

# Microscopic Colitis: Collagenous Colitis and Lymphocytic Colitis

*National Digestive Diseases Information Clearinghouse*



U.S. Department  
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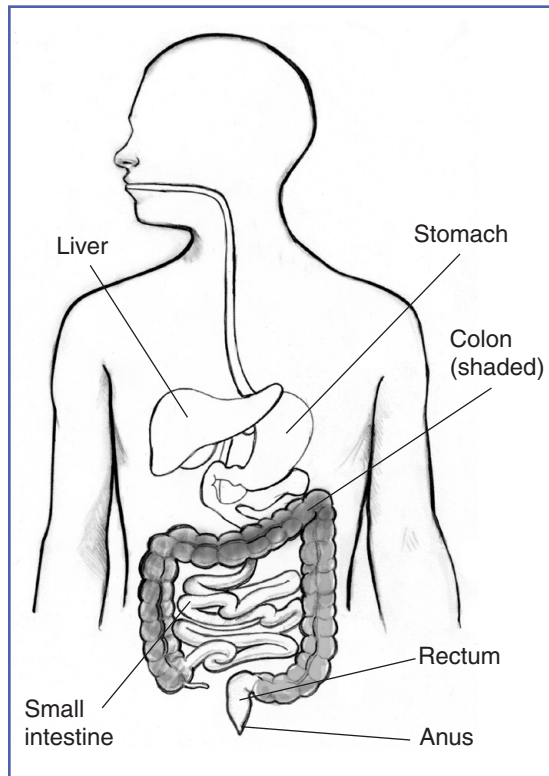
## What is microscopic colitis?

Microscopic colitis is inflammation of the bowel that is only visible using a microscope. Microscopic colitis is a type of inflammatory bowel disease (IBD), which refers to a group of conditions that causes inflammation in the bowel due to an excessive build-up of white blood cells in the bowel lining. Microscopic colitis is less severe than other types of IBD because it does not lead to cancer and rarely requires surgery. However, microscopic colitis can cause considerable pain and discomfort.

The term bowel refers to any part of the small or large intestine. The large intestine includes the colon and the rectum, and together they are about 5 feet long. The small intestine can be 12 to 20 feet long. Colitis means inflammation of the colon. Microscopic colitis is inflammation of the colon and rectum.

## What are collagenous colitis and lymphocytic colitis?

Microscopic colitis has two main forms: collagenous colitis and lymphocytic colitis. The symptoms of and treatment for both are identical. Some scientists believe the two forms may be different presentations of the same disease. Slight differences in the way intestinal tissues appear when seen with a microscope set them apart. In both forms, an increase in white blood cells can be seen within the intestinal epithelium—the layer of cells that lines the intestine. Increased white blood cells are a sign of inflammation. But with collagenous colitis, the layer of collagen beneath the epithelium appears thicker than normal. Collagen is a structural protein in bones and cartilage. In the intestines, collagen anchors the intestinal epithelium to underlying layers of tissue. The thicker collagen layer seen with collagenous colitis may result from inflammation.



Microscopic colitis affects the colon and rectum.

## Who gets microscopic colitis?

Microscopic colitis can affect anyone but is more common in people ages 45 and older. Rates of microscopic colitis are similar to other forms of IBD, affecting about nine people in 100,000.<sup>1</sup> Although microscopic colitis affects both men and women, collagenous colitis is much more common in women.

## What are the symptoms of microscopic colitis?

Chronic watery and nonbloody diarrhea is the main symptom of microscopic colitis. Episodes of diarrhea can last for weeks, months, or years. Most cases are interrupted by similarly long periods of remission—times when diarrhea goes away.

Scientists believe diarrhea associated with microscopic colitis is caused by the intestinal epithelium's reduced ability to absorb electrolytes—salts and minerals in the body. The resulting electrolyte imbalance decreases the colon's ability to absorb fluid and increases fluid secretion into the colon.

Other common symptoms of microscopic colitis include

- abdominal cramps or pain
- abdominal bloating

Less common symptoms of microscopic colitis include

- mild weight loss
- dehydration

- nausea
- weakness
- fecal incontinence—inability to control a bowel movement

## What causes microscopic colitis?

The cause of microscopic colitis is unknown. Many scientists believe it is an abnormal immune response triggered by something in the gastrointestinal (GI) tract—the large, muscular tube that extends from the mouth to the anus and digests food. Normally, the immune system is triggered by germs, but sometimes it reacts to harmless bacteria, pollen, food, or even the body's own cells. The belief that something in the GI tract causes microscopic colitis is supported by evidence that the colon, when empty for a long time, recovers from inflammation. Keeping the colon empty is accomplished through a surgical procedure called an ileostomy, which diverts digestive waste away from the colon to an opening in the abdomen. The belief is further supported by the fact that inflammation returns when the ileostomy is reversed and the normal digestive route through the colon is restored.

Scientists believe one's genes may make a person more likely to develop microscopic colitis. Although a gene unique to microscopic colitis has yet to be found, dozens have been linked to other forms of IBD.

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<sup>1</sup>Pardi DS, Loftus EV, Jr., Smyrk TC, et al. The epidemiology of microscopic colitis: a population based study in Olmsted County, Minnesota. *Gut*. 2007;56(4):504–508.

Scientists have proposed several possible substances that might trigger microscopic colitis.

**Harmful and harmless bacteria.** Some people get microscopic colitis after being sick with certain harmful bacteria, including *Yersinia enterocolitica*, *Campylobacter jejuni*, and *Clostridium difficile*. Other people test negative for these and other harmful bacteria, but their condition improves with antibiotic treatment, suggesting normally harmless bacteria in the colon may trigger microscopic colitis in some people.

**Medications.** No medications have been proven to cause microscopic colitis but several have been linked to it, including

- acarbose (Prandase)
- aspirin
- lansoprazole (Prevacid)
- nonsteroidal anti-inflammatory drugs
- ranitidine (Zantac)
- sertraline (Zoloft)
- ticlopidine (Ticlid)

**Food.** Certain foods appear to trigger microscopic colitis in some people. Although no specific foods have been identified, following a caffeine- or lactose-free diet sometimes improves symptoms.

## How is microscopic colitis diagnosed?

Microscopic colitis can only be diagnosed by examining intestinal tissue removed during colonoscopy or flexible sigmoidoscopy—procedures that use a lighted, flexible scope to see inside the colon and rectum. Before colonoscopy or flexible sigmoidoscopy, the doctor will rule out other conditions that cause diarrhea by asking questions about symptoms and performing tests on blood and stool to look for signs of infection.

During colonoscopy, the doctor can rule out even more conditions by looking at the lining of the colon. If the colon lining appears normal, the doctor may suspect microscopic colitis and will remove small pieces of tissue using tools passed through the scope. The process of removing tissue is called biopsy. Because inflammation from microscopic colitis can occur in patches, the doctor will biopsy several areas of the colon. After tissue has been collected, a pathologist—a doctor trained to diagnose diseases based on tissue appearance—examines the tissue with a microscope.

## How is microscopic colitis treated?

Treatment for microscopic colitis often begins with eliminating medications with suspected links to microscopic colitis and cutting out foods that can make diarrhea worse, including foods containing caffeine, high-fat foods, and dairy products.

Antidiarrheal medications such as bismuth subsalicylate (Pepto-Bismol) and loperamide (Immodium) are effective for some patients.

If diarrhea persists, medications called corticosteroids may help, including prednisone and budesonide (Entocort). Corticosteroids have many potential side effects including insomnia, fluid retention, and mood swings. Budesonide has fewer side effects than other corticosteroids and has been shown to be effective for treating microscopic colitis.

Other medications used to treat microscopic colitis include mesalamine and cholestyramine (Questran).

## What is the treatment outlook for people with microscopic colitis?

People with microscopic colitis generally achieve relief through treatment, although relapses can occur. Some patients require long-term therapy because they experience prompt relapse when treatment is stopped. Unlike other forms of IBD, microscopic colitis usually does not progress to other IBD-related problems, such as arthritis, bowel obstruction, or colon cancer.

## Points to Remember

- Microscopic colitis is inflammation of the bowel that is only visible using a microscope.
- Microscopic colitis has two main forms: collagenous colitis and lymphocytic colitis.
- Common symptoms of microscopic colitis include watery and non-bloody diarrhea, abdominal cramps or pain, and bloating. Less common symptoms include mild weight loss, dehydration, nausea, weakness, and fecal incontinence.
- Many scientists believe microscopic colitis is an abnormal immune response triggered by something in the gastrointestinal tract such as bacteria, medication, or food.
- Microscopic colitis can only be diagnosed by examining intestinal tissue removed during colonoscopy or flexible sigmoidoscopy—procedures that use a lighted, flexible scope to see inside the colon and rectum.
- Microscopic colitis is treated by eliminating certain medications and foods and by taking medications to control diarrhea and inflammation.
- People with microscopic colitis generally achieve relief through treatment, although relapses can occur.
- Unlike other forms of IBD, microscopic colitis usually does not progress to other IBD-related problems, such as arthritis, bowel obstruction, or colon cancer.

## Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) conducts and supports research into many kinds of digestive disorders, including microscopic colitis.

Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research. For information about current studies, visit [www.ClinicalTrials.gov](http://www.ClinicalTrials.gov).

## For More Information

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