

Nutrition is often simplified to three macronutrients: carbohydrates, fat and protein. However, micronutrients, such as iron, calcium, folate, and vitamins are just as critical and often overlooked. Below is an article on iron from the Academy of Nutrition and Dietetics.

What's the nutrient most lacking in your teen's diet? While you might guess calcium, it could be iron.

Iron needs go up dramatically in the teen years. During childhood (ages 9 to 13) both boys and girls need about 8 milligrams of iron daily, according to the Dietary Reference Intakes. As teens grow, their muscle mass increases and blood volume expands, increasing their need for iron, so the recommendation jumps to 15 milligrams of iron daily for girls ages 14 to 18, and 11 milligrams daily for boys ages 14 to 18.

Despite the abundance of iron in the United States food supply through natural, enriched and fortified food sources, teens may be consuming less of this mineral than their developing bodies require. While it can happen to boys, adolescent girls often are at risk for iron deficiency — and

girls from food-insecure households are at greatest risk. Girls also need to replace iron stores lost during menstruation. Sometimes girls are on calorie-restrictive diets in an effort to lose weight that also can affect iron consumption. Vegetarian or vegan teens may also be at greater risk of iron deficiency.

What Iron Does in the Body

Iron plays a significant role in many diverse functions because it helps the blood carry oxygen to the lungs, muscles and all parts of our bodies. Because of this role, it also is involved in brain function and helps keep our immune system strong.

An iron deficiency can result in a number of symptoms that your child's pediatrician can evaluate. One common sign is fatigue. Other symptoms may include shortness of breath; frequent colds and infections; poor concentration at school; pale skin; lightheadedness; rapid heart rate; headaches; and thin, brittle and concave-shaped nails. Deficient teen athletes may have lackluster training sessions and experience fatigue during workouts.

How to Get More Iron

Iron comes from a variety of foods: meat, poultry and seafood, as well as legumes, enriched grain products and leafy green vegetables.

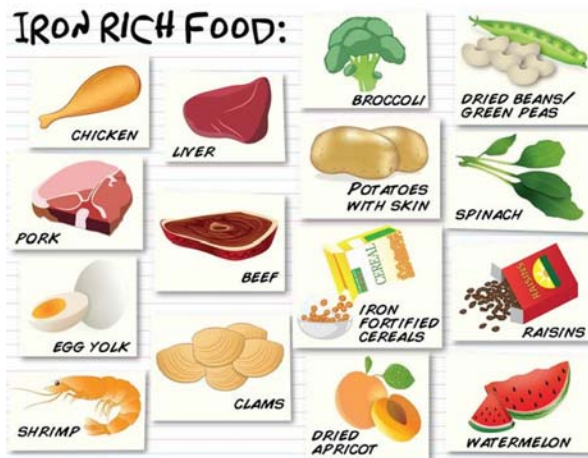
Animal sources of iron (which contain heme iron) are best absorbed, while plant sources (non-heme iron) should be eaten with a vitamin C source to help increase its absorption. For example, serve iron-fortified cereals with grapefruit or 100-percent orange juice, and cook beans with tomatoes in a chili. Cooking food in a cast iron pan also can increase iron content.

For example, here is the iron content in some common foods:

- 3-ounce hamburger: 2.5 milligrams
- ½ cup cooked, baked or refried beans: 2 to 3 milligrams
- 1 slice enriched bread: 1 milligram
- 1 cup iron-fortified breakfast cereal: 4 milligrams, more or less (for cereal, check the Nutrition Facts Label on food packaging for the specific amount)



Some foods and beverages may cause the body to absorb less iron when eaten close together. Calcium, like iron, is an essential mineral, especially in athletic teens. However, 300-600mg of calcium can inhibit iron absorption. Polyphenols are major inhibitors of iron absorption. Polyphenols can be found in cocoa, coffee and some herbs. Unlike calcium rich foods, cocoa and coffee are not essential for health. These foods or substances should not be consumed within two hours prior to and following your main iron-rich meal.



Taking an iron supplement to correct an iron deficiency should be done only under a physician's supervision and monitored with follow-up blood tests since high doses of iron can be harmful.

Monthly challenge:

Teenage Athlete- Don't eat the same lunch every day, mix it up to assure you are getting necessary micronutrients.

Parents – If your child's training is sluggish despite significant effort consider asking the pediatrician to test your child's iron.