The Importance of Iron

Iron is an important mineral in our diets. Iron comes in two forms: heme and nonheme. Heme iron is better absorbed in the body and found in animal foods like liver, oysters, and red meat. Nonheme iron is not absorbed as well and found in foods like dried fruit, whole grains, spinach, and fortified cereal.

Iron plays a role in many processes in our bodies. It helps forms hemoglobin, which is a protein in red blood cells that takes oxygen to tissues. Also, iron is a part of myoglobin, which takes oxygen to the muscles. In addition, iron is important for growth, metabolism, hormone formation, and cell function.

Iron deficiency is common and can have serious consequences. If the deficiency is not corrected, iron-deficiency anemia develops. This is characterized by paleness, fatigue, poor muscle function, and poor regulation of body temperature. The primary cause of deficiency in the United States is poor intake, but also can be due to excessive blood losses. Some individuals who are at risk for deficiency are pregnant women, women with heavy menstrual bleeding, athletes, people with chronic disease, and vegetarians.

Athletes are at risk for deficiency for several reasons. First of all, some iron is lost in the sweat. Also, the stress of intense exercise can cause stomach bleeding, loss of blood in the urine and feces, and red blood cells to break. This blood loss causes iron to be lost. Athletes should be concerned about iron-deficiency anemia because it will impair their performance. Oxygen will not be able to be delivered to their tissues and muscles, so they will get tired much more quickly than if they have adequate iron stores.

Know What you Need

The Recommend Dietary Allowance (RDA) for iron is 8 mg for males age 19-50 and 18 mg for females age 19-50. Here are some important foods to include in your diet:

- **Fortified Cereal**: one serving of fortified breakfast cereal contains 18 mg of iron.
- **Oysters**: 3 ounces of cooked oysters contain 8 mg of iron.
- **White Beans**: 1 cup of white beans contains 8 mg of iron.
- **Dark Chocolate**: 3 ounces of dark chocolate contain 7 mg of iron.
- **Beef**: 3 ounces of beef contain 2 mg of iron.

Remember, the iron found in meat and seafood is called heme iron and it is absorbed better. If you think you might be deficient in iron, talk to a dietitian about ways to include iron-rich foods in your diet. You can also ask your physician to check your blood levels.

Did you Know?

You are able to increase the amount of iron your body absorbs by consuming foods containing iron and vitamin C at the same time! One example is consuming orange juice and whole wheat toast at breakfast.
Making Sense of the Myths

Myth: All endurance athletes develop anemia.

Some endurance athletes may have heard of the term “sports anemia,” but this is not actually anemia.\(^1\) This is because although hemoglobin levels are low (an indicator of low iron levels in the body), it is not caused by iron deficiency.\(^1\) This condition occurs when athletes begin an endurance training program or increase the intensity.\(^1\) Due to the endurance training, the body adapts by increasing the volume of plasma.\(^1\) Therefore, hemoglobin levels look low because hemoglobin did not increase as much as the total blood plasma.\(^1\) This is usually a short-term condition that goes away after the body becomes adjusted to the new training program.\(^1\)

Myth: All athletes need an iron supplement.

Some athletes may think that iron supplements will improve their performance. However, this is only true if the athlete has had blood tests to confirm that he or she is iron-deficient.\(^1\) There are no benefits to taking an iron supplement if the athlete has adequate iron levels in the body.\(^1\) In addition, excess iron consumption from supplements can have serious consequences.\(^2\) Small amounts of excess iron can cause stomach pain, vomiting, and constipation, along with decreasing the amount of zinc in the body.\(^2\) In large amounts, iron will accumulate in the body and can lead to organ failure, convulsions, coma, and death.\(^2\) Therefore, it is important to not consume more than the Tolerable Upper Intake Level (UL), which is 45 mg per day for individuals 14 years of age and older.\(^2\) You should only take iron supplements if they are prescribed to you by a physician.

References:

About the Author

Michelle Dilling is a senior at the University of Akron and will graduate in May 2018 with a Bachelor of Science in Nutrition and Dietetics and a Psychology Minor. She will then pursue her master’s degree in Exercise Science and Adult Fitness. She has been involved in sports throughout her life and continues to stay active as a competitive figure skater. In addition to being a student, Michelle is a private figure skating coach.

This newsletter has been reviewed by Michelle Boltz MS, RD, CSSD, LD. She is an Associate Professor of Practice in the University of Akron School of Nutrition and Dietetics and is a Board-Certified Specialist in Sports Dietetics.

Try this Recipe!

Spinach Taco Salad

**Ingredients**
- 3 oz ground beef
- 2 tbsp chopped onion
- ¼ cup chopped red pepper
- ¼ cup chopped tomato
- ½ cup black beans
- 2 cups spinach
- ¼ cup cheese
- ¼ teaspoon salt
- ¼ teaspoon chili powder

**Instructions**
1. Put beef, onion, red pepper, salt, and chili powder in a skillet.
2. Cook over medium heat until beef is browned, about 5 minutes.
3. Put spinach in a bowl. Top with beef mixture, cheese, tomato, and black beans.

This recipe makes one serving and provides about 6 mg of iron. Also, the vitamin C in the spinach, tomato, and red pepper improves iron absorption.

Recipe adapted from: https://www.allrecipes.com/recipe/242005/taco-salad-with-spinach/