

## Gluten Confusion?

January 2020 by Emily Day, APRN

With the dawn of 2020, many of us are drawn to various diets to help jump start our health goals. A number of these diets suggest eliminating gluten, and we may find ourselves asking, "Is gluten-free just a fad?" And "What is gluten anyway?" Although eating gluten-free has become more commonplace, it is valuable to review some basic facts about gluten, and the different ways people react to gluten-containing foods.

Gluten is a general name for the proteins found in wheat, barley, and rye. It helps food to maintain its shape and is responsible for the elastic texture of dough. However, Dr. Alessio Fasano, a Pediatric Gastroenterologist and researcher who specializes in gluten-related disorders says, "No one can properly digest gluten. We do not have the enzymes to break it down". Thankfully, not everyone struggles with health consequences after eating it. Alessio notes that a healthy (diverse) microbiome, healthy immune system, intact intestinal barrier (no "leaky gut"), and lack of genetic predisposition to celiac disease are all protective factors that can allow us to enjoy gluten without triggering disease. On the other hand, a number of us do react to gluten in one of three ways.

Although rare, people can have a true allergy to wheat, just as some people have an allergy to peanuts or shell fish. With wheat allergy, symptoms are felt within minutes to hours and include difficulty breathing, swelling, irritation of the mouth or throat, hives, and even abdominal pain. Wheat allergy can be diagnosed through a blood test and/or skin prick test with an allergist and treatment is wheat avoidance. Patients may also need to carry an "EpiPen" for safety given the prevalence of wheat in our food system. Similar to peanuts, 100% avoidance can be hard.

With regards to celiac disease, an autoimmune condition, 30 out of 100 people have the genetic predisposition for celiac, but only one of those 30 will go on to develop the disease. Unfortunately, most of those with celiac disease don't know they have it, and recent cases have shown up in people who are in their 60's and 70's! It's no longer only diagnosed in childhood.

Assessing for celiac disease starts with watching for common symptoms and performing a blood test. Common symptoms occur within days to weeks of ingesting gluten, and include abdominal pain, diarrhea, constipation, weight loss, vomiting, and pale, foul-smelling stool. However, celiac disease is also systemic, affecting a number of organs and tissues, not just the GI tract. Patients can have fatigue, anemia, tingling or numbness in hands and feet, osteoporosis, dental enamel defects, and more. A blood test can show whether you have the genetic predisposition to celiac, and whether you have the elevated antibodies indicative of the disease. Beyond suspicious symptoms and blood work, damage to the small intestines assessed through a tissue biopsy is the gold standard diagnostic tool. If positive, treatment for celiac disease is life-long avoidance of gluten.

Non-celiac gluten sensitivity (NCGS) is the third way people can react to gluten. Unlike celiac, there is no genetic susceptibility to NCGS, but rather an imbalanced reaction to gluten-containing food that stems from poor digestion and intestinal permeability. The immune system responds, and within hours to days, symptoms such as bloating, change in stool pattern, headache, depression, “brain fog”, fatigue, rashes, joint and muscle pain, and more can develop. Although there is some overlap in the symptoms present in both celiac disease and NCGS, the underlying immune mechanism is different. Furthermore, NCGS is a diagnosis of exclusion. In other words, it’s best to rule out wheat allergy and celiac disease, and then follow an elimination diet off gluten for at least 4 weeks, if not longer. After that time, you would reintroduce gluten-containing foods to observe any reaction. If nagging symptoms improve while gluten-free, but return with the reintroduction of gluten, it’s highly suggestive of NCGS. Patients with NCGS usually feel better following a strict gluten-free diet, but occasionally, after work healing their GI tract, and strengthening their microbiome and immune function, they can enjoy some gluten with impunity.

Now that the holidays have passed, and you’re reflecting on how you’d like to approach your health in 2020, speak with your Functional Medicine provider to see if you’re reacting adversely to gluten, and potential next steps!