

Gluten-Free Diets

Topic of the Month: August 2015

What is Gluten?

Gluten is a protein composite found in wheat, barley, and rye. It gives bread its chewiness and is often used as a meat substitute. In certain individuals, the ingestion of gluten-containing products may cause:

- Celiac disease (an autoimmune response);
- Wheat allergy (an allergic reaction); or
- Gluten sensitivity (an immune-mediated reaction). (1)

While these responses are very different, they may cause similar symptoms.

How do people know if they have.....

❖ Celiac Disease?

In celiac disease, gluten sets off an immune response in the small intestine that can cause inflammation, damaging the lining over time and preventing absorption of certain nutrients. Typical symptoms of celiac disease are chronic diarrhea, weight loss, anorexia, abdominal distension, anemia and perhaps even vomiting or constipation. To determine if these symptoms are caused by celiac disease, a blood test for the presence of celiac disease antibodies, along with a biopsy of the small bowel, is required. There is no cure for celiac disease; therefore, following a life-long gluten-free diet is necessary to prevent damage to the small intestine lining. Approximately 1% of the US population has celiac disease. (1)

❖ Wheat Allergy?

Wheat allergy causes classic food allergy symptoms, affecting the skin, gastrointestinal tract and/or the respiratory tract, and can possibly result in anaphylaxis in certain people. A skin prick test or a blood test for the presence of IgE antibodies to wheat proteins (not just gluten) is used to diagnose a wheat allergy. Wheat allergy is mainly found in young children. About two-thirds of those with a wheat allergy *will outgrow it* by age 12. (2) People with wheat allergy are often not allergic to other grains such as barley and rye. For those people, a wheat-free diet requires fewer restrictions than a gluten-free diet, since only wheat must be avoided.

❖ Gluten Sensitivity?

Gluten sensitivity refers to those who experience symptoms when consuming gluten-containing products. Gluten sensitivity has similar symptoms to celiac disease, but there are no diagnostic biomarkers and the small intestine is unharmed. If celiac disease and wheat allergy have been ruled out, and a gluten-free diet significantly improves symptoms, the individual may have gluten sensitivity. It is estimated that 6-7% of the US population meet criteria for a gluten sensitivity diagnosis. (1) A gluten sensitivity diagnosis remains controversial, since there are no known biomarkers, so is based on perceived improvement of symptoms after eliminating

gluten from the diet. Recent research studies have not shown significant differences in symptoms in individuals with a gluten sensitivity diagnosis when challenged with diets with and without gluten. (3) (4)

Why are people without symptoms choosing a gluten-free diet?

Two popular health claims of gluten-free diets are **weight loss** and **increased energy**. These claims have been fueled by many celebrity endorsements and heavy advertisement by food manufacturers. “Gluten-free” is a big industry: sales of gluten-free products are expected to reach \$15 billion by 2016. (6) The media hype, celebrity endorsements and marketing have led to many consumers thinking that a gluten-free diet is healthier.

In a study in which shoppers were asked why they buy gluten-free products, 35% said they thought gluten-free products are “**generally healthier**”, 27% said “**to manage my weight**”, and 21% said that gluten-free products are “**generally low carb**”. Only 15% said a member of the household had a gluten intolerance or wheat allergy. (5)

Does a gluten-free diet promote weight loss?

There is no scientific evidence to show that eliminating gluten promotes weight loss. Many gluten-free products have the same, if not more calories, than products with gluten. Some people may experience weight loss once initiating a gluten-free diet, but it is probably due to a reduction in the amount of processed or other high-calorie foods they consume.

Is a gluten-free diet healthier?

There is no scientific evidence that adopting a gluten-free diet is healthier. In fact, it may lead to nutritional deficiencies. But for some people it may be healthier depending on their diet before, and what food choices they make while eating gluten-free.

What are the potential nutritional risks of eating a gluten-free diet?

Following a gluten-free diet may result in eating fewer grain products, such as bread and pasta, which are enriched with nutrients, possibly leading to deficiencies in iron, calcium, thiamine, riboflavin, niacin and/or folate. (5)

Additionally, whole grain breads and cereals are a good source of dietary fiber. Many people on a gluten-free diet tend to consume inadequate amounts of fiber, which may lead to constipation.

Another important consideration in choosing a gluten-free diet is cost. Gluten-free products that are made to mimic gluten-containing products (e.g., gluten-free bread or gluten-free flours) are usually more expensive.

Does a gluten-free diet help with ADHD or autism in children?

It is a common myth that a gluten-free diet improves children’s behavior, similar to the myth that sugar causes hyperactivity. There is no scientific evidence showing an improvement in ADHD symptoms in

healthy children following a gluten-free diet. However, children who are diagnosed with celiac disease, and adopt a gluten-free diet, do often see improvement in ADHD symptoms. (3)

Studies with children with Autism Spectrum Disorder have not shown that a diet free of gluten and casein resulted in any significant improvements in behavior or language development. (3)

Things to consider when counseling a participant who chooses a gluten-free diet...

❖ Explore the reasons they've chosen a gluten-free diet.

What symptoms, if any is/was she or her children experiencing? Have symptoms improved on the gluten-free diet? Stayed the same? What other health benefits does she hope to achieve?

If participants are experiencing severe intestinal issues, *refer them to their health care provider* who may want to test them for celiac disease, or explore other reasons for their symptoms. If they are pregnant, they should discuss following a gluten-free diet with their health care provider; if they are restricting gluten in their child's diet, a discussion with the child's doctor may be warranted.

❖ Assess diet adequacy.

During the nutrition assessment, explore the types of foods being eliminated from the diet.

- Is the diet actually gluten-free?
- Are they eating gluten-free grains such as brown rice or quinoa?
- Are they purchasing gluten-free substitutes such as rice crackers or gluten-free flour?
- Are these products fortified?
- Is their diet low in all grain products due to the gluten-free diet regimen?

If severe dietary restrictions are being followed, document risk code [427B](#) or [425E](#), "Consuming a diet very low in calories and/or essential nutrients".

❖ Encourage healthy eating habits.

After a complete assessment, affirm the participant wanting to eat a healthy diet. Ask permission to share some information about gluten-free diets. Some key points that you might share, depending on participant interest and the diet assessment, include:

❖ Provide guidance to meet Dietary Recommendations.

If they have been following a gluten-free diet, and have noticed improvement in symptoms, (even if it is a placebo effect), they may be motivated to continue following a gluten-free diet, and may be convinced that a gluten-free regimen will provide relief from symptoms. In this case, provide guidance to help meet nutritional needs.

- Assess understanding of "gluten-free" foods. Wheat-related products include bulgur, durum, semolina, farina, graham flour, triticale and spelt. Malt often originates from barley.

- Check that the oats product specifically states “gluten-free” because they are often cross-contaminated during processing. Some people are not able to tolerate gluten-free oats either.
- Many processed foods -- such as some hot dogs, lunch meats, rice mixes, vegetables in sauces, soups, french fries, salad dressings, ice cream and candy -- contain gluten since it is often used as a food thickener.
- Provide guidance on reading labels. Encourage them to look for “gluten-free” on the label or, ideally, to check the ingredients list for gluten-containing foods. Continue to check labels since manufacturers change ingredients.
- Discuss healthy grains that do not contain gluten such as brown rice, rice, quinoa, cornmeal, gluten-free oatmeal, and gluten-free flours.
- Encourage fruits and vegetables as snacks instead of purchasing gluten-free snack foods.
- Use the **WIC Shopping Guide** to point out WIC foods in the grains category that are gluten-free. Gluten-free cereals are noted: Corn Chex, Rice Chex, and Cream of Rice. Cheerios and Multi-grain Cheerios were recently reformulated to be gluten-free. Gluten-free whole grain choices include corn tortillas and brown rice.

❖ **Support their motivation to change.**

If their reason for following a gluten-free diet is for some other health reason, such as weight loss, use this as an opportunity to support their motivation for positive change. Focus on the “change talk”.

- Encourage the participants to share the changes they’ve made in their diet due to going “gluten-free”.
- Point out the positive things that may be resulting in the desired change.
- Guide them towards healthy gluten-free alternatives if they don’t have adequate grain intake. Possibly encourage retesting gluten sensitivity, if they might be open to this.
- Help participants focus on the positive changes and set goals to continue improving their health.

❖ **Document and provide follow-up.**

Document in the participant chart that a gluten-free diet is being followed so that an assessment of dietary adequacy and follow-up discussion can occur at the next education contact.

- If appropriate, encourage them to retest their sensitivity to gluten by introducing a whole grain, such as whole wheat bread, after a period of gluten-free to see if symptoms change. (if no celiac diagnosis)

References

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5. [UW Health The Reality Behind Gluten-free Diets.](#)
6. [NYTimes Food-industry-wagers-big-on-gluten-free.](#)
7. Characterization of Adults with a Self-Diagnosis of Nonceliac Gluten Sensitivity. [Biesiekierski JR](#)¹, et.al. *Nutr Clin Pract*. 2014 Apr 16; 29(4):504-509.
8. [Celiac.org](#) "What Can I Eat"
9. [Food allergy.org](#)