



Crohn's disease

What causes Crohn's disease?

Crohn's disease is an inflammatory bowel disease (IBD) usually affecting the small intestine, in particular the ileum. Crohn's disease affects males and females equally and seems to run in some families. About 20% of Crohn's patients have a relative with some form of IBD.

What Are the Symptoms?

The most common symptoms of Crohn's disease are abdominal pain and diarrhoea. Rectal bleeding, weight loss and fever may also occur. Bleeding may lead to anaemia.

How Is Crohn's Disease Diagnosed?

A thorough physical exam and a series of tests may be required to diagnose Crohn's disease. A colonoscopy and or barium x-ray may reveal inflammation or other abnormalities. During a colonoscopy a biopsy may be performed from the lining of the intestine to assess for microscopic changes. Crohn's disease can be difficult to diagnose because its symptoms are similar to other disorders such as irritable bowel syndrome and to ulcerative colitis. Ulcerative colitis causes inflammation and ulcers in the top layer of the lining of the large intestine only, and doesn't affect the ileum or cause other complications such as fistulas (abnormal tracts).

What are the complications of Crohn's Disease?

The most common complication is blockage of the intestine from thickening of the intestinal wall with swelling and scar tissue, narrowing the passage. Crohn's may also cause fistulas, which are sores that tunnel through the affected area into surrounding tissues such as the bladder, vagina, or skin. Connecting to the intestine underneath. Sometimes fistulas can be treated with medicine, but in some cases they may require surgery. Nutritional complications are common in Crohn's disease. Deficiencies of proteins, calories, and vitamins can occur. Other complications associated with Crohn's disease include arthritis, skin problems, inflammation in the eyes or mouth, kidney stones, gallstones, or diseases of the liver and biliary system.

What is the treatment for Crohn's Disease?

Treatment depends on the location and severity of disease, complications, and response to treatment. The goals of treatment are to control inflammation, correct nutritional deficiencies, and relieve abdominal pain, diarrhoea, and rectal bleeding. Treatment may include drugs, nutrition supplements, surgery, or a combination of these options. At this time, treatment can help control the disease, but there is no cure. Some people have periods of remission, when they are free of symptoms. However, the disease usually recurs at various times over a person's lifetime. This changing pattern of the disease means one cannot always tell when a treatment has helped. Predicting when a remission may occur or when symptoms will return is not possible. Crohn's disease patients may need regular doctor visits to monitor the condition.

What medicines are used to treat Crohn's disease?

Most people are first treated with drugs such as Prednisolone (steroids), Mesalazine or Sulfasalazine to control inflammation. These drugs are the most effective for active Crohn's disease, but they can cause serious side effects, including greater susceptibility to infection. Other anti-inflammatory medication includes Azathioprine or 6-Mercaptopurine. When patients are treated with a combination of corticosteroids and immunosuppressive drugs, the dose of corticosteroids can eventually be lowered. The drug infliximab can be used for severe Crohn's disease that does not respond to usual therapies.

Are there any new treatments available?

The following therapies may be useful: Infliximab, various antibiotics, Budesonide and Methotrexate.

Can Diet Control Crohn's Disease?

No special diet has been proven effective for preventing or treating this disease. Some people find their symptoms are made worse by milk, alcohol, hot spices, or fibre. People are encouraged to follow a nutritious diet and avoid any foods that seem to worsen symptoms. But there are no consistent rules. People should take vitamin supplements only on their doctor's advice.

Is Pregnancy Safe for Women with Crohn's Disease?

Research has shown that the course of pregnancy and delivery is usually not impaired in women with Crohn's disease. Even so, women with Crohn's disease should discuss the matter with their doctors before pregnancy. Most children born to women with Crohn's disease are unaffected.

When is surgery needed?

Surgery to remove part of the intestine can help Crohn's disease but cannot cure it. The inflammation may return once removed. Surgery may be done to relieve symptoms that do not respond to medical therapy or to correct complications such as blockage, perforation, abscess, or bleeding in the intestine. Some people who have Crohn's disease in the large intestine need to have their entire colon removed in an operation called colectomy. A small opening is made in the front of the abdominal wall, and the tip of the ileum is brought to the skin's surface. This opening, called a stoma, is where waste exits the pouch is worn over the opening to collect waste, and the patient empties the pouch as needed. The stoma is about the size of a 20-cent coin and is usually located in the right lower part of the abdomen near the beltline.



Maintenance therapy for Crohn's Disease

Crohn's disease is a chronic illness that usually requires long-term medical therapy. The first goal of therapy is to treat the active disease until the patient is in remission. A person in remission feels well, and there are minimal, if any, signs of active disease. The second goal is to maintain remission. Unfortunately, in some cases, surgery is required, despite medical therapy.

Many people with Crohn's disease respond very well to medications when they have a flare-up. Unfortunately, they are at risk for future attacks. Similarly, within three to four years after surgery, symptoms recur in up to one third of patients, even though the surgeon has removed the entire bowel that is known to be affected by Crohn's. These experiences have led to the search for medications that keep patients in remission. Because Crohn's is chronic, it is imperative that this maintenance therapy be both effective and safe.

Since this disease can vary among patients, no one drug is universally effective. Crohn's may affect different areas of the bowel. Fistulas ("tunnels" from the bowel to the skin or surrounding organs) may or may not occur. Finally, the amount of bowel left intact after surgery may vary. Thus, each patient should be carefully evaluated to determine the most appropriate maintenance therapy.

Maintaining Remission

Numerous agents have been found to be effective in maintaining remission in some patients.

Sulfasalazine and the 5-aminosalicylic acid (5-ASA) preparations, including *Mesalazine* is beneficial in managing mild to moderately active disease of the small intestine and/or the colon. These drugs' role in maintaining remission in Crohn's is less clear; they are probably effective in some patients, but at higher doses than those used in ulcerative colitis.

Sulfasalazine may be beneficial in preventing or delaying relapses after surgery and in maintaining remission at high doses (usually six to eight pills a day). Unfortunately, many of its side effects (eg. nausea, headache, and fatigue) increase at these higher doses. This is generally not an issue with the newer, but more expensive, Mesalazine preparations, which have greatly enhanced the therapeutic options for Crohn's. These agents provide the active ingredient of Sulfasalazine without the side effects, which appear to be related to the drug's sulfur component. Thus, patients may take higher doses (10 to 16 pills a day).

With the exception of steroids, we generally try to continue the oral or topical therapy that induced remission. Thus, people who responded to Sulfasalazine or 5-ASA agents should be maintained at the initial dose. These drugs are safe and can be used long-term. Patients whose disease affects the rectum or left colon (eg. the sigmoid or descending colon) may benefit significantly from topical therapy with 5-ASA enemas or suppositories. People with both small intestinal and colonic or rectal disease may fare best with a combination of oral and topical therapies.

Despite steroid's clinically proven benefit in acute (sudden, severe) illness, *they have never been shown to prevent flare-ups and have no role as a maintenance medication in Crohn's disease*. Steroids (eg. prednisone) also have many potentially serious side effects, such as hyperglycemia (elevated blood sugar), hypertension, cataracts, and osteoporosis (even leading to vertebral and hip fractures). The risk of adverse effects increases with the duration of the treatment. Thus, steroids should only be used to control the disease, and then should be eliminated gradually, while another agent is used to maintain remission.

People who need steroids to control their illness may find it difficult to maintain remission with Sulfasalazine or 5-ASA agents. Other options are *azathioprine* (Imuran®), *6-mercaptopurine* (6-MP, Purinethol®), and, possibly, *methotrexate*. Both azathioprine and 6-MP have "steroid-sparing" effects (ie. they allow physicians to lower the dose of steroids). These drugs also can prolong a steroid-induced remission. Although not as well studied, methotrexate has proven steroid-sparing effects in this setting.

Because these immunomodulators may cause a decrease in the production of white blood cells, blood counts must be monitored regularly (usually every one to three months while on a steady dose of the drug). Methotrexate may cause birth defects and absolutely must not be taken during pregnancy or by men or women planning conception. Because it can cause liver abnormalities, periodic blood tests that check liver function are required. Patients need folic acid supplements, which may alleviate potential side effects, such as nausea.



Perianal Disease and Fistulas

Many patients have perianal disease (eg., skin tags; fistulas; and abscesses near their anus) or fistulas in other areas, which may cause distressing symptoms and frustrating psychological consequences. Various maintenance therapies are used.

Experience with *antibiotic therapy* for perianal disease and fistulas suggest the need for continuous therapy to minimise recurrent drainage. Typical antibiotics used include *metronidazole* (Flagyl®), *ciprofloxacin* (Cipro®), and related products. Not all patients can tolerate metronidazole, due to side effects such as nausea and metallic taste. This drug also may cause peripheral neuropathy (tingling of hands and feet), which should be watched for closely. Often, these antibiotics can be alternated to better control symptoms or to limit side effects.

Azathioprine and 6-MP also have demonstrated benefit in this setting. Their onset of action is slow, and it often takes three to six months to see improvement. Both agents also seem to help in the maintenance phase, although data are limited. When disease is active, cyclosporine may be used to treat difficult perianal disease or fistulas, but its use as a maintenance drug has not been proven. Also, fistulas that improve when a person takes cyclosporine often redevelop once the medication has been stopped, unless another maintenance therapy is used.

Post-Surgical Therapy

Crohn's disease historically returns at the site where the bowel was surgically "hooked" back together. Thus, it is becoming common practice either to continue a patient's medications (except steroids), or to start certain drugs to decrease the recurrence rate, if not prevent it altogether. This choice often depends upon previous medications and surgeries.

Options include Mesalazine, Sulfasalazine and Metronidazole. Data supporting the use of such medicines is controversial. Side effects may limit their use. Based on some recent clinical studies, azathioprine and 6-MP are the most promising agents in preventing the recurrence after surgery. Steroids have no role in this setting.

General Health Guidelines

Maintaining remission may depend on other factors besides successful therapy. Studies have shown that smoking can prevent remissions in Crohn's disease and make it more active. Thus, you should avoid smoking at any time. This is particularly true for people who face surgery, as the illness comes back sooner, and often more severely, in smokers after surgery. Second-hand smoke also has been implicated in the development of Crohn's disease (and probably ulcerative colitis) in children; thus, extra caution should be taken to raise children in a smoke-free environment.

Many common over-the-counter and prescription pain relievers have been shown to cause ulcerations in the intestinal tract, and may cause a relapse. Avoid taking these products, and always question if they are prescribed: Aspirin, including enteric-coated preparations (Ecotrin®); and non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen

Dietary modifications are often necessary, and should be individualised, depending upon disease location, severity, and previous surgeries. Diet is not felt to play a role in the early recurrence of Crohn's disease following surgical or medical remission. One study, however, does suggest that fish oil tablets may benefit people who were in remission and were not taking other Crohn's medications. Many physicians are awaiting more data before endorsing this product. Diet also may be important in controlling bowel symptoms, since patients who eat many poorly digestible ("high residue") or fatty foods may develop looser stools or cramping, which may be mistaken for a disease recurrence. Persons with narrowing of the bowel from either Crohn's or surgery also should avoid these products.

New medications continue to be developed for active disease and for maintaining remission. We also are moving forward in our understanding of the cause and the genetics of Crohn's disease. It is hoped that this will ensure better health for all people with IBD.