



Gluten-Related Disorders – *The Silent Epidemic*

“ *Celiac Disease, an autoimmune condition, is one of the most common life-long disorders in both Europe and the United States*

— New England Journal of Medicine 348; June 19, 2003

Celiac Disease and Non-Celiac Gluten Sensitivity (NCGS) are on the rise in the U.S. It's now thought that gluten-related disorders affect nearly 10% of the population.¹ We don't know all the reasons for this reported increase in diagnosed cases, but we do know that a protein found in grains called *gluten* is most certainly a big part of the problem. According to some experts in the field, “*Non-celiac gluten sensitivity, a condition only recently recognized by the medical community, has become a commonly diagnosed entity*”.² In a world of full of “life-on-the-go”, easily accessible highly processed foods and a flood of media sound-bites offering “healthy advice”, it can be downright confusing and frustrating to make the right diet choices especially if you are suffering from the nagging symptoms of a chronic disease. But, it is not the end of the world if you receive a diagnosis of a gluten-related disease. It does mean however that your *relationship with food will never be the same*.

Types of Gluten Disorders

“ *Researchers believe that NCGS is the most common syndrome of gluten intolerance.*

— Journal of Clinical Nutrition 34 (2015)

We understand that all the different terminology can *make your head spin*, especially when you or a loved-one is suffering. Believe us, you are not alone — even the professional medical community uses different terms such as: wheat/gluten allergy, gluten sensitivity, gluten intolerance, celiac disease, non-celiac gluten sensitivity.

Here is how we simplify the terms and definitions:

- **Celiac Disease** - is an autoimmune disease where gluten is a primary trigger. It is clear that environmental factors and not solely the presence of the HLA-DQ haplotype genes (DQ2, DQ8) is involved in the likelihood of developing the disease. The gold standard for diagnosis requires the presence of small intestinal mucosal villous atrophy (flattened villi in the small intestine) and crypt hyperplasia (Marsh III), which is verified via a biopsy.
- **Non-Celiac Gluten Sensitivity (NCGS)** - is an immune reaction to gluten (specifically prolamines) found in grains (wheat, rye, barley, oats, corn, millet, rice, couscous, and others). Having gluten sensitivity is really the tip of the iceberg because it is now linked to over 200 other diseases, including a risk factor for Celiac Disease and hundreds of



autoimmune conditions. The best way to diagnose whether you are sensitive to gluten and if it is affecting your gut and other body tissues is through blood and HLA-DQ testing.

- **Wheat Allergy** - is also an immune reaction to a protein in wheat i.e., gluten. With most allergies, you have an acute reaction where the body responds fairly quickly (usually within 30 minutes of eating the food). Most of us are familiar with these kinds of reactions e.g., hives, skin rash, asthma, sneezing, diarrhea, itching and even Anaphylaxis (difficulty breathing) that may require a visit to the emergency room. You can also have a delayed allergic reaction, which can produce more complex immune responses and antibodies. According to the Centers for Disease and Prevention, food allergies are estimated to affect 4 to 6 percent of children and 4 percent of adults. The best way to diagnose whether you have a food allergy is either through a skin prick test or through blood testing.

We noted above the most common gluten-related disorders we see in our client and member population, but there are certainly others worth mentioning: wheat amylase trypsininhibitors, lectins (wheatgerm agglutinins), FODMAPS and non-immune nutritional deficiency complication.

Diagnosing a Gluten-Related Disorder

“ ... *It is now accepted that gluten sensitivity is a systemic illness that can manifest in a range of organ systems.*”

— Ann Neurol 2008; 64:332-343

On average, people with sensitivity to gluten or Celiac Disease don't realize they have a problem until much later in life — frequently ages 40-60 years. On top of that, delayed diagnosis is quite common because gluten-related disorders can be complex and usually present with a wide variety of symptoms that are challenging for the typical primary care doctor or specialist. So given this, there is often systemic inflammatory issues, literally a *fire of inflammation*, that has been going on for years in the gut and possibly other body systems/tissues. The long-term affects of gluten on the body for those with Celiac Disease or NCGS can lead to a wide-variety of health challenges including: gastrointestinal damage, autoimmune disease, brain/neuroendocrine dysfunction, liver damage, hormone disruption, vitamin and mineral deficiencies, and more.

Just remember, you may not have all the “classic” symptoms of Celiac Disease e.g., diarrhea, weight loss, abdominal pain and bloating, anemia, or know enough of your family history to be screened for any predisposing genetic factors, but that doesn't mean you can rule out the possibility.

Here is a simple rule-of-thumb diagnostic model and see if you respond “yes” to at least 4 of the 5:



1. A health history showing symptoms associated with a gluten-related disorder that don't seem to go away or have worsened over time
2. Positive blood markers commonly associated with gluten disorders e.g., anti-gliadin antibodies IgA/IgG and transglutaminase-2 antibodies IgA/IgG, and deamidated gliadins IgA/IgG
3. Positive genetic testing for HLA-DQ2 or DQ8 for Celiac Disease and/or HLA-DQ1 or DQ3 in the case of NCGS
4. A small intestine biopsy showing mucosal villous atrophy (flattened villi in the small intestine) and crypt hyperplasia (Marsh III); gold standard to confirm Celiac Disease
5. You experience some improvement of symptoms with a gluten free diet.

Causes of Gluten-Related Disorders

There is compelling evidence that other factors than simply eating gluten play an important role in the expression of gluten-related disorders. Time and time again, we see that the following triggers play a role in the development of NCGS and/or Celiac Disease:

- Food sensitivities (primarily gluten and other proteins that “mimic” gluten)
- Genetics (HLA-DQ2 & DQ8 for Celiac Disease and HLA-DQ1 & DQ3 for NCGD)
- Gut health (leaky gut, imbalances in microbiota, infections like Candida, yeast and bacteria overgrowth)
- Cesarean mode of delivery
- Lifestyle & Environment (stress, traumas, toxins, pollutants, etc.)

Why gluten is such a problem now for so many people? We have some thoughts on to share:

- **The 50/50 Rule** - there is a 50% increase in gluten content in food from 50 years ago
- **Modern Wheat Varieties** - are wildly different than more traditional varieties. In short, modern wheat is simply not the same plant it used to be
- **More Processed Food** - many wheat and grain products contain dough conditioners (bread products), preservatives, flour mixtures (including soy flour), processing by-products like acrylamide and hydrogenated oils
- **Reduced Oral Tolerance** - our immune system may not be as efficient in determining what is a good food and what is a bad food
- **Overuse of Pesticides** - seeds and grain are sprayed and stored in bins that contain harmful pesticides



- **More GMO Food** - processed food products and baked goods include high amounts of soy. Soy is the largest GMO crop in the U.S., about 94%, and there has not been enough research done on the long-term effects of GMOs in the diet. As of 2015, no GM wheat is grown commercially, although many field tests are being conducted
- **Existing Gut Issues & Compromised Microbiome** - many of us living in the U.S. or industrialized countries may have a variety of systemic gut issues and gluten is just another weak link in the chain. Conditions like dysbiosis (damaged gut flora) from overuse of antibiotics, low-nutrient diets and loss of diversity of our microbiota, are prime examples.

A Holistic Approach to Gluten-Related Disorders

Although there is no “magic bullet” or cure for gluten-related disorders, by avoiding food containing gluten, doing additional testing, getting a proper diagnosis and maintaining appropriate healthy behaviours, you may be able to relieve current discomfort you are experiencing as a result of gluten-related conditions. There are simple ways you can discover how gluten affects your body and how to thrive without gluten in your diet.

Here's are some helpful steps to follow when working with gluten-related disorders:

- **Do a gluten elimination diet for 30 days** – always start with the simplest area first and that is diet. If you are not sure if have an issue with gluten, the single best way to determine this is to remove it from your diet and see how your body feels without it. After 30 days, add some gluten back into your diet and compare how you feel. You can keep a food journal to help keep track of how your body feels when you eat, what your mood is like and your energy level.
- **Remove gluten from your diet** – when gluten is an issue, you need to be vigilant and remove [all gluten](#). This includes gluten hidden in least-suspecting processed food products and other [foods that are cross reactive with gluten](#), like dairy, yeast, coffee, quinoa, hemp and even chocolate.
- **Test for Celiac Disease or NCGS** – Another way to determine if you are gluten sensitive is to ask your doctor to order tests that especially look for: anti-gliadin antibodies IgA/IgG, transglutaminase-2 antibodies IgA/IgG, and deamidated gliadins IgA/IgG. We use [Cyrex Labs](#) for all our functional immunology testing because they do the most thorough testing of any lab we know when it comes to gluten. If you suspect Celiac Disease, you should get the genetic testing done and consider the small intestine biopsy, which is still considered by many to be the gold standard for a confirmed diagnosis.
- **Supplement your diet with key vitamins and minerals** – this will help to nourish the body if you've had malabsorption in the small intestine, in addition to slowly beginning the repair process. A recent study noted that, “87.5% of patients diagnosed had at least



1 vitamin or mineral deficiency”.³ We recommend adding some supplementation to your diet at least in the beginning: calcium, magnesium, Vitamin D & A, zinc, iron, folate and B₁₂ (a good B complex will do). We also suggest probiotics to help replenish good bacteria in the gut and licorice root to aid the intestinal lining. For chronic gluten-related disorders where tissue damage is more severe, other nutritional therapies may be recommended for an extended period of time and your health practitioner can help you with those. Always remember to read the labels on vitamins and supplements because they can contain gluten or corn gluten.

- **Evaluate symptoms and progress after 30-90 days of a dietary restriction program** – ask yourself how you feel being on a gluten-free diet and notice if symptoms have improved or not. Trust in your body intelligence; it usually let’s you know what is working or not.
- **Work with a functional health practitioner** - that can educate and mentor you in managing a healthy diet and lifestyle and assist with discovering any further hidden conditions.

After you go on a gluten-free diet, you may feel better in a few days, weeks or it may take several months; it all depends on your symptoms or health condition. Be patient with yourself because it is a learning process. You are retraining what may be a lifetime of eating habits. You will invariably make mistakes along the way e.g., forget to read the food label carefully, eat gluten at a family holiday meal, eat a contaminated food while at a restaurant, or be forced to eat a food because you are travelling. No worries. Just know you are on the right path and you will learn from your mistakes.

Sometimes, simply removing gluten entirely from the diet doesn’t improve a person’s symptoms completely. If this happens to you, don’t be frustrated. Often times it can take several years to repair damage to the gut lining and calm down other systemic issues (like inflammation). Also, you could have other more complex health issues going on in the gut such as Candida, bacterial and yeast overgrowth, parasites, and dysbiosis. Also, be careful of *cross-contamination* in the gluten-free foods you are eating. A recent study noted that, “*Gluten was detected in 25.8% of foods at levels ranging from 5.3 to 1566 ppm, with 19.4% of foods having a measured gluten content of greater than 20 ppm*”.⁴ For the overall food industry, these figures could be seen as acceptable, but if you have Celiac Disease or are extremely sensitive to gluten, this could trigger an immune cascade in your gut and lead to other symptoms.

If You Think You May Have a Gluten-Related Disorder

If you suspect that gluten or similar food sensitivities could be causing your current health conditions, you want to take steps to eliminate these from your diet. If you’d like to discover more about gluten and how it affects your body and how you can live an empowered and



healthy life on a gluten-free diet, by signing up for our [Wellness Foundations 1 & 3](#) programs where we will discuss your health goals and current challenges you are experiencing.

References

¹ Sapone A, Bai JC, Ciacci C, et al. Spectrum of gluten-related disorders: consensus on new nomenclature and classification. *BMC Med.* 2012;10:13.

² Leonard, M. M., & Vasagar, B. (January 01, 2014). US perspective on gluten-related diseases. *Clinical and Experimental Gastroenterology*, 7, 25-37.

³ Wierdsma, N., van, B. S. M., Berkenpas, M., Mulder, C., & van, B. A. (October 30, 2013). Vitamin and Mineral Deficiencies Are Highly Prevalent in Newly Diagnosed Celiac Disease Patients. *Nutrients*, 5, 10, 3975-3992.

⁴ Chemistry 169 (2015) 120-126. Sourced from <https://www.glutenfreewatchdog.org/news/gluten-contamination-in-labeled-gluten-free-foods/>

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