Gluten is a protein found in wheat, barley, rye and the derivatives of these grains, including malt and brewer's yeast.

Those on a gluten-free diet must forgo all products containing wheat, barley, rye, and the various ingredients that contain derivatives of these grains. Those who are gluten-free embrace a diet filled with fruits, vegetables, meats, poultry, fish, beans, and legumes. Nuts and most dairy products are naturally gluten-free, and safe for individuals who do not have allergies to these respective food groups.

There are a variety of alternatives that naturally DO NOT contain gluten and thus can be consumed by those on a gluten-free diet if they are labeled gluten-free. These include:

| Almond meal flour | Corn | Potatoes |
| :--- | :--- | :--- |
| Amaranth | Cornstarch | Quinoa |
| Brown, white and | Guar Gum | Sorghum |
| wild rice | Millet | Soy flour |
| Buckwheat | Pea flour | Teff |
| Coconut Flour | Potato flour |  |

A special caution must also be delivered when it comes to oats. While oats in their natural form do not contain gluten, a small portion of patients with celiac disease react to oats in their pure, uncontaminated form. Additionally, most mills that process oats also manufacture gluten-containing grains, making the chances of cross contact inevitable. The best advice we can offer is to take a great deal of care before introducing oats into your diet, which includes speaking with your healthcare provider about this dietary change. There is no way to determine if you will react, so proceed with caution. Verify that the oats you are using are "pure, uncontaminated," "gluten-free," or "certified gluten-free." Experts recommend that up to 50 g of dry gluten-free oats are considered safe. Check nutrition labels for portion size.

Most notably, the gluten-free diet is known for alleviating the symptoms of celiac disease, including:
Dermatitis herpetiformis, an itchy skin rash known as the skin version of celiac
Fatigue
Gastrointestinal distress, such as diarrhea, constipation, gas, bloating, abdominal pain
Headaches, including migraines
Iron deficiency anemia
Joint and muscle pain
Mood disorders, including depression, anxiety, and "brain fog"
Peripheral neuropathy, which causes tingling in hands and feet
Osteopenia and osteoporosis
Unexplained infertility and other reproductive health problems
Weight gain or weight loss

Three million Americans have celiac disease and an estimated 18 million Americans have a sensitivity to gluten. Unfortunately, most live unaware and remain undiagnosed. In fact, $83 \%$ of people with celiac disease don't know they have it. This means that foods like bread, bagels, pasta, pretzels, cookies, cakes, and crackers are making them sick --sometimes VERY sick. Left untreated, celiac disease can lead to further complications such as infertility, osteoporosis, other autoimmune disorders and even cancer.

People with wheat allergy and non-celiac gluten sensitivity also benefit from the gluten-free diet. While not evidence-based, there are also people who seek out gluten-free options to relieve symptoms of other medical conditions, like autism and ADHD and multiple sclerosis.

People adhering to a gluten-free diet should embrace a diet filled with a variety of naturally glutenfree foods such as fruits, vegetables and lean proteins, as well as gluten-free grains. FDA recommendations encourage everyone, including those on a gluten-free diet, to avoid overly processed foods, and keep refined sugar and saturated fat intakes to a minimum.


As with any nutritional regimen, the practices of portion control and moderation are essential for those eating gluten-free. Daily exercise is also necessary for managing and maintaining a healthy lifestyle.

A gluten-free diet is by no means a cure all. Even a small percentage of those with celiac disease may still experience symptoms after going gluten-free; these individuals should schedule an appointment with their healthcare providers.

Most importantly, a gluten-free diet cannot replace a formal consultation, diagnosis or recommendation from a physician or trained healthcare professional. In fact, dietitians knowledgeable in celiac disease and the gluten-free diet play a critical role in the management of this autoimmune condition.

Adhering to a gluten-free diet can be tough. But with a little education and an optimistic approach, individuals and their families can rediscover a love of cooking and enjoy access to high quality gluten-free products that mimic the comfort foods that they have come to love.

