

Gluten *in the Diet*

About Gluten

Gluten is a major plant protein containing gliadin and glutenin, present in wheat, barley, and rye and their many ancient ancestors. Gluten provides structure for baked products requiring volume such as bread. However, various fractions may trigger an auto-immune reaction in individuals who carry a gene for celiac disease. These individuals must eliminate gluten containing grains which are wheat, rye, barley and uncertified gluten-free oats.

Celiac Disease

Celiac Disease (CD), is an intolerance to gluten. It is not an allergy, but an auto-immune disease with a multitude of possible symptoms. To determine if one has CD, first a blood test is needed to determine if specific antibodies are present and if so, then an intestinal biopsy is essential to confirm a CD diagnosis.

- Less than 1% of the U.S. population is affected by CD, or about 3 million Americans.
- There has been a rise in CD (as have all autoimmune diseases such as diabetes, autism, multiple sclerosis, etc.) which may be due to improved testing methods or greater public and health professional awareness. The genes for CD are hereditary therefore multiplying those who will have CD. There are several additional environmental-based theories currently being researched:
 - Less breast feeding (antibodies are not passed to the infant)
 - Introducing gluten too early/too much to an infant who is no longer breast feeding
 - Keeping children too aseptic so they don't build up antibodies
 - Excess gluten in the food supply
 - Shortened fermentation times for commercial bread
 - Food borne infections and viruses
 - Increased incidence of cesarean births as the infant does not receive the bacterial flora
 - Excessive use of antibiotics and antacids
 - Excessive salt intake
 - And the most probable reason: changes in our gut bacteria

- Symptoms vary widely and may include intestinal discomfort, poor absorption of nutrients (iron, calcium and B vitamins in particular), poor growth for children, loss of weight, osteoporosis and when extreme, malnutrition.

Label Reading is Essential

- If you have confirmed CD, products with the following ingredients should be avoided: wheat, barley, rye, uncertified oats, farina, flour, enriched flour, cereal, hydrolyzed vegetable protein, malt flavoring or extracts, modified food starch, emulsifiers, stabilizers, malted vinegar, semolina, durum, spelt, Kamut® and triticale. This list is not all inclusive.
- In 2007, FDA proposed a gluten-free labeling requirement of less than 20 mg per kg (20 ppm). In August of 2013 it was finalized to that amount. The ruling is quite complex as to what products it does or does not cover. For more information [go here](#).

Non-Celiac Gluten-Sensitivity (NCGS)

- New research estimates from 1- 6 percent of Americans are sensitive to gluten, but do not have the offending gene needed to develop CD or damage the intestinal tract. Many with NCGS have not been diagnosed. Many professionals believe some who have been diagnosed with irritable bowel syndrome (IBS) actually have NCGS, which may account for the relief they may get from eliminating gluten in their diet.
- There is currently no test available to diagnose NCGS. Therefore, it is recommended you determine how much gluten you can tolerate and hopefully still enjoy some of your favorite foods.
- At the very least 93% of the population (and probably more) can include gluten-containing foods in their diet. For the vast majority, going gluten-free is unnecessary and expensive. Gluten-free foods, on average, cost about 242% more than their regular gluten-containing counterparts.
- Research has shown that gluten is actually helpful for healthy gut bacteria in individuals who can tolerate it.

Addressing the Claims

Claim 1: Gluten-free diets are good for weight reduction or maintenance.

Reality:

- Gluten-free grains have no caloric advantage over gluten containing grains (wheat, barley and rye). All carbohydrates have 4 calories per gram.
- Gluten-free foods are often higher in fat and sugar, and are often lower in fiber, which may actually lead to weight gain.

Claim 2: Gluten-free products are healthier than those containing gluten.

Reality:

- Many gluten-free products are refined starches which have not been enriched with B vitamins (including folic acid) and iron. Alternative whole grains are available, but rarely consumed.
- Gluten-free diets often lack various nutrients such as iron, calcium, many B vitamins (including folic acid), zinc, magnesium, and a host of other nutrients found in wheat, barley and rye products.
- For those without CD or NCGS, this diet is unnecessarily expensive, restrictive and may cause harm by eliminating healthy gut and colon bacteria.

Claim 3: Genetically modified wheat could be the cause of an increase in the incidence in CD and gluten sensitivity.

Reality:

- Genetically modified wheat is not present in the world food supply and, therefore cannot be blamed for the increase.

Conclusion

There is no scientific reason to eliminate gluten from the diet other than for those with intestinal biopsy confirmed celiac disease or severe NCGS.

