

Creating Health & Nutrition

Gluten-Free Diets

Celiac Disease Versus Gluten Sensitivity

Gluten-free diets have historically been recommended for people with celiac disease. Celiac disease is an autoimmune disorder in which the presence of gluten causes the immune system to trigger an attack on the intestines. Blood testing will reveal antibodies to gluten and a biopsy of the intestine will show damage. Celiac disease is not a food allergy.

Non-celiac gluten sensitivity (NCGS) may cause similar symptoms, but there are no gluten antibodies in the blood or damage to the intestine as seen in celiac disease. Many people think that gluten sensitivity is a milder form of celiac disease, but these are two different conditions with different immune responses being exhibited in the body.

What Is Gluten?

Gluten is a combination

of two proteins, gliadin and glutenin, found in barley, rye, and wheat. Gluten functions to form a sticky protein that provides elasticity and structure to baked goods. In the United States, our most commonly eaten gluten-rich foods contain wheat flour. Oats do not contain gluten, but they may be cross-contaminated with gluten (for example, if they were stored or shipped in the same container with wheat). Packaged foods are required to state if they contain one of eight common food allergens, one of which is wheat. If oats are gluten free, the package label will state this.

Gluten-Free Defined

An official definition of "gluten-free" was released by the Food and Drug Administration (FDA) in August 2013. The agency set a limit of 20 parts per million (ppm) for the amount of gluten that

may be present in foods marketed as "gluten-free." In August 2014, this limit was implemented only on packed food, except meat and poultry, and dietary supplement labels. The rule also extends to foods labeled "free of gluten," "without gluten," or "no gluten." This can be visualized as two grains of salt on a slice of bread.

It is estimated that 1 in 141 of the U.S. population has celiac disease, with 82 percent of those being undiagnosed. Some individuals with celiac disease are asymptomatic, but intestinal damage and nutrient malabsorption are still occurring. Studies show that from 0.5 to 13 percent of the population experience NCGS, but it is difficult to document since it is self-reported, with no testing available. However, a recent double-blind, placebo-controlled study casts doubt on gluten as a culprit in most patients who are thought to have NCGS since only 16 percent

showed symptoms with a gluten challenge, and 40 percent showed symptoms with a placebo.

Eating Gluten Free

A gluten-free diet does not need to be restrictive, but it usually requires some major changes. All unprocessed fruits, vegetables, meats, poultry, beans, and dairy products are gluten free. Breads and pastas can be made from rice and corn flour. There are also less-well-known grains such as quinoa, amaranth, flaxseeds, and flours from beans, nuts, or potato that can be included. Sales of gluten-free foods have recently been on the rise, reaching \$2.6 billion in 2010. Grocery stores sales of gluten-free foods have continued to rise as more manufacturers produce more products.

The push for gluten-free foods has been fueled by claims (not supported by research) that eliminating gluten (or wheat) will



For more information on following a gluten-free diet, go to the Academy of Nutrition and Dietetics website: www.eatright.org

stimulate weight loss, alleviate various gastrointestinal issues, and lessen asthma and allergy symptoms and the severity of autism. Research will prove if these have any basis of truth.

People diagnosed with celiac disease or NCGS should consult a dietitian for guidance on adjusting to gluten-free eating. Many gluten-free foods are not enriched or fortified with B vitamins, including folate (important for preventing birth defects and heart disease) and iron (prevents anemia), higher in fat and calories, low in fiber, and not usually whole grain. Many cookbooks are available to assist cooks in preparing food using new grain products and substitutions. Try these gluten-free grains and flours when a gluten-free product is needed:

- Amaranth
- Buckwheat
- Corn
- Millet
- Oats
- Rice
- Wild Rice
- Sorghum
- Teff

These flours are made from gluten-free non-grains:

- Arrowroot
- Beans
- Cassava
- Coconut

Substitution

¾ cup gluten-free flour and ¼ cup gluten-free starch (corn starch) for 1 cup wheat flour

- Lentils
- Peas
- Potato
- Soy, tapioca

Avoiding Cross-Contact

Those who prepare gluten-free food must be aware of the need to keep foods separate.

Cross-contact (gluten-free foods that touch gluten foods) can happen on cutting boards, deep fryers, unwashed hands, and serving utensils. To help avoid cross-contact:

- Use separate foods and condiments (e.g., peanut butter, jelly, mayonnaise) and label those that are gluten free.
- Use separate appliances (e.g., toaster, bread machine, cutting boards, knives) or use toaster bags.
- Store gluten-free foods in a different cupboard or above other gluten grains, and in zippered plastic bags.
- Cook gluten-free foods first (e.g., when grilling hot dogs).
- Provide separate serving utensils.

Many people with gluten sensitivity can tolerate small amounts of gluten, but those with celiac disease must avoid it all.

It is important to remember that gluten is an important part of the diet. A gluten-free diet is not recommended for the general public.

Beware of these items:

- Brown rice syrup
- Breeding and coating mixes
- Croutons
- Energy bars
- Flour or cereal products
- Imitation bacon
- Imitation seafood
- Marinades
- Panko (Japanese bread crumbs)
- Pastas
- Processed luncheon meats
- Sauces, gravies
- Self-basting poultry
- Soy sauce or soy sauce solids
- Soup bases
- Stuffings, dressing
- Thickeners (Roux)
- Communion wafers
- Herbal supplements
- Drugs and over-the-counter medications
- Nutritional supplements
- Vitamins and mineral supplements
- Play-dough (a potential problem if hands are put on or in the mouth while playing with play-dough; wash hands immediately after use)

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