

# What You Must Know About Gluten

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✓ Fact Checked

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## STORY AT-A-GLANCE

- › Before you decide if a gluten-free diet is right for you, it's important to understand how gluten and wheat may be affecting your health
- › Although gluten-free foods were once reserved for people with a wheat allergy or celiac disease, this style of eating has become increasingly popular among people who have no medical reason to avoid gluten
- › If you notice unpleasant physical symptoms such as headaches, joint pain or nausea after eating glutinous foods, you may want to consider if the consumption of gluten could be a factor in your symptoms
- › Switching to a gluten-free diet, especially if you tend to eat a lot of gluten-free processed foods that contain rice, may increase your exposure to arsenic
- › Due to the reality of cross-contamination, not all foods labeled as gluten-free actually test out as being free of gluten

A few years ago, the term "gluten free" was mostly associated with wheat allergy and celiac disease. Those afflicted with either condition who adopted a gluten-free diet often reported a resurgence of health and well-being.

Today, gluten-free eating continues to attract attention, and there are likely more wheat-tolerant people eating gluten-free food than those who medically need it. Eating trends aside, here's what you need to know about gluten.

# What Is Gluten?

Gluten is a protein found in wheat and cereal grains that is made up of glutenin and gliadin molecules. In the presence of water, these substances form an elastic bond that gives bread and other baked goods a springy, stretchy and spongy consistency. Because gluten gives dough elasticity, comparable gluten-free items are often dense and tend to crumble easily.

Gluten is found not only in wheat, but also other grains like barley, oats, rye and spelt. Beyond the whole grains known to be glutinous, gluten can hide in processed foods under a variety of names, including, but not limited to:<sup>1</sup>

- Hydrolyzed vegetable protein (HVP)
- Malts
- Natural flavoring
- Starches
- Texturized vegetable protein (TVP)

While many foods such as whole fruits and vegetables are naturally gluten free, as are most dairy and meat products, grocery stores are full of gluten-containing products. Many of them fall into the category of ultraprocessed foods. Some of the most common gluten-laced foods include:

Beer	Cookies	Processed broth
Bouillon	Crackers and other snack foods	Sausages and hot dogs
Bread (white and wheat)	Lunch meat	Seasoning mixes
Cereal	Pasta	Soy sauce

Obviously, wheat-containing foods like wheat bran, wheat flour, wheat germ and wheat starch also contain gluten. Even though many think otherwise, white bread is also a source of wheat because it is made from wheat flour after the bran and germ are removed. Furthermore, because wheat is often used as a thickening agent, gluten is commonly found in canned soups and bottled sauces, as well as salad dressings.

## **How Gluten Can Negatively Impact Your Health**

Gluten is known for its tendency to impede proper nutrient breakdown and absorption of foods, regardless of whether they do or do not contain gluten. Proper digestion can be impeded in the presence of gluten because in excess amounts it forms a glued-together constipating lump in your gut.

Some people react negatively to even small amounts of gluten because their body identifies it as a toxin, which causes their immune cells to overreact and attack it. In this scenario, the continued consumption of gluten will create inflammation and damage to the lining of the small intestine that may trigger more serious health issues over time, particularly if you have celiac disease.

Left unchecked, excessive gluten consumption and the inflammation that results may predispose you to malabsorption, nutrient deficiencies, osteoporosis and neurological and psychological conditions, as well as its potentially negative effects on your joints, liver, nervous system, skin and more.<sup>2</sup>

Beyond this, the Celiac Disease Foundation asserts undiagnosed celiac disease may contribute to the development of "autoimmune disorders like Type 1 diabetes and multiple sclerosis (MS), dermatitis herpetiformis (an itchy skin rash), anemia, osteoporosis, infertility and miscarriage ... epilepsy and migraines, short stature and intestinal cancers."<sup>3</sup>

## **Signs of Gluten Intolerance**

Signs of gluten intolerance include bloating, belly pain, diarrhea, fatigue and a general feeling of being unwell. Beyond this, other noticeable warning signs of your body's inability to handle gluten may include:

- Anxiety
- Confusion
- Headache
- Joint or muscle pain
- Nausea

While just 1 in 100 people worldwide have celiac disease, countless others may simply be undiagnosed, including an estimated 2.5 million Americans.<sup>4</sup> Lack of a proper diagnosis may put you at risk of long-term health complications, some of which were mentioned above.

If you think you might have celiac disease or gluten sensitivity, it's best to talk to your health practitioner before you go gluten free. Once you have avoided gluten for a while, it becomes difficult to establish a conclusive relationship between gluten and your health problems.

You have a better chance for an accurate diagnosis of gluten-related illness if you are actively eating gluten at the time of the testing. Blood tests are usually the first step toward confirming celiac disease.<sup>5</sup> If the blood tests and your symptoms indicate celiac, your doctor will likely suggest a biopsy of the lining of your small intestine to confirm the diagnosis.

If you suspect your body may not be able to tolerate gluten, pay attention to how you feel immediately after eating it. Feeling poorly after eating glutinous food may be a signal your body cannot handle gluten. For best results, you may want to keep a food diary, and you will definitely want to discuss your symptoms with your health practitioner.

## **Most Packaged Gluten-Free Food Is Glorified Junk Food**

While the availability of gluten-free food options can be perceived as a help for those affected by a wheat allergy or celiac disease, I advise you approach a gluten-free diet and lifestyle cautiously. The reason: Most processed, packaged gluten-free food is glorified junk food.

I say that because packaged gluten-free foods are some of the most ultraprocessed foods on the planet. They lack fiber and are often loaded with toxic amounts of sugar, salt and unhealthy fats, which increase the number of empty calories derived from these foods. About this aspect of gluten-free foods, U.S. News and World Report states:<sup>6</sup>

*"[G]luten-free packaged foods have one important thing in common with their glutinous counterparts: The majority of them are absolute junk.*

*These include empty-calorie chips, crackers and bars that are high in starchy carbs and sugar, while low in fiber; breads made from the least nutritious starches on the planet and held together by food gums; and high-glycemic cereals made from white rice flour or refined corn that's been sprinkled with vitamin dust."*

## **You Might Gain Weight on a Conventional Gluten-Free Diet**

Given the higher amounts of sugar in many packaged gluten-free foods, it's common for people to gain weight after going on a gluten-free diet. With respect to eating gluten-free and weight gain, nutrition communications expert Rachel Begun, a scientific/medical advisory council member for Beyond Celiac, said:<sup>7</sup>

*"Now that we have an ample supply of gluten-free foods on the market, we're seeing extended weight gain. Many gluten-free products are high in ... sugar, while also being low in nutrients. When people go gluten free and eat too much of these highly processed, low-nutrient foods they're likely to gain weight.*

*There's also a 'health halo' surrounding gluten-free right now. It's important that consumers understand that just because something is gluten free doesn't necessarily mean it's healthful or is a good option for weight loss."*

## **Watch Out: Arsenic Often Found in Rice-Based Gluten-Free Food**

If you decide to go gluten free, but are not doing so in response to a diagnosed medical condition such as a wheat allergy or celiac disease, proceed carefully to avoid unintentionally damaging your health.

Registered dietitian Laura Moore, who is on the nutrition faculty at the University of Texas School of Public Health in Houston, warns, "If you go completely gluten-free without the guidance of a nutritionist, you can develop deficiencies pretty quickly."<sup>8</sup>

Part of how that can happen, especially if you eat a mostly processed food diet, relates to the enrichment and fortification of foods, which is a common practice in the food industry. The simple fact is fewer gluten-free foods are enriched or fortified with nutrients like folic acid and iron, as compared to products containing wheat.<sup>9,10</sup>

Rather than depend on processed foods for these and other vital nutrients, I recommend you eat a whole-food diet and take a high-quality supplement as needed. Beyond that, Consumer Reports says eating gluten free may increase your exposure to arsenic.

This is the case mainly due to the use of rice flour in many gluten-free foods and the uptake of arsenic in most of the world's rice crops.<sup>11</sup> As such, you may want to think twice before choosing rice-based gluten-free products and risking exposure to a known cancer-causer like arsenic.<sup>12</sup> About this, Consumer Reports stated:<sup>13</sup>

*"About half of the gluten-free products Consumer Reports purchased contained rice flour or rice in another form. In 2012, we reported on our tests of more than 60 rices and packaged foods with rice (such as pasta, crackers and infant cereal).*

*We found measurable levels of arsenic in almost every product tested. Many of them contained worrisome levels of inorganic arsenic, a carcinogen."*

In your attempts to avoid rice-containing gluten-free foods, you'll also want to steer clear of nonorganic products containing corn starch, corn flour, potato starch, potato flour and soy. That's because most conventional corn and soy crops are genetically engineered, while conventional potato crops are heavily sprayed with toxic herbicides and pesticides.

## **Not All Packaged Food Labeled Gluten-Free Is Free of Gluten**

Another potential obstacle to gluten-free eating is the unfortunate reality that many packaged gluten-free foods have been found to be tainted with gluten.

"Cross-contamination can occur," Andrea Levario, senior public policy advocate for the Human Rights Campaign in Washington, D.C., explains. "Gluten-free products may be manufactured on the same equipment used for wheat or other gluten-containing products."<sup>14</sup>

The potential for cross-contamination is also of concern in instances where wheat is grown next to other grains, such as oats. Even though some suggest oats are a gluten-free food, you have to be careful to ensure the brand you purchase is certified gluten free.

Otherwise, it is very likely the oats were grown in or near wheat fields, in which case the product may be contaminated. A 2014 study published in the *European Journal of Clinical Nutrition*<sup>15</sup> evaluated 158 food products labeled as gluten-free over a three-year time frame.

When testing for the presence of gluten, the researchers discovered 5% of the packaged items they tested – including some certified gluten-free – failed to meet the limit set by the U.S. Food and Drug Administration (FDA) for less than 20 parts per million of gluten. If you have questions about foods labeled as gluten-free, I encourage you to contact the manufacturer.

"They should be transparent about what tests they use to determine whether a product is gluten-free," said study author and registered dietitian Tricia Thompson, founder of Gluten Free Watchdog and creator of the Gluten-Free Dietitian website. "If they insist that it's proprietary information, that should set off an alarm."<sup>16</sup>

Finally, take care when purchasing food items labeled "wheat free," because being wheat-free doesn't automatically make a food gluten-free. That's because barley, rye and spelt-based ingredients, all of which contain gluten, may be used in products labeled wheat free.

## **Is a Gluten-Free Diet Right for You?**

Whether or not you have a medical reason for choosing a gluten-free diet, nearly everyone can benefit from this style of eating. Grains, even whole sprouted varieties, tend to cause problems not only because of the presence of gluten, but also due to concerns around fructans, glyphosate contamination and wheat hybridization.

Furthermore, grains may damage your skin. Grains also have high net carbs and many people eat too many carbs. A healthier approach would be to reduce your consumption of grain-based carbs and increase your intake of healthy fats, thereby training your body to burn fat for fuel. (Be sure to moderate your protein intake, too.)

Becoming a fat burner will free you from the cycle of energy highs and lows that often result from overindulging in carbs.

While reducing your carb consumption may be a challenge, eating a gluten-free diet is relatively easy to do. You can accomplish this by focusing on whole, unprocessed foods that are naturally wheat- and gluten-free. As always, I recommend eating foods as close to their natural state as possible.

For that reason, I advise you forego the packaged gluten-free foods found online and in grocery stores. Below are a few of the foods you may enjoy on a naturally gluten-free diet:

Avocados	MCT oil	Organic fruits and vegetables
Coconut oil	Nuts (macadamias, pecans and walnuts)	Organic, grass fed meat
Fish (anchovies, herring, sardines and wild-caught Alaskan salmon)	Olives and olive oil	Organic, raw, grass fed dairy products (kefir and yogurt)
Grass-fed butter	Organic pastured eggs	Seeds (chia, pumpkin and sunflower)

## Sources and References

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- <sup>1</sup> Knowgluten. A Gluten-Free Beginner's Guide
- <sup>2</sup> Mayo Clinic March 6, 2018
- <sup>3, 4</sup> Celiac Disease Foundation, What Is Celiac Disease
- <sup>5</sup> Beyond Celiac, Celiac Testing and Diagnosis
- <sup>6</sup> U.S. News and World Report October 14, 2014
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- <sup>10</sup> Harvard School of Public Health, Gluten: A Benefit or Harm to the Body?
- <sup>11</sup> Chemistry World August 22, 2017
- <sup>12</sup> American Cancer Society, Arsenic and Cancer Risk
- <sup>15</sup> European Journal of Clinical Nutrition October 1, 2014: 1-4 [PDF]