

## **Avoiding Cross-Contact (Contamination) with Gluten**

### **What Is Cross-Contamination?**

Cross-contact (also known as cross contamination) is a process by which a gluten-free product comes into contact with something that is not gluten-free.

### **Importance of Cross-Contamination in Celiac Disease**

A very important part of maintaining a gluten-free diet is carefully avoiding gluten as an ingredient in food, drinks and products that enter the mouth. Equally important is to avoid cross-contact of gluten-free foods with gluten-containing foods, as even tiny amounts of gluten can cause symptoms and damage your small intestine.

Cross-contact of gluten-free food with gluten-containing food can occur at any time. This includes from the field, to the processing plant, to the store or restaurant, and to your kitchen. It can occur anywhere food is stored, prepared, and served.<sup>1</sup>

Here are some ways to help you avoid gluten in many areas of your life.

### **In the Kitchen**

If you share a kitchen with people who eat gluten or if you prepare gluten-containing food for others:

- Clean your counter space well and often to avoid picking up crumbs or flour.
- Wash hands before handling gluten-free food, especially after other food preparation. Use a clean towel.
- Choose squeezable condiment containers to prevent crumbs from getting in the containers. Alternatively, buy your own containers of peanut butter, jelly, mustard, ketchup, etc.
- Select separate (higher) shelves, cupboards, a part of the refrigerator, or a part of the kitchen for storing gluten-free foods.<sup>1</sup>
- Use stickers or color-coded or labeled containers for gluten-free products. Use separate utensils to stir gluten-free and gluten-containing foods that you are making at the same time.
- Use separate colanders or strainers to drain gluten-free and gluten-containing pasta or wash them very well.
- There is no need to buy your own pots, pans, plate ware, glassware and utensils if they are washed very well and often (dishwasher is recommended).
- Use aluminum foil or a cast iron skillet if using a shared indoor or outdoor grill.
- Pizza baking stones can harbor small flour particles; use separate baking stones.

### **Toasters and Toaster Ovens: A Special Note**

Using a separate toaster for gluten-free products has always been an “expert opinion” recommendation for those on the gluten-free diet. A recent single study by researchers at Boston Children’s Hospital has found that it may not be as risky as previously thought. In their study, gluten levels were less than 20 ppm for all 40 slices of gluten-free bread toasted in the same toaster as gluten-containing bread, even when visible crumbs were present at the bottom of the toaster. The researchers suggest patients focus on the importance of avoiding gluten and limiting risk whenever possible. However, they want to help prevent excessive or unnecessary anxiety that severely limits patient and family activities.

The researchers recommend the following: “While a dedicated gluten-free toaster is not mandatory, you still need to avoid visible contamination. You may decide that a separate toaster is best for your family. Conversely, you are not neglectful if you choose to use a shared toaster. This may come in handy when you are travelling or when at an occasional sleepover.” They recommend that each person or family evaluate risk to make the best choice available at a given meal instead of follow a strict rule. Read the [full article published in Gastroenterology](#) to learn more about study's results and some of its limitations.

Each patient and family can decide how to use the above information.

**The clinicians of the Celiac Center at BIDMC recommend using a separate gluten-free toaster, whenever possible.** Wash the rack and the top of the toaster oven if you are sharing one. Use aluminum foil in a shared toaster oven if you don’t have the time to clean the rack before every use.

When traveling, use a commercial plastic bag designed to toast gluten-free bread in a regular toaster, such as:

- NoStik Toast Bags
- Toastabags
- Amazon

**Important note:** If you decide to make your kitchen gluten-free, please remember that the gluten-free diet is not recommended for someone for whom it is not medically necessary. While a completely gluten-free kitchen is desirable, it is not often practical if others in the home do not require the gluten-free diet. It is best to simply [focus on keeping the kitchen clean!](#)

### Resources on Sharing Toasters

- [Are your gluten-free toasters toast?](#), research summary by Boston Children’s Hospital Celiac Team
- [Is sharing a toaster safe for people with celiac disease?](#), Beyond Celiac (October 9, 2019)

### In Food Stores

- Always read labels and choose products, whenever possible, that are labeled gluten-free. Companies that label their products gluten-free are more likely to make an effort to avoid cross contact.<sup>1</sup> Check with the company if you are not sure about a certain product.
- Buy naturally gluten-free flours, grains, and grain-based products (cereal, pasta, crackers, etc.) that are labeled gluten-free by the manufacturer.<sup>2</sup>
- Many companies certify their products as gluten-free.
- Steer clear of bulk bins; there is a high risk of cross contact from shared scoops in open or adjacent bins. Choose packaged products labeled gluten-free whenever possible.<sup>1</sup>
- Avoid grain foods that are not specifically labeled gluten-free. Avoid vague labeling such as “made with gluten-free ingredients” or “no gluten ingredients used.” This is a red flag that the manufacturer does not test for gluten contamination.<sup>3</sup>
- Ask if the store has a gluten-free product listing or a specific area for gluten-free foods.
- Shop the perimeter of the store where more naturally gluten-free foods are located, including fresh fruits and vegetables, fresh fish, poultry, meat, eggs and dairy.

**It is not always necessary to choose a gluten-free label.** It depends on the product.

Some food and products are naturally gluten-free and likely have no contact with gluten during their growth, processing/manufacturing, or transportation. Examples include a jar of olives, canned tomato sauce, plain frozen vegetables (no other ingredients).

### **At Parties**

- If you can, speak with your host before you arrive. Review safe gluten-free ingredients and safe methods of preparation. A dish being served may contain only gluten-free ingredients. However, the food could be cooked in oil or on a cooking surface that had touched gluten. If possible, try to spend some time in the kitchen to see how the food is prepared.
- Do not go anywhere hungry. Enjoy a small snack before you leave the house.
- Bring along a delicious gluten-free dish to share with others. This will stop the temptation to eat gluten-containing food. It’s also a great chance to share your diet with others.
- Ask if gluten-free items can be placed on a separate table or in a separate area on the table.
- Do not be shy; be the first to fill your plate to avoid cross-contact of gluten-free items with gluten-containing ones.
- Watch for serving utensils that may have been moved from gluten containing dishes to gluten-free dishes.

Visit the Dining Out Gluten-Free section on [CeliacNow.org](http://CeliacNow.org) for more information about eating away from home.

### **Contamination of Gluten-Free Grains**

Various grains and flours are naturally gluten-free, but many may be contaminated with gluten-containing grains. Learn more about avoiding cross-contaminated grains.

## Oats

Oats have held a controversial place in the gluten-free diet for many years. Some people are sensitive to oats and can present with an immune reaction to avenin (oat protein), similar to gluten.<sup>4</sup> Others may experience a reaction to the increased fiber content of the oats. Most oats in the United States are contaminated with gluten-containing grains in the field while transporting, milling and/or processing. **For this reason, it is very important to only buy oats and products made with oats that are labeled gluten free.** Some manufacturers produce gluten-free oats under the “purity protocol” process. Others use mechanical/optical sorting to clean contaminated conventional oats. Per the Academy of Nutrition and Dietetics, in adults with celiac disease, a registered dietitian may suggest incorporating gluten-free oats as part of a nutritionally adequate gluten-free diet.<sup>5</sup>

Results of a systematic review evaluating oat safety in adults and children with celiac disease have been reassuring. The research suggests that non-contaminated oats are tolerated by the great majority of patients with celiac disease. However, they are careful to state that more proper, rigorous studies on oats and testing, regardless of the type of oat, are greatly needed.<sup>6</sup> If you would like to add gluten-free oats to your diet, talk to your celiac gastroenterologist or dietitian to decide if, when, and how much to include.<sup>7</sup> Gluten-free oat intake should be limited to no more than 50 to 60 grams per day.<sup>8</sup> You will be monitored closely for evidence of negative reactions.<sup>8</sup> Patients with severe disease should avoid gluten-free oats altogether.<sup>9</sup>

## Special Note from the BIDMC Celiac Center About Gluten-Free Oats

We, as celiac clinicians, feel more comfortable with the gluten-free oats grown under the purity protocol process at this time. However, we recognize that some companies may be doing a good job at consistently providing mechanically sorted gluten-free oats. We encourage our patients to look into how the gluten-free oats you may choose to purchase are grown, processed, and tested to confirm that they are indeed gluten-free for your own comfort level. Tricia Thompson of [Gluten Free Watchdog](#) has written extensively in the past on this topic. Keep in mind that some companies are using a combination of both purity protocol oats and mechanically sorted oats. Talk to your celiac health care team to help you make an informed decision about what choices may be best for you.

## Resources on Gluten-Free Oats

- Thompson T, Keller A. Gluten cross contact in oats: retrospective database analysis 2011 to 2023. *Front Nutr.* 2023 Nov 22;10:1284636.
- Pinto-Sánchez MI, Causada-Calo N, Bercik P, et al. [Safety of Adding Oats to a Gluten-Free Diet for Patients With Celiac Disease: Systematic Review and Meta-analysis of Clinical and Observational Studies](#). *Gastroenterology*. 2017 Aug;153(2):395-409.e3.

- [Canadian Celiac Association Professional Advisory Council Position Statement on Consumption of Oats by Individuals with Celiac Disease](#). November 2020. Accessed November 2025.

### **Gluten-Free Grains: Look Again!**

It may come as a surprise that the naturally gluten-free grains we turn to after saying good-bye to wheat, rye and barley may themselves be contaminated with gluten.

Results from a 2011 study show that a certain percentage of naturally gluten-free grains, seeds, and flours are **not** actually gluten-free due to cross-contact with wheat, barley, or rye. The results further suggest that shoppers cannot rely on the voluntary allergen advisory statements for wheat to guide them in choosing which products are more likely to be contaminated.<sup>10</sup>

Two celiac research dietitians sampled 22 naturally gluten-free grains, seeds and flours **not** labeled gluten-free to test for the amount of gluten. One-third of the tested products contained a voluntary allergen advisory statement on their labels. Nine of the products (41%) contained higher than the limit of quantification for gluten (with this test, it is 5 ppm), with results ranging from 8.5 ppm to 2,925 ppm.<sup>10</sup>

The sample size was too small to determine which specific grains, seeds, and flours are more or less likely to be contaminated.<sup>10</sup>

**Bottom line:** Buy only those gluten-free grains and flours that are labeled gluten-free whenever possible. These products will likely cost more because manufacturers must take extra steps to ensure their products are not cross-contaminated.<sup>3,10,11</sup>

### **Am I Being Too Strict on My Gluten-Free Diet?**

#### **A Special Note About Quality of Life and Cross-Contact**

The gluten-free diet is the cornerstone of therapy for celiac disease and the key to recovering good health after a diagnosis of celiac disease. Yet, the diet affects all aspects of life — including culture, social activity, and emotional needs — not only our need for good nutrition. Some studies reported poor quality of life, including fear, anxiety, and depression, for people with celiac disease due to the burden of the disease: cost, emotional loss, and the rigid nature of the diet. It is important to carefully follow the gluten-free diet; it is also important to maintain a healthy quality of life.<sup>12-17</sup>

If you worry that you follow the gluten-free diet too strictly, or you feel your social/home life or emotional well-being has been negatively affected by the diet, please share your concerns with your celiac clinicians. They can answer many of your questions and help you navigate the gluten-free diet with success.

### **Take-Home Messages**

- Cross-contact can occur anytime. The best way to avoid it is to understand how it can happen. Learn how to read food labels, and where food is grown, processed, stored, prepared, and served. There are many simple things you can do to help safe-guard your food.
- Being organized and prepared will go a long way to helping you eat safely with minimal risk of cross-contact.
- The gluten-free products market was valued at over 5.6 billion dollars in 2020 and is projected to reach 8.3 billion dollars by 2025<sup>18</sup>. Gluten-free food items continue to increase in regular stores across the country.<sup>13</sup> Choose items labeled gluten-free when you can.
- If you struggle with the gluten-free diet (“Am I strict enough? Am I too strict?”) and your social or emotional life has been negatively impacted, please speak to your celiac clinicians who can help you navigate the gluten-free diet with success.

### Resources on Cross-Contact

- [Gluten Free Watchdog](#): Frequent postings on gluten-free food labeling concerns
- [National Celiac Association](#): Resources for parents, including letter to child’s teacher or school
- [Cross-Contamination](#), Dr. Schar (June 2017)
- [College – Navigating Shared Housing and Kitchens](#), Gluten Intolerance Group
- [Cross-Contact](#), Beyond Celiac
- [Raising Our Celiac Kids \(ROCK\)](#): Resources on shared kitchens

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