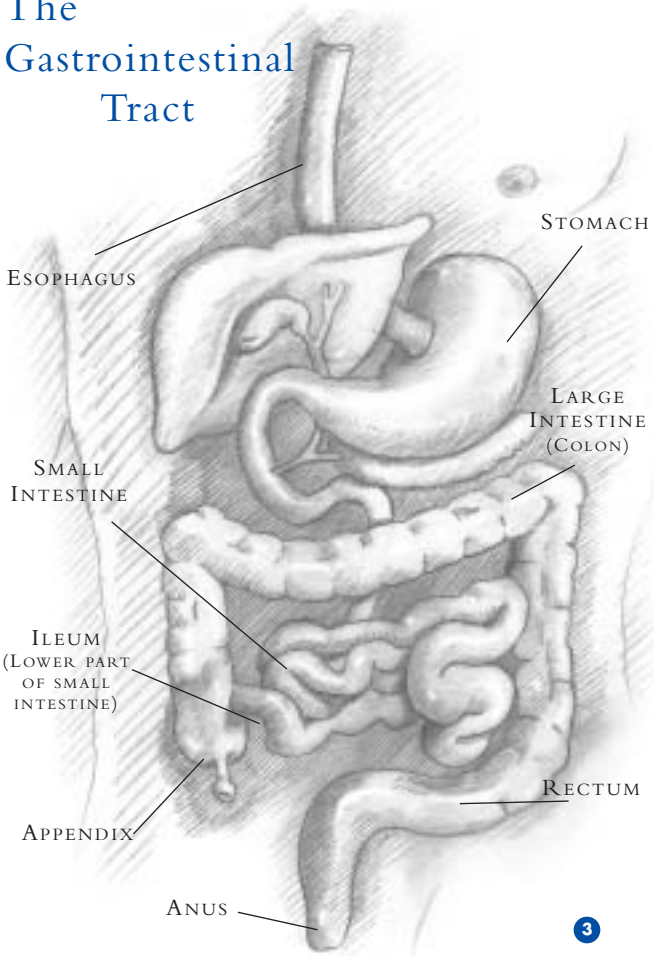
IS THERE A SPECIAL DIET FOR PEOPLE WITH IBD?

Dietary recommendations for people with IBD must be individualized: They depend on which disease you have and what part of your intestine is affected. Many people have food intolerances—far more than really have true food allergies. One of the more common intolerances, lactose intolerance, is the inability to digest lactose (milk sugar), which is related to genetic tendencies and to small bowel function. (See page 5,

“Should milk be avoided?”) Elimination tests are better at diagnosing which foods must be avoided or modified than the standard allergy skin or blood testing. Many good books discuss the proper way to follow such an “elimination diet,” which involves keeping a food and symptom diary over several weeks.

About two thirds of people with small bowel Crohn’s disease develop a marked narrowing (or stricture) of the lower small intestine, the ileum. For these patients, a low-fiber with low-residue diet (see below) or a special liquid diet may be beneficial in minimizing abdominal pain and other symptoms. Often, these dietary modifications are temporary; the patient follows them until the inflammation that caused the narrowing responds either to treatment or to a corrective surgery. Individual experience, sometimes with the guidance of a registered dietitian,

The Gastrointestinal Tract



remains the single most useful guide to selection of foods for any person with IBD.

WHAT IS A LOW-FIBER WITH LOW RESIDUE DIET?

This diet minimizes the consumption of foods that add “scrapy” residue to the stool. These include raw fruits, vegetables, and seeds, as well as nuts and corn hulls. The registered dietitian associated with your IBD treatment program can assist you in devising such a diet when appropriate.

IS NUTRITION OF SPECIAL IMPORTANCE TO IBD PATIENTS?

Yes, vitally so. IBD patients, especially people with Crohn’s disease, are prone to becoming malnourished for several reasons. First, the appetite is often reduced. Second, chronic diseases tend to increase the energy (calorie) needs of the body. This is especially the case when IBD is “flaring up.” Third, IBD, particularly Crohn’s disease, is often associated with maldigestion and malabsorption of dietary protein, fat, carbohydrates, water, and a wide variety of vitamins and minerals. Thus, much of what one eats may never truly get into the body. On the other hand, good nutrition is one of the assets the body uses to restore itself to health. Therefore, the tendency to become malnourished must be resisted. Restoration and maintenance of good nutrition is a key principle in the management of IBD.

WHEN IBD IS ACTIVE, WHICH FOODS SHOULD BE EATEN?

An appropriate diet should contain a variety of foods from all food groups. Meat, fish, poultry, and dairy products, if tolerated, are sources of protein; bread, cereal, starches, fruits, and vegetables are sources of carbohydrate; margarine and oils are sources of fat. Your physician and the registered dietitian with whom he or she is associated can help you with meal planning. Generally, if the colon is inflamed, avoiding scrapy foods such as nuts, corn hulls, and raw vegetables is advised until some healing has occurred.

SHOULD MILK BE AVOIDED?

Some people cannot properly digest lactose, the sugar present in milk and many milk products, regardless of whether they have IBD. This may occur because the inner surface of the small intestine lacks a digestive enzyme, called lactase. Poor lactose digestion may lead to cramps, abdominal pain, gas, diarrhea, and bloating. Because symptoms of lactose intolerance may be very similar to the symptoms of IBD, recognizing lactose intolerance may be difficult. A simple “lactose tolerance test” can be performed to identify the problem. If there is any question, milk ingestion may be limited. Alternatively, lactase supplements may be added to many dairy products, so that they no longer cause symptoms. Your registered dietitian may assist you and/or your child with this. It is desirable to maintain intake of at least some dairy products, because they are such a good source of nutrition, in particular calcium and protein.

DO ANY SPECIFIC FOODS WORSEN THE INFLAMMATION OF IBD?

No. While certain foods in any individual may aggravate symptoms of these diseases, there is no evidence that the inflammation of the intestine is directly affected. Any contaminated food that leads to food poisoning or dysentery will aggravate IBD.

IS IBD CAUSED BY ALLERGY TO FOOD?

No. Although some people do have allergic reactions to certain foods, neither Crohn’s disease nor ulcerative colitis is related to food allergy. People with IBD may think they are allergic to foods because they associate the symptoms of IBD with eating.

DO PATIENTS WITH THESE DISEASES ABSORB FOODS NORMALLY?

Most often, yes. Patients with inflammation only in the large intestine absorb food normally. People with Crohn’s disease may have problems with digestion if their disease involves the small intestine. The degree to which digestion is

impaired depends on how much of the small intestine is diseased and whether any intestine has been removed during surgery. If only the last foot or two of the ileum is inflamed, the absorption of all nutrients except vitamin B-12 will probably be normal. If more than two or three feet of ileum is diseased, significant malabsorption of fat may occur. If the upper small intestine is also inflamed, the degree of malabsorption in Crohn's disease is apt to be much worse, and deficiencies of many nutrients, minerals, and more vitamins are likely. Some IBD therapies, especially the 5-ASA medications (e.g., Asacol[®], Canasa[®], Colazal[®], Dipentum[®], Pentasa[®] and Rowasa[®]), cause interference with the absorption of folate, so this vitamin, so essential in preventing cancer and birth defects, should be supplemented.

SHOULD ANY SUPPLEMENTAL VITAMINS BE TAKEN?

Vitamin B-12 is absorbed in the lower ileum. Therefore, persons with ileitis (Crohn's disease that affects the ileum) may require injections of vitamin B-12, because they cannot absorb enough from their diet. If you are on a low-fiber diet, you may be receiving an inadequate supply of certain vitamins common in fruits, such as vitamin C. In the setting of chronic IBD, it is worthwhile for most persons to take a multi-vitamin preparation regularly. If you suffer from maldigestion or have undergone intestinal surgery, other vitamins, particularly vitamin D, may be required. Vitamin D supplementation should be in the range of 800 U/day, especially in the non-sunny areas of the country, and calcium intake should be emphasized, with calcium citrate for those older or on acid-reducing medications. Steroid use and Crohn's disease itself are linked to bone thinning and osteoporosis, so screening with bone density studies is suggested for those at risk.

ARE ANY SPECIAL MINERALS RECOMMENDED?

In most IBD patients, there is no obvious lack of minerals. However, calcium, phosphorus, and magnesium supplements may prove necessary in people who have extensive small intestinal disease or who have had substantial lengths of intestine

removed through surgery. Iron therapy is helpful to correct anemia. Oral iron turns the stools black, which can sometimes simulate intestinal bleeding.

SHOULD PEOPLE WITH IBD BE CONCERNED ABOUT FLUID INTAKE?

Yes. In a condition with chronic diarrhea, there may be a risk of dehydration. If fluid intake does not keep up with diarrhea, kidney function may be affected. Patients with Crohn's and other diarrheal diseases have an increased incidence of kidney stones, which is related to this problem. Furthermore, dehydration and salt loss create a feeling of weakness. For these reasons, people with IBD should consume ample fluids, especially in warm weather when skin losses of salt and water may be high.

DOES NUTRITION AFFECT GROWTH?

In young people with IBD whose IBD began before puberty, growth may be retarded. Poor food intake may contribute to poor growth. Thus, good nutritional habits and adequate caloric intake are very important. Control of the disease with drugs or, less often, surgical removal of a particularly diseased region of intestine, is most successful when appropriate dietary intake is maintained.

WHAT IS NUTRITIONAL SUPPORT?

Because IBD, especially Crohn's disease, may improve with nutritional support, enteral nutrition (a nutrient-rich liquid formula) or tube feeding may be necessary. Due to its taste, enteral nutrition is given overnight through a tube, most commonly from the nose to the stomach. Patients are taught to pass a tube each night, so that they can receive nutrition while sleeping. In the morning, they remove the tube and go about their normal activity. In this way, patients receive all the nutrition they need and are free to eat normally—or not—throughout the day.

Enteral feedings can also be given through a gastrostomy tube (G-tube). This is a tube located on the abdominal wall that goes directly into the stomach. The feedings are most commonly given overnight, but they can also be given intermittently throughout the day.

Parenteral nutrition (nutrition delivered through a catheter placed into a large blood vessel, usually one in the chest) is rarely needed. Parenteral nutrition has more complications than enteral nutrition and does not nourish the gastrointestinal tract itself.

WHAT'S NEW IN NUTRITIONAL THERAPY FOR IBD?

Eating to help the gut heal itself is one of the new concepts, and numerous experimental studies are being conducted in this area. Fish or flaxseed oils, in the diet or as supplements, have helped fight the inflammation in IBD. The complex carbohydrates that are not digested by the small bowel, such as psyllium, stimulate the bacteria in the colon to produce short-chain fatty acids, which help the mucosa (the lining) of the colon to heal itself. L-glutamate may be helpful in healing some of the small bowel abnormalities of early Crohn's, since that compound nourishes the lining of the small intestine.

Probiotics are just beginning to be appreciated as a therapeutic aid in IBD. These are "good" bacteria that restore balance to the enteric microflora—bacteria that live in everybody's intestine. Lactobacillus preparations and live-culture yogurt can be very helpful in aiding recovery of the intestine. There is much work being done in the use of diet and supplements to aid in the healing of IBD and much more to be learned.

Cancer chemoprophylaxis with minerals (selenium, calcium), vitamins (folic acid) and medications (the 5-ASA drugs seem to fulfill this role for many with IBD) is a developing field, and there will be more about this as new research studies are published.

In summary, while diet and nutrition do not play a role in causing IBD, maintaining a well-balanced diet that is rich in nutrients can help you to live a healthier life. Proper nutrition depends, in large part, on whether you have Crohn's disease or ulcerative colitis, and what part of your intestine is affected. It's important to talk to your doctor (and it also can be helpful to ask your physician to recommend a dietitian) in order to develop a diet that works for you.



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