

Gluten Free – Food Sensitivity

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What is Celiac Disease?

- 1 in 133 Americans
- Over 3 million in the U.S.
- Typical 9 years of seeking treatment before being diagnosed
- 90% misdiagnosed/under-diagnosed
- Most common genetic disease
- 20% of cases patients who are referred to a gastroenterologist for any reason have celiac.

Who Gets Celiac Disease?

- Until 1980's, celiac disease was almost exclusively diagnosed in children between 2-8 years old
- Currently the average age of diagnosis in the US is 50 years!
- 2/3 diagnosed are female
- Face doubled mortality rate
- Only treatment is lifelong, strict gluten free diet

Terminology

- Wheat – one of several grains made up of gluten, albumin, and globulin proteins
- Gluten – protein complex found in wheat, rye, barley, spelt, triticale
- Gliadin – one of two proteins in gluten
- Antibodies – proteins produced by the immune system to attack invaders

Gluten Pathologies

- Celiac Disease
- Wheat IgE allergy
- Gluten IgG allergy
- Gluten Intolerance
- Wide range of clinical presentations

Celiac/Gluten Intolerance

- Can also manifest as:
- overweight /underweight
- low thyroid
- constipation
- Irritable bowel syndrome
- Esophageal reflux – heartburn
- Vomiting

Other Manifestations

- Dermatitis Herpetiformis: Itchy skin rash on elbows, knees, ankles, back, hands
- Osteoporosis
- Infertility
- Iron deficiency
- Failure to thrive in children
- Short stature

Common Women's Health Symptoms of Celiac

- | | |
|--|--|
| ■ <input type="checkbox"/> <input type="checkbox"/> Osteoporosis | ■ <input type="checkbox"/> <input type="checkbox"/> PCOS |
| ■ <input type="checkbox"/> <input type="checkbox"/> Iron deficiency anemia | ■ <input type="checkbox"/> <input type="checkbox"/> Hashimoto's |
| ■ <input type="checkbox"/> <input type="checkbox"/> Infertility | ■ <input type="checkbox"/> <input type="checkbox"/> Graves |
| ■ <input type="checkbox"/> <input type="checkbox"/> Late menarche | ■ <input type="checkbox"/> <input type="checkbox"/> Poor outcomes in pregnancy |
| ■ <input type="checkbox"/> <input type="checkbox"/> Amenorrhea | ■ <input type="checkbox"/> <input type="checkbox"/> Early Menopause |
| ■ <input type="checkbox"/> <input type="checkbox"/> Migraines | ■ <input type="checkbox"/> <input type="checkbox"/> Acne-DH can look just like facial acne |
| | ■ <input type="checkbox"/> <input type="checkbox"/> Depression, Anxiety |

Not just GI

- Fewer than ½ of people ultimately diagnosed with celiac disease reported gastrointestinal (GI) symptoms on initial presentation



Diagnosis

- Since celiac disease is genetic relatives of people with celiac should be tested even if no symptoms!
- Celiac Blood Panel – while the person is still eating gluten!
- Testing is tricky. It is possible that someone may have the disease and all blood tests come back negative
- You can be negative for celiac and still have gluten intolerance

Diagnosis: Celiac Panel

- Tissue Transglutaminase IgA
- Antiendomysial antibody (IgA) and/or Antitissue transglutaminase antibody
- Anti-gliaden IgG and IgA
- Gold standard – confirmatory: biopsy of small intestine



What about Genetic Testing?

- Excellent for EXCLUDING celiac disease but terrible for diagnosing it
- DQ2 + 79% celiac, 30% general population
- DQ8 +: 12% celiac, 7% general population
- DQ2 & DQ 8 +: 95% celiac, 5% general population
- DQ2 & DQ 8 -: 0.1% celiac, 64% general population

Poor digestion in Celiac Disease

- Villous atrophy – reduced absorption, reduced enzymes
- Increased immune reaction produces antibodies
- Gliadin impairs motility (movement) of intestines
- Induces dysbiosis – harmful bacteria
- Excessive turnover of cells depletes protein along with protein malabsorption

Long term

- Cancer risk increases, especially lymphoma but also cancer of esophagus, small bowel, orthopharynx
- Malnutrition/malabsorption
- Lactose intolerance common
- Reproductive complications
- Other autoimmune diseases – thyroiditis, Type 1 diabetes

Wheat Allergy – Not Celiac

- IgE allergy to albumin or globulin proteins
- Test – scratch, RAST, ImmunoCAP test
- Symptoms –nausea, vomiting, abdominal pain, runny nose, hives, eczema, edema, asthma
- 6 million Americans

Wheat Free/ Gluten Free

- Wheat free is NOT the same thing as gluten free – could still have rye, barley, etc
- “Wheat free” is for people with wheat allergies



Gluten Intolerance

- Not caused by immune system,
- May effect up to 40% of Americans
- Do NOT test positive with other tests yet respond to gluten in diet
- Gluten molecule very hard to digest and similar to viral and bacterial proteins
- Like lactose intolerance, may be more of a digestive issue than immune problem
- Diagnosis is trial of gluten free diet

Gluten Intolerance

- Functional disorder
- Similar symptoms as others
- Mediated by other antibodies
- Gluten free diet recommended
- 25-40 million Americans



Gluten Free Diet – Gluten Intolerance and Celiac Disease

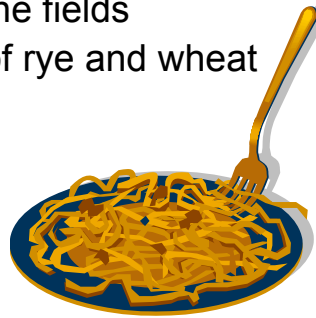
- What to INCLUDE:
- All fresh fruits and vegetables
- Meats, chicken, fish, eggs, beans/legumes, lentils, nuts, seeds, flaxseed
- Grains: Millet, buckwheat, amaranth, quinoa, rice, rice, bran, corn, soy
- Safe for many: gluten-free oats in small amounts

Gluten Free Diet

- What to EXCLUDE:
- Wheat, rye, triticale, barley, spelt
- Dairy initially due to digestive damage because gluten impairs lactase function
- Oats initially – contain a similar protein and crossover can occur
- Test after 1 month of stability on gluten free diet

Gluten Containing Grains

- Wheat
- Rye
- Barley
- Oats do not contain gluten but they are contaminated in the fields
- Triticale- blend of rye and wheat
- Bulgur
- Semolina
- Cous cous



Other food sensitivities

- Lots of co-existing food intolerances in celiac disease: lactose, soy, fructose, etc
- Lactose intolerance found in 30-60% of newly diagnosed
- Caused by intestinal injury in untreated Celiac disease
- Fructose intolerance increasingly common cause of GI symptoms
- Take out for 2 weeks - challenge

Other Food Sensitivities

- Keep a food diary – note symptoms
- Symptoms can be delayed up to 2 days
- Remove suspected foods
- READ ALL LABELS!
- Remove suspected foods for at least 2 weeks
- Challenge with suspected food: 2-3 servings in a day
- Note symptoms

Hidden Gluten Sources

- Other names for wheat: semolina, durum flour
- Soups, bouillon, breading, salad dressings, soy sauce, salad dressing, seasonings, processed meats like sausage, hot dogs, lunch meats
- Candy
- Medications – ask pharmacist
- Processed cheese

Labeling Laws

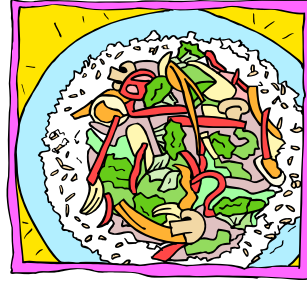
- The Food and Drug Administration (FDA) requires food manufacturers to list common food allergens on labels in simple terms adults and older children can understand. While not every possible food that can cause a food allergy is listed, these eight foods account for most food allergies. Foods included in the labeling requirements are:
 - **Milk**
 - **Eggs**
 - **Peanuts**
 - **Tree nuts (such as almonds, cashews, walnuts)**
 - **Fish (such as bass, cod, flounder)**
 - **Shellfish (such as crab, lobster, shrimp)**
 - **Soy**
 - **Wheat (Not rye or barley)**

Gluten-Free Lifestyle

- 90% of all processed foods in the United States contain gluten
- Gluten free specialty foods are on average three times more expensive
- Higher in carbohydrates with fewer nutrients.
- Diet must be lifelong. You do not outgrow celiac
- Gluten free products fastest growing section of the food industry

Gluten-Free Grains

- Brown rice
- Montina
- Teff
- Wild rice
- Millet
- Oats- Special oats only
- Quinoa
- Corn
- Amaranth
- Sorghum (may cause gas)



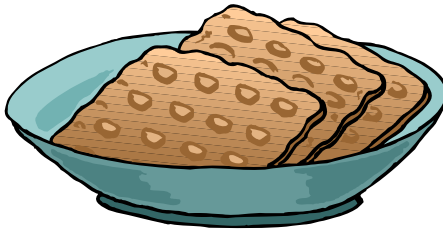
Gluten Free Diet

- Distilled liquors: scotch, whiskey, bourbon, etc) do not contain gluten due to distillation process – no beer!
- Gluten-free beers are available
- Wine, balsamic, rice, cider vinegar are OK – NOT malt (barley) vinegar
- Vanilla is gluten free



Gluten-Free for Life!

- Must be 100% compliant for life.
- One eighth of a cracker daily will maintain full blown villous atrophy.
- Doubled mortality rate if not gluten free in celiac disease



Going Gluten Free Initially

- Healing Crisis – symptoms may worsen before improving
- Can take up to 3 weeks of strict adherence for results
- Can take up to one year to improve skin conditions
- Small amount of gluten can cause return of symptoms for 24-48 hours

Celiac Disease

- 50% have nutrient deficiencies after one year of diet
- Common deficiencies: iron, vitamin B12, B6, Folic acid, Calcium, Magnesium, Copper
- Recommended standard labs:
- CBC, Vitamin D, B 12, Folate, Ferritin, Lipids, TSH (thyroid)

Nutritional Adequacy

- The gluten-free diet can be nutritionally adequate
- Must pay close attention to: Fiber, B vitamins, Iron and Calcium
- Consider gluten-free vitamin/mineral supplement, calcium and vitamin D supplements as well

Gluten Free Fiber

- Metamucil Regular, Metamucil Smooth, Citrucel, Konsyl
- Grams of Fiber/cup:
- Buckwheat: 12 grams
- Amaranth: 18 grams
- Corn Meal: 10 grams
- Wild rice: 9 grams
- Quinoa: 6 grams
- Garbanzo/pinto/lentil beans: approx. 13 grams

Tips for going Gluten-Free

- Experiment with legume flours: garbanzo/chickpea, lentil, pea
- Nut flours: almond, hazelnut, pecan
- Make a big pot of brown/wild rice at the beginning of the week to use all week
- Try quinoa and quinoa pasta
- Amaranth and buckwheat are high in fiber

Tips for Gluten Free

- Stay positive you'll feel better once you start to heal your digestive system
- Get organized – dedicate one area to gluten free if sharing a space
- Become a label reader
- Join a support group
- Educate yourself
- Plan ahead – vacations, restaurants, dining with friends

Tips for Eating Out

- Lots of gluten free offerings on restaurant menus: Beau Jo's, Chez Jose, Chipotle, Maggiano's Little Italy, Outback Steakhouse, PF Chang's, etc.
- Call restaurant and speak with chef
- Order plain foods: meats, potatoes, vegetables. Specify "no gluten"

Tips for Eating Out

- Leave off sauce unless guaranteed it has no gluten
- Bring your own gluten free soy sauce, bread, etc
- www.triumphdining.com has restaurant cards to bring to restaurants

Resources

- Gluten Intolerance Group of North America www.gluten.net
- Celiac Disease Foundation www.celiac.org
- www.celiac.com (safe/unsafe list)
- www.glutenfree.com
- www.livingwithout.com
- www.forums.glutenfree.com

Resources

- **Gluten-Free Diet: A comprehensive Resource Guide** by Shelley Case
- **Living Gluten Free for Dummies**
- **1,001 Gluten Free Recipes** by Carol Fenster
- **Cooking Free** by Carol Fenster
- **Food Allergies and Food Intolerances** by Brostoff and Gamlin
- **Magazines: Living Without and Gluten Free Living**

■ **Let's Get
Cooking!**

