

Nutrition for Kids: Introducing Solid Foods to Infants at Six Months of Age

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Introduction

Around six months of age, babies are ready to begin eating solid foods and generally are eager to try new foods. Many parents find this an exciting time for their child, especially since sitting at the table with their family for meals enhances a baby's social and emotional development. The following recommendations will help you to teach your baby to eat, to love the foods your family enjoys, and begin to nurture in them a healthy relationship with food and nutrition.

How to Introduce Solids

Helpful Suggestions

One food at a time. When introducing new foods to babies, introduce only one food at a time. After 3–5 days, introduce another new food. This ensures that if the baby reacts badly to a food, it will be easier to identify the food that caused it.

Small portions. Infant formula or human milk provides all of a six-month-old baby's nutritional needs, so they do not need to eat large amounts of solid foods. Introducing solid foods at this age helps them to practice eating and to learn to enjoy mealtimes with their family.

Vegetables first? Some research suggests babies who are introduced to vegetables as a first food go on to enjoy and consume vegetables more throughout childhood compared to those who were introduced to fruit or other foods first. Introducing fruits or other sweet foods at an early age may foster a preference for sugary foods (or those with added sugars) as children grow, which is a well-known factor in the development of childhood obesity.

Iron-rich foods. Babies, especially those exclusively fed human milk, are at risk of developing an iron deficiency. Iron-rich foods include red meat, chicken, and spinach. To increase the amount of iron your baby's body absorbs, pair servings of vitamin C-rich foods, like strawberries, citrus fruit, or red bell peppers, with iron-rich plant foods, like spinach. Fortified infant cereals are also iron rich.

Cultural and social exposure. Because infants and children learn to love foods they are exposed to and those their family loves, serve them foods that are commonly eaten in your household and expose them to textures and flavors from other cultures like guacamole or stir-fried vegetables and rice. Providing this type of variety encourages their acceptance of these foods later in childhood.

Avoid foods higher in sodium and added sugars until after your baby's second birthday. The <u>2020–25 Dietary Guidelines for Americans</u> recommends

that children under the age of two years avoid foods higher in sodium and added sugars. Too much sodium affects kidney function, so limit added salt and processed foods. Added sugars (as compared to naturally occurring sugar found in foods like fruit and dairy) contribute calories to our diet but do not provide any nutrients of value like fiber, vitamins, or minerals. Therefore, avoid foods that contain sucrose, glucose, fructose, and corn syrup. Related to sweet foods, do not feed infants honey in their first year of life due to risk of foodborne illness.

Signs of Developmental Readiness

When your baby performs any of these six developmental skills, they are ready to eat solid food.



Sign 1
The Pincer Grasp. Babies who are ready to eat solid foods can use the pincer grasp to pick up objects with their thumb and pointer finger.





Sign 3

Head Control. To safely consume solid foods, a baby must be able to hold their head up with control. Tummy time (having your baby lie on its stomach and attempt to hold their head up) gives a baby an opportunity to strengthen the muscles involved and improve head control.

Sign 4
Sitting Up Unassisted. Sitting up with little support indicates readiness for eating solid food.





Interest in Food. Babies who are ready to eat solid foods show interest in the foods people are eating around them. They may reach for food when they see it, drool over food, and/or get upset when parents do not give them the foods they are eating.



Table 1. Sample one-day menu for introducing solid foods to infants.

Meal or Snack Event	Time of Day	Food Items
Right after waking in the morning	6:30 am	Human milk or infant formula
Breakfast	8:00 am	About 4 tbsp of cooked and mashed apples, unsweetened
After waking from first nap	9:45 am	Human milk or infant formula
Lunch	11:30 am	2–4 tbsp of cooked and mashed salmon, chicken, turkey, or other meat
After waking from second nap	1:30 pm	Human milk or infant formula
After waking from third nap	4:30 pm	Human milk or infant formula
Dinner	5:30 pm	2–3 tbsp of cooked and mashed green beans
Before bedtime	6:30 pm	Human milk or infant formula

Baby-Led Weaning

Baby-led weaning is gaining traction as a feeding philosophy because of its associations with self-feeding and instilling in infants a positive relationship with food. The two forms of this feeding approach include

- letting a baby decide when to wean from the breast or bottle and
- allowing a baby to feed themselves very small pieces of solid foods with their hands, as opposed to a caregiver feeding pureed foods from a spoon.

The latter is a new method and is increasing in popularity. The idea behind it is that babies do not need to be spoon-fed pureed foods. They can feed themselves with their hands and enjoy the same foods their family eats. Parents simply cut the foods the rest of the family is eating into very small pieces so that the baby can squish them with their gums. For meat, cut them into very large pieces so they no longer pose a choking risk; the baby sucks on these to begin eating them.

Research on baby-led weaning is mixed. Some studies report no risk to the baby, while others note a very small increase in gagging and choking. To ensure your baby's safety, speak with your pediatrician

or registered dietitian to help determine if this method of feeding is appropriate. Some babies, like those with developmental delay or neurological conditions, may have difficulty chewing and swallowing. In those cases, baby-led weaning may not be the right choice.

What about Food Allergies?

Introducing solid food to your baby's diet also raises the topic of an allergic reaction. Fortunately, only about 8% of infants in the United States develop food allergies, so most babies will not react to foods (Gupta et al. 2018). However, its likelihood increases when a first-degree relative (mom, dad, or sibling[s]) has a food allergy. In this case, work with your pediatrician or allergist on the safest way to introduce these foods to your baby. The eight major allergens are fish, shellfish, peanuts, tree nuts, soy, eggs, wheat, and dairy. Recently, researchers have added sesame (Protudjer and Abrams 2019).

An allergy is different from a food sensitivity or intolerance. Allergies induce swelling, hives, and anaphylaxis (shock) whereas an intolerance may cause gastrointestinal (upset stomach) symptoms. Keep track of any symptoms so you can have a full discussion with your baby's healthcare provider.

In the past, experts recommended that parents avoid giving their babies allergen foods, but in recent years they've changed their advice. Now, early introduction of allergen foods is recommended. Best practice is to give your baby small amounts of the top nine allergens between the age of six months to one year. This has been shown to reduce the risk of food-allergy development throughout childhood (Trogan et al. 2022).

Final Thoughts

Introducing solid foods to your baby marks an exciting milestone. Before you start, look for the six signs that your baby is ready to eat solids. Next, be thoughtful of the foods you feed them. Smaller-portion sizes are best for now, since they will still meet their nutritional needs through infant formula or human milk. Finally, ask your baby's pediatrician, allergist, or registered dietitian about baby-led weaning or introducing allergens. They will be able to provide you with the best, individualized recommendations for your baby.

Eating solids is good practice for babies of this age, but participating in family mealtimes is equally important for your baby's development. Eventually, they will learn to love the foods they are frequently exposed to and that their family eats. So, as they practice, sit at the table and eat with your baby—it's a great way to enjoy a few minutes together every day.

Further Reading

- American Academy of Pediatrics. 2022. "Starting Solid Foods." healthychildren.org. https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/Starting-Solid-Foods.aspx.
- Branum, A. M., and S. L. Lukacs. 2009. "Food Allergy among Children in the United States." *Pediatrics* 124(6): 1549–55. doi: 10.1542/peds.2009-1210.
- Cleveland Clinic. 2024. Baby-Led Weaning: What You Need to Know." Health Essentials. https://health.clevelandclinic.org/baby-led-weaning.
- The Ellyn Satter Institute. 2024. https://www.ellynsatterinstitute.org/.
- Gupta, R. S, C. M. Warren, B. M. Smith, J. A. Blumenstock, J. Jiang, M. M. Davis, and K. C. Nadeau. 2018. "The Public Health Impact of Parent-Reported Childhood Food Allergies in the United States." *Pediatrics* 142(6): e20181235. doi: 10.1542/peds.2018-1235. Erratum published in 2019 in *Pediatrics* 143(3): e20183835. doi: 10.1542/peds.2018-3835. PMID: 30455345; PMCID: PMC6317772.
- Illinois Extension. 2024. "Feeding My Baby from Cradle to Table." https://feedingmybaby.extension.illinois.edu/.
- Johns Hopkins University, Hospital, and Health System. 2024. "Food Allergies." Johns Hopkins Medicine: Health. https://www.hopkinsmedicine.org/health/conditions-and-diseases/food-allergies.

- Mayo Clinic. 1998–2024. "Solid Foods: How to Get Your Baby Started." Healthy Lifestyle: Infant and Toddler Health. https://www.mayoclinic.org/healthy-lifestyle/infant-and-toddler-health/in-depth/healthy-baby/art-20046200.
- Olsen, B. 2024. "Feeding Your Baby from Six to Twelve Months." University of Wisconsin-Madison: Healthy Eating and Active Living Division of Extension. https://healthyliving.extension.wisc.edu/articles/feeding-your-baby-from-six-to-twelve-months/.
- Protudjer, J. L. P., and E. M. Abrams. 2019. "Sesame: The New Priority Allergen?" *JAMA Network Open* 2(8): e199149. doi: 10.1001/jamanetworkopen.2019.9149.
- Trogan, B., S. Jacobs, and A. Nowak-Wegrzyn. 2022. "Early Introduction of Allergenic Foods and the Prevention of Food Allergy." *Nutrients* 14(13): 2565. doi: 10.3390/nu14132565.
- United States Department of Agriculture (USDA) and United States Department of Health and Human Services. 2020. *Dietary Guidelines for Americans*, 2020–2025. 9th ed. Washington, DC: USDA. https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf.
- USDA. n.d. "Infants." MyPlate. https://www.myplate.gov/life-stages/infants.
- US Department of Health and Human Services. 2023. "When, What, and How to Introduce Solid Foods." Centers for Disease Control and Prevention: Nutrition. https://www.cdc.gov/nutrition/infantandtoddlernutrition/foods-and-drinks/when-to-introduce-solid-foods.html.

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