

Raising Healthy Children: Wheat Allergies¹

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If your child has been diagnosed with a wheat allergy, you may be wondering what you will feed them, because wheat is an ingredient in so many foods. Learning about ways to manage and treat your child's allergy can help make this diagnosis less scary. This publication is designed to provide you with information about wheat allergies and tips to help keep your child safe and reaction-free.



Figure 1. Wheat.
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Wheat Allergy

A wheat allergy occurs when the body treats wheat as a harmful substance and overreacts to protect itself. While wheat allergies are very common in children, most outgrow them by the time they reach the age of twelve; however, in some cases, this may not occur until children reach their teenage years (NIH 2016), and in others, it remains throughout their life (Keet et al. 2009).

A wheat allergy is not the same as celiac disease, although these conditions are often confused. Celiac disease is caused by the body's abnormal response to a protein called gluten. Gluten is found in wheat, rye, barley, and foods made with these grains. For this reason, individuals with celiac disease or gluten intolerance must avoid eating all gluten-containing foods (i.e., foods containing wheat, rye, or barley). On the other hand, a person with a wheat allergy only needs to avoid wheat and products made with wheat.

Most allergic reactions happen after a wheat-containing food is eaten; however, it is possible that inhaling wheat, such as in the form of flour, can cause a reaction (KidsHealth from Nemours 2016). A reaction also may occur if your child accidentally eats products such as makeup, bath items, and children's modeling clay because some of these products contain wheat. It is best to avoid nonedible products that contain wheat to make sure that your child does not ingest them by accident (American College of Allergy, Asthma, and Immunology 2016).

Symptoms

The symptoms of a wheat allergy range from minor to severe. Because every child is unique, allergic reaction symptoms vary and may differ every time a reaction occurs. Symptoms of an allergic reaction to wheat may include

- sneezing,
- stuffy or runny nose,

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- headaches,
- nausea,
- stomach cramps,
- indigestion,
- vomiting,
- diarrhea,
- asthma,
- hives (itchy, red bumps on the skin), or
- skin rash (Pietzak 2012).

A more serious reaction that sometimes occurs is anaphylaxis (pronounced an-uh-fuh-lak-sis). Anaphylaxis is a severe reaction that can affect different parts of the body and can even cause death. Symptoms of anaphylaxis include

- wheezing or trouble breathing;
- decreased blood pressure (may result in pale skin, weak pulse, confusion, and loss of consciousness);
- dizziness;
- swelling of lips, tongue, and/or throat;
- tightness or closure of the throat; or
- fainting (Pietzak 2012).

The following document provides examples of phrases that a child might use to describe what they are experiencing during an allergic reaction: <https://www.foodallergy.org/resources/how-child-might-describe-reaction>.

Anaphylaxis and other symptoms may occur within minutes or hours after being exposed to wheat (Pietzak 2012). If your child's doctor has given you a medication to treat a reaction, keep it handy at all times, along with any directions you receive. Your child may be prescribed a medication called epinephrine (pronounced eh-pi-nef-rin), which usually comes in the form of an auto-injector (KidsHealth from Nemours 2016). Examples of products that allow you to automatically inject epinephrine include EpiPen®, EpiPen Jr®, and Adrenaclick®. If an epinephrine auto-injector is recommended by your child's doctor, it should be used as soon as you think your child is having an allergic reaction. The epinephrine should be injected into the middle of the outer thigh or upper leg and can be done through clothing. When using an epinephrine auto-injector on a child, hold the child's leg still before and during the injection process. Your doctor can show you how and when to use this device. Immediately after using the epinephrine auto-injector, take your child to the emergency room. Being prepared and knowing when to take action will keep your

child safe from the harmful effects of an allergic reaction (EpiPen® 2016).



Figure 2. A doctor examining a child.
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Managing a Wheat Allergy

Learning how to identify and avoid wheat-containing products makes it easier to manage wheat allergies. Safety measures should be taken to ensure your child stays away from all wheat products. If you are preparing foods that contain wheat, make sure to keep them separate from your child's meals. If other members of your household prepare and eat wheat-containing products, they should be careful to avoid cross-contact. Cross-contact can occur in many ways, but a common example is using a knife to spread peanut butter on wheat bread and then dipping the same knife back into the jar to get more peanut butter. Because the knife came in contact with the wheat bread and was then put back into the jar, it is possible that enough wheat protein was transferred to the peanut butter to cause a reaction in someone with a wheat allergy if he or she eats peanut butter from that jar.

Creating a system to make sure food is handled safely in your home can help prevent any accidental allergic reactions. For example, a separate food storage area (i.e., cabinets) can be assigned for your child. Placing all wheat-free food products in a certain part of the refrigerator or freezer might also be helpful (Collins 2016). In addition, the kitchen area and equipment should be cleaned thoroughly after contact with wheat products. Surfaces should be cleaned with a spray or a wipe that contains a detergent. Utensils, pots, and pans can either be washed in your dishwasher or can be cleaned by hand with the use of a clean sponge and hot, soapy water. If you are using a towel to dry your kitchen tools, make sure that it is clean. Proper handwashing is also essential for preventing accidental allergic reactions, especially if your hands are in

contact with wheat. Hands should be washed with warm or hot water, scrubbed for at least 20 seconds with soap, and rinsed under clean water (Perry et al. 2004).

At the Grocery Store

Finding the right food products for a child with a wheat allergy may seem difficult. The Food Allergen Labeling and Consumer Protection Act (FALCPA) of 2004 was designed to help shoppers find allergen-containing foods. There are two ways that wheat-containing foods can be labeled. The label may say “Contains Wheat” (Label A) or the ingredient that contains wheat can be listed followed by the word “wheat” (Label B) (FDA 2016a).

Label A
Ingredients: Sugar, unbleached enriched flour (wheat flour, niacin, reduced iron, thiamin mononitrate, folic acid) hydrogenated soybean oil, soy flour, cornstarch, molasses, malted barley flour, salt Contains: Wheat
Label B
Ingredients: Enriched flour (wheat flour, malted barley, niacin, reduced iron, thiamin mononitrate, riboflavin, folic acid), sugar, partially hydrogenated soybean oil, and/or cottonseed oil, high fructose corn syrup.

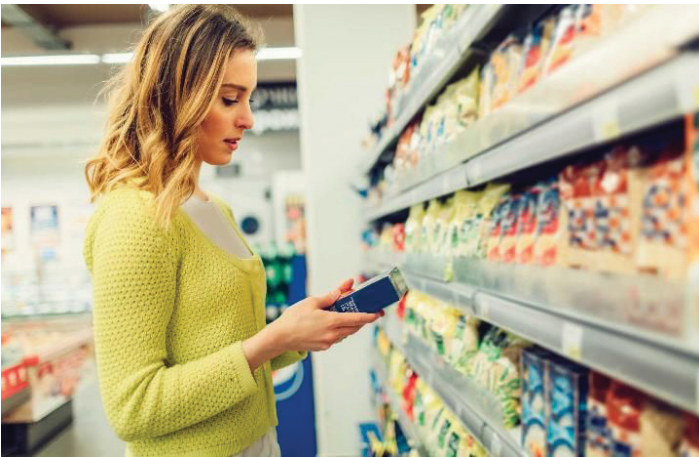


Figure 3. A woman shopping in a grocery store.
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Except for meat, poultry, and certain egg products, FALCPA labeling rules apply to all packaged foods sold in the United States, including products produced within the country or brought from another. Because meat, poultry, and certain egg products do not have to follow the FALCPA labeling rules but may contain wheat, it is important to recognize sources of wheat in these products. An example of a meat product that may contain flour is sausage. Many sausage products use wheat flour as a binder or breadcrumbs as part of the filling. Some manufacturers include allergen statements on certain meat, poultry, and egg products, but it is not a requirement (FDA 2006). So even though most food packages will have a statement to show that a product

contains wheat, it is good to be aware of ingredients that are forms of wheat but go by other names (Food Allergy Research and Education 2016) (see Table 1). You also may notice that some food labels will have statements like “may contain wheat” or “produced in a facility that also uses wheat” displayed on a package. Foods with these warnings should be avoided (Food Allergy Research and Education 2016).

Wheat also can be found in foods that you do not suspect. Even though most of these foods should have a label stating that they contain wheat, it is useful to know which foods may need to be avoided. Examples of foods that sometimes contain wheat are included in Table 2.

There are many different types of flours that can be used as replacements for wheat flour. As with all other food items, purchase prepackaged wheat-free flours rather than the ones from bulk bins to avoid the risk of cross-contact. Check this website for a food glossary to help you with wheat-free shopping: <http://www.kidswithfoodallergies.org/media/Wheat-Allergy-Avoidance-List-Hidden-Names.pdf>. See Table 3 for a list of foods generally safe for people with a wheat allergy.

Maintaining a Balanced Diet with a Wheat Allergy

Wheat contains iron, B vitamins (thiamin, riboflavin, niacin, folic acid/folate, and vitamin B6), fiber, protein, and other vitamins and minerals. Children with a wheat allergy can get most of their iron from certain animal foods, such as beef, chicken, pork, and salmon. Plant sources of iron include dark green vegetables, beans (e.g., kidney, pinto, and black beans), lentils, and pumpkin seeds. Grains such as corn, quinoa, rice, oats, rye, buckwheat, and amaranth can be used instead of wheat. They are available in whole or flour forms (KidsHealth from Nemours 2016). The nutritional value of these grains varies. Table 4 lists non-wheat whole grains and some nutrients they provide (Whole Grain Council 2016).

To ensure that your child is following a healthy diet, it is recommended that you make half of the grains he or she eats whole grains. To find out if a food product is made with whole grains, search for the word “whole” on the package (USDA 2016).

Breakfast cereals are often a favorite among children. Look for wheat-free options made with oats, corn, or rice.

Management in School/Daycare and Babysitting

When it is time to send your child to school or daycare or leave him or her with a babysitter or other caregiver, it is important to be sure that the caregiver has the information needed to keep your child safe. Be sure to give him or her a list of items your child needs to avoid, as well as those that are safe to consume; instructions on medication use and managing a reaction; and a list of signs and symptoms that would help the caregiver recognize allergic episodes. Providing the caregiver with a written action plan to use in the case of an emergency is also a good idea. In addition to informing caregivers, you should work with your child to help them understand the nature of their wheat allergy. Once your child is aware of the condition, he or she should have a basic idea of which foods to avoid. It also might be a good idea to educate your child ahead of time with certain concepts such as knowing where to go if he or she has a question about something, what to do if a reaction is occurring, and making sure he or she knows not to swap their lunch with a peer's lunch. This link provides specific guidelines on managing your child's food allergies in a school setting: <https://www.foodallergy.org/resources/getting-started-school>.



Figure 4. A woman and a child eating at a picnic table.
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Dining Out

If you are dining away from home with your child, make sure that those in charge of food preparation, such as restaurant staff, are aware of the wheat allergy and its serious side effects. The best way to stay safe is to order simple dishes that do not contain too many ingredients. Avoiding buffets may be a good idea since there is a high risk of cross-contact. You can also call the restaurant before going there to see if they are able to make wheat-free options or make special preparations to prevent accidental cross-contact (FDA 2016a).

Summary

The key to treating your child's wheat allergy is to keep him or her away from wheat. Recognizing the symptoms of an allergic reaction, reading labels, identifying wheat-containing products, and having an allergy action plan can help to prevent an accidental reaction. In your home, ensure that all members of the household properly wash their hands, practice handling food safely, and clean cookware and utensils thoroughly to prevent cross-contact. Those who care for your child should be notified and provided with instructions on how to manage a wheat allergy. You can keep your child safe from an allergic reaction by following these guidelines, staying educated, and maintaining a relationship with your child's doctor, school nurse, and others involved in helping your child cope with their wheat allergy.

References

- American College of Allergy, Asthma, & Immunology. 2016. "Wheat Allergy." Accessed June 18, 2020. <http://acaai.org/allergies/types/food-allergies/types-food-allergy/wheat-gluten-allergy>
- Collins, S. 2016. "Practice Paper of the Academy of Nutrition and Dietetics: Role of the Registered Dietitian Nutritionist in the Diagnosis and Management of Food Allergies." *Journal of the Academy of Nutrition and Dietetics* 116 (10): 1621–1631. <https://doi.org/10.1016/j.jand.2016.07.018>
- EpiPen® (epinephrine) and EpiPen Jr® (epinephrine) Auto-Injectors. 2016. "How to Use Your EpiPen." Accessed June 18, 2020. <https://www.epipen.com/about-epipen/how-to-use-epipen>.
- Food Allergy Research and Education. 2016. "Wheat—Food Allergy Research and Education." Accessed June 18, 2020. <https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/common-allergens/wheat>
- Food and Drug Administration (FDA). 2006. "Guidance for Industry: Questions and Answers Regarding Food Allergens, including the Food Allergen Labeling and Consumer Protection Act of 2004 (Edition 4)." Accessed June 18, 2020. <https://www.fda.gov/food/guidanceregulation/guidancedocumentsregulatoryinformation/allergens/ucm059116.htm>

Food and Drug Administration (FDA). 2016a. “Food Allergen Labeling and Consumer Protection Act of 2004.” Accessed June 10, 2024. <https://www.fda.gov/food/food-allergensgluten-free-guidance-documents-regulatory-information/food-allergen-labeling-and-consumer-protection-act-2004-falcpa>

Food and Drug Administration (FDA). 2016b. “Starches—Common or Usual Names.” Accessed June 18, 2020. <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/cpg-sec-578100-starches-common-or-usual-names>

Keet, C., E. Matsui, G. Dhillon, P. Lenehan, M. Paterakis, and R. Wood. 2009. “The Natural History of Wheat Allergy.” *Annals of Allergy, Asthma & Immunology* 102 (5): 410–415. [https://doi.org/10.1016/s1081-1206\(10\)60513-3](https://doi.org/10.1016/s1081-1206(10)60513-3)

KidsHealth from Nemours. 2016. “Wheat Allergy.” Accessed June 18, 2020. <https://kidshealth.org/en/parents/wheat-allergy.html?WT.ac=ctg>

NIH: National Institute of Allergy and Infectious Diseases. 2016. “Food Allergies.” Accessed June 18, 2020. <https://www.niaid.nih.gov/diseases-conditions/food-allergy>

Perry, T., M. Conover-Walker, A. Pomés, M. Chapman, and R. Wood. 2004. “Distribution of Peanut Allergen in the Environment.” *Journal of Allergy and Clinical Immunology* 113 (5): 973–976. <https://doi.org/10.1016/j.jaci.2004.02.035>

Pietzak, M. 2012. “Celiac Disease, Wheat Allergy, and Gluten Sensitivity: When Gluten Free Is Not a Fad.” *Journal of Parenteral and Enteral Nutrition* 36 (1 Suppl): 68S–75S. <https://doi.org/10.1177/0148607111426276>

US Department of Agriculture (USDA). 2016. “All about the Grains Group.” Choose MyPlate. Accessed June 18, 2020. <https://www.choosemyplate.gov/grains>

The Whole Grains Council. 2016. “Compare Nutrients in Various Grains.” Accessed June 18, 2020. <http://wholegrain-scouncil.org/whole-grains-101/what-are-health-benefits/compare-nutrients-various-grains>

Table 1. Sources of wheat that go by other names.

Breadcrumbs	Einkorn	Pasta	Wheat***
Bulgar	Emmer	Seitan	Wheat bran hydrolysate
Cereal extract	Farina	Semolina	Wheat germ oil
Club wheat	Flour*	Spelt	
Couscous	Hydrolyzed wheat protein	Sprouted wheat	Wheat protein isolate
Cracker meal	Kamut®	Triticale	Whole wheat berries
Durum	Matzoh, matzoh meal**	Vital wheat gluten	

*All-purpose, bread, cake, durum, enriched, graham, high gluten, high protein, instant, pastry, self-rising, soft wheat, steel ground, stone ground, whole wheat
 **Other spellings: matzo, matzah, or matza
 *** Followed by these terms: bran, durum, germ, gluten, grass, malt, sprouts, starch
 Source: Food Allergy Research and Education (2016)

Table 2. Foods that sometimes contain wheat.

Glucose syrup	Marinara sauce	Processed meats	Gelatinized starch*
Surimi	Potato chips	Sauces	Modified starch*
Soy sauce	Rice cakes	Caramel color	Vegetable starch*
Ice cream	Ready-to-eat breakfast cereals	Soups	Food starch*

* If “starch” is listed as an ingredient itself, it usually means cornstarch, unless the package states that it is from a different source (FDA 2016b)
 Source: Food Allergy Research and Education (2016)

Table 3. Foods that are generally SAFE to purchase for people with a wheat allergy:

Plain frozen, fresh, or canned fruits and vegetables	Quinoa	Nuts*
Plain dairy products (e.g., milk, yogurt, and cheese)	Rye	Beans
Plain eggs	Tapioca	Peas
Rice	Barley	Lentils
Corn	Buckwheat	Plain tofu

*Avoid coated or flavored nuts.

Table 4. Nutrients provided by selected non-wheat whole grains*

Grain	Nutrients (based on approximately 1 cup cooked)
Quinoa	<u>Good source of:</u> protein, fiber, iron, copper, thiamin, vitamin B6. <u>Excellent source of:</u> magnesium, phosphorus, manganese, folate.
Cornmeal	<u>Good source of:</u> fiber, magnesium, phosphorus, manganese, selenium, thiamin.
Brown Rice	<u>Good source of:</u> magnesium, phosphorus, selenium, thiamin, niacin, vitamin B6. <u>Excellent source of:</u> manganese.
Rolled Oats	<u>Good source of:</u> protein, fiber, iron, magnesium, phosphorus, zinc, copper, selenium, thiamin. <u>Excellent source of:</u> manganese.
Rye	<u>Good source of:</u> magnesium, phosphorus, copper, selenium. <u>Excellent source of:</u> fiber, manganese.
Amaranth	<u>Good source of:</u> protein, fiber, iron, copper, selenium, vitamin B6. <u>Excellent source of:</u> magnesium, phosphorus, manganese.
Buckwheat	<u>Good source of:</u> protein, fiber, phosphorus, riboflavin, niacin. <u>Excellent source of:</u> magnesium, copper, manganese.

*Source: The Whole Grains Council (2016)