

Medications: Antibiotics



Medical treatment for Crohn's disease and ulcerative colitis (also known as inflammatory bowel diseases, or "IBD") has two main goals: 1) *induction* of remission (the absence of symptoms and inflammation in the affected part of the gastrointestinal tract) followed by 2) *maintenance* of remission (prevention of flare-ups). These goals should be achieved with as few side effects and as little risk as possible. To accomplish these goals, treatment is aimed at controlling the ongoing inflammation in the intestine—the cause of IBD symptoms.

Antibiotics are frequently used to treat a flare of IBD, even though no specific infectious agent has been identified as the cause of these illnesses. Many researchers believe that antibiotics can help control symptoms of IBD by reducing intestinal bacteria and by directly suppressing the intestine's immune system. Antibiotics can also be effective as long-term therapy in some people with IBD (Crohn's disease more so than ulcerative colitis), and particularly in patients who have fistulas (abnormal channels between two loops of intestine, or between the intestine and another structure—such as the skin) or recurrent abscesses (pockets of pus).

Infections can mimic the symptoms of a flare, so it is important to speak to your doctor about taking a stool sample to be analyzed for parasites, *Giardia*, and bacteria—specifically for *Clostridium difficile* (*c.diff*) which can occur more frequently in patients with IBD. Your doctor may treat these infections promptly with an antibiotic which can include metronidazole or vancomycin. A new antibiotic for the treatment of *C. diff* was recently approved by the FDA: fidaxomicin.

Oral Medications

Although there are several antibiotics that may be effective, the most commonly prescribed in IBD are:

- Metronidazole (Flagyl®)
- Ciprofloxacin (Cipro®)
- Rifaximin (Xifaxan®)

Both metronidazole and ciprofloxacin are broad-spectrum antibiotics that fight a wide range of bacteria inside and outside of the intestines. Rifaximin, on the other hand, is not absorbed and thus only acts on gut bacteria directly. Metronidazole is the most extensively studied antibiotic in IBD. As a primary therapy for active Crohn's, this drug has been shown to be superior to placebo (sugar pill) and equal to sulfasalazine—especially when the illness affects the colon.

Metronidazole also has been shown to reduce the recurrence of Crohn's for the first three months after ileum resection surgery. In more than 50 percent of those treated, metronidazole can be effective in managing *perineal Crohn's* (disease involving the pelvic area).

A common use of antibiotics is for patients who develop *pouchitis* after ileal-pouch anal anastomosis surgery. In this procedure, after the colon is removed, an internal pouch is formed from the patient's ileum (the lowest part of the small intestine)—averting the need for an external appliance (a "bag"). Sometimes the pouch becomes severely inflamed, hence the term "pouchitis." Ciprofloxacin, metronidazole, and rifaximin have all been shown to be successful in treating pouchitis. A well-recognized study has demonstrated benefit in a probiotic called VSL#3 following a course of rifaximin to prevent recurrent episodes of pouchitis.

Alternative Methods of Delivery

Both metronidazole and ciprofloxacin are available in intravenous (IV) forms and may be used as such when needed. Rifaximin is only available orally.

Side Effects

Metronidazole: Common side effects may include nausea, vomiting, loss of appetite, a metallic taste, diarrhea, dizziness, headaches, and discolored urine (dark or reddish brown). Another side effect of long-term use is tingling of the hands and feet, which may persist even after the drug is discontinued. If you develop such tingling, notify your doctor immediately. The medication should be stopped and not restarted.

Ciprofloxacin: Side effects may include headaches, nausea, vomiting, diarrhea, abdominal pain, rash, and restlessness, all of which are rare. Tendonitis (pain and inflammation of the tendons) particularly the Achilles tendon (that connects the calf muscles to the heel of the foot), and tendon rupture has been reported as well.

Rifaximin: Side effects are not common but can include nausea, stomach pain, dizziness, fatigue, headache, muscle tightening, and joint pain.

Drug Interactions

People taking several different medicines, whether prescription or over-the-counter, should always be on the lookout for interactions between drugs. Drug interactions may decrease a medication's effectiveness, intensify the action of a drug, or cause unexpected side effects. Before taking any medication, read the label carefully. Be sure to tell your doctor about all the drugs you're taking (even over-the-counter medications or complementary and alternative therapies) and any medical condition you may have.

Special Considerations

- Metronidazole affects the breakdown of alcohol, which may result in nausea and vomiting. Therefore, avoid alcohol in any form while on this medication and until at least two days following the last dose.
- Ciprofloxacin can interact with antacids (such as Roloids and Tums) and become less effective. Your doctor may advise you not to take both within the same few hours. It also interacts similarly with vitamin and mineral supplements that contain calcium, iron, or zinc.
- Let your doctor know if you are pregnant before taking metronidazole or ciprofloxacin. They are often prescribed during pregnancy, but make sure to discuss these medications with your doctor first. Rifaximin, despite being poorly absorbed, is usually not given to pregnant women.
- Avoid exposure to the sun while on ciprofloxacin. When you go outside, wear sunscreen during daylight hours—and avoid tanning booths.
- Antibiotics can dangerously interfere with the anticoagulant medication warfarin (Coumadin®), making the blood too thin and increasing the risk of bleeding. Adjustments in the dose of warfarin may be required. Be sure to inform any physician prescribing antibiotics for you if you are taking warfarin.
- Be educated – learn as much as possible about these treatments from your doctor and pharmacist. Other information can be obtained from reliable internet sources such as the CCFA web site (www.ccfa.org) and treatment manufacturer web sites.

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