

# the runner's guide to iron deficiency

## understand the "why"

Knowing the root cause of low iron is helpful in making a plan moving forward. For example, a female may want to plan meals that are rich in iron sources during and immediately after their menstrual cycle if she has heavy blood loss.

foot-strike hemolysis  
(blood loss from repeated  
impact on your feet)



iron lost in sweat,  
urine, and/or feces  
following hard efforts

periods of  
rapid growth  
(puberty,  
pregnancy)



menstrual cycle  
blood loss (in females)

Why is iron deficiency  
common in runners?

gastrointestinal  
disorders such as  
Celiac Disease or  
Chron's Disease

not eating enough  
foods with heme  
iron (see next page)

blood loss (injury,  
blood donation,  
labor/delivery)

training at  
high altitudes  
(demands  
more oxygen)



## did you know?

Iron is found in your blood and carries oxygen to the rest of your body. Oxygen allows our muscles to work. When you don't have enough iron in your blood, your body is forced to work harder to obtain the oxygen it needs.

Low iron = low energy = poor performance.



## heme iron vs. non-heme iron

There are two kinds of iron: heme and non-heme. Heme iron, found in meat, is most easily absorbed by your body. Red meat is the best source of iron. Regularly incorporate foods with heme and non-heme sources of iron in your diet.

### foods rich in heme iron



steak



ground beef



sardines



chicken breast



turkey breast



liver

### foods rich in non-heme iron



fortified cereal



spinach



white beans



tofu



chocolate



lentils



cashews



potatoes

## pair these foods with non-heme iron foods

Vitamin C (also known as ascorbic acid) helps your body absorb more iron. It is important to pair foods high in vitamin C with foods rich in non-heme iron to help your body absorb as much iron as possible.

### foods high in vitamin c



bell pepper



sweet potato



strawberries



kiwi



orange



brussel sprouts

## avoid pairing these foods with both heme & non-heme iron foods

Calcium makes it harder for your body to absorb iron. Avoid pairing foods high in calcium with foods high in iron during the same meal.

### foods high in calcium



cheese



yogurt



cow's milk



almond milk



cottage cheese



calcium-fortified orange juice

## how much iron do I need?

Men & women have different needs for iron depending on their stage of life. Iron needs are greatest during periods of rapid growth.



\*Of note, female athletes may need up to 70% more iron than their estimated requirement at their given age and life stage.

## iron-rich meals & snacks

- grilled steak & peppers with a sweet potato
- scrambled eggs with steak and bell peppers
- trail mix with dry cereal, cashews, and raisins
- white bean chicken chili with a strawberry spinach salad
- citrus salad with grilled chicken, spinach, and orange slices
- shredded beef burrito with tomatoes, guacamole, bell peppers, and beans



## should I take an iron supplement?

Without a clinical diagnosis of anemia, routine supplementation of iron is not recommended. Supplementation hasn't proven beneficial for people who have low iron stores (low ferritin levels) that are not anemic. Iron supplements can also cause constipation/stomach upset.

If you DO have a clinical diagnosis of anemia + low ferritin levels, consider taking a liquid ferrous iron supplement fortified with vitamin C to promote better absorption. Taking more than 45 mg at a time may cause constipation or stomach upset, so consider taking half a dose, 2x/day for relief.



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### references

1. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. *J Acad Nutr Diet.* 2016;116(3):501-528.
2. Iron: Fact Sheet for Health Professionals: National Institutes of Health: Office of Dietary Supplements. Updated February 28, 2020.
3. Vitamin C: Fact Sheet for Health Professionals: National Institutes of Health: Office of Dietary Supplements. Updated February 28, 2020.