



Celiac disease

Celiac disease (CD) is a lifelong autoimmune disorder of the intestine. It is an inherited condition. In people with CD, eating certain types of protein, called gluten, sets off an immune response that causes damage to the small intestine. This causes the small intestine to lose its ability to absorb the nutrients found in food, leading to malnutrition and a variety of other symptoms and complications. Estimated to affect 1% of population, but it may be much higher because of its multiple symptoms and difficulty to diagnose.

Gluten is the protein found in wheat (including barley, rye and to a lesser extent, oats). Related proteins are found in triticale, spelt, kamut, durum, semolina, einkorn and faro. Essentially gluten is found in all grains, except rice. This is not a traditional food allergy. Gliadin is the toxic portion of gluten because it resists breakdown by enzymes in the stomach and it causes inflammation.

Symptoms of Celiac Disease

Adults

Celiac Disease may appear at any time in a person's life. The disease can be triggered for the first time after surgery, viral infection, severe emotional stress, pregnancy or childbirth. CD is a multi-system, multi-symptom disorder. Celiac disease symptoms are extremely varied, can often mimic other bowel disorders and are not always gastrointestinal.

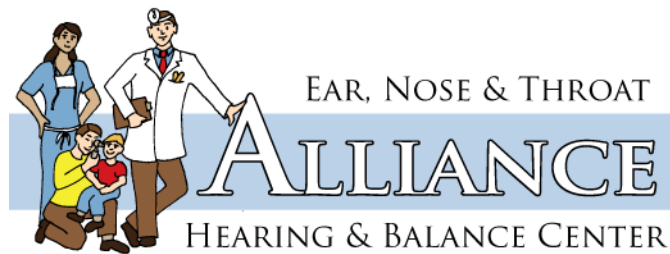
Children

Infants, toddlers, and young children often exhibit growth failure, vomiting, bloated abdomen and behavioral changes.

Symptoms of Celiac Disease May Include One or More of the Following:

- Recurring bloating, gas or abdominal pain
- Chronic diarrhea or constipation or both

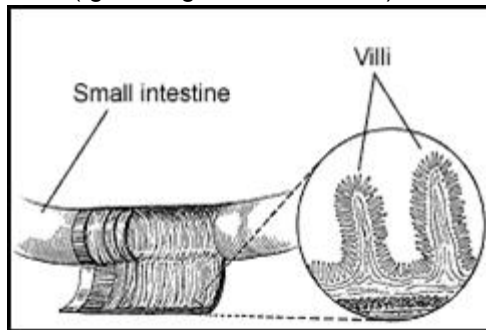
- Unexplained weight loss or weight gain (change in appetite)
- Pale, foul-smelling stool
- Unexplained anemia
- Bone or joint pain (arthritis)
- Muscle cramping
- Behavior changes/depression/irritability (Attention deficit hyperactivity disorder – ADHD)
- Vitamin K Deficiency
- Fatigue
- Headaches
- Delayed growth or onset of puberty
- Failure to thrive (in infants)
- Missed menstrual periods
- Infertility male & female
- Spontaneous miscarriages
- Canker sores inside the mouth or cracks at the mouth's corners
- Tooth discoloration or loss of enamel



Diagnosis

- blood tests

1. EMA (IgA anti-endomysium antibodies)
2. AGA (IgA anti-gliadin antibodies)



3. AGG (IgG anti-gliadin antibodies)
4. tTGA (IgA anti-tissue transglutaminase)
5. IgA tissue transglutaminase (tTG)
6. IgG tissue transglutaminase
7. Total IgA antibodies

- digestion/absorption tests

1. Lactose tolerance test.
2. D-Xylose test.

- a duodenal biopsy is performed with multiple samples from multiple locations in the small intestine.

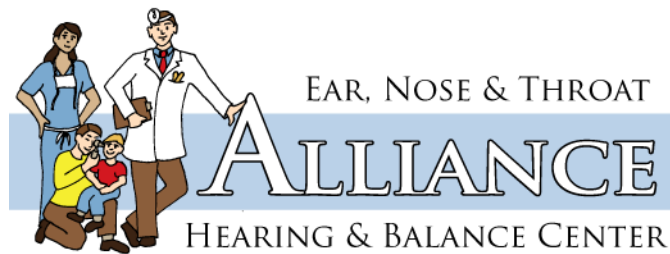
Treatment

The only treatment is the lifelong **gluten-free diet**. When gluten is removed from the diet, the small intestine will start to heal and overall health improves. Medication is not normally required. Because osteoporosis is common and may be profound in patients with newly diagnosed CD, bone density should be measured at or shortly after diagnosis. Consult your physician regarding specific nutritional supplementation to correct any deficiencies

Read food labels. It is essential to read labels. As of January 2006, all manufacturers are required to list food allergens on packaging. As of August 2008, the FDA will tight the labeling of “gluten-free” foods.

Learn to identify ingredients that may contain **hidden gluten**.

- inactive ingredients obtained from whole grains, grain flour or starch grain. Acceptable inactive ingredients include starches that are derived from corn or potato sources.
- unspecified or “pregelatinized” starch, dusting powder or flour may be derived from wheat.
- sweeteners used in pharmaceutical products may also be sources of gluten. Uncontaminated sucrose, honey, dextrose, fructose and corn syrup solids should not be a problem.
- unlikely foods such as: cold cuts, hard candies, soy sauce, many low or non-fat products, even licorice and jelly beans. For example, foods such as soups, sausages and ice cream may contain gluten as a filler.
- binder in some pharmaceutical products. Request clarification from food and drug manufacturers when necessary.



One strategy is the **elimination of the “big three” – wheat, barley and rye.** That means avoiding bread, cereals, crackers, pasta, cookies, cakes and pies, unless they are labeled “gluten-free” or made only with corn, rice, soy or other gluten-free grains.

Gluten-free grains include rice, millet, corn, quinoa, amaranth, sorghum and buckwheat. Oats are also gluten-free, but commercially available forms may be contaminated by gluten-rich grains.

Avoid dairy products. Milk, cheese, yogurt and ice cream all contain the milk casein. Many people who are sensitive to gluten also react to casein. Many soy products also contain casein.

Eat whole foods. Whole foods- vegetables, fruits, nuts, fish, meats and legumes- avoid much of the gluten which is found mostly in canned and packaged foods.

Cookbooks: The Gluten-Free Gourmet Cooks Fast and Healthy; The Gluten-Free Gourmet Bakes Bread: More Than 200 Wheat-Free Recipes – by Bette Hayman.

Internet Resources

gluten-free products on-line: Arico Natural Foods Company (www.aricofoods.com), Gluten Smart (www.glutensmart.com), Mona’s Gluten Free (www.madebymona.com).

Information : www.celiac.org, www.csaceliacs.org, www.gluten.net, www.glutenfreedrugs.com , www.americanceliac.org. Check out a card which lists ingredients that contain gluten at www.triumpdining.com.