

Gluten and Celiac Disease

“Gluten-free” is becoming a more popular label descriptor found on many processed foods containing grains. Is gluten something we should be trying to avoid? Gluten is actually a mixture of proteins called prolamine, an insoluble protein constituent of wheat and other grains which allows baked goods to rise. Gluten is found in wheat, rye, and barley making it the common denominator in the majority of grain-based products consumed by Americans including breads, cereals, and pastas.

For most people, gluten goes unnoticed as it passes through the digestive system and is metabolized by the body. But for one in every 150 Americans, gluten does not go unnoticed. Stomach discomfort, pain, gas, bloating, and diarrhea are all symptoms of a condition called gluten intolerance. Gluten intolerance is not actually a food allergy, but rather a genetic intestinal disorder that predisposes individuals to a digestive “malfunction” when gluten-containing products are consumed. In most cases, the discomfort passes without damage, but for those suffering from Celiac Disease (also called celiac sprue, nontropical sprue, and gluten-sensitive enteropathy) the symptoms and outcomes are more serious.

In individuals with celiac disease gluten triggers a response from the body's immune system. Sufferers of celiac disease who consume foods or use products containing gluten cause their immune system to respond by damaging the villi in the small intestines that absorb the nutrients from food. For this reason it's considered a multi-system, multi-symptom autoimmune disease. Medical professionals suggest celiac disease can be genetic and have far-reaching effects.

Celiac disease is linked to malnutrition, which consequentially can cause stunted growth in children and lead to common deficiency disorders such as anemia and osteoporosis. There are also psychological side effects of the disease which include depression and behavioral problems. It is not uncommon for individuals diagnosed with celiac disease to also have other autoimmune conditions, including type I diabetes and rheumatoid arthritis.

Until recently, celiac disease was not considered widespread and was actually classified as rare among Americans. In 2003, a study published in the *Archives of Internal Medicine* suggested this assumption was actually erroneous. The large multi-group study found the presence of celiac disease to be as common as one in every 133 Americans. When groups were isolated by relationship, those with parents, siblings, or children with celiac disease had an increased risk of also developing the disease. Authors suggest that as many as three million Americans may have celiac disease and diagnosis may take up to 12 years. Celiac disease is diagnosed by blood or gut tissue markers but external markers may also indicate the presence of the disease. Symptoms, along with the appearance of an itchy, blistering skin rash called Dermatitis Herpetiformis (DH) is a strong indicator of the disease. Individuals suspecting they may have the disease should consult a physician for testing and diagnosis. Tests used to identify celiac disease include the endomysial antibody and tissue transglutaminase antibody tests. If positive test results occur, physicians will likely conclude with an intestinal biopsy for absolute confirmation. Once diagnosed, a person must remove gluten from the diet. Until the system is completely free of gluten, symptoms will occur. Once the body is no longer exposed to gluten, the small intestine will heal from prior trauma. Similarly, individuals who are gluten intolerant also should avoid gluten to prevent symptoms and related consequences.

Once a person recognizes they are gluten intolerant or have celiac disease, adjustments to the diet can negate the ill consequences of reckless or blind eating. The first step is to avoid gluten-containing products. Those with gluten intolerance should review the ingredients of all foods they consume for wheat, barley, rye, and possibly oats. Other ingredient indicators are flour, self-rising flour, enriched flour, graham flour, durum flour, gluten four, food starch and modified food starch, hydrolyzed vegetable protein (HVP) malt or malt flavorings, or words such as “emulsifier, thickener, or stabilizer.” Obviously, the labeling of gluten-free products identifies that manufacturers recognize the number of persons in the population who experience gluten-related problems and are taking steps to assist in the management of the disorder.

According to the American Dietetic Association, if you are gluten intolerant, adjustments in food choices do not mean sacrificing the enjoyment of eating. One recommendation is to use replacement flours which can help maintain the normalcy of the diet and make baking possible. Flour replacements such as rice, corn, potato, and arrowroot for baking, all are palatable, but each cooks differently; it is important to find recipes specifically designed for these flours. Pastas made from wheat can also be replaced with potatoes, buckwheat, brown rice, wild rice, or different types of beans. The ADA also recommends adding plenty of fruits, vegetables, dairy foods, and protein to one’s eating plan to maintain nutrition and variety.

Processed foods should be heavily scrutinized. The ADA suggests identifying particular types of processed foods which contain symptom-causing agents. Some of these include salad dressings, yogurt drinks, frozen yogurt, cold cut meats, egg substitutes, and beer. If a person is identified as being gluten intolerant it is valuable to refer him or her to a Registered Dietitian. These professionals can provide education and create individualized gluten-free diets that work with specific lifestyles and nutritional needs. The irony of the gluten-free eating plan is it increases healthy foods in the diet such as fruits, vegetables, legumes, and lean proteins like fish. Therefore, individuals who have a physical distaste for gluten can still have a very healthy diet.

Recommended Reading

Roberta Larson Duyff, MS, RD, FADA, CFCS - ADA Complete Food and Nutrition Guide, 3rd Edition

Shelley Case, R.D., *Gluten Free Diet: A Comprehensive Resource Guide*.

