## Eating Gluten-free

What is gluten? Gluten is a protein found in wheat, barley, rye, and triticale (a hybrid of wheat and rye). Common foods that contain gluten include pastas, breads, cereals and a variety of other grain-based products.

If you have a sensitivity to gluten, it may be considered a gluten sensitivity, a gluten intolerance, or even Celiac Disease. Celiac Disease is an autoimmune disease that causes your body to attack the intestines when gluten is present. If you have this condition, having a gluten free diet can help heal your intestine and help prevent complications such as bone disease if the condition goes untreated.

According to the Celiac Disease Foundation, CELIAC DISEASE, is estimated to affect 1 in 100 people worldwide (celiac.org). It is 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 persons 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.
Who should eat gluten free? People diagnosed with Celiac Disease or with a sensitivity/intolerance to gluten.
What foods should II avoid? Wheat (all types including einkorn, kamut, spelt, and emmer) Barley, Triticale, Rye, Malt, Oats (unless they are gluten free)
Processed foods that may contain wheat, barley, or rye Check the ingredient list of all processed foods for sources of wheat, barley, and rye.
Below are some examples of processed foods that may contain gluten:

- Bouillon cubes
- Communion wafers
- Rice mixes
- Self-basting turkey
- Brown rice syrup
- French fries
- Candy
- Gravy
- Cold cuts, hot dogs,
- Imitation fish
- Sauces
- Soups
- Matzo
- Seasoned tortilla chips
- Soy sauce salami, sausage
or potato chips
- Vegetables in sauce


## What foods can I include?

- Amaranth
- Indian Rice Grass
- Nuts
- Sorghum
- Arrowroot
- Job's Tears
- Potatoes
- Soy
- Buckwheat
- Legumes (dried beans,
- Quinoa
- Tapioca
- Cassava peas, lentils)
- Rice
- Teff
- Corn
- Millet
- Sago
- Wild Rice
- Flax
- Finger Millet
- Seeds
- Yucca

Nutritional considerations? Many specially formulated, gluten-free foods (ie. bread products, pasta, breakfast cereal) are made using refined flour or starch. Unlike refined wheat-based products, most refined gluten-free products are not enriched with the following nutrients:

- Thiamin
- Riboflavin
- Niacin
- Folate
- Iron

Not consuming adequate servings of whole-grain or enriched gluten-free foods may also result in inadequate intakes of these nutrients (Thompson, 2005). Here are some recommendations to ensure adequate intakes of thiamin, riboflavin, niacin, folate, iron and fiber:

- Consume the recommended number of servings from the grain food group each day, depending on energy requirements (see MyPlate.gov for help in determining your individual energy requirements and recommended number of servings of grain foods).
- Choose whole grain, gluten-free products (ie. teff, millet, quinoa, buckwheat) whenever possible. According to the Dietary Guidelines for Americans, at least half of an individual's grain food servings should be whole grain (Dietary Guidelines for Americans 2020).
- Increase intake of gluten-free products made from alternative plant foods (ie. amaranth, buckwheat, quinoa). These plant foods are good sources of iron and fiber as well as some B-vitamins.
- Increase intake of noncereal sources of thiamin, riboflavin, niacin, folate, iron, and fiber.
- Consider taking a gluten-free multivitamin and mineral supplement if recommended by your doctor and dietitian.


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## FAQs

## Q: Are wheat-free products also gluten free?

A: Not necessarily. Wheat-free products also may contain barley or rye.

## Q: Do all individuals need to eat a gluten free diet?

A: Not all individuals need to stick to a strict gluten free diet. Individuals who have celiac disease are strongly advised to follow a gluten free diet, specifically avoiding cross contamination with wheat, barley and rye. Individuals who are gluten sensitive or gluten intolerant, may be able to consume small amounts. However, this can vary person to person.

## Q: Can persons with celiac disease eat buckwheat?

A: Yes. Despite its name, buckwheat is not closely related to wheat.

## Labeling regulations

According the the FDA, manufacturers are able to label products gluten free if they meet the following requirements (www.fda.gov):

1. Limiting the unavoidable presence of gluten to less than 20 ppm and the food does not contain any of the following:

- an ingredient that is any type of wheat, rye, barley, or crossbreeds of these grains.
- an ingredient derived from these grains and that has not been processed to remove gluten.
- an ingredient derived from these grains and that has been processed to remove gluten, if it results in the food containing 20 or more parts per million (ppm) gluten.

2. Foods can be labeled "gluten-free" if they inherently don't have any gluten (ie. bottled spring water, fruits and vegetables, eggs).
Please note, even though a food product is labeled as 'gluten free' be sure to check if it was also produced in a gluten free facility. If it indicates the food item is not produced in such a facility, please note there is a risk for contamination from gluten. Please contact the manufacturer to determine if these products meet the less than 20ppm requirement.

## Prevent cross contamination

- Place gluten-free items above gluten-containing items in the pantry and refrigerator (so that gluten particles don't fall or settle into gluten-free foods)
- Identify gluten-free foods with an indelible pen or stickers
- Thoroughly clean all dishes, pots, pans and utensils between uses
- Purchase a second, gluten-free toaster
- Use a separate set of cutting boards for gluten-free food prep
- Have two sets of condiment jars or a squeezable condiment container (so a contaminated spoon doesn't get dipped into your mustard or peanut butter)


## What you should know about oats

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. Some literature suggests that a protein in oats can trigger a similar response to gluten. Additionally, most mills that process oats also manufacture gluten-containing grains, making the chances of cross contamination inevitable. Speak to your healthcare provider about introducing oats into your diet. 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."

