

## **Celiac Disease and Non-Celiac Gluten Intolerance**

**Robert L. Pastore, Ph.D.**

Celiac disease is a lifelong autoimmune intestinal disorder, found in individuals who are genetically susceptible. Damage to the mucosal surface of the small intestine is caused by an immunologically toxic reaction to the ingestion of gluten and interferes with the absorption of nutrients. In celiac disease (CD) a specific food component, gluten, has been identified as the trigger. Gluten is the common name for the offending proteins in specific cereal grains that are harmful to persons with CD. These proteins are found in barley, rye, oats and wheat (including durum, semolina, spelt, kamut, einkorn, and faro). There are many hidden forms of gluten in our food supply, which is why it is imperative to consult a clinical nutritionist when faced with the diagnosis of celiac disease or non-celiac gluten intolerance.

Non-celiac gluten intolerance is a severe intolerance to gluten containing grains. It differs from celiac disease in that the patient has a negative biopsy, and no genetic markers for celiac disease. The patient usually presents with positive anti-gliadin antibodies as the sole marker for this condition. However, there is a form of celiac disease called "latent celiac" which presents with a negative biopsy and positive anti-gliadin antibodies. So how can a doctor tell the difference? A genetic test can help assign an accurate diagnosis, but it too is not completely definitive. The key is to remain on a gluten free diet once you are diagnosed with positive anti-gliadin antibodies.

When individuals with CD ingest gluten, the villi, tiny hair-like projections in the small intestine that absorb nutrients from food, are damaged. This is due to an immunological reaction to gluten. Damaged villi do not effectively absorb basic nutrients -- proteins, carbohydrates, fats, vitamins, minerals, and, in some cases, water and bile salts. If CD is left untreated, damage to the small bowel can be chronic and life threatening, causing an increased risk of associated disorders -- both nutritional and immune related.

There are over 180 conditions associated with celiac disease. Below are just a sample of conditions associated with this food induced disease.

### **Some long-term conditions that can result from untreated CD:**

- Iron deficiency Anemia
- Osteoporosis
- Vitamin K deficiency associated with risk for hemorrhaging
- Vitamin and mineral deficiencies
- Central and peripheral nervous system disorders -- usually due to unsuspected nutrient deficiencies
- Pancreatic insufficiency
- Intestinal Lymphomas and other GI malignancies
- Lactose intolerance

### **Other associated autoimmune disorders:**

- Dermatitis Herpetiformis (DH)
- Insulin-dependent Type I Diabetes Mellitus
- Thyroid Disease
- Systemic Lupus Erythematosus
- Liver Diseases

### **Serious diseases linked to CD:**

- Addison's Disease
- Chronic Active Hepatitis
- Down Syndrome
- Myasthenia Gravis
- Rheumatoid Arthritis
- Turner Syndrome
- Williams Syndrome
- Sjogren's Syndrome

One of the most important aspects of celiac disease and non-celiac gluten intolerance are brain syndromes. Both conditions have been found to induce depression, autistic spectrum disorders, balance issues, social isolation, self injury, dyslexia and poor memory to name a few. Gluten compounds in the celiac and gluten intolerant patient create morphine based opioid compounds, which block normal neurotransmitter production and utilization. As you can see, it is very important to identify and treat these conditions with a gluten free diet.