

Gluten - Whole Grain or Health Drain?

By Dr. Peggy DeLong, N.D.

Okay, I admit it. I am that annoying person at parties and restaurants interrogating the host, server or chef about the specific ingredient list for everything I have on my plate. I am gluten-free.

If you haven't heard of gluten or the potential health benefits of a gluten-free diet, consider yourself one of the precious few. Every day there are reports about the dangers of gluten on all avenues of media, from the morning news, to articles in magazines, newspapers and on the Internet. *Wheat Belly* by William Davis, M.D. is a #1 *New York Times* Best Seller, as is *Grain Brain* by David Perlmutter, M.D.; both books discuss all of the potential health issues you risk each time you take a bite of any food containing gluten. If you aren't gluten-free, you have likely heard about "going gluten free" from a friend or family member, or know someone who has or is currently following a gluten-free diet. So, what is the deal with gluten and is it really the health-sucking villain it's made out to be?

(Un)Fortunately, I have quite a bit of experience when it comes to gluten, on both a personal and professional level. I have Celiac Disease (CD) and have dealt with the annoyances of following a strict gluten-free diet long before it became popular to do so. It is my hope that after reading this article, you will not only have an understanding of what gluten is, but also know whether following a gluten-free diet could be beneficial for you or someone you know.

So...Let's start with the basics. What exactly is gluten? Gluten, which is latin for "glue," is a generic name given to the storage proteins that are found in wheat, rye, barley, bulgur, spelt and kamut (the latter two are variations of the wheat species). Gluten is not a single molecule; it is made up of two main groups of proteins, glutenins and gliadins. A person can be sensitive to either of these proteins, or one of the twelve smaller units that make up gliadin. Oats are sometimes mistakenly thought to contain gluten, when in fact they do not. Rather, oats are often cross-contaminated with gluten because they are commonly processed on the same equipment as other gluten-containing grains. For the average gluten-sensitive bear, this cross-contamination may not be an issue; however for someone with Celiac Disease it can be devastating, as a CD patient can have an autoimmune reaction to gluten in the tiniest amounts – down to 20 parts per million! It is also prudent to mention recent research has found that a small number of people with CD react to avenin, which is a protein found in oats that has two peptides similar to the peptides of gluten. Though this study was small, it showed that the people who reacted to oats demonstrated intestinal inflammation typical to that of CD, bringing to light that some people with CD may also have an intolerance to oats.

Not all reactions to gluten are created equal. When discussing gluten and how the body responds, it is important to differentiate between Celiac Disease and Non-Celiac Gluten Sensitivity (NCGS).

Celiac Disease is an autoimmune condition in which gluten triggers an inflammatory injury in the absorptive cells of the small intestine resulting in malabsorption of macro and micronutrients. There is no cure for CD, and the strict life-long avoidance of gluten is the only effective way to manage the disease. It affects approximately 1 in 133 people in the U.S., though some experts say it is closer to 1 in 30. One thing for sure is that CD is on the rise. Incidents of CD have increased fourfold in the last fifty years, and I will touch on possible reasons later in this article. What is most worrisome about these numbers is that out of the estimated 2 million American's who have CD, less than 10% have been diagnosed. In other words, roughly 1,800,000 people in this country are going about day-to-day life suffering from CD unnecessarily.

Though CD was previously thought to be primarily a disease of the gastrointestinal tract, with classical symptoms such as cramping, diarrhea, and malnutrition, it has been found that only 50% of people experience these symptoms. The other 50% have more vague and hard to pinpoint symptoms that can seemingly have nothing to do with the digestive tract at all, such as:

- Anemia
- Depression
- Chronic fatigue
- Migraine headaches
- Infertility
- Arthritis
- Irritability
- Neurological issues
- Osteoporosis/osteopenia
- Irritability
- Tinnitus
- Bone and joint pain
- Alopecia (hair loss)
- Recurrent miscarriages

In fact, some people only report neurological symptoms such as developmental delays, ADHD, learning disorders, chronic headaches, balance disturbances and even schizophrenia.

A study done at Stollery Children's Hospital in Alberta, Canada found that 53% of children diagnosed with CD via antibody testing displayed no symptoms of CD, yet reported feeling better on a gluten-free diet, and the same is being observed in adults. It's troubling to think that there are people who have CD that can be seemingly asymptomatic, as patients with CD who lack intestinal symptoms are often at the greatest risk for long-term consequences due to a lack of early detection and diagnosis.

Non-Celiac Gluten Sensitivity was first defined in 2011, and it is estimated to affect as many as 1 in 4 people in the U.S. Though it is an immune system mediated reaction to gluten, it is not autoimmune in nature like CD and lacks the specific intestinal inflammation that is found in patients with CD. It is possible for people with NCGS to have the same "classical" symptoms as someone with Celiac Disease. On the other hand, someone with NCGS can have extremely mild and vague symptoms, which are not normally associated with digestion such as:

- Fatigue
- Chronic infections
- Allergies
- Trouble sleeping
- Skin rashes
- Thyroid issues
- Mood disturbances
- Autoimmunity
- Epilepsy
- Peripheral neuropathy
- Infertility
- ADHD

Now, you may be asking yourself “Does this mean that someone with CD can have no symptoms, or a wide array of them, and that someone with NCGS can have symptoms more severe than someone with CD, or so mild that they are hardly noticeable”? Yes, that is exactly my point. Both conditions are often misdiagnosed or, even worse, completely overlooked due to the fact that symptoms are highly variable, and imitate the symptoms of so many other conditions.

The good news is that there are several diagnostic tests that can be performed to help determine whether someone has CD or NCGS, most of which involve a simple blood draw. While intestinal biopsy still remains the gold standard for a diagnosis of Celiac Disease, there are genetic markers (HLA-DQ2 and HLA-DQ8) and antibody levels that can be tested. IgG food sensitivity panels can be run on patients to determine NCGS, and can also help to hone in on other potential food allergens for people with both CD and NCGS. It is estimated that an average of 50% of people who are sensitive to gluten are also sensitive to casein, a protein found in cow’s milk.

Why has gluten sensitivity and the prevalence of CD increased so drastically in the last 50 years? I believe it is multifactorial. For starters, the wheat that we consume today is nowhere near the same wheat that humans have been eating for thousands of years, nor is it found in the same amounts in our diet. Historically, wheat was an adjuvant to the diet, not the foundation. The advent of bioengineering has made today’s wheat strains genetically different than the wheat our ancestors consumed. The hybridizing, and crossbreeding has turned our “amber waves of grain” into a dwarf plant, which requires human intervention to survive, and something that is entirely unrecognizable to the eye and the human body.

Today gluten is found in just about all processed foods -- not just in the wheat based breads or pastries that you would obviously suspect, but in other products like soy sauce, salad dressing and even seasonings! Wheat is used as a thickener for sauces and gravies, and because it is so cheap and easy to come by it is used in a myriad of personal care products as well. It is more challenging than you would imagine to find hair care products, make-up, lotions and body washes that do not contain gluten. Long story short, our culture has been inundated with gluten in a way that is not natural and has never happened before in our history.

Is gluten bad for you? My short answer is a little vague; it depends. I don’t think that almonds are bad, but for people with an allergy to tree nuts, they can prove to be very problematic. There is plenty of research showing that for people with CD or NCGS, gluten containing products are harmful to their health, whether or not they are symptomatic on a daily basis. Recent studies have also found a strong

connection with neurological disorders and a reaction to gluten, Celiac or not. One thing I am certain of is that many people report feeling much better on a gluten-free diet, both physically and mentally. Whether this is because they are having an immune reaction to gluten, or whether it is simply due to the fact that eliminating gluten often means eliminating a lot of processed food, it's hard to say. The only way to know for sure is by getting tested to see if you are the one in 133 people with Celiac Disease or the one in four with Non-Celiac Gluten Sensitivity.