

Facts About Gluten

What Is Gluten?

Gluten is a protein that is common in the diets of U.S. consumers. It is found in wheat, barley, rye, and their grain relatives. Gluten is what helps bread expand while the dough is rising and hold its shape while it's baking and after it cools. It's also what makes bread chewy.

Gluten as Part of a Healthy Diet

Grains, both whole and enriched, play a vital role in a healthy diet. One benefit is that they're great sources of antioxidants, fiber, B vitamins, vitamin E, magnesium, iron, folic acid, and other vitamins and minerals. The 2010 Dietary Guidelines for Americans (USDA & USDHHS, 2010) recommend that an average adult consume six 1-ounce portions of grain a day, with at least half of those in the form of whole grains. The complex carbohydrates found in grains are naturally low in fat, cholesterol and sodium, and they provide energy.

Behind the Gluten-Free Myths

Myth. Everyone should be on a gluten-free diet.

Reality. A gluten-free diet is necessary for those with celiac disease, gluten sensitivity, or a gluten allergy. It is not a healthy diet for the general population. (See section called "The Risks of a Gluten-Free Diet.")

Myth. *Wheat-free* is the same as *gluten-free*.

Reality. Foods that don't have any wheat in them may still contain barley, rye, or other grains that have gluten. Wheat-free products may also come into contact with gluten during processing.

Myth. A gluten-free diet gives people increased energy.

Reality. Some people claim that they have more energy while eating a gluten-free diet. In reality, it's



often eating increased fruits and vegetables in place of the high-calorie and high-fat processed foods they used to eat that gives people an energy boost. No reputable scientific studies to date have found that eliminating gluten from the human diet leads to increased energy levels.

Myth. Eating a gluten-free, casein-free (GFCF) diet helps treat autism spectrum disorders.

Reality. Under the restrictive GFCF diet, all foods containing gluten and casein (a type of protein found in milk and dairy products) are removed from the child's daily food intake. There is only limited evidence in support of the GFCF diet as a treatment for autism spectrum disorders.

Myth. Following a gluten-free diet is a sure ticket to weight loss.

Reality. Celiac disease damages the lining of the small intestine, which makes it very hard for a person with the disease to digest nutrients and maintain or gain weight. After someone is diagnosed with celiac disease and goes on a gluten-free diet, the person may actually gain weight because the small intestine is able to absorb more nutrients. Children with undiagnosed celiac disease are more likely to be underweight. Once a child with celiac disease begins a gluten-free diet, the body mass index (BMI) tends to increase significantly. (BMI is "an estimate of body fat based on comparing a person's weight to his or her height," National Institutes of Health, 2012).

Healthy people on gluten-free diets often lose weight on a gluten-free diet not because they exclude gluten, but because they make healthier food choices, such as:

- » Reducing high-calorie, high-fat foods.
- » Eating more fruits and vegetables.
- » Reading food labels more carefully and becoming more aware of what they're eating and drinking.

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The Risks of a Gluten-Free Diet

Some of the risks and drawbacks that go with a gluten-free diet include:

- » Limited variety of healthy food choices.
- » Reduced intake of necessary nutrients such as carbohydrates, protein, fiber, folate, iron, thiamin, riboflavin, niacin (vitamin B-3), and calcium.
- » Increased intake of fat, carbohydrates, sodium, and calories. Fat and sugars are often used as replacements in gluten-free products.
- » Decreased fiber intake, which can cause constipation and other digestive issues.
- » Increased food costs. Kulai & Rashid (2013) found that on average, gluten-free products are about 160% more expensive than regular products.
- » Increased intake of wheat replacements that have higher glycemic indexes and lower fiber and protein levels than wheat.
- » Decreased number and variety of beneficial bacteria in the gut, which may make the immune system less effective.

Celiac Disease

When someone with celiac disease eats or drinks anything with gluten in it, the person's immune system reacts by damaging the lining of the small intestine. Then the body can't absorb nutrients properly, and the person may have diarrhea or constipation, abdominal pain, and skin rashes, and be irritable or depressed. Doctors diagnose celiac disease with a blood test and a biopsy of the small intestine and by checking whether symptoms of the disease go away when the person goes on a gluten-free diet.

Gluten Sensitivity

Not much is known about this condition except that people with it:

- » Don't test positive for celiac disease.
- » Aren't allergic to gluten.
- » Feel sick after eating or drinking products that contain gluten.

Right now there's no reliable way to diagnose gluten sensitivity. People who have it tend to feel better on a gluten-free diet. Sensitivity may change over time.

References & Resources

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Acknowledgments

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Produced by ANR Communications (anrcom.msu.edu).