

Gluten-Free: The Next New Diet

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It seems every decade a new diet emerges and gains popularity. We eagerly jump on the new diet band wagon with hopes that *this* will be the answer. We survived the low-fat and low-cholesterol diets of the 90's and we were disappointed when we realized that there was nothing to eat but fruits, vegetables, and whole grains. (We were quickly bored with the menu.) The results? We lost weight. That is, until the food manufacturers started selling low-fat, non-fat, and no-cholesterol substitutes. Suddenly, our eating horizon looked brighter with the availability of low-fat cookies, ice creams, and pastries. We stuffed ourselves with these "guiltless" pleasures and assumed that fat-free meant all-you-can-eat. These products were intended to be substitutes for the fat-laden originals and to be consumed in moderation. Surprisingly, when we compared the number of calories in the fat-laden original to the non-fat or low-fat version, the newer incarnations have just as much or even more calories than the original. However, we threw caution to the wind and ate ourselves silly. Thus, low-fat diets were criticized as ineffective and the rate of obesity continued to climb.

If cutting fat is *ineffective*, then eating lots of fat must be the answer. In 2000's, the popular diet of the decade was the high fat diet (better known as a low-carb diet). Again, the cycle started. When the low-carb diet began, there were limited numbers of foods that were naturally low in carbohydrates. We were stuck eating cream and fatty meats, delicious at first, but lacking in variety and quickly becoming boring. Again, we lost weight. That is, until the food manufacturers saw another money making opportunity. Grocery stores began lining their shelves with low-carb bread, pasta, cookies, etc. These substitutes gave us permission to, once again, overeat them. After all, they were low in weight-ballooning-carbohydrates—how bad could it be to eat the whole box of low-carb cookies? Not surprisingly, weight loss ceased and the rate of obesity soared.

As we enter 2010, another diet is making its way toward "the popular diet" title—the gluten-free diet. Gluten is a protein found in wheat, barley and rye. These grains, especially wheat, are practically in every food imaginable. A gluten-free diet is prescribed for an individual with celiac disease (also known as celiac sprue, nontropical sprue, or gluten-sensitive enteropathy). Thus, this diet has been around for a long time. However, interest in this diet is gaining for purposes other than the treatment for celiac disease.

For individuals with celiac disease the consumption of gluten can lead to serious health problems. Celiac disease is a genetic disorder that causes an immune response when gluten is present in the small intestine. On the surface of the small intestine there are tiny little finger-like projections called *villi*. The villi absorb nutrients from the foods that we eat. For individuals with celiac disease, gluten causes the body to attack and

destroy the villi. Without functional villi, the individual is no longer able to absorb the essential nutrients from food (regardless of the quantity of food consumed) and quickly becomes malnourished. This process also causes abdominal pain and gastrointestinal distress. There is no cure for celiac disease. However, by eliminating gluten from the diet, the damage to the villi and malnutrition can be avoided.

This condition is most critical in children as malnutrition affects their growth and development. The National Institute of Diabetes and Digestive and Kidney Diseases of the National Institutes of Health identified some of the common signs and symptoms of celiac disease in infants and children:

- Abdominal bloating and pain
- Chronic diarrhea
- Vomiting
- Constipation
- Pale, foul-smelling, or fatty stool
- Weight loss
- Irritability

(<http://digestive.niddk.nih.gov/ddiseases/pubs/celiac/>)

However, for some individuals, the disease does not show up until well into adulthood. The typical signs and symptoms for celiac disease in adults (as identified by the National Institute of Diabetes and Digestive and Kidney Diseases) are:

- Unexplained iron-deficiency anemia
- Fatigue
- Bone or joint pain
- Arthritis
- Bone loss or osteoporosis
- Depression or anxiety
- Tingling numbness in the hands and feet
- Seizures
- Missed menstrual periods
- Infertility or recurrent miscarriage
- Canker sores inside the mouth
- An itchy skin rash called dermatitis herpetiformis

(<http://digestive.niddk.nih.gov/ddiseases/pubs/celiac/>)

Be aware, there are many other reasons for fatigue, joint pain, depression, missed periods, etc. Just because an individual exhibits one or two of the symptoms does not mean he/she has celiac disease. Each person responds differently and there is not a magic age when the disease manifests itself. Many could have the disease for years before the symptoms appear. In fact, misdiagnose is common because of the similarity of its symptoms to those of other health problems. Obviously, the earlier the proper diagnose, the better the prognosis.

The occurrence of celiac disease is about 1 in 133 people (or 0.75%). A blood test is done to determine the level of anti-tissue transglutaminase antibodies (tTGA) or anti-endomysium antibodies (EMA) to diagnose the disease. The higher the level, the more likely the person is to have celiac disease. Interestingly, if people are to be tested for these antibodies, they need to be on a regular diet (and not on a gluten-free diet). If they truly have celiac disease, their body will overproduce these antibodies in response to the gluten in the diet. However, on a gluten free diet, the body will not need to make these antibodies and the levels will appear normal. A biopsy typically follows a positive blood test. The biopsy of the small intestine will confirm if the villi are damaged.

Milder gluten-intolerance (or called gluten sensitivity) can also occur. These individuals may feel discomfort after eating food containing gluten. However, the majority of the villi remain intact and functional. Limiting the amount of gluten in their diet can be very helpful.

The role of gluten-free diet can have on autism or attention-deficit hyperactivity disorder is still not known. There is not enough controlled research studies done to draw a precise conclusion. Clearly, more research is necessary before placing children on a gluten-free diet. Needlessly placing a child on a gluten-free diet can place him/her at risk for deficiency in dietary fiber and possible weight loss.

A true gluten-free diet means avoiding all food that contains gluten. Many times wheat is added as a filler to things like vitamin pills, sauces, etc. Thus, it is imperative that the buyer reads the ingredient label carefully. Below is a sampling of foods/items that contains gluten:

Wheat (including einkorn, emmer, spelt, kamut, wheat starch, wheat bran, wheat germ, cracked wheat, hydrolyzed wheat protein)- found in foods like cereals, breads, cookies, pretzels, pancakes, waffles

Barley

Rye

Triticale

Flour (bromated, durum, enriched, graham, phosphate, plain, self-rising, white)

Farina

Semolina (in pasta)

Bouillon cubes

Brown rice syrup

Candy

Chips/potato chips

Cold cuts, hot dogs, salami, sausage

Communion wafers, matzo

French fries (coating)

Imitation fish/crab

Rice mixes

Sauces, flavorings, malt, some vinegars, artificial colors, hydrolyzed vegetable proteins, soy sauce, gravy
Seasoned tortilla chips
Self-basting turkey
Soups

It is critical to remember that many of these ingredients are in many food products. Simply by looking at the long list, a gluten-free diet severely limits what individuals with celiac disease can consume. It cuts the amount of processed and convenience foods consumption and relies heavily on home-prepared foods. Individuals with celiac disease will begin to gain weight on this diet simply because they are finally able to absorb the foods. For a healthy individual on a gluten-free diet, it cuts down on the variety of food and will usually promote weight loss. As a result, this diet has gained popularity among those wanting to lose weight.

When a new diet gains popularity, we can be sure that the food manufacturers won't be far behind this golden opportunity. Today, we are seeing more "gluten-free" products available on the grocery shelves. Just as it was with the removal of fat in fat-free products, sugar was added in the place of fat to make the products more acceptable (and tasty) to the consumers. When gluten is removed from a product—the food manufacturer is forced to make the product from other grains (i.e., rice, corn, quinoa, potato, arrowroot, or buckwheat). The result is typically a very dry and hard product (not the soft, chewy consistency we are accustomed to). However, as food technology improves, gluten-free products of today are much tastier. To bring more flavor, taste and acceptance, fat and/or sugar are often added to the gluten-free products. The number of gluten-free foods has increased from 135 products in 2003 to 832 in 2008 and continues to increase. Be aware that the pattern is repeating itself. A few years ago, the lack of convenient gluten-free foods led many normal healthy people to experience weight loss. Now, with the availability of "gluten-free" foods, we can anticipate that weight will also increase.

Throughout the years, the solution to healthy weight has been available. It does not come with permission to overeat any one kind of food. In fact, it requires that we eat everything in moderation. It also does not exclude one food group. It simply requires that we eat a variety of foods. Simply it means we eat more home-prepared foods instead of relying on convenient foods. Health can improve and weight loss can occur with the inclusion of regular physical activity. This tried and true diet requires that we be more aware of what we eat and that we balance what we eat with physical activity. This diet does not make headlines because it is not easy and it puts the responsibility back on us. We can ride the next new diet wave or we can finally say, "Enough."

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