

# CELIAC DISEASE

## FACTSHEET

Celiac disease is an autoimmune disorder characterized by a genetically based sensitivity to certain sequences of amino acids found in the prolamin fraction of wheat, barley, and rye. When these grains are consumed by people with celiac disease, they trigger an immune response that results in damage to the mucosa of the small intestine. This damage reduces the absorptive surface of the small intestine, resulting in the malabsorption of macronutrients and micronutrients.

People with celiac disease are advised to adhere to a lifelong, gluten-free diet, strictly avoiding the prolamins of wheat, barley, and rye. Strict adherence to a gluten-free nutrition prescription allows the intestine to heal, resolves the symptoms of malabsorption, and helps prevent the complications associated with long-term untreated celiac disease, which may include reduced bone mineral density and lymphoma. If celiac disease is left untreated, the damage can be life threatening and can cause a risk of associated disorders, both nutritional and immune related.

### Grains to **AVOID**:

- Wheat (all types)
- Barley
- Rye
- Malt
- Oats (unless they are gluten-free)

\*These ingredients are found in many food products, including flours, bread products, pasta, breakfast cereals, cakes, and cookies.

### Grains and plant foods to **INCLUDE**:

- |                     |             |
|---------------------|-------------|
| • Rice              | • Corn      |
| • Amaranth          | • Quinoa    |
| • Teff              | • Millet    |
| • Finger Millet     | • Sorghum   |
| • Indian Rice Grass | • Arrowroot |
| • Buckwheat         | • Flax      |
| • Job's Tears       | • Sago      |
| • Potato            | • Soy       |
| • Legumes           | • Mesquite  |
| • Tapioca           | • Wild rice |
| • Cassava           | • Yucca     |
| • Nuts              | • Seeds     |

Safe gluten-free ingredients:

<http://www.celiac.com/articles/181/1/Safe-Gluten-Free-Food-List-Safe-Ingredients/Page1.html>

Unsafe gluten-free ingredients:

<http://www.celiac.com/articles/182/1/Unsafe-Gluten-Free-Food-List-Unsafe-Ingredients/Page1.html>

### Celiac Healthy Eating Tips

It is important to get enough B-vitamins (thiamin, riboflavin, niacin, and folate), iron, and fiber.

- Choose whole grain, gluten-free products whenever possible.

Look for products containing whole grain corn, whole grain rice, millet, teff, or sorghum.

- Choose enriched, gluten-free products instead of refined, unenriched products whenever possible.

Companies providing enriched, glutenfree products include the following:

- o Ener-G Foods (<http://www.ener-g.com/>): Manufactures enriched ready-to-eat, glutenfree bread products

- o Glutino (<http://www.glutino.com/>): Manufactures enriched ready-to-eat, gluten-free bread products and enriched baking mixes
- o Health Valley (<http://www.haincestial.com/>): Manufactures a fortified gluten-free breakfast cereal
- o Maplegrove Food and Beverage (<http://www.maplegrovefoods.com/>): Manufactures enriched, gluten-free pasta
- o Perky's Natural Foods (<http://www.perkysnaturalfoods.com/>): Manufactures fortified gluten-free breakfast cereal
- o Enjoy Life Foods (<http://www.enjoylifefoods.com/>): Manufactures enriched, glutenfree breads, bagels, snack bars, and granola
- o Kinnikinnick Foods (<http://www.kinnikinnick.com/>): Manufactures enriched, glutenfree bread products

- Eat more foods made with alternative plant foods, such as amaranth, quinoa, and buckwheat. These plant foods are good sources of fiber and iron as well as some B-vitamins.
- Eat other enriched, gluten-free foods such as enriched rice.
- Make sure to eat plenty of non-grain sources of the nutrients your body needs. For example:
  - o Lean cuts of fresh pork, legumes (dry beans, peas, lentils), nuts, and fish are good sources of thiamin.
  - o Dairy products, legumes, nuts, green leafy vegetables, and mushrooms are good for riboflavin.
  - o Eat poultry, fish, lean cuts of fresh pork, legumes, and seeds for niacin.
  - o Choose legumes, green leafy vegetables, and fruit juices for folate.
  - o You can get iron from lean cuts of beef, poultry, seafood, legumes, dried fruits, green leafy vegetables, nuts, and seeds.
  - o All plant foods—fruits, vegetables, legumes, seeds, and nuts—are good sources of fiber.
- Consider taking a gluten-free multivitamin and mineral supplement

## Sample Menu

A gluten-free meal plan does not have to be all that different from a wheat-based meal plan. There are gluten-free versions of almost all foods that are usually made from wheat:

### Breakfast

Whole-grain, gluten-free waffle  
Maple syrup and strawberries  
Low-fat milk or orange juice

### Lunch

Pizza made with whole grain, gluten-free pizza crust (homemade or ready-to-eat) topped with low-fat cheese, grilled chicken, fresh vegetables, and pineapple slices  
Homemade lemonade

### Snack

Low-fat yogurt mixed with whole grain, gluten-free cereal

### Evening Meal

Whole grain or enriched, gluten-free pasta topped with pesto and chick peas  
Mixed greens salad topped with orange slices and walnuts and served with oil and vinegar dressing  
Seltzer water with lime

**Snack:** Whole-grain, gluten-free rice crackers with hummus or low-fat cheese slices

### Approximate Nutrition Analysis:

Calories: 2,442; Protein: 89g (14% of calories); Carbohydrate: 315g (51% of calories); Fat: 94g (35% of calories); Sodium: 1,750mg; Cholesterol: 122mg; Fiber: 28g

This sample menu uses foods commonly available in grocery stores and do not require the use of any specially made gluten-free foods:

### Breakfast

Egg omelet made with low-fat natural cheese, such as cheddar or monterey Jack, and fresh vegetables  
Rice cake (check the ingredient list to make sure it is gluten free) topped with jam, jelly, or preserves  
Orange juice

### Lunch

Black bean tacos made with corn tortillas, black beans, fresh vegetables, low-fat natural cheese, and topped with fruit salsa (diced tropical fruit, lime juice, cilantro)  
Seltzer water with lime

**Evening meal**

Chicken and fresh vegetables stir-fried in oil and spices

Plain brown rice or plain enriched white rice

Sorbet topped with fresh fruit

Cranberry juice mixed with seltzer water

**Snack** All-natural yogurt mixed with blueberries or another fruit

Approximate Nutrition Analysis:

Calories: 1,615; Protein: 67g (17% of calories); Carbohydrate: 272g (68% of calories); Fat: 26g (15% of calories);

Cholesterol: 273mg; Sodium: 2,890mg; Fiber: 21g

**References:**

American Dietetic Association, (2010). Retrieved June 1, 2010, from <http://eatright.org>

American Dietetic Association, (2010). Retrieved June 1, 2010, from <http://www.nutritioncaremanual.org>

Adams, S. (2010). Retrieved June 1, 2010, from <http://www.celiac.com>