CROHN'S & COLITIS FOUNDATION

Understanding **IBD Medications and Side Effects**

What's Inside

If you or someone you know has just been diagnosed with Crohn's disease or ulcerative colitis, you may feel a bit overwhelmed by the news. In fact, you may not have even heard of these illnesses before. But now that you have, or even if you have been living with inflammatory bowel disease for quite a while, you will want to learn as much as possible about them—including which medications can help control the diseases. That is the purpose of this brochure.

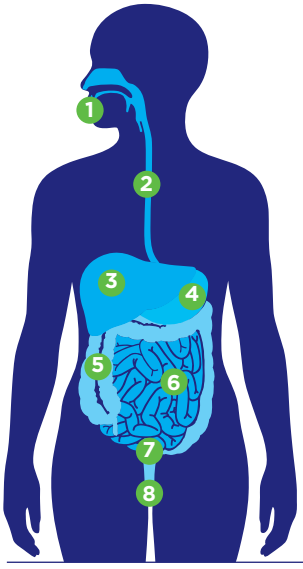
About Crohn's Disease and Ulcerative Colitis

Crohn's disease and **ulcerative colitis** belong to a group of conditions known as **inflammatory bowel disease**, or IBD. These disorders affect the **gastrointestinal (GI) tract**, the area of the body where digestion takes place. As the name implies, these diseases cause **inflammation** of the **intestine**. When a part of the body is inflamed, it becomes swollen. Sores, or **ulcers**, may also form within the walls of the intestine. The ongoing inflammation leads to symptoms that may already be familiar to you: abdominal pain, cramping, urgency, **diarrhea**, **rectal** bleeding, and fatigue. For some people, their symptoms are not just restricted to the GI tract. They may experience signs of IBD in other parts of the body, such as the eyes, joints, skin, bones, kidneys, and liver. These are referred to as **extraintestinal complications** of IBD, because they occur outside of the intestine.

Although Crohn's disease and ulcerative colitis share a lot of symptoms, they do have some marked differences. While inflammation related to Crohn's disease may involve any part of the GI tract from

the mouth to the **anus** (including the esophagus, stomach, **small intestine**, and **large intestine**), ulcerative colitis is limited to just the large intestine (including the **colon** and **rectum**). Another distinguishing feature of ulcerative colitis is that it starts in the rectum and extends from there in a continuous area of inflammation. In contrast, Crohn's disease may appear in "patches," affecting some areas of the GI tract while leaving other sections in between completely untouched. These are known as "skip" areas. Additionally, ulcerative colitis affects the innermost lining of the colon whereas Crohn's disease can affect the entire thickness of the bowel, which can lead to the formation of fisulas, abscesses, and scar tissue and narrowing. These differences are important for deciding whether inflammation of the intestinal tract is from Crohn's disease or ulcerative colitis. In 10% of cases, there are overlapping features of both ulcerative colitis and Crohn's disease, a condition called indeterminate colitis.

THE GASTROINTESTINAL (GI) TRACT



1. Oral Cavity (mouth)
2. Esophagus (throat)
3. Liver
4. Stomach
5. Large Intestine/Colon
6. Small Intestine
7. Rectum
8. Anus

LEARN MORE HERE

On average, people are more frequently diagnosed with IBD between the ages of 15 and 35, although the disease can occur at any age. The number of IBD patients has significantly increased over the last 50 years. While multiple contributing factors have been found, the exact cause of these diseases is unknown, and currently there are no cures for Crohn's disease and ulcerative colitis. This makes the role of the Crohn's & Colitis Foundation in supporting research so critical. The Foundation has pioneered the research of these difficult to understand digestive diseases for more than a half-century. Some of our major projects include our Genetics Initiative (research studies focused on the genes associated with IBD), Microbiome Initiative (studying bacterial, viral, and fungal species that reside in the gut and can affect the course of disease), and Environmental Triggers Initiative (research into the impact of lifestyle, psychological stress, nutrition, and other external factors).

Treatment

To date, there is no known cause of or cures for IBD, but fortunately there are many effective treatments to help control the symptoms of these diseases. The two main goals of treatments for IBD are:

- Achieving **remission**
- Maintaining remission (preventing **flare-ups** of disease)

These goals may be achieved with a combination of over-the-counter and prescription medications or surgery, depending on each individual case.

When considering medication options, it is important to work together with your doctor to make the best choice of treatment that

aligns with your personal goals and preferences. Please keep in mind the following:

- Symptoms of these long-term diseases may range from mild to severe and may include, but are not limited to, diarrhea, abdominal cramping, nausea, pain, rectal bleeding, and fever.
- People will go through periods in which the illness is active and is flaring. These episodes are usually followed by times of remission. Remission occurs when symptoms are under control and there is no evidence of active disease and possibly no active inflammation at the tissue level.
- Because each person with IBD is different, the treatment used to control his or her illness is unique. Doctors will customize treatment to the individual's needs based on the type and severity of symptoms. Medications may be given in different dosages, formulations, and for different lengths of time.
- Medications can be given in **oral** form (by mouth), **intravenously** (through a vein), or **subcutaneously** (by injection under the skin). Topical therapies are administered rectally, as suppositories, enemas, creams, and ointments.
- A person's therapeutic needs may change over time. What works at one point during the disease may not be effective during another stage. It is important for the patient and doctor to thoroughly discuss which course of therapy is best, balancing the benefits and risks of each treatment option.
- With the right treatment, patients may possibly achieve a life with minimal symptoms. Patients should have an open dialogue with their doctor and inform them if they are still experiencing IBD symptoms or a change in symptoms while on treatment.

During these discussions, patients should feel comfortable asking their doctor about other available treatment options.

Over-the-Counter (OTC) Medications

Prescription medications reduce intestinal inflammation and form the core of IBD treatments. Even so, these important prescription medications may not eliminate all of your symptoms. Naturally, you may want to take over-the-counter medications in an effort to feel better. Before doing so, speak with your doctor, as sometimes these symptoms may indicate a worsening of the inflammation that may require a change in your prescription.

Other times these symptoms do not reflect a worsening of the condition and can be treated with over-the-counter medications. For example, your doctor may recommend loperamide (Imodium®) to relieve diarrhea, or anti-gas products for bloating. To reduce joint pain or fever, your doctor may recommend acetaminophen (Tylenol®) or nonsteroidal anti-inflammatory drugs (**NSAIDs**)—aspirin, ibuprofen (Motrin,® and Advil®), or naproxen (Aleve®). NSAIDs will work to alleviate joint symptoms but can irritate the GI tract, thus promoting inflammation. NSAIDs should be used with great care. Make sure that you follow instructions with all OTC products, but again, speak with your doctor before you take any of these medications.

Prescription Medications

Some medications used to treat Crohn's disease and ulcerative colitis have been around for years. Others are more recent breakthroughs. The most commonly prescribed medications fall into the categories outlined below. For a full list of IBD medications, please visit ***www.ibdmedicationguide.org*** (pg 21).

- **Aminosalicylates:** These include medications that contain 5-aminosalicylic acid (5-ASA), such as sulfasalazine, balsalazide, mesalamine, and olsalazine. These medications work by inhibiting certain pathways that produce substances that cause inflammation. They can work at the level of the lining of the GI tract to decrease inflammation. They are thought to be effective in treating mild-to-moderate episodes of IBD, and are useful as a maintenance treatment in preventing relapses of the disease. They work best in the colon and are not particularly effective if the disease is limited to the small intestine. These are often given orally in the form of delayed-release tablets to target the colon, or rectally as enemas or suppositories.

- **Corticosteroids:** These medications, which include prednisone, prednisolone, methylprednisolone, and budesonide, affect the body's ability to begin and maintain an inflammatory process. In addition, they work to keep the immune system in check. They are effective for short-term control of disease activity (flares); however, they are not recommended for long-term or maintenance use because of their side effects—swelling, weight gain, hair growth, and acne. Taking corticosteroids also makes blood sugar and blood pressure harder to control. Long-term steroid use can also lead to weakened bones (osteoporosis) and early cataracts. If you cannot come off steroids without a relapse of symptoms, your doctor may add some other medications to help manage your disease. It is important not to suddenly stop taking this medication. If you stop suddenly, you may experience symptoms such as severe fatigue, weakness, body aches, joint pain, nausea, or a decrease in appetite.

- **Immunomodulators:** These medications include azathioprine, 6-mercaptopurine (6-MP), methotrexate, cyclosporine, and tacrolimus. This class of medications modifies the body's **immune system** so that it cannot cause ongoing inflammation. Usually given orally (methotrexate can also be injectable), immunomodulators are typically used in people for whom aminosalicylates and corticosteroids haven't been effective, or have been only partially effective. They may be useful in reducing or eliminating reliance on corticosteroids. They also may be effective in maintaining remission in people who haven't responded to other medications given for this purpose. Immunomodulators may take up to three months to begin working. These medications may also be used in combination with certain biologics to help them work more quickly. All patients on immunomodulators need to be monitored closely for side effects, such as bone marrow problems, low blood counts, and immunity, as well as irritation of the liver or pancreas.

- **Biologic therapies:** These therapies, are bioengineered drugs that target very specific molecules involved in the inflammatory process.

  Biologics are indicated for people with moderately to severely active disease. They also are effective for reducing **fistulas**. Fistulas, which may occur with Crohn's disease, are small tunnels connecting the intestine to another area of the body to which it is not usually connected.

  Biologics may be an effective strategy for reducing steroid use and inducing and maintaining remission. While on biologics, you should not receive any live vaccines. Be sure to speak with your doctor about appropriate vaccinations before starting these medications.

Examples of biologic medications include: adalimumab, certolizumab pegol, golimumab, guselkumab, infliximab, mirikizumab-mrkz, natalizumab, risankizumab-rzaa, ustekinumab, vedolizumab, and respective biosimilar medications.

Biosimilars are near-identical copies of other already approved biologic therapies, known as the reference product or originator biologic. They are drugs that act just like a reference product, having the same effectiveness and safety in the patient population that it treats. Some examples include biosimilars to adalimumab, infliximab, natalizumab, and ustekinumab.

- **Antibiotics:** Antibiotics may be used when infections, such as an **abscess** (pocket of pus), occur. They treat Crohn's disease, **perianal** Crohn's disease, and ulcerative colitis. They are also used to treat **pouchitis**, which is an inflammation of the ileal pouch (also known as a J-pouch, a surgically constructed internal pouch for those who have had their large intestine removed), and for prevention of recurrent Crohn's disease after surgery.
- **Targeted synthetic small molecules:** These medications help reduce inflammation by specifically targeting parts of the immune system that play a role in inflammation in the intestine and other organs. These medications are indicated for adult patients with moderate-to-severe disease and are taken orally in pill form. Examples currently include etrasimod, ozanimod, tofacitinib, and upadacitinib.

The information provided in this brochure is not an exhaustive list of all medications. For a detailed list of all FDA-approved IBD medications, visit ***www.ibdmedicationguide.org*** or contact the IBD Help Center at 1-888-MY-GUT-PAIN.

Off-Label

Sometimes doctors will prescribe medications that the Food and Drug Administration (**FDA**) has not specifically approved for the treatment of Crohn's disease or ulcerative colitis. Nonetheless, these medications have been shown to be very effective in reducing symptoms. Prescribing medications for other than FDA-approved conditions is known as "**off-label**" use. Your healthcare team may have to obtain prior approval from insurance companies before prescribing a medication for off-label use. Patients should be aware that they or their doctor might need to make a special appeal in order for their insurance company to pay for an off-label medication.

Complementary Therapies

Some people living with Crohn's disease and ulcerative colitis look toward complementary therapies to use together with conventional therapies to help ease their symptoms. These therapies may work in a variety of ways. They may help to control symptoms and ease pain, enhance feelings of well-being and quality of life, and possibly boost the immune system. Speak with your doctor about the best therapies for your situation.

For further information about complementary therapies, visit ***www.crohnscolitisfoundation.org/ibd/complementary-medicine***.

Pediatric IBD Patients

Customizing treatment for the individual with IBD is critical, including when that patient is a child or teenager.

Most pediatric treatment choices were developed after initial research on adults. As a result, drug dosages for a child must be

carefully tailored to suit their age, size, and weight—in addition to existing symptoms, location of inflammation, and previous response to treatment.

There are some special considerations in treatment because children and teenagers are going through a period of physical and emotional growth and development. Here are some of the recommendations for the various medication categories:

- **Aminosalicylates:** These compounds that contain 5-aminosalicylic acid (5-ASA) are generally the first step in therapy for children with mild-to-moderate ulcerative colitis. Mesalamine, balsalazide, and olsalazine have fewer side effects than sulfasalazine. Drugs can be given either orally or rectally. The number of pills may be as many as 10 or more per day, which your doctor will advise how to handle with respect to your child's school schedule. Also, some children have trouble swallowing pills. In cases where swallowing capsules is a concern, your child's doctor may advise that specific capsules be opened and the contents mixed with food. You can download a pill swallowing handout that will provide information on how to teach your child how to swallow pills at *www.crohnscolitisfoundation.org/brochures*.
- **Corticosteroids:** When a child has not responded to treatment with a 5-ASA, or if their disease is more severe at onset, oral or rectal corticosteroids (prednisone, budesonide) may be prescribed. For severe cases, intravenous corticosteroids may be used—necessitating a hospital stay. Once remission is achieved, corticosteroid dosage is tapered gradually. When patients are tapered off of corticosteroids, a strict schedule should be followed in order to minimize side effects that can occur if patients are weaned off too quickly. Long-term steroid use in children can also lead to growth problems and weakened bones (osteoporosis). To minimize the chance of osteoporosis, adequate calcium and vitamin D intake is essential. Live vaccines are not recommended when taking steroids and can be given after 6–8 weeks of stopping steroids as long as another immune-suppressing medication is not being used.
- **Immunomodulators:** While immunomodulators (6-mercaptopurine/6-MP, azathioprine, methotrexate) can be prescribed for children with Crohn's disease and ulcerative colitis, the approach to their use as a treatment can vary. Immunomodulators may often be prescribed as a combination therapy with biologics. All patients on immunomodulators need to be monitored closely for side effects, such as bone marrow problems or skin issues, as well as irritation of the liver or pancreas. Live vaccines are not recommended for IBD patients taking immunomodulators.
- **Biologic therapies:** Biologic therapies are commonly used in the treatment of pediatric IBD. Some of these therapies have been specifically approved by the FDA for use in children ages 6–17. Examples include infliximab and adalimumab, which are approved for children with moderate-to-severe Crohn's disease and ulcerative colitis. Other biologic therapies are being studied in children and are currently used in specific situations. Many biosimilars are also approved for children over the age of 6 years old. Check with your doctor if a biosimilar is an option for your child.

  Live vaccines are not recommended for IBD patients taking biologic medications. It is important to talk to your doctor about which vaccines are safe for your child to receive.

- **Antibiotics:** Metronidazole and/or ciprofloxacin are used in children and teenagers with perianal Crohn's disease, especially if they have an abscess. However, long-term use of metronidazole can cause side effects to the nervous system, called peripheral neuropathy. The use of ciprofloxacin and other drugs in the same class, called fluoroquinolones, has been associated with an increased risk of tendonitis and joint discomfort or pain. Their use in children has been controversial in the past, although studies have not demonstrated any increased risk of complications in children compared to adults.
- **Targeted Synthetic Small Molecules:** Although targeted synthetic small molecules are not FDA approved for children, they have been used off-label for both Crohn's disease and ulcerative colitis when other medications have been ineffective. They have mostly been prescribed in children above 12 years of age and those who weigh more than 88 lbs. The main concern is developing an infection. In some children, these medications can worsen acne.

Making the Most of Your Treatment

Crohn's disease and ulcerative colitis are long-term **chronic** diseases. This means that people with these conditions may need to take medication indefinitely. While not every person with IBD will be on medication all of the time, most people will require therapy most of the time to get well and stay well.

For many individuals, this may seem like a major concern, especially when some of those medications produce unwanted side effects. Side effects can vary and your

doctor will explain which side effects are serious and require immediate attention, and which side effects are more mild and common. If you are experiencing unpleasant side effects or interactions with other drugs, don't stop taking your prescribed medication. Speak with your doctor and ask about possible adjustments that might reduce those effects.

Even when there are no side effects, taking medication as prescribed by your doctor can seem like a nuisance, but it is an important step in helping manage your disease. Remember, taking medication to maintain remission can significantly reduce the risk of flares in both Crohn's disease and ulcerative colitis.

Tips to Help You Manage Your Medications

- Taking medication correctly means more than just taking the right amount at the right time. Talk to your doctor or pharmacist and learn as much as possible about the medications you take and how they may affect you. For example, sometimes medications should be taken with food and other times on an empty stomach.
- Some medications require close monitoring for side effects. This may require blood work and follow-up visits as requested by your doctor.
- If possible, use the same pharmacy every time you get your prescription filled. Pharmacies can help you keep track of what you are taking.
- Don't take any medications that have expired.
- Don't take anyone else's medications or share yours with others.
- Tell your doctor or pharmacist about all medicines, supplements, or other things

you may be taking for your health, including OTC medications, vitamins, and herbs.

- Immunomodulators and biologics can increase the risk of upper respiratory and lung infections. Therefore, it is recommended that you be up to date on certain vaccinations. Be aware that live virus vaccines might be contraindicated in these situations.

If you are having trouble affording your medications, or have a change or gap in your insurance, do not stop taking your medications. Alert your healthcare team; they may be able to help you find a solution. It is important that you take medications as prescribed, as some cannot be safely stopped abruptly. If the cost of treatment presents a problem for you, or if you have an insurance change, there may be a number of patient assistance programs that can help. Visit *www.crohnscolitisfoundation.org/managing-the-cost-of-ibd*.

What to Ask Your Healthcare Team About Your Medications

It is only natural that you will have some concerns about the treatment that you will be receiving for IBD. What should you ask your doctor? What do you need to know about your treatment? The following are some of the questions you may want to ask:

- Why is this medication necessary?
- How long will I need to take this medication?
- How does this medication work?
- How long does it take for this medication to start working?
- Can I take vitamins, minerals, herbs, or other supplements while using the medication?

- Can I take OTC medications for joint pain, diarrhea, or abdominal pain?
- Can I get vaccines while I am on my IBD medication?
- What kind of side effects might I experience? Which are cause for alarm, and what should I do if these occur?
- What kind of interactions does this IBD medication have with other medications I may be taking for other conditions?
- What should I do if I miss a dose?
- What should I do if I have a negative reaction immediately after taking my medication?
- Is it safe to drink alcoholic beverages while on this medication?

Remember to Tell the Doctor

Before starting new medications, it is important for you to tell your doctor and other healthcare professionals (including dentists or emergency room staff) about other medications you may be taking. Tell them if you:

- Have taken this drug before (even if there was no unusual reaction).

- Have had an unusual or allergic reaction to this drug, or other medications.
- Have or have had any other medical conditions.
- Take any other medication or drugs (prescription or OTC), how long you have been taking them, your dose, and any side effects you may have.
- Take any vitamins, minerals, herbs, or other supplements.

Pregnancy and Male Fertility

With careful supervision of both a gastroenterologist and an obstetrician, most women with IBD can have a healthy pregnancy and a healthy baby. If you are considering becoming pregnant, it is recommended to try to have your IBD in remission before you do so.

Recent studies have shown that women do better during pregnancy if their disease is not active at the time of conception. Most experts agree that the major threat to pregnancy seems to come from the active disease itself, rather than the medication

being used to treat the disease. Having active disease during pregnancy can increase the risk of having a baby born prematurely or with a low birth weight.

If you are pregnant and have IBD symptoms, your doctor will advise you as to which of the medications mentioned previously are safe to take. In most cases, medication schedules are maintained during pregnancy. However, there are some considerations and exceptions. It is also important to note that if a woman's IBD activity changes, drugs or dosages may be altered. Here are some of the recommendations for the various medication categories:

- **Aminosalicylates.** Sulfasalazine and other 5-ASA compounds such as mesalamine, balsalazide, and olsalazine do not appear to increase complications or harm the fetus. As sulfasalazine lowers folic acid levels, pregnant women should be on at least 2 mg of folic acid daily. Sulfasalazine temporarily decreases sperm count and therefore may decrease fertility. Men interested in conceiving should consider switching to another medication and have this conversation with a doctor. Women can breastfeed while taking a 5-ASA compound.
- **Corticosteroids.** Prednisone and other corticosteroids are not recommended for maintenance therapy in pregnant women, but may be considered for use during flares in a pregnancy. If a woman becomes pregnant while on steroids, the doctor usually tries to minimize the dose. Nursing infants of women on moderate-to-high dosages of prednisone should be monitored by a pediatrician.
- **Immunomodulators.** Dosing of immunomodulators should be monitored during pregnancy. Although many immunomodulators are considered low risk, there is

limited data in pregnancy. Methotrexate can cause birth defects and is never safe in pregnancy. Ideally, it should be discontinued three months prior to conception. Azathioprine and 6-mercaptopurine, however, are thought to be safe. Regarding breastfeeding, methotrexate is not recommended, but azathioprine and 6-mercaptopurine are considered safe.

- **Biologics.** Most biologics are considered low risk for pregnant women and are not known to impact fertility. They also do not appear in breast milk. However, both adalimumab and infliximab cross the placenta in high levels late in pregnancy, so your doctor may administer the last dose in the middle of your third trimester. If the mother is taking a biologic, the baby should avoid live vaccines (rotavirus) before 1 year of age. It is important to talk to your doctor about which vaccines are safe for your child to receive.
- **Antibiotics.** Antibiotics are not recommended for planned maintenance therapy in IBD during pregnancy.
- **Targeted synthetic small molecules.** There are currently limited data regarding the safety of these medications in pregnancy, and breastfeeding is not advised.

Because pregnancy is such a personal matter and there are so many factors that go into how a pregnancy may turn out, the choice of what medicines to take before and during pregnancy should be discussed with the healthcare team treating your disease, as well as your obstetrician and/or your maternal fetal medicine specialist.

Participation in Clinical Trials

Researchers working in laboratories all over the world are devoted to the scientific investigation of Crohn's disease and ulcerative colitis in the hope of finding cures.

That is good news when it comes to the development of new therapies for these diseases. New discoveries over the past decade have led to huge strides in the fields of immunology (the study of the body's immune defense system), microbiology (the study of microscopic organisms with the power to cause disease), and genetics (the study of how various tendencies and traits—including diseases—are passed from one generation to another).

With new information being gathered all the time, there is good reason to be hopeful about future treatment for IBD. While we all wish for better treatments today, it's important to understand that it takes a long time for a promising development in the laboratory to become a drug ready for consumer use. In fact, the process of getting a drug to market, from first testing to final approval by the Food and Drug Administration (FDA), may take as long as 10 years.

Before a new drug or a new type of treatment is approved, it must go through a series of clinical trials. Clinical trials are well-organized studies that evaluate the treatment's efficacy and safety. Most clinical trials are classified into one of three phases:

- **Phase I** trials evaluate how a new drug should be given (by mouth, injected into the blood, or injected into the muscle), how often, and what doses are safe to use.

- **Phase II** trials test the safety of the new drug, as well as evaluate how well the drug works.
- **Phase III** trials test how well the new drug works and the best dose. Trial participants are divided into groups where one receives the medication and a "control" group receives a placebo (no chemical properties) or standard-of-care therapy.

With the ever-increasing number of clinical trials of potential new IBD therapies, there is an even greater need for patient participation to see if these experimental therapies work. Patients often find participation in a clinical trial a rewarding experience. Anyone can participate as long as they meet the criteria for that particular trial. Those criteria may include type of symptoms, location or stage of disease, and age.

Should you participate in a clinical trial of a new drug for Crohn's disease or ulcerative colitis? To make that decision, you need to be fully informed about that trial and the drug that is being tested. All clinical trials have both benefits and risks associated with them. The advances in current IBD treatment are possible only because people before you participated in clinical trials. Find out more about clinical trials through the Foundation's Clinical Trials Community at *www.crohnscolitisfoundation.org/clinical-trials-community*.

Improving Quality of Life

Living with Crohn's disease or ulcerative colitis can be challenging, but the right resources and support can have a significant and positive impact on the lives of people with IBD. The Foundation's free support programs are a safe place for IBD patients,

IBD Medication Guide

Learn more about all available FDA-approved IBD medications at www.ibdmedicationguide.org.

You and your healthcare team share one important goal: to get your IBD under control and keep it that way.

One of the best ways to accomplish that is by carefully following the treatment plan your doctor has prescribed for you.

For a complete listing of all FDA-approved medications commonly prescribed for IBD, visit our IBD Medication Guide.

www.ibdmedicationguide.org

families, and caregivers to ask questions, find resources, and share experiences with a community that understands. Visit *www.crohnscolitisfoundation.org/patientsandcaregivers/community-support*.

We recognize the importance of distributing unbiased, accurate, and authoritative information in order to provide education of the finest quality. One avenue used to accomplish this is the Irwin M. and Suzanne R. Rosenthal IBD Resource Center (IBD Help Center). Through a toll-free number (1-888-694-8872), email, or live chat on our website (*www.crohnscolitisfoundation.org*), master's degree-level health education professionals answer questions and direct people to resources that are important to help improve their quality of life.

Glossary

Abscess: A collection of pus (dead white blood cells) that has accumulated in a cavity formed by the tissue because of an infectious process (usually caused by bacteria, fungi, or parasites).

Aminosalicylates: See page 6.

Antibiotics: Drugs that fight infections, such as metronidazole and ciprofloxacin.

Anus: Opening at the end of the rectum that allows solid waste to be eliminated.

Biologic therapies: See page 11.

Chronic: Long lasting or long term.

Colon: The large intestine.

Corticosteroids: See page 6.

Crohn's disease: A chronic inflammatory disease that primarily involves the small and large intestine, but can also affect other parts of the digestive system. It is named for Dr. Burrill Crohn, the American gastroenterologist who first described the disease in 1932.

Diarrhea: Passage of excessively frequent or excessively liquid stools.

Extraintestinal complications: Complications that occur outside of the intestine, such as arthritis or skin rashes. In some people, these may actually be the first signs of IBD, appearing even before the bowel symptoms. In others, they may occur right before a flare-up of the disease.

FDA: The U.S. Food and Drug Administration.

Fistula: A tunnel starting from the intestine to another area of the body, such as another area of the intestine, bladder, vagina, or skin.

Flare or flare-up: Presence of inflammation and symptoms.

Gastrointestinal: Adjective referring collectively to the stomach and small and large intestines.

GI tract: Short for gastrointestinal tract.

Immune system: The body's natural defense system that fights against disease.

Immunomodulators: See page 7.

Inflammation: A response to tissue injury that causes redness, swelling, and pain.

Inflammatory bowel disease (IBD): A term referring to a group of disorders, including Crohn's disease (inflammation anywhere in the gastrointestinal tract) and ulcerative colitis (inflammation limited to the colon).

Intestine: The long, tubelike organ in the abdomen that completes the process of digestion. It consists of the small and large intestines.

Intravenously: Giving a drug through a needle or tube that is inserted into a vein.

Large intestine: Also known as the colon. Its primary function is to absorb water and get rid of solid waste.

NSAIDs: Nonsteroidal anti-inflammatory drugs such as aspirin, ibuprofen, ketoprofen, and naproxen.

Off-label: Use of an FDA-approved drug for an indication other than that for which the drug was approved originally.

Oral: By mouth.

Perianal: Located around the anus, this is the opening of the rectum on the outside of the body.

Peripheral neuropathy: Nerve damage in the hands or feet that can result in weakness, numbness, or pain.

Pouchitis: Inflammation of the lining of the ileal pouch (formed from the small intestine).

Rectal: Having to do with the rectum.

Rectum: Lowest portion of the colon.

Remission: Periods in which symptoms are under control and there is no evidence of active disease and possibly not active inflammation at the tissue level.

Small intestine: Connects to the stomach and large intestine; absorbs nutrients.

Subcutaneous: Injected under the skin.

Targeted synthetic small molecules: See page 8.

Ulcer: A sore on the skin or in the lining of the GI tract.

Ulcerative colitis: A relatively common disease that causes inflammation of the large intestine (the colon).

About the Crohn's & Colitis Foundation

The Crohn's & Colitis Foundation is the leading nonprofit organization focused on both research and patient support for inflammatory bowel disease (IBD), with the mission of curing Crohn's disease and ulcerative colitis and improving the quality of life for the millions of Americans living with IBD.

The Foundation's work is dramatically accelerating the research process, while also providing extensive educational and support resources for patients and their families, medical professionals, and the public.

We can help! Contact us at:

888-MY-GUT-PAIN
(888-694-8872)
info@crohnscolitisfoundation.org
www.crohnscolitisfoundation.org

Credits:

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CROHN'S & COLITIS FOUNDATION

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The Crohn's & Colitis Foundation is a nonprofit organization that relies on the generosity of private contributions to advance its mission to cure Crohn's disease and ulcerative colitis, and to improve the quality of life of children and adults affected by these diseases.

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