

5-aminosalicylate group. These drugs are most useful in maintaining a remission, once the disease is brought under control. They are available in oral and enema preparations.

3. Immune System Suppressors - These medications suppress the body's immune system, which appears to be overly active and perpetuate the disease in Crohn's patients. The names of two of these commonly used medications are azathioprine (trade name: Imuran) and 6 MP (trade name: Purinethol). There are other potent immune-suppressing drugs that may be used in difficult cases.
4. Antibiotics - Since there is frequently a bacterial infection along with Crohn's disease, a wide assortment of antibiotics is available to treat this problem. One that is commonly used is metronidazole (trade name: Flagyl).
5. Immune System Modulators - Remicade is a new class of agents, which act to destroy the active cells and substances which are felt to be the cause of activation of the white blood cells responsible for the tissue destruction that occurs with Crohn's. Remicade destroys TNF-alpha (tumor necrosis factor) and the cells which produce TNF-alpha. In most cases, the disease goes into complete remission after just one single treatment. Occasionally, up to four treatments are necessary to achieve successful control of the disease. In some patients, Remicade may be the only drug which can control the disease. Remicade or infliximab is given as a 2 hour intravenous infusion in the doctors office.

## Diet and Emotions

There are no foods known to actually injure the bowel. However, during an acute phase of the disease, bulky foods, milk, and milk products can increase diarrhea and cramping. Generally, the patient is advised to eat a well-balanced diet, with adequate protein and calories. A multivitamin and iron supplement may be recommended by the physician.

Stress, anxiety, and extreme emotions may aggravate symptoms of the disorder, but are not believed to cause it or make it worse. Any chronic disease can produce a serious emotional reaction, which can usually be handled through discussion with physician.

## Surgery

Due to the improvements in medical therapy, surgery is rarely needed and is utilized only when medical therapy fails or a severe life-threatening condition exists. It may involve removing a portion of diseased bowel, or simply the draining of an abscess or fistula. In all cases, the guiding principle is to perform the least amount of surgery to correct the problem. It should be understood that surgery does not cure Crohn's disease.

## Summary

Most people with Crohn's disease lead active lives with few restrictions. Although there is no known cure for the disorder, it can be managed with present treatments. For a few patients, the course of the disease can be more difficult and complicated, requiring extensive testing and therapy. Surgery sometimes is required. In all cases, follow-up care is essential to treat the disease and prevent or deal with complications that may arise.

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# CROHN'S DISEASE



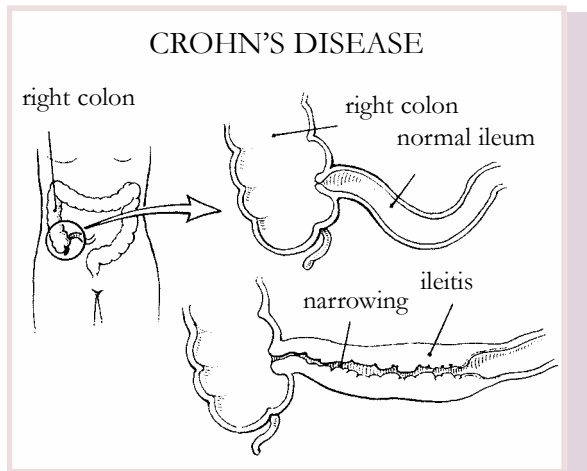
## Endoscopic Microsurgery Associates

## Crohn's Disease

Crohn's disease is a chronic, recurrent inflammatory disease of the intestinal tract. The intestinal tract has four major parts: the esophagus, or food tube; the stomach, where food is churned and digested; the long, small bowel, where nutrients, calories, and vitamins are absorbed; and the colon and rectum, where water is absorbed and stool is stored. The two primary sites for Crohn's disease are the ileum, which is the last portion of the small bowel (ileitis, regional enteritis), and the colon (Crohn's colitis). The condition begins as small, microscopic nests of inflammation, which persist and smolder. The lining of the bowel can then become ulcerated and the bowel wall thickened. Eventually, the bowel may become narrowed.

## What Causes Crohn's Disease?

After many years of intense research, the cause of Crohn's disease now felt to be due to an imbalance of the immune system. Following exposure to a viral or bacterial infection, instead of selectively destroying only the invading organisms, the immune system acts non-selectively and destroys nearby intestinal tissue that "looks" similar to the attacking germs. This tendency toward imbalance of the immune system may be genetic, and occur in other family members.



## Who Develops Crohn's Disease?

The condition occurs in both sexes and among all age groups, although it most frequently begins in young people. For unknown reasons, Jewish people are at increased risk of developing Crohn's, while African Americans are at decreased risk.

## Symptoms

The symptoms of Crohn's disease depend on where in the intestinal tract the disorder first appears. When the ileum (ileitis) is involved, recurrent pain may be experienced in the right-lower abdomen. At times, the pain mimics acute appendicitis. When the colon is the site, diarrhea (which is sometimes bloody) may occur, as well as fever and weight loss.

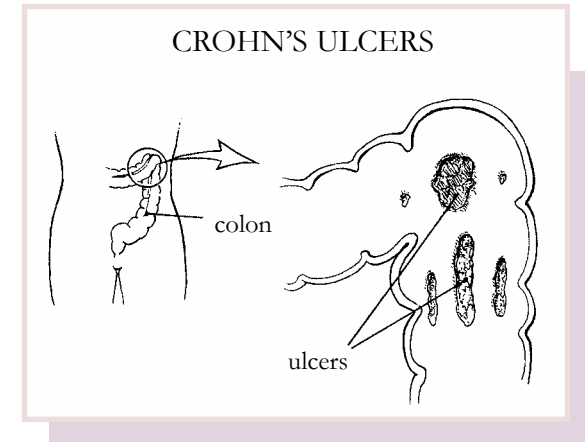
When the inflammation is active, fatigue and lethargy appear. In children and young people there may be difficulty gaining or maintaining weight.

## Diagnosis

Usually there is no one conclusive diagnostic test for Crohn's disease. The physician uses a series of tests to assess the patient's overall condition and then makes a diagnosis. The patient's medical history and physical exam are always helpful. Certain blood and stool tests are performed to arrive at a diagnosis. X-rays of the small intestine and colon (obtained through an upper GI series and barium enema) are usually required. In addition, a visual examination (sigmoidoscopy) of the lining of the rectum and lower bowel is usually necessary. A more extensive exam of the entire colon (colonoscopy) is often the best way of diagnosing the problem when the disease is in the colon.

## Course and Complications

The disorder often remains quiet and easily controlled for long periods of time. Most people with Crohn's disease continue to pursue their goals in life, go to school, marry, have a family, and work with few limitations or inconveniences. Some problems, outside the bowel, can occur. Arthritis, eye and skin problems, and in rare instances- chronic liver conditions may develop. The dis-



ease can occur around the anal canal. Open sores called fissures can develop, which are often painful. A fistula can also form. This is a tiny channel that burrows from the rectum to the skin around the anus. In addition, when inflammation persists in the ileum or colon, narrowing and partial obstruction may occur. Often surgery is required to treat these problems. When Crohn's disease has been present for many years there is an increased risk of cancer.

## Treatment

Effective medical and surgical treatment is available for Crohn's disease. It is particularly important to maintain good nutrition and health with a balanced diet, adequate exercise, and a positive, upbeat attitude.

Four types of medications are usually used in treating this disease:

1. Cortisone or Steroids - These powerful drugs provide highly effective results. Often, a high dose is used initially to bring the disorder under control. The drug is then tapered to a low maintenance dose, perhaps taken just every other day. Hopefully the drug may eventually be stopped altogether. This medicine is administered by pill or enema. Prednisone is a common generic name.
2. Anti-inflammatory Drugs - Sulfasalazine (Azulfidine), Dipentum, Asacol, Rowasa, and Pentasa belong to a group of drugs called the