

Gluten-Free Diet Guide

Fact Sheet No. 9.375

Food and Nutrition Series | Health

by J. Haas, L. Bellows, and J. Li*

What is Gluten?

Gluten is the general name for one of the proteins found in wheat, barley and rye. Gluten containing foods can be part of a healthful, balanced diet; however, some people may suffer from conditions, which may require elimination of gluten from the diet.

There are three common medical conditions associated with gluten that susceptible individuals may encounter—celiac disease, gluten sensitivity, and gluten intolerance. These conditions are all commonly used to describe individuals with adverse physiological conditions related to gluten. It is harmful for someone with celiac disease to eat foods that contain gluten. It is not recommended, however, that individuals who do *not* suffer from one of these conditions follow a gluten-free diet.

What is Celiac Disease?

In people with a genetic susceptibility, celiac disease results from eating gluten, which triggers an immune response to attack the lining of the small intestine. The process may also damage other areas of the body. Damage to the small intestine interferes with absorption of nutrients and increases the risk for diseases like bone disease, anemia and intestinal cancer. Right now, the only effective treatment for celiac disease is a lifelong, gluten-free diet.

*J. Haas, Colorado State University Extension specialist, and research associate; L. Bellows, Extension food and nutrition specialist, and assistant professor; and J. Li, former graduate student. 3/2014

What is Gluten Sensitivity?

Non-celiac gluten sensitivity is used to describe people with non-specific symptoms such as nausea, abdominal cramps, or diarrhea after eating gluten. Gluten sensitivity involves an immune reaction to gluten. However, unlike celiac disease, that reaction does not involve the production of damaging antibodies that cause intestinal damage.

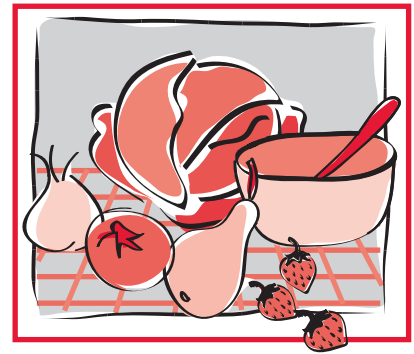
What is Gluten Intolerance?

Gluten intolerance is commonly used to describe individuals who have symptoms after eating gluten, and who may or may not have celiac disease. Similar to gluten sensitivity, these symptoms may include nausea, abdominal cramps, or diarrhea.

Diagnosing Gluten Intolerance, Gluten Sensitivity or Celiac Disease

If you experience these symptoms when consuming gluten, you should consult a doctor before eliminating gluten from your diet. There may be an underlying medical condition, for which a gluten-free diet is not the treatment.

If you have just been diagnosed with celiac disease, gluten sensitivity, or gluten intolerance, you may be feeling confused, stressed and concerned about diet changes. This is normal, but this step-by-step guide can help you through the first days of your gluten-free life. The damage caused by celiac disease is reversible, and you will often feel better within a few weeks. The day-to-day reality of following a gluten-free diet is challenging



Quick Facts

- Gluten is a storage protein found in wheat, barley, and rye.
- Celiac disease is a genetic disease where gluten in the diet causes the immune system to attack the cells in your own body.
- The only treatment for celiac disease is a lifelong, gluten-free diet.

© Colorado State University Extension. 3/09. Revised 3/14.

www.ext.colostate.edu



in the beginning, but it can be done and will get easier with practice. Even if you don't feel sick after eating gluten-containing foods, you can still damage your body. While avoiding gluten-containing foods may seem difficult at first, it is easy to identify them once you are familiar with their names. To get started, see the list of gluten-containing foods and ingredients provided at the end of this fact sheet (List 1). Take the list with you when you shop or eat out.

10 Steps to the Gluten-Free Diet

Switching to a **gluten-free diet** can be difficult in the beginning. Following these 10 steps can make the changes easier.

Step 1. Identify Naturally Gluten-Free Foods at Home

Many foods are naturally gluten-free. Before you buy expensive store-bought gluten-free breads and cereals, look in your kitchen cupboards and refrigerator for the following items. Note that 'Plain' refers to no additives.

- Fresh fruits
- Fresh beef, pork, chicken, turkey, fish, and seafood
- Fresh eggs
- Fresh, plain milk, butter, margarine, cream
- Plain beans
- Plain corn
- Plain white rice, brown rice, wild rice
- Plain nuts and seeds
- Oils
- Sugar, honey, molasses
- Spices and herbs

Step 2. Identify Gluten-Free Packaged Foods at Home

Next, take out all of the packaged foods with food labels and put them on your kitchen table. Some packaged foods have gluten hidden in the ingredients. A list of Common Sources

of Hidden Gluten is provided for you at the end of this fact sheet (List 2). Read the ingredient lists. If you find any sources of gluten in the ingredients, do not eat that food. You can either get rid of the gluten-containing foods or place them in a separate part of the cabinet so others in the household can eat them. Labeling laws now require wheat ingredients to be clearly labeled, however this does not necessarily mean the food is gluten-free. A gluten-free label, on the other hand, identifies a food that is safe to eat.

Step 3. Plan One Week's Menu around Naturally Gluten-Free Foods

Looking for a place to start? Try these suggestions:

Breakfasts

- Cream of rice cereal with fresh fruit or nuts
- Cottage cheese or yogurt with fresh fruit
- Scrambled eggs, bacon and fresh fruit
- Egg, cheese, and vegetable omelet with potatoes and fresh fruit

Lunches and Dinners

- Baked potato with cheese and vegetables
- Corn tortillas with stir-fried meat and vegetables
- Stir-fried meat and vegetables with rice and wheat-free tamari
- Bean-and-cheese burritos made with corn tortillas
- Grilled meat or fish, baked potato and vegetables

Snacks

- Plain rice cakes with cheese or peanut butter
- Nachos made with plain corn chips, cheese and salsa
- Celery sticks with cream cheese or peanut butter
- String cheese
- Plain popcorn with oil and salt
- Fresh or canned fruit with yogurt or ice cream

Step 4. Make a Gluten-Free Shopping List

After you have planned your one week's menu, make a gluten-free shopping list for foods you wish to buy. See sample Gluten-Free Shopping List (List 3) at the end of this fact sheet.

Step 5. Read Food Labels Every Time You Buy

Some, but not all products will be labeled as gluten-free. Ingredients may change over time for the same brand product. For foods that are not labeled as gluten-free, be sure to check the ingredients for hidden gluten every time you buy a packaged product. Take the Shopping Guide: Sources of Gluten (List 4) provided at the end of this fact sheet with you when you go food shopping. However, when purchasing items *with* a gluten-free label, you can be sure that it is gluten-free. In August 2013, the U.S. Food and Drug Administration (FDA) published a new regulation defining the term "gluten-free" for food labeling. The regulation provides a uniform standard definition. So, if a manufacturer labels a product "gluten-free," the food must meet all of the requirements of the definition, including that the food must contain less than 20 parts per million of gluten. The rule also requires foods with the claims "no gluten," "free of gluten," and "without gluten" to meet the definition for "gluten-free."

Step 6. Avoid Cross-Contact

If you also shop and prepare food for people who do eat gluten-containing foods, it is important to protect your gluten-free foods from contact with gluten.

- Buy two jars of jam, mayonnaise, and peanut butter. One is for you, and the other is for everyone else. A knife with bread crumbs will leave gluten behind in a shared jar. Be sure to **label** which jar is gluten-free. You can also buy squeeze bottles so nobody needs to use a knife.
- Buy a separate toaster for gluten-free breads, or put clean aluminum foil on the rack of your toaster oven

when you use it for gluten-free products. Buy a separate colander/strainer for gluten-free pasta. Colanders are too hard to clean to completely remove gluten. Color coding with a permanent marker can help keep all kitchen utensils separate.

- Clean counter tops and cutting boards often to remove gluten containing crumbs.
- Clean cooking utensils, knives, pans, grills, thermometers, cloths, and sponges carefully after each use and **before** cooking gluten-free foods.
- Store gluten-free foods **above** gluten-containing foods in your refrigerator and cupboards. By doing this you prevent the risk of gluten-containing food particles falling below onto gluten-free foods, causing contamination.
- Use pure spices rather than blends.
- If you bake with gluten-containing flours, put away or cover your gluten-free foods when you bake. Flour dust can float in the air for several hours and contaminate your gluten-free products.
- Avoid purchasing staples from bulk bins to minimize cross contamination.

Step 7. Eat Out and Travel Gluten-Free with Ease

You **can** eat out at restaurants. Although there is concern for cross-contact when you eat out, you can reduce the risk by planning ahead.

- Before you leave home, do a little homework. Many restaurants have a website where they post their menus. Write down all the choices that are gluten-free. Often a menu with gluten-free options is available on request.
- Avoid bakery-type restaurants or pizza places where the gluten-containing flour can stay in the air and come in contact with other foods.
- Call ahead and talk to the manager or chef about items that are prepared gluten-free.

- Make your first visit to a restaurant **before** or **after** peak dining hours so the staff has enough time to answer your questions.
- Always identify yourself as someone who is allergic to wheat, rye and barley. Though many people may be familiar with the term “gluten-free,” they may not know what foods contain gluten. Bring your own gluten-free food when traveling. This way, you will always have something you can eat. Apples, raisins, fruit leather, rice cakes, and nuts are good travel snacks.
- Always ask how the food is prepared. Talk to the manager or chef if your server doesn’t know. Some specific questions to ask include:
 - Is the meat marinated in soy sauce, teriyaki sauce, or Worcestershire sauce?
 - Is the chicken dusted with flour before pan-frying?
 - Is the oil used for French fries also used for frying onion rings (or other breaded foods)?
 - Are there croutons or bacon bits on the salad?
 - Do you use wheat flour to make the gravy (or thicken the soup)?
- If your meals will be prepared for you (hospital, college dining hall), ask to speak with the dietary manager.

Step 8. Eat a Balanced Diet

People on a gluten-free diet may not get enough calcium, vitamin D, iron, B vitamins, or fiber. For example, many gluten-free breads, cereals, and pasta are not fortified with vitamins and may be low in fiber. Are you getting

enough nutrients from your diet? If not, be sure to include some nutrient dense gluten-free foods listed below and/or take a multivitamin and mineral supplement. Additionally, look for “whole grain” versions that contain the bran layer (rice bran, brown rice, brown rice flour). Variety is key to maximize protein, fiber, and nutrients.

Step 9. Identify Any Additional Food Intolerances

If you are not feeling better on a gluten-free diet, you may have other food intolerances such as lactose (milk sugar), cow’s milk, soy, corn, eggs, nuts, yeast, and acidic foods. Talk to your doctor and registered dietitian if you are not feeling better on a gluten-free diet.

Step 10. Get Support

For a successful transition to the gluten-free lifestyle, you need support from your doctor, dietitian, family, friends, and others.

If you have celiac disease, joining a local support group can be very helpful. Individuals in this group understand what you are going through better than anyone else. They will be able to offer you emotional support and answer all many of the questions you have. For a list of support groups, see the Resources section.

Resources

Major National Celiac Support Groups (they will give you information on local groups)

Gluten Intolerance Group
www.gluten.net

Celiac Disease Foundation
www.celiac.org

Table 1. Nutrient Dense, Gluten-Free Foods

Calcium	Milk, yogurt, cheese, sardines and salmon with bone, broccoli, collard greens, almonds, calcium-fortified juice, amaranth, teff, quinoa
Iron	Meat, fish, chicken, beans, nuts, seeds, eggs, amaranth, quinoa, teff
B vitamins	Eggs, milk, meat, fish, orange juice, beans, nuts, seeds, gluten-free whole grains
Vitamin D	Vitamin D-fortified milk and yogurt, egg yolks, salmon, sardines, tuna
Fiber	Vegetables, fruits, beans, amaranth, quinoa, millet, buckwheat, sorghum, teff, flax

List 1. Gluten-Containing Foods and Ingredients (This is not a complete list.)

Ale	Durum	Lager	Seitan
Atta	Einkorn	Malt	Semolina
Autolyzed yeast	Emmer	Malt extract, malt syrup, malt flavoring, malt vinegar	Soy sauce
Barley (pearl, flakes, flour)	Farina	Malted milk	Spelt
Beer (gluten-free beer is available)	Faro/Farro	Matzoh	Triticale
Brewer's yeast	Fu	Modified food starch	Wheat
Bulgur	Gluten, gluten flour	Oats*	Wheat bran
Chapatti	Graham flour	Orzo	Wheat flour
Couscous	Hydrolyzed vegetable/plant protein	Rye	Wheat germ
Dinkel	Kamut	Seasoning	Wheat starch

*Those labeled gluten-free are fine. Oats do not contain gluten, but have the risk of cross-contact during harvesting or processing.

List 2. Common Sources of Hidden Gluten (This is not a complete list.)

Baked beans	Flavoring	Marinades	Seasonings
Blue cheese crumbles	French fries	Meat loaf	Self-basting poultry
Breading	Gravy	Nuts	Soups, soup bases
Broth, bouillon	Herbal Teas	Processed meat	Soy sauce
Candy	Ice cream	Puddings	Stuffing
Cereal binding	Icing/frosting	Rice mixes	Thickeners
Chocolates	Imitation seafood	Roux	Vegetarian "burgers"
Color (artificial, caramel)	Imitation bacon	Salad dressings	
Communion wafers	Licorice	Sauces	
Dry roasted nuts	Maltodextrin	Sausage	

List 3. Sample Gluten-Free Shopping List

Vegetables			
Lettuce	Tomatoes	Cabbage	Carrots
Broccoli	Potatoes	Celery	
Fruits			
Apples	Oranges	Bananas	Grapes
Meat, Proteins			
Beef	Chicken	Fish	Eggs
Pork	Turkey	Shrimp	
Dairy			
Milk*	Cheddar cheese	Cream cheese*	Butter
Yogurt*	Cottage cheese*	Sour cream	
Binders (for baking)			
Xanthan gum	Guar gum	Tapioca	
Frozen Foods			
Berries	Corn	Sorbet	Gluten-free waffles
Mangoes	Peas		

Celiac Sprue Association-USA
www.csaceliacs.info

Canadian Celiac Association
www.celiac.ca

Professional and Government Websites

American Dietetic Association
www.eatright.org

Celiac Disease Center at Columbia University
www.celiacdiseasecenter.columbia.edu

Celiac Disease and Gluten-free Resource
www.celiac.com

Center for Celiac Research & Treatment at MassGeneral Hospital for Children
www.celiaccenter.org

National Institutes of Health
<http://digestive.niddk.nih.gov/ddiseases/pubs/ceciac/>

University of Chicago Celiac Disease Program
www.uchospitals.edu/specialties/ceciac/index.php

Guides for Gluten-Free Dining Out and Travel

Bob and Ruth's Gluten-Free Dining & Travel Club
www.bobandruths.com

Gluten Free on the Go
www.gluten-free-onthego.com

Gluten-free Restaurant Awareness Program
www.glutenfreerestaurants.org

The Essential Gluten-Free Restaurant Guide

Triumph Dining Cards
www.triumphdining.com

Celiac Chicks
www.celiacchicks.com/CF-HOME.htm

Waiter, is There Wheat in my Soup? The Official Guide to Dining Out, Shopping, and Traveling Gluten-Free and Allergen-Free by LynnRae Ries
www.whatnowheat.com

List 3. Sample Gluten-Free Shopping List (continued)

Canned and Packaged Foods			
Peaches	Pears	Green beans	Dried beans
Gluten-free Grains			
Rice* (all forms, even glutinous)	Amaranth	Buckwheat	Soy
Quinoa	Arrowroot	Potato flour, starch	Teff
Millet	Bean flours (garbanzo, fava)	Sorghum	Tapioca (manioc, cassava)
Corn			
Snacks			
Popcorn*	Corn chips*	Nuts and seeds*	Jello
Rice cakes, rice crackers*	Potato chips*		
Condiments			
Honey	Jams, jellies, marmalade	Herbs	Pickles
Ketchup	Corn and maple syrup	Salt	Vinegars
Mustard	Sugar	Pepper	Regular mayonnaise and salad dressings*
Peanut butter	Spices	Olives	Vegetable oils
Drinks			
Fruit juice	Coffee	Tea	

*With no gluten-containing additives.

List 4. Shopping Guide: Sources of Gluten (This is not a complete list. If in doubt, choose another brand.) Read labels every time you buy! Ingredients can change at any time.

Foods to Avoid			
Ale	Dinkel	Lager	Seasonings
Atta	Dry roasted nuts	Licorice	Seitan
Autolyzed yeast	Durum	Malt	Self-basting poultry
Baked beans	Einkorn	Malt extract, malt syrup, malt flavoring	Semolina
Barley (pearl, flakes, flour)	Emmer	Malted milk	Soups, soup bases
Beer (gluten-free beer is available)	Farina	Marinades	Soy sauce
Breading	Faro	Matzoh	Spelt
Brewer's yeast	Flavoring	Meat loaf	Stuffing
Broth, bouillon	Fu	Modified food starch	Textured vegetable protein (TVP)
Brown rice syrup	Gelatinized starch	Mono- and di-glycerides	Thickeners
Bulgur	Graham flour	Oats (not labeled gluten-free)	Triticale
Cereal binding	Gravy	Processed meat	Wheat
Chocolate bars	Hydrolyzed vegetable/plant protein	Roux	Wheat bran
Color (artificial, caramel)	Icing/frosting	Rye	Wheat flour
Communion wafers	Imitation seafood	Salad dressings	Wheat germ
Couscous	Imitation bacon	Sauces	Wheat starch
Dextrin	Kamut	Sausage	

Books

100 Best Gluten-Free Recipes by Carol Fenster
<http://savorypalate.com/index.php/100-best-gluten-free-recipes/>
 Easy Everyday Gluten-Free Cooking by Donna Washburn and Heather Butt
www.csaceliacs.info/shop.jsp

Magazines

Gluten-Free Living
www.glutenfreeliving.com
 Sully's Living Without Magazine
www.livingwithout.com

References

Case, S., Heap, J., Raymond, N. (2006). *The Gluten-Free Diet: An Update for Health Professionals*. Practical Gastroenterology. 67-92.
 Children's Digestive Health and Nutrition Foundation. (2005). *Gluten-Free Diet Guide for Families*. Retrieved from: <http://www.naspghan.org/user-assets/documents/pdf/diseaseinfo/glutenfreedietguide-e.pdf>
 Cranney, A. et al. (2007) *The Canadian Celiac Health Survey*. Dig Dis Sci. 52(4) 1087-95.
 Cureton, P. (2006) *Gluten-Free Dining Out: Is It Safe?* Practical Gastroenterology. 61-68.
 Mahan, L., Escott-Stump, S., and Raymond, J. (2012). *Food and the Nutrition Care Process*. St. Louise, Missouri: Elsevier Saunders.
 Niewinski, M. (2008). *Advances in Celiac Disease and Gluten-Free Diet*. Journal of the American Dietetic Association. 108 (4), 661-672.
 Pagano, A. E. (2006). *Whole Grains and the Gluten-Free Diet*. Practical Gastroenterology. 66-78.
 Thompson, T. et al. (2005). *Gluten-free Diet Survey: Are Americans with Celiac Disease Consuming Recommended Amounts of Fiber, Iron, Calcium and Grain Foods?* J Hum Nutr Diet. 18(3), 163-9.
 U.S. Food and Drug Administration. (2013). *FDA defines "gluten-free" for food labeling*. Retrieved from: <http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm363474.html>