

# Sprue/Celiac Disease



## What is sprue/celiac disease?

Sprue, or celiac disease, is an intestinal disorder that results from an exaggerated immune response to gluten (also called gluten-sensitive enteropathy). Gluten is a protein found in wheat, rye, and barley. It is present in many foods other than the obvious breads, cereals, and pastas. When people with celiac disease eat foods containing gluten, their system has an allergic-like reaction. This results in damage to the normal, tiny, fingerlike protrusions (villi) that line the small intestine. Nutrients from food are normally absorbed into the bloodstream through these villi. Damage to the villi results in reduced and ineffective absorption. Because the body's own immune system causes the damage, celiac disease is considered an autoimmune disorder.

## Who gets celiac disease and why?

Celiac disease is a hereditary condition found especially, but not exclusively, in people of Northern European descent. It is the most common genetic disease in Europe. Recent studies show that one in every 133 people in the United States has the disease; however, celiac specialists estimate that 85 percent of people with the problem are undiagnosed or improperly diagnosed with another condition. Moreover, thousands of people with a genetic predisposition to celiac disease never develop the disorder, because it is triggered by environmental factors, such as pregnancy, illness, surgery, or a stressful event.

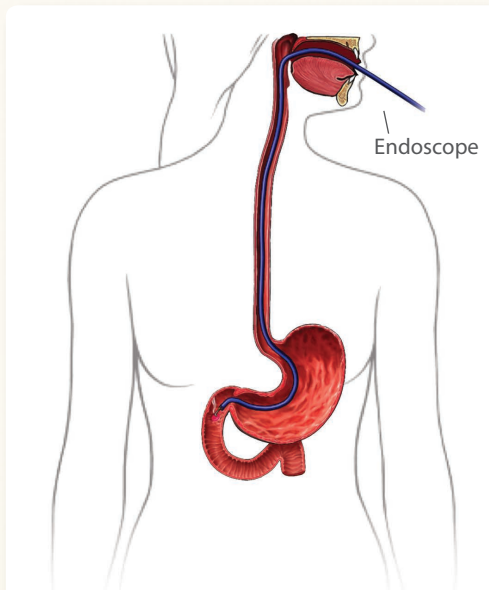
## What are the effects and complications of celiac disease?

Many patients complain of abdominal bloating or suffer from nausea, diarrhea, and even constipation. Other symptoms can include weight loss, gas, bone pain, anemia, fatigue, and muscle pain. Some people develop an associated condition called dermatitis herpetiformis, an itchy, blistering skin condition that appears on the arms, legs, and sometimes the torso. For many other patients, symptoms can be varied or even non-existent.

## How is celiac disease diagnosed at the lab?

Diagnosing celiac disease is difficult, because many of the symptoms are similar to those of other disorders, such as irritable bowel syndrome, diverticular disease, intestinal infections, and ulcerative colitis.

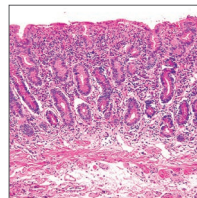
Healthcare providers look for evidence of celiac disease using tests to check blood levels of certain antibodies. It is important for patients to eat a normal diet containing gluten prior to undergoing testing. Two tests that produce positive results in 90 percent of people with the condition are detection of anti-endomysial and anti-tissue transglutaminase antibodies. To confirm a diagnosis of celiac disease, healthcare providers also may take a sample (biopsy) of the small intestine using an endoscope, a long tube with a camera and tiny surgical instrument that is inserted through the mouth into the esophagus. Because celiac disease can cause patchy lesions, multiple tissue samples



An endoscopy procedure uses a small tube with a camera inside that is inserted through the mouth and stomach allowing the physician to see the inside of the duodenum.

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The image at right shows inflammation and flattening of the surface lining of the small intestine (normally showing finger-like projections, or "villi").



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are needed for an accurate diagnosis. This procedure is done under general anesthesia, and patients generally do not experience any pain or side effects, except sometimes a mild sore throat. The samples are then examined under a microscope by a surgical pathologist, preferably one with subspecialty training in gastrointestinal pathology. At Inform Diagnostics, all of the pathologists specialize in a specific area of subspecialty, such as GI pathology for conditions of the digestive system.

The pathologist can confirm the diagnosis, evaluate the efficacy of treatment, and also ensure that no other abnormalities are present. The pathologist will look for signs of damage, including an increase in a certain kind of white blood cells, a greater number of cells in depressions lining the intestines, and flattening of the hair-like villi along the inside of the intestines.

Subspecialist pathologists at Inform Diagnostics review difficult and unusual cases together at a large multi-headed microscope to ensure the most accurate and definitive diagnoses. The pathologist creates a pathology report with all the important findings, including critical information to help guide treatment and assess prognosis, which is sent back to the patient's healthcare provider.

Because celiac disease is hereditary, healthcare providers typically recommend that first-degree relatives (parents, siblings, and children) of these patients also be tested for the disease.

## How is celiac disease treated?

Currently, there is no specific cure for celiac disease; however, by making a lifelong commitment to eating a gluten-free diet, individuals can become symptom-free, and the lining of the intestines can return to normal. A knowledgeable healthcare provider or dietician can offer guidance about foods to avoid, since gluten protein may be present in many food items. Permanent dietary changes are needed, because ingesting even a small quantity of gluten can cause symptoms to immediately recur.

## Learn more!

[www.celiac.org](http://www.celiac.org)

The Celiac Disease Foundation advocates for the effective diagnosis, treatment and cure of celiac disease and provides information to improve the quality of life for those who have the condition.

[www.beyondceliac.org](http://www.beyondceliac.org)

The Beyond Celiac organization advances understanding of the disorder and works to secure early diagnosis and effective management.

This material is intended for patient education and information only. It does not constitute advice, nor should it be taken to suggest or replace professional medical care from your healthcare provider. Your treatment options may vary, depending upon medical history and current condition. Only your healthcare provider and you can determine your best option.

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Headquartered in Irving, Texas, **Inform Diagnostics** is a premier national provider of the highest-quality anatomic pathology services, primarily in the fields of breast pathology, dermatopathology, hematopathology, gastrointestinal pathology, and urologic pathology. The company's pathologists—all fellowship-trained subspecialists—utilize state-of-the-art laboratories.



Inform Diagnostics continuously improves diagnostic precision through a unique consensus approach, rigorous quality assurance, comprehensive expertise, ongoing education and research, and close relationships with clinician clients.



Find more patient information and resources on our website at [www.InformDiagnostics.com](http://www.InformDiagnostics.com).