



## Healthy Lifestyle

# Children's health

**Iron deficiency in children can affect development and lead to anemia. Find out how much iron your child needs, the best sources of iron and more.**

By Mayo Clinic Staff

Iron is a nutrient that's essential to your child's growth and development, but some kids don't have enough. Find out what causes iron deficiency in children, how to recognize it and how to prevent it.

Iron helps move oxygen from the lungs to the rest of the body and helps muscles store and use oxygen. If your child's diet lacks iron, he or she might develop a condition called iron deficiency.

Iron deficiency in children is a common problem. It can occur at many levels, from a mild deficiency all the way to iron deficiency anemia — a condition in which blood doesn't have enough healthy red blood cells. Untreated iron deficiency can affect a child's growth and development.

Babies are born with iron stored in their bodies, but a steady amount of additional iron is needed to fuel a child's rapid growth and development. Here's a guide to iron needs at different ages:

Age group	Recommended amount of iron a day
7 - 12 months	11 mg
1 - 3 years	7 mg
4 - 8 years	10 mg
9 - 13 years	8 mg
14 - 18 years, girls	15 mg

14 - 18 years, boys

11 mg

Infants and children at highest risk of iron deficiency include:

- Babies who are born prematurely or have a low birth weight
- Babies who drink cow's milk or goat's milk before age 1
- Breast-fed babies who aren't given complementary foods containing iron after age 6 months
- Babies who drink formula that isn't fortified with iron
- Children ages 1 to 5 who drink more than 24 ounces (710 milliliters) of cow's milk, goat's milk or soy milk a day
- Children who have certain health conditions, such as chronic infections or restricted diets
- Children who have been exposed to lead
- Children who don't eat enough iron-rich foods
- Children who are overweight or obese

Adolescent girls also are at higher risk of iron deficiency because their bodies lose iron during menstruation.

Too little iron can impair your child's ability to function well. However, most signs and symptoms of iron deficiency in children don't appear until iron deficiency anemia occurs. If your child has risk factors for iron deficiency, talk to his or her doctor.

Signs and symptoms of iron deficiency anemia might include:

- Pale skin
- Fatigue
- Cold hands and feet
- Slowed growth and development
- Poor appetite
- Abnormally rapid breathing
- Behavioral problems
- Frequent infections
- Unusual cravings for non-nutritive substances, such as ice, dirt, paint or starch

If you're feeding your baby iron-fortified formula, he or she is likely getting the recommended amount of iron. If you're breast-feeding your baby, talk with your baby's doctor about iron supplementation. An iron supplement may be iron drops given at a specific dose or iron that's included in a vitamin supplement.

Here are some general recommendations:

- **Full-term infants.** Start giving your baby an iron supplement at age 4 months. Continue giving your baby the supplement until he or she is eating two or more servings a day of iron-rich foods, such as iron-fortified cereal or pureed meat. If you breast-feed and give your baby iron-fortified formula and the majority of your baby's feedings are from formula, stop giving your baby the supplement.
- **Premature infants.** Start giving your baby an iron supplement at age 2 weeks. Continue giving your baby the supplement until age 1. If you breast-feed and give your baby fortified formula and the majority of your baby's feedings are from formula, stop giving your baby the supplement.

Other steps you can take to prevent iron deficiency include:

- **Serve iron-rich foods.** When you begin serving your baby solids — typically between ages 4 months and 6 months — provide foods with added iron, such as iron-fortified baby cereal, pureed meats and pureed beans. For older children, good sources of iron include red meat, chicken, fish, beans and spinach.
- **Don't overdo milk.** Between ages 1 and 5, don't allow your child to drink more than 24 ounces (710 milliliters) of milk a day.
- **Enhancing absorption.** Vitamin C helps promote the absorption of dietary iron. You can help your child absorb iron by offering foods rich in vitamin C — such as citrus fruits, cantaloupe, strawberries, bell pepper, tomatoes and dark green vegetables.

Iron deficiency and iron deficiency anemia are typically diagnosed through blood tests. The American Academy of Pediatrics recommends that all infants be tested for iron deficiency anemia starting between ages 9 months and 12 months and, for those who have risk factors for iron deficiency, again at later ages. Depending on the screening results, your child's doctor might recommend an oral iron supplement or a daily multivitamin or further testing.

Iron deficiency in children can be prevented. To keep your child's growth and development on track, offer iron-rich foods at meals and snacks and talk to your child's doctor about the need for screenings and iron supplements.

## Show References

1. Powers JM, et al. Iron deficiency in infants and children < 12 years: Screening, prevention, clinical manifestations, and diagnosis. <https://www.uptodate.com/contents/search>. Accessed Oct. 14, 2019.
2. Iron. National Institutes of Health. <https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/>. Accessed Oct. 14, 2019.
3. What is iron-deficiency anemia? National Heart, Lung, and Blood Institute. <https://www.nhlbi.nih.gov/health-topics/iron-deficiency-anemia>. Accessed Oct. 14, 2019.
4. Kaushansky K, et al., eds. Iron deficiency and overload. In: Williams Hematology. 9th ed. McGraw-Hill Education; 2016. <https://accessmedicine.mhmedical.com>. Accessed Oct. 14, 2019.
5. Hay WW, et al., eds. Ambulatory & office pediatrics. In: Current Diagnosis & Treatment: Pediatrics. 24th ed. McGraw-Hill Education; 2018. <https://accessmedicine.mhmedical.com>. Accessed Oct. 14, 2019.

6. Hoecker JL (expert opinion). Mayo Clinic. Oct. 21, 2019.

Feb. 25, 2022

Original article: <https://www.mayoclinic.org/healthy-lifestyle/childrens-health/in-depth/iron-deficiency/art-20045634>

---

Any use of this site constitutes your agreement to the Terms and Conditions and Privacy Policy linked below.

[Terms and Conditions](#)

[Privacy Policy](#)

[Notice of Privacy Practices](#)

[Notice of Nondiscrimination](#)

[Manage Cookies](#)

Mayo Clinic is a nonprofit organization and proceeds from Web advertising help support our mission. Mayo Clinic does not endorse any of the third party products and services advertised.

[Advertising and sponsorship policy](#)

[Advertising and sponsorship opportunities](#)

A single copy of these materials may be reprinted for noncommercial personal use only. "Mayo," "Mayo Clinic," "MayoClinic.org," "Mayo Clinic Healthy Living," and the triple-shield Mayo Clinic logo are trademarks of Mayo Foundation for Medical Education and Research.

---

© 1998-2023 Mayo Foundation for Medical Education and Research (MFMER). All rights reserved.



Feedback