

# Gluten, Digestion, and Absorption

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Celiac disease is one of the most common chronic health disorders in western countries. It is also one of the most under-diagnosed. Up until ten years ago, medical schools taught that celiac disease was relatively rare and only affected about 1 in 2,500 people. It was also thought to be a disease that primarily affected children and young people.

Recent studies and advances in diagnosis show that at least 3 million Americans, or about 1 in 133 people have celiac disease, but only 1-in-4,700 is ever diagnosed. Because gluten sensitivity and CD can manifest in dozens of ways, physicians are often looking for other causes of these complaints. **In fact, the average CD patient sees 4 physicians over 10 years before the correct diagnosis is made.**

To develop celiac disease (CD) three (3) things must be present: 1) you must inherit the gene, 2) consume gluten, and 3) have the gene triggered. **Common triggers may include stress, trauma (surgeries, pregnancy, etc.), and viral infections.** Approximately 1 in 20 first-degree relatives could have CD triggered in their lifetime. **The disease is permanent and damage to the small intestine will occur every time you consume gluten, regardless if symptoms are present.**

Celiac disease was once thought of a disease with only GI symptoms. It is now recognized that the disease is a **multi-symptom, multi-system (organ) disease.** Celiac disease also does not routinely present with the 'textbook' symptoms that physicians learn. More often it presents with symptoms that can mimic other problems.

Most physicians recognize the **classic symptoms of celiac disease:** diarrhea, bloating, weight loss, anemia, chronic fatigue, weakness, bone pain, and muscle cramps. Physicians may not be aware that **celiac disease frequently presents with other symptoms**, some that do not involve the small intestine. More often, symptoms can include **constipation, constipation alternating with diarrhea, stomach cramps, weakness, and anorexia.** Overweight persons may also have undiagnosed celiac disease.

**Children** may exhibit **behavioral, learning or concentration problems, irritability, diarrhea, bloated abdomen, growth failure, dental enamel defects, or projectile vomiting.** Others will have symptoms such as **rheumatoid conditions, chronic anemia, chronic fatigue, weakness, migraine headaches, nerve problems such as tingling of hands or difficulty walking,** or other conditions that are unexplained and/or do not respond to usual treatment.

Symptoms may develop during the first year of life, when gluten is introduced into the child's diet as cereal. **Clinical effects may disappear during adolescence and reappear in adulthood.**

**Dry skin, eczema, psoriasis, dermatitis herpetiformis, and acne rosacea** are some of the dermatologic effects of celiac disease. Deficiency of sulfur-containing amino acids may cause **generalized fine, sparse, prematurely gray hair; brittle nails;**

**Osteomalacia, osteoporosis, tetany, and bone pain** (especially in the lower back, rib cage, and pelvis) are some of the **musculoskeletal symptoms of celiac disease.** These signs and symptoms are due to calcium loss and vitamin D deficiency. **Celiac Disease and Osteoporosis.**

Dr. Peter Green and Rory Jones write in their book, *Celiac Disease: A Hidden Epidemic*, that **celiac disease (CD) among osteoporotic individuals is much higher than those who do not have osteoporosis.** They suggest that osteoporotic individuals be screened for celiac disease.

**Celiac Disease (CD), sub clinical CD, and wheat sensitivity** are associated with an increased risk of the following:

**Autism Spectrum Disorder, Myocarditis, an inflammation of the heart muscle and Cardiomyopathy, (weakened heart muscle), Type 1 (Insulin Dependent) Diabetes, Thyroid diseases and diabetes are the two most commonly associated diseases found with celiac disease. Delayed infant growth and development, Rheumatoid arthritis and Joint pain, Non-Hodgkin's Lymphoma, Schizophrenia, Skin rash known as dermatitis herpetiformis, Auto-immune thyroid disease**

There is inevitable malabsorption of fat, carbohydrates, and protein as well as loss of calories, fat-soluble vitamins (A, D, and K), calcium, and essential minerals and electrolytes. In adults, celiac disease produces multiple nonspecific ulcers in the small bowel, which may perforate or bleed. Patients are frequently misdiagnosed as having 'irritable bowel syndrome', 'spastic colon/bowel', or Crohn's disease'.

### **Diagnosis**

Initial screening for CD is a blood test taken by your physician. The test can be referred to as a Celiac Panel or by the names of the individual tests. To provide the most accurate information, the **blood test should include the following tests: anti-endomysial antibody (IgA EMA) and anti-gliadin antibody (IgA & IgG), and tissue transglutaminase (tTG IgA)**. These tests are very sensitive and specific for celiac disease.

**Genetic testing for the HLA-DQ2 haplotype** also appears to be a more useful indicator to determine which first-degree relatives have an increased genetic susceptibility to celiac disease, because the marker was detected in 93% of first-degree relatives found to have celiac disease, and 18% of those without it. **Negative tests for these markers in conjunction with negative serum antibody tests suggest an absence of celiac disease.** However, **positive tests for the genetic markers do not necessarily mean that the patient has celiac disease.**

A gastroenterologist then takes small intestine tissue biopsies if the results of the antibody test(s) are positive or he/she has a strong suspicion of CD. A biopsy showing damaged villi in the small intestine is the first half of the 'Gold Standard' to diagnosing CD. The second half of the 'Gold Standard' is improvement of health with the gluten-free diet.

### **Treatment**

Strict adherence to a gluten-free diet for life is the only treatment currently available. This involves the elimination of wheat, rye, barley, and derivatives of these grains from your diet. Medication is not normally required, unless there is an accompanying condition, e.g. osteoporosis, dermatitis herpetiformis, etc. Thriving, showing improvement and return of health on the gluten-free diet is the second half of the 'gold standard' of being diagnosed with CD.

### **Physiology of Leaky Gut**

The junctions between intestinal cells (villi) should normally be 'tight', and the surface area of the small intestine quite large, allowing normal nutrient processing to occur. The villi number in the billions and resemble a shag carpet. Continued irritation and inflammation of the gut lining (whether from gluten, casein, or any other food allergen), causes an even greater malabsorption by reducing the overall surface area of the lining. The villi become flattened and resemble an old thin thread-bare carpet. Normally the body should see only tiny particles of well digested food and a few bacteria. But when it sees larger ones, it considers them foreign invaders.

Once the gut lining becomes inflamed or damaged, it becomes more difficult to keep foreign, larger particles out. In even the healthiest of diets, inadequate nutrient absorption may compound the problem dealing with all these other foreigners. Antibodies are then

produced against once harmless foods and your immune system becomes occupied with being on the defensive. As the spaces between cells open up, larger particles are absorbed. Even though the gut becomes leaky, vitamin and mineral absorption is reduced - not increased, because some “escort” functions are impaired. So many nutrients that need to be carried across the barrier do not get absorbed.

**Chemical sensitivity, fibromyalgia and food allergies are some of the many manifestations of a leaky gut. Yeast and bacterial overgrowth commonly occur together and either one can contribute to a leaky gut.**

If the gut is not healed, then whatever food the person substitutes in the diet for the casein and gluten foods will next become a problem. Some people begin with eliminating all casein and gluten, then begin to see a problem with soy, or corn, or sugar, or fruits, because the gut is still injured. So the basic problem is not casein and gluten but an injured gut.

Until the gut is healed anything you eat may become a problem.

A number of nutrients, herbs, enzymes, and probiotics have been shown to aid the healing of the gut. This will not “cure” celiac DZ, but may aid repair of the gut, along with an allergen free diet of course.

These nutrients may be found in the following formula:

Vitamin A (as retinol palmitate)	5000 IU	100%
Vitamin B-3 (as Niacinamide)	40 mg	200%
Vitamin B-5 (Pantothenic Acid) (as Calcium Pantothenate)	50 mg	500%
Biotin	1000 mcg	330%
Folic Acid (Folate)	400 mcg	100%
Zinc (as Zinc Picolinate)	15 mg	100%
Selenium (as Selenomethionine)	150 mcg	210%
L-Glutamine	500 mg	†
Apple Pectin	300 MG	†
N-Acetyl-Glucosamine (NAG)	250 mg	†
Methylsulfonylmethane (MSM)	250 mg	†
Deglycyrrhizinated licorice (DGL)	100 mg	†
Licorice Extract (4:1) (root) ( <i>Glycyrrhiza glabra</i> )	100 mg	†
Cat's Claw Extract (15:1) (bark) ( <i>Uncaria tomentosa</i> )	100 mg	†
Ginger ( <i>Zingiber officinale</i> ) (root)	100 mg	†
Aloe Vera concentrate (200:1) (leaf)	25 mg	†
Pepsin Enzymes (NF 1:10,000)	50 mg	†
Papain (2000 USP-papaya)	50 mg	†

Enzymes are also excellent because they proactively heal an injured gut by several mechanisms, whereas food eliminations only slow down the damage or postpone it a little longer. Any type of insufficiently digested food can lead to intolerance reactions. **DPP IV** is a specific enzyme which has been utilized in helping to break down gluten, making it less reactive to the immune system.

[More Info](#)

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

[www.gluten.net](http://www.gluten.net)

[www.enzymestuff.com](http://www.enzymestuff.com)

[www.samisbakery.com](http://www.samisbakery.com) (Millet & Flax rice bread is fantastic!) 1-813-989-2722