



Preventing Allergies in Infants: What Foods to Introduce and When

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Food allergies have become increasingly common over the past several years among children in the United States (Comberiati et al., 2019; Sicherer et al., 2017). Food allergies are a negative immune response occurring in the body after eating a specific food (Sicherer et al., 2017). Unlike food intolerances, such as lactose intolerance which causes uncomfortable symptoms in the stomach and intestines, allergic reactions to food can cause a wide range of serious and sometimes fatal symptoms (Konek & Becker, 2020). Food allergies can affect a child's health and quality of life, while also impacting their caregivers' lives (Sicherer et al., 2017). This fact sheet reviews causes of food allergies, recommendations for preventing food allergies, suggestions for introducing potential allergens to infants, and signs of an allergic reaction.



Causes of Food Allergies

Family history (genetics) and environmental factors are the most common reasons for food allergies (Comberiati et al., 2019). In fact, an infant is at much higher risk of developing food allergies if an immediate family member experiences either a food allergy, asthma, or eczema, a skin condition (Comberiati et al., 2019; Konek & Becker, 2020; Sicherer et al., 2017; West, 2017). Another risk

factor for developing food allergies is having a limited variety of good bacteria in the gut, which can happen for babies when (1) born by cesarean section or (2) their mothers are only exposed to a small variety of good bacteria during pregnancy (Comberiati et al., 2019; Nakamura et al., 2019).

Contrary to previous recommendations, current research has found that avoiding the consumption of allergenic foods early in life does not increase the risk of food allergies (Comberiati et al., 2019; Greer, et al., 2019). In fact, recent research suggests that early exposure to allergenic foods, specifically peanuts, in a safe form for infants, can actually decrease the risk of food allergies later in life (Comberiati et al., 2019).



The Most Common Food Allergens

Eight common food allergens important to be aware of when introducing solid foods to an infant (Konek & Becker, 2020) include:

- Egg
- Fish
- Crustacean shellfish
- Milk
- Soy
- Wheat
- Tree nuts
- Peanuts

Current Recommendations for Introducing Food Allergens to Infants

Recommendations for introducing allergenic foods to infants have recently changed by the American Academy of Pediatrics (AAP) and the American Academy of Allergy, Asthma, and Immunology (AAAAI). For infants who have a low risk of developing food allergies and are developmentally

ready, introduce common allergen-prone solid foods around 4-6 months of age once a few non-allergenic foods have been tolerated (Fleischer, et al, 2013; Greer, et al., 2019). Recent studies show that introducing peanuts between 4-11 months of age and cooked eggs between 6-8 months of age can actually lower the risk of these food allergies (Comberiati et al., 2019; Sicherer, 2017). A 6-month-old infant is typically ready to eat solid foods, although this can vary from one child to another. There are several developmental behaviors to look for in an infant, including their ability to chew, keep their head still, and sit propped up (Comberiati et al., 2019). Infants should not be introduced to solid foods, especially allergens, before 4 months of age for a variety of reasons (Comberiati et al., 2019, Greer, et al. 2019). Caregivers of infants at high risk for food allergies should work closely with a pediatrician or family doctor who can help develop a monitoring plan for allergen exposure (Comberiati et al., 2019; Konek & Becker, 2020; NSW, 2014; Sicherer, 2017).

How to Introduce Common Allergens

The AAP and AAAI recommend introducing allergens between 4-6 months of age (Fleischer, et al., 2015; Greer, et al., 2019; Sicherer, 2017). See the table below for details of how to introduce allergenic foods. Recommendations include

introducing one new food about every three days, allowing infants time to get used to new flavors and textures while parents see how the infant responds to a particular food (Konek & Becker, 2020).

How to Introduce Common Allergenic Foods

Allergenic foods	Suggestions
Peanuts	<ul style="list-style-type: none">• Smooth peanut butter mixed with breastmilk, formula, or cow's milk* or pureed with fruit (Perkin et al., 2015; West, 2017).• Peanut soup (West, 2017).• Finely ground peanuts mixed with other foods such as yogurt or oatmeal (Greer et al., 2019; Sicherer & Sampson, 2018; West, 2017).• Thin layer of peanut butter on bread (Greer et al., 2019; Sicherer & Sampson, 2018).
Eggs	<ul style="list-style-type: none">• Hard-boiled egg yolk mixed with breast milk, formula, avocado, banana, sweet potato, or other pureed fruits and vegetables (Greer et al., 2019; Perkin et al., 2015; Sicherer & Sampson, 2018; West, 2017).• Whole eggs used in baked goods, pancakes, waffles, or simple omelets (Greer et al., 2019; Sicherer & Sampson, 2018; West, 2017).
Wheat	<ul style="list-style-type: none">• Baby wheat cereals, crackers, bread (Perkin et al., 2015).• Small pieces of wheat pasta (pastina) mixed into food such as vegetables (Perkin et al., 2015).
Milk*	<ul style="list-style-type: none">• Use whole cow's milk* in different recipes such as soups, baked goods, and other recipes (Caffarelli et al., 2018; Greer et al., 2019; Perkin et al., 2015; Sicherer & Sampson, 2018).
Fish	<ul style="list-style-type: none">• Thoroughly cooked white fish, reaching internal temperature of 145°, flakes, or mashed with avocado or sweet potato (Greer et al., 2018; Perkin et al., 2015; United States Department of Agriculture, 2020).• Choose fish with lower mercury levels, such as canned light tuna, pollock, or salmon (avoid large fish such as shark, ahi tuna, and bigeye tuna) (Perkin et al., 2015).
Soy	<ul style="list-style-type: none">• Baked or sautéed tofu (Elbert et al., 2017).• Products with soy-based ingredients (Elbert et al., 2017).

**Although milk may be added to foods, it should not be consumed as a beverage until after 1 year of age because an infant's digestive system is not ready to digest a large amount of cow's milk, and it can result in nutritional deficiencies since it would replace breastmilk or formula (Konek & Becker, 2020).*

Warning Signs of an Allergic Reaction

Some children's immune systems are not completely developed and may not handle certain foods (Sicherer & Sampson, 2018). As a result, exposure could lead to allergic reactions which often affect skin, respiratory, digestive, and/or

cardiovascular systems (Sicherer & Sampson, 2018). Symptoms to watch for are listed below (Sicherer & Sampson, 2018; NSW, 2014).

- Hives
- Swelling
- Eczema

- Flushing
- Diarrhea
- Vomiting
- Pain
- Itching around the mouth
- Wheezing
- Runny nose
- Trouble breathing
- Rapid heartbeat

A more serious reaction called anaphylaxis requires urgent medical attention; symptoms include breathing issues, drop in blood pressure, rapidly spreading welts, swelling, and in extreme cases, allergic shock and collapse (Sicherer & Sampson, 2018; NSW, 2014). With specific questions or concerns, or if a high risk for food allergies exists, contact your pediatrician or doctor before exposing an infant to an allergenic food (Caffarelli et al., 2018; Koneck & Becker, 2020).

Conclusion

As the main risk factor for developing food allergies, genetics are unpreventable; however, you can take simple actions to lower and prevent other risk factors. Introducing common food allergens at appropriate times can help decrease the chance of developing a food allergy. Work with your pediatrician to determine your child's risk for food allergies and try introducing allergen-prone food around 6 months of age to help prevent food allergies that can prove difficult to manage throughout life.

Further Reading

For more information on introducing solids to infants, see "[Healthy Beginnings: Infant and Toddler Feeding](#)" by Chelsea Feller and Carrie Durward, and "[Baby-Led Weaning: An Approach to Introducing Solid Foods to Infants](#)" by Lydia Bangerter, Mateja R. Savoie Roskos, and Casey Coombs.



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