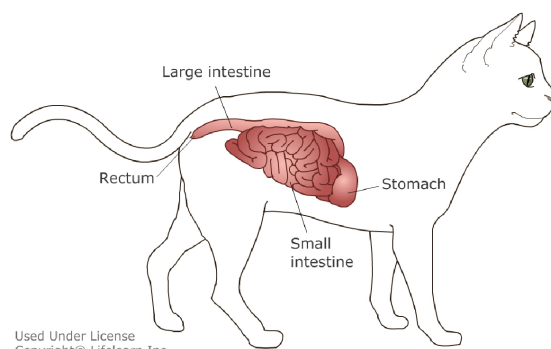


Inflammatory Bowel Disease in Cats

What is inflammatory bowel disease?

Inflammatory bowel disease (IBD) is a syndrome rather than a disease. The syndrome is caused by a specific reaction to chronic irritation of the stomach or intestines. Inflammation is the body's response to an insult, injury or foreign substance. With inflammatory bowel disease, specific types of inflammatory cells, depending on the type of IBD, invade the wall of the stomach and/or intestines.



"With chronic or long-term inflammation, normal tissue may be replaced by fibrous (scar-like) tissue."

Inflammatory cells include *lymphocytes* and *plasmacytes*, which are responsible for the body's immune response and *eosinophils*, which are associated with inflammation caused by allergic or parasitic disease. Other inflammatory cells called *neutrophils* destroy bacteria or clean up damaged tissues. With chronic or long-term inflammation, normal tissue may be replaced by fibrous (scar-like) tissue.

Predominant Cell Type Present	Type of IBD	Features
Lymphocytes and Plasmacytes	Lymphocytic-plasmacytic IBD	<ul style="list-style-type: none">• Most common form of IBD diagnosed in cats
Eosinophils	Eosinophilic IBD	<ul style="list-style-type: none">• Second most common form in cats• Tends to be more severe than lymphocytic-plasmacytic form• Two forms exist in cats
Fibrous Tissue and Eosinophils	Regional Granulomatous	<ul style="list-style-type: none">• Rare• Similar to Crohn's disease in humans
Neutrophils	Suppurative or Neutrophilic	<ul style="list-style-type: none">• Need to exclude bacterial infection as a cause of the infiltrate

What are the clinical signs of IBD?

"IBD can involve any part of the gastrointestinal tract..."

IBD can involve any part of the gastrointestinal tract, but most commonly affects the stomach and/or the intestines. If the stomach is involved, your cat will experience chronic vomiting. This is the most common clinical sign of IBD in cats. If the intestines are involved, chronic diarrhea will occur. In some cats, both parts of the digestive tract are involved so both vomiting and diarrhea occur. If the syndrome lasts for more than a few months, weight loss and poor appetite are common.

When is IBD most likely to occur?

IBD is most commonly diagnosed in middle-aged to older cats, usually 5–12 years of age.

How is IBD diagnosed?

The chronic irritation that causes IBD stimulates the body to send cells from the immune system to the area. The most commonly found cells are lymphocytes and plasmacytes. Occasionally, eosinophils and neutrophils will be found. Thus, IBD is diagnosed when these cells are identified in abnormal levels in the tissue.



"The specific type of IBD is definitively diagnosed based on tissue biopsies."

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Obtaining these samples is a surgical procedure requiring general anesthesia. Depending on the suspected location of the IBD, your veterinarian may recommend either an endoscopic procedure or a full abdominal exploratory surgery. If the small intestine or the upper large intestine is suspected to be involved, the procedure will require an exploratory surgery, primarily because these areas are not accessible to an endoscope. In this case, it is common to take samples through all the layers of the wall of the affected organ. If it is mainly the stomach or colon that is affected by the condition, tissue samples can be obtained via an endoscope. When an endoscope is used, a tiny biopsy instrument will be used to take small samples of the lining or mucosa of the affected organ.

The tissue biopsies will be sent to a veterinary pathologist for diagnosis. The pathologist will give a descriptive diagnosis to the syndrome, depending on the predominant type of inflammatory cells present in the biopsies.

Is that all that is required for diagnosis?

The tissue reaction that occurs in the stomach, small intestine, or colon is diagnosed with biopsy.

"Determining what is causing the tissue reaction to occur usually requires further testing."

However, determining what is causing the tissue reaction to occur usually requires further testing. Tests or treatments will be performed to rule out stomach and intestinal parasites, cancer, and infections. Blood tests to rule out problems with the kidneys, liver, and pancreas, as well as diseases such as hyperthyroidism and diabetes, are performed. In some cases, the exact cause cannot be determined.

How is IBD treated?

The ideal way to treat this problem is to diagnose the underlying disease that is causing the reaction. If an exact cause cannot be found, the disease is called *idiopathic*.

"Some cats with IBD respond to a change in diet."

That means that a disease is present, but there is no identifiable cause. Many cases of IBD are considered idiopathic. Some cats with IBD respond to a change in diet. This is done in two ways. First, a commercial food that contains a protein source that is new to the cat is chosen. If that is not effective, a high-fiber diet is tried. Unfortunately, a true food trial requires that the test diet be fed *exclusively* for six to twelve weeks. In some cases, your veterinarian will recommend that you feed a true elimination diet, in which a home-prepared diet containing only a single protein and a single carbohydrate are fed. In all food trials, no treats or other foods may be given at all.

"...drugs are used to suppress the inflammatory reaction."

If dietary therapy is not successful or is infeasible, and no underlying cause can be found, drugs are used to suppress the inflammatory reaction. Corticosteroids are generally the most effective medications and are used initially. Other drugs are tried if corticosteroids are not successful.

Do corticosteroids cause side effects in cats?

Corticosteroids are notorious for causing a variety of side effects in humans. However, cats appear to be somewhat resistant to side effects from these medications. Regardless, to minimize any possible adverse effects, our goal is to use the lowest dose that is effective and to give it on an every other day schedule. It will be necessary to begin therapy with a high dose, but once response occurs, the dose is gradually tapered to the minimal effective dose.

Why is it better to administer steroids every other day?



Prednisolone and *prednisone* are the most commonly used corticosteroids. They are still present in the body about thirty–six hours after administered by mouth. If a steroid is given daily, some of the previous day's dose is still present.

The adrenal glands produce corticosteroids for the body. If a high level of prednisone or prednisolone is in the body, the adrenal glands receive a message telling them to stop production of this vital substance. This signal will also affect the production of other important chemicals and hormones in the adrenal gland.

By giving prednisone every other day, the last dose is out of the body for about twelve hours before the next dose is given. During this twelve–hour period, the adrenal glands are stimulated to function.

"The cat's adrenal glands function primarily in the morning hours."

The cat's adrenal glands function primarily in the morning hours. By giving the medication in the evening, the dose will be wearing off when the adrenal glands are ready to work. Thus, the preferred way to give corticosteroids on a long–term basis to cats is to give it every other evening. Even if several tablets are given, all are given at the same time.

Does this mean that I will be giving prednisone to my cat for the rest of its life?

Long–term therapy is required for most cats diagnosed with IBD. Generally, a cat is treated for a few months then the medication is discontinued to see if it is still needed. If the signs of vomiting or diarrhea recur, treatment is resumed.

If oral medications are difficult to administer, it may be possible to give periodic injections of a long–acting corticosteroid. The main disadvantage with long–acting injections is that once the medication is administered, it cannot be neutralized if there are any problems.

Are other anti–inflammatory drugs used to treat IBD?

Prednisolone and the related drug prednisone are the most effective anti–inflammatory drugs with the least side effects. However, they are not effective in all cats. Sometimes a stronger drug is used initially to gain control of the disease. Then, prednisolone is tried again as a maintenance drug.

Could stomach infections be a cause of IBD?

"Spiral–shaped bacteria can cause chronic vomiting in cats."

Some spiral–shaped bacteria can cause chronic vomiting in cats. The most common of these bacteria is *Helicobacter pylori*. These bacteria have been shown to be the cause of disease, including stomach ulcers, in humans and are pathogens found in cats. However, they are also found in many normal cats and humans who do not experience any vomiting or stomach ulcers. Therefore, just finding spiral–shaped bacteria on biopsy is not always meaningful. It is considered a pathogen only if there is an associated

inflammation in the stomach mucosa.

Are these infections treatable?

Usually when found in humans, successful treatment may require several medications or combinations of medications. Currently we are using what is effective in humans to treat cats. This approach is successful in some cats, but we are continuing to determine the most effective means of treatment.

Can these bacteria affect my family or me?

This is a concern for all of us who have cats. It has been demonstrated that many people have these bacteria in their stomach for decades before disease occurs. Therefore, it is almost impossible to know the source of the bacteria. It is doubtful that cats are involved in the transmission process, but that has not been determined at this time.

What about hairballs?

Some cats are meticulous groomers. These cats usually swallow hair every day. Since hair is not digestible, it could represent a source of chronic irritation to the stomach or intestines.

"The role of hairballs in IBD has not yet been fully determined."

Frequent brushing and the use of hairball medications may be recommended for cats with IBD, especially if they have a history of vomiting or passing hairballs. The role of hairballs in IBD has not yet been fully determined.

What is the prognosis?

If a positive response occurs to a diet change, the cat can be maintained on the new diet for the rest of its life, provided the diet is appropriately balanced. If the cat responds to medication for stomach bacteria, a good prognosis is justified. If response occurs to corticosteroids, the long-term prognosis is also good if administration of the drug is feasible. However, if there is no response to diet or corticosteroids, the prognosis is more guarded. In these cases, further testing is suggested to see if an underlying disease can be identified.

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