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## Microscopic Colitis

### The Invisible Inflammation of the Colon

Microscopic colitis is a lesser-known but common form of chronic inflammatory bowel disease and is an umbrella term used to describe two conditions: collagenous colitis and lymphocytic colitis. Both are characterized by chronic, non-bloody, watery diarrhea.

In medicine, the suffix "-itis" signifies inflammation - such as appendicitis, tonsillitis, diverticulitis, etc. The term "colitis" refers to inflammation of the colon or large intestine. You may have heard of ulcerative colitis and Crohn's colitis. Unlike these forms of inflammatory bowel disease, which cause visible colonic inflammation, the inflammation of microscopic colitis is not visibly apparent during colonoscopy. When doctors perform a colonoscopy to examine the colon of someone with microscopic colitis, everything appears normal to the naked eye. The surface of the colon looks pink and healthy. However, when they examine small tissue samples (biopsies) under a microscope, they can see the inflammation causing the troublesome symptoms. Thus, the term "*microscopic colitis*."



### How common is Microscopic Colitis?

Surprisingly, it is quite common. As gastroenterologists, we discover new cases of microscopic colitis every week, especially when performing colonoscopies on older patients with chronic non-bloody, watery diarrhea. While receiving a diagnosis of microscopic colitis can feel overwhelming, it's important to remember that this chronic condition is not life-threatening and does not increase the risk of colon cancer. While there is no cure, most individuals with microscopic colitis can achieve good symptom control and maintain a normal quality of life with appropriate treatment.

### What causes Microscopic Colitis?

The cause of microscopic colitis is unknown. However, studies have identified several factors that increase the risk of developing the condition:

- Being middle-aged or older. Most patients with microscopic colitis are over 50 years of age, with the majority being diagnosed between the ages of 50 and 70. However, younger individuals can also develop microscopic colitis—about 25% of patients receive a diagnosis before age 45.
- Being female. Women are three times more likely than men to be affected.
- Patients with celiac disease have a 70X risk of developing microscopic colitis.

- Having autoimmune disorders such as type 1 diabetes, autoimmune thyroiditis, and rheumatoid arthritis.
- Smoking is an independent risk factor.
- Use of certain medications, including NSAIDs, proton pump inhibitors, beta-blockers, and statins. While these drugs might exacerbate diarrhea, they aren't believed to cause it directly.
- Changes in the intestinal microbiome have been observed, but these findings are still preliminary.

### **What are the symptoms of Microscopic Colitis?**

The characteristic symptom of microscopic colitis is chronic, non-bloody, watery diarrhea. Diarrhea can occur suddenly or develop progressively, with a frequency reported up to 15 times a day. Diarrhea may also be present at night, which helps distinguish it from irritable bowel syndrome. Some patients experience mild nausea, abdominal cramping, or bloating. There may be fecal urgency and incontinence. Eating often triggers a watery bowel movement, and a patient's fear of having a bowel movement can limit food intake, resulting in unintentional weight loss.

### **Why diarrhea?**

After your small intestine digests your hamburger and fries and all the nutrients have been absorbed into your bloodstream, the remaining liquid waste enters your colon for processing. Acting like a "water filter," your colon's job is to absorb and purify the excess water and recycle it back into your bloodstream. Any remaining solids are stored in the rectum and expelled as a stool or bowel movement when convenient.

In microscopic colitis, this colon "filter" malfunctions and fails to efficiently reabsorb enough fluid, causing loose stools and watery diarrhea. Unlike more severe forms of colitis, such as ulcerative colitis or Crohn's disease, microscopic colitis is non-destructive. It does not damage the colon wall. It does not cause rectal bleeding. It does not turn into cancer and seldom requires surgery. It just makes life miserable.

### **Types of Microscopic Colitis**

There are two different subtypes of microscopic colitis. While they appear different under the microscope, they cause identical symptoms and respond to the same treatments regardless of the subtype.

1. Collagenous (Kuh-LAJ-uh-nus) colitis, in which a thick layer of protein (collagen) develops under the intestinal lining. This condition is especially prevalent among women, although doctors are uncertain why. The collagen band can be up to 10 times thicker than normal, yet the significance of this increased thickness remains unclear.
2. Lymphocytic colitis, on the other hand, shows an increased number of white blood cells called lymphocytes in the colon's lining. These lymphocytes are part of your immune system, and their presence suggests an ongoing inflammatory response.

## **Making the Diagnosis**

No blood test, stool test, or X-ray can diagnose microscopic colitis. The process of diagnosing microscopic colitis often starts with a thorough review of symptoms and medical history. Since the symptoms can mimic other digestive conditions, doctors usually need to rule out several other possibilities before confirming a diagnosis. This process involves multiple steps, but thoroughness is essential to ensure an accurate diagnosis and appropriate treatment. Blood tests are usually performed to check for inflammation and to rule out celiac disease, which often coexists with microscopic colitis. Stool tests may be conducted to exclude infections or other causes of chronic diarrhea.

*However, a definitive diagnosis can only be made through a colonoscopy with biopsies.* During the colonoscopy, which is painlessly performed under sedation for comfort, the doctor examines the entire colon and collects multiple small tissue samples from various areas. Multiple samples are necessary because inflammation in microscopic colitis can be patchy, potentially affecting some regions while sparing others. A pathologist examines these tissue samples under a microscope to identify the characteristic changes of either collagenous or lymphocytic colitis.

## **Treatment**

The treatment of microscopic colitis has evolved significantly in recent years, with several effective options now available. Treatment typically follows a stepwise approach, beginning with the most conservative options and advancing to more intensive treatments as necessary. Since microscopic colitis is a non-destructive form of colitis, the ultimate goal of treatment is to achieve symptomatic improvement. The need for therapy varies based on the severity of symptoms.

The first step often involves identifying and addressing potential triggers. This may include reviewing and possibly adjusting current medications, especially if you are taking NSAIDs or acid-reducing drugs that might be contributing to symptoms. If you smoke, your doctor will strongly encourage you to quit, as this can greatly improve your symptoms.

Dietary modifications can significantly benefit many patients. Although there isn't a specific "microscopic colitis diet," many individuals experience relief by following a low-[FODMAP diet](#), which limits certain types of carbohydrates that may trigger digestive symptoms.

Doctors often initiate medication therapy with over-the-counter anti-diarrheal drugs like loperamide (Imodium). These medications are safe for long-term use and can effectively manage symptoms in mild cases. The standard dosage can be adjusted as needed, but it's crucial to collaborate with your healthcare provider to determine the appropriate dosage.

The most effective prescription medication for microscopic colitis is budesonide, a specialized steroid that primarily acts in the intestine while minimally absorbed into the bloodstream. What little medication is absorbed is destroyed by the liver before it can enter the central circulatory system, so-called "first-pass metabolism." This property enables it to reduce inflammation effectively, resulting in fewer side effects than traditional steroids like prednisone. The standard treatment involves taking 9 mg once daily for up to 8 weeks, followed by a gradual taper. Many patients notice significant improvement within a few weeks of beginning treatment. Budesonide has been very effective in controlling symptoms of microscopic colitis but does not cure the disease. The recurrence rate is relatively high, requiring additional therapy courses as needed. A low-maintenance dose is often prescribed. One problem with budesonide is the expense as health insurance coverage varies.



An alternative therapy to budesonide would be Pepto-Bismol (bismuth subsalicylate), taking three tablets 3 times daily for eight weeks. This therapy is not as effective as budesonide but is an effective alternative when the cost is prohibitive. Bismuth subsalicylate cannot be taken long-term, but no adverse effects have been reported related to an eight-week course of therapy. The pill burden is significant, and patients are warned that this therapy will turn their bowel movements black, which can be startling but harmless.

Microscopic colitis may also alter the metabolism of liver and gallbladder bile within the intestinal tract. Bile malabsorption can worsen diarrhea. Medications to absorb excess bile, so-called bile salt sequestrants such as cholestyramine, are often prescribed to minimize symptoms. Just as sawdust can soak up an oil spill, cholestyramine absorbs and deactivates excessive bile. It cannot be taken within 3 hours of any other oral medication as it may prevent beneficial drug absorption. It is powdered and taken after mixing it with water once daily before lunch. Unfortunately, it is not very palatable.

Although there are no randomized controlled clinical trials indicating that any probiotic is beneficial, research is underway focusing on the microbiome in hopes of discovering effective therapies. Studies are being conducted to assess the role of fecal transplants in microscopic colitis.

More powerful immunosuppressive and biological drugs have been used in severe refractory cases with varying success. They are usually prescribed as rescue drugs before surgical intervention.

The role of surgical management in microscopic colitis has diminished since budesonide became available. However, surgery still plays a part in severe and unresponsive cases. In these instances, part or all of the colon may be surgically removed, resulting in a permanent ileostomy or colostomy "bag."

## Prognosis

The diagnosis of microscopic colitis should be suspected in patients presenting with chronic or recurrent watery, non-bloody diarrhea, particularly among females and individuals with autoimmune diseases or advanced age. Although a diagnosis of microscopic colitis may seem overwhelming, it's essential to remember that this chronic condition is not life-threatening and does not increase the risk of colon cancer. Most individuals with microscopic colitis can effectively control symptoms and maintain a normal quality of life with appropriate treatment.

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# MICROSCOPIC COLITIS

## SYMPTOMS:

- Chronic watery diarrhea
- Average of 4-9 watery stools **per day**
- Nocturnal stools
- Bowel incontinence
- Abdominal pain and cramping
- Urgency
- Fatigue
- Electrolyte imbalances
- Dehydration
- Weight loss



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