

WHAT IS GLUTEN?

Gluten is a sticky protein found in certain grains such as wheat, barley, rye, spelt, and kamut. Gluten, from the Latin for “glue,” is the adhesive material that holds the flour together to make bread. It gives bread dough its elasticity and baked goods their fluffiness and chewiness. It stops sauces and gravies from curdling and gives a smooth texture to cheese spreads, margarines, and mustard. Used as an additive and stabilizing agent in innumerable processed foods and personal care products, gluten has been an important commodity to manufacturers. So much so that here in the United States, we have hybridized our grains to contain even more gluten. Why else do we love it? The inherent presence of what are called *exorphins* in grain (morphine-like compounds) make gluten-containing grains quite addictive and place many in frank denial of the havoc it can wreak.

HOW DOES GLUTEN CAUSE PROBLEMS?

Food sensitivities are usually a reaction from our immune system or a result of the body's lack of proper enzymes to digest the foods. The very “glue” property that gives gluten its name is what interferes with the breakdown and absorption of our nutrients when it's ingested. The undigested, constipating lump of paste in your gut then triggers your immune system to attack the lining of your small intestine, which can cause symptoms such as diarrhea, constipation, nausea, and abdominal pain. Some people don't experience overt gastro-intestinal symptoms, but the immune assault shows up elsewhere. When a body reacts to a food, it sends out inflammatory messenger proteins to tag the food particles as enemies. The immune system then sends out more inflammatory chemicals (killer cells, e.g.) to trigger the final eradication. These inflammatory chemicals often damage our tissue in the process and leave us with a "leaky gut" that sets up the possibility of further food sensitivities in the future. After repeated inflammation, we are also at risk for developing any autoimmune disease.

Another grain protein of concern is lectin. Lectins are a defense mechanism for the grass, designed to ward off the natural enemies such as fungi and insects. Unfortunately, this protein is also very resistant to breakdown by living systems and it easily accumulates in our tissues, where it then acts as an anti-nutrient. Lectins can cross the gut mucosa and blood brain barrier, interfere with gene expression, disrupt our endocrine system, and even mimic certain viruses!

WHAT IS THE GENETIC PIECE OF GLUTEN INTOLERANCE?

The most severe reaction to gluten is an autoimmune condition called *celiac disease* or sprue. A conservative estimate is that 1 in every 200 people suffers from celiac disease – this could be closer to 1 in 30, since many are still undiagnosed. New research estimates that one in four people are genetically vulnerable to celiac disease, especially if s/he has northern European ancestry. Researchers are finding that many people carry

partial genes for gluten intolerance and there is a whole range of gluten sensitivity. It is believed that once the genes are triggered, it is a lifelong condition that can show up in the gut, skin (dermatitis herpetiformis), mucus membranes, or as blisters in the mouth. The rise in gluten sensitivity is believed to be due to the increased consumption of gluten, sugar, and pro-inflammatory foods, as well as the rise of environmental toxins. Our modern Western diet as well as hybridized and GMO grains are all culprits in this expanding problem. For most of the past 2.6 million years, our hunter-gatherer ancestors' diets consisted of wild game, root vegetables, and berries. The grain that first entered our diet about 10,000 years ago bears little resemblance to the grain we grow and consume today. While our DNA and our biology have changed little since the time of our ancestors, our food chain has changed rapidly over the past 50 years. Genetic bioengineering and food processing have created strains of grains that contain up to 40 times the gluten of grains in the 1950s.

HOW DO YOU TEST FOR GLUTEN INTOLERANCE?

Diagnosing gluten sensitivity has been difficult and met with much controversy in the medical establishment. Many celiac patients suffered for decades as they went to medical doctor after medical doctor. There are blood tests and small intestine biopsies, but these often give false negatives unless the patient's condition is severe. However, 10 years ago new cutting-edge tests were developed that are accurate. Applied Kinesiology or muscle testing can also be used for all food sensitivities. However, one will test "weak" to gluten if one has any degree of sensitivity. It does not discern if there is a true genetic sensitivity. We recommend the blood or stool testing performed at 2 labs: Entero Labs and Cyrex Labs (see our Links section for their info). These labs have panels to look for gluten antibodies in addition to genetic testing.

WHAT ARE THE SYMPTOMS OF GLUTEN INTOLERANCE?

Gluten is like the "poison ivy of food" -- a few people can tolerate it just fine and the rest have varying degrees of symptoms. Depending on one's genetic make-up, life stressors, immune system status, and the amount of gluten consumed, the damage gluten can cause each person is on a wide spectrum. However, here is a list of symptoms/illnesses that can be related to gluten intolerance:

- Digestive disturbances (gas, bloating, diarrhea, constipation, cramping, etc.)
- Irritable bowel syndrome
- Malabsorption of food
- Nausea/vomiting
- Delayed growth
- Hives/rashes
- Brain fog
- Neurological disorders (dementia, Alzheimer's, schizophrenia, etc.)
- Seizures/epilepsy

- Ataxia, loss of balance
- Constantly getting sick
- Chest pain
- Dairy intolerance
- Sugar cravings
- Bone pain/Osteoporosis
- Heart disease
- Anxiety/depression
- ADD
- Infertility
- Miscarriages
- Migraines
- Autism
- Alcoholism
- Cancer
- Parkinson's Disease
- ALS
- Autoimmune disorders (Diabetes, Hashimoto Thyroiditis, Rheumatoid Arthritis, to name a few)

WHY IS GLUTEN-FREE ALL THE RAGE?

If you're wondering why gluten seems to be center-stage these days, it is because more and more people are being diagnosed or just realize that they feel better without wheat. 15-25% of Americans are now looking for Gluten Free options. And yes, the gluten free movement does seem like a fad. However, many "revolutionary" ideas often start out that way. Once upon a time, talking about the adverse health effects of smoking seemed a new fad too.

GOING GLUTEN FREE

When most people hear then can no longer have gluten, there are usually 3 things that go through their heads: 1) I can't give up bread, 2) It's going to be too hard, and 3) What can I eat if I can't eat bread? The good news is that many gluten-free options are now available and restaurants are much more aware of gluten. The bad news is that this explosion of gluten-free products is producing many food items loaded with sugars and processed ingredients. Products that never had gluten are labeled "Gluten Free" solely as a marketing tool. So it is a buyer-beware market and will get worse over time. Although health food stores generally have better quality food, this is where most of the "gluten free" junk can be found. Choose "real" foods (unprocessed and unadulterated) as much as possible.

GUIDE TO AVOIDING GLUTEN

Grains and starches that have gluten:

- Wheat
- Wheat germ
- Wheatgrass
- Rye
- Barley
- Bulgur
- Couscous
- Farina
- Graham flour
- Kamut
- Matzo
- Seitan
- Semolina
- Spelt
- Triticale
- Oats (unless certified GF)
- Oat bran (unless certified GF)

Grains that are gluten-free

- Amaranth
- Arrowroot
- Buckwheat
- Corn
- Millet
- Potato
- Quinoa
- Rice
- Sorghum
- Soy
- Tapioca
- Teff

Foods that often contain Gluten:

- malt/malt flavoring
- soups
- bullion and broths (commercial)
- processed food mixes
- cold cuts
- French fries (often dusted with flour before freezing)
- processed cheese (like Velveeta)
- mayonnaise
- catsup
- malt vinegar
- soy sauce, teriyaki and other sauces
- salad dressings
- imitation crab meat, bacon, etc
- egg substitute
- tabbouleh
- non-dairy creamer
- fried vegetables/tempura
- gravy
- marinades
- canned baked beans
- packaged cereals, even corn cereals
- commercially prepared chocolate milk
- breaded foods
- fruit fillings and puddings
- gum
- hot dogs
- ice cream
- root beer
- syrups
- seitan
- wheat grass
- instant hot drinks
- meatballs, meatloaf
- communion wafers
- natural flavoring
- beer

- shampoos
- cosmetics
- lipsticks
- children's Play-Doh
- medications
- non self-adhesive stamps and envelopes

Foods that may contain gluten -- check labels:

- Brown rice syrup (made be made with barley)
- Dry roasted nuts (may be processed with wheat)
- Modified food starch (check label for wheat)
- Hydrolyzed vegetable protein (HVP)
- Hydrolyzed soy protein
- Caramel color (frequently made from barley)
- Blue cheese (many are fine but not all)
- Dextrin (usually made with corn, but may be derived from wheat)
- Modified food starch (label will say wheat)
- Vitamins and supplements (check label)

The key to understanding the gluten-free diet is to become a good at reading labels. Foods with suspect ingredients should not be consumed. New labeling laws state that if wheat is used, it must be on the label. If a product is manufactured in a plant that also handles wheat, it should be avoided. If in doubt, contact the company. Beware of cross contamination (ex. sharing a toaster or cutting board with someone who does eat gluten). Also, many restaurants now have gluten-free menus; unfortunately, however, not all staff members have been educated. So stay aware, ask questions, and if in doubt, ask the chef.

All of us would benefit from eating less gluten, but for those who have gluten intolerance, it is imperative to be 100% gluten free. It is a lifestyle change! And it often takes time to research and investigate and educate until you can navigate the gluten free world. Even though there is so much more gluten awareness, we still live in a world where gluten is used and sold everywhere. Most people who make the switch soon feel so much better that the trade-off is well worth it.

Additional resources:

www.CeliacCentral.org
www.myGlutenFacts.com
www.GlutenfreeSociety.org
www.TheGlutenSyndrome.net

Please visit <http://www.healthspringholistic.com/glutenfreerecipes.aspx> to see our Gluten-Free RECIPES.