



# Iron

## The run down

- Iron is an essential mineral that helps carry oxygen throughout our bodies.
- Being deficient in iron can lead to fatigue, paleness of the skin, brittle nails, cracks in the sides of the mouth, and frequent infections.
- Getting too much iron can also be harmful, as iron is a pro-oxidant. This means radicals are created, and these can cause considerable cell damage.
- There are two types of iron: heme and non-heme iron. Heme iron is derived from animal sources and non-heme iron is mainly in plant-based sources.
- Non-heme iron is absorbed based on the body's needs. If the body's needs are higher, more non-heme iron will be absorbed from food. If the body's needs are lower, then less non-heme iron is absorbed from food.
- It is generally feasible to meet iron needs on a plant-based diet by following a well-balanced diet and being mindful of absorption enhancers and inhibitors.

## How much should we aim for?<sup>1</sup>

Age (in years)	Aim for (intake in mg/day)*	Stay below (intake in mg/day)**
Men 19 +	8	45
Women 19 - 50	18	45
Women 51+	8	45
Pregnant women 19 - 50***	27	45
Breastfeeding women 19 - 50	9	45

\* It is traditionally recommended to consume 1.8x these numbers if you are following a plant-based lifestyle. However, some sources suggest that this 80% increase is not entirely necessary if individuals are aware of iron enhancers and inhibitors, and modify their diets accordingly to ensure more iron is absorbed.

\*\* These values include iron from both foods and supplement sources. Be mindful, as even multivitamins often contain iron.

\*\*\* Pregnant women who follow a plant-based lifestyle are recommended to consult with a doctor or dietitian regarding their needs, as prenatal vitamins and other considerations need to be taken into account.

## Fruit & vegetables

Sources	Serving size	Iron (mg)
<b>Spinach</b> , cooked	1/2 cup (95 g)	2 - 3.4
<b>Tomato</b> , pureed	1/2 cup (125 g)	2.4
<b>Asparagus</b> , raw	6 spears	2.1
<b>Turnip</b> , cooked	1/2 cup (80 g)	1.5 - 1.7
<b>Prune juice</b>	1/2 cup (125 mL)	1.6
<b>Apricots</b> , dried	1/4 cup (50 g)	1.6
<b>Beets</b> , canned	1/2 cup (80 g)	1.6
<b>Kale</b> , cooked	1/2 cup (65 g)	1.3

## Grains

Sources*	Serving size	Iron (mg)
<b>Oatmeal</b> , cooked	3/4 cup (70 g)	4.5 - 6.5
<b>Cereal</b>	Varies (~30 g)	4.0 - 4.3
<b>Granola bar</b>	1 bar (32 g)	1.2 - 2.7
<b>Soda crackers</b>	6 crackers	1.5 - 2.3
<b>Pasta</b> , cooked	Varies	1.3

\* In some countries, grain products that come from white flour are required to be fortified with iron. It's always best to check the food label to confirm the product is fortified, especially for whole grains!

## Plant-based protein sources

Sources	Serving size	Iron (mg)
<b>Tofu</b> , cooked	3/4 cup (150 g)	2.4 - 8
<b>Soybeans</b> , mature and cooked	3/4 cup (70 g)	6.5
<b>Lentils</b> , cooked	3/4 cup (60 g)	4.1 - 4.9
<b>Beans</b> , cooked	3/4 cup (170 g)	2.6 - 4.9
<b>Pumpkin or squash seeds</b> , roasted	1/4 cup (35 g)	1.4 - 4.7
<b>Peas</b> , cooked	3/4 cup (115 g)	1.9 - 3.5
<b>Tempeh</b> , cooked	3/4 cup (120 g)	3.2
<b>Nuts</b> , including cashews, almonds, hazelnuts, macadamia and pistachio	1/4 cup (~33 g)	1.3 - 2.2
<b>Sesame seeds</b> , roasted	1 tbsp (8 g)	1.4
<b>Hummus</b>	1/4 cup (60 g)	1.5
<b>Almond butter</b>	2 tbsp (30 g)	1.1

## Dairy alternatives

Sources	Serving size	Iron (mg)
<b>Soy yogurt</b>	3/4 cup (175 g)	2.1

- Other dairy alternatives, such as plant-based milks and cheeses may contain iron, but the amounts vary and it's best to check the food label for more accurate values.

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## How to meet needs

### **“Food first” - a well balanced diet can meet our needs.**

Here's some tips:

- Iron-rich foods can be eaten with vitamin C to help increase absorption. Examples of vitamin C rich foods are citrus fruits, kiwis, strawberries, sweet bell peppers, potatoes, broccoli, and some green leafy vegetables.
- Tannin-containing drinks such as tea, coffee, and wine can inhibit iron absorption. Enjoying these beverages between meals as opposed to with meals can help ensure iron absorption is not inhibited.
- Foods containing phytates (such as vegetables, legumes, grains, nuts and seeds) can also inhibit iron absorption. Enhance iron absorption in the presence of phytates by soaking and/or sprouting nuts, seeds and legumes.

### **Iron supplementation isn't necessary for the general population unless we have trouble getting iron from food or if we are experiencing a deficiency, such as iron deficiency anaemia.**

- See a medical doctor for a prescribed dosage and duration as these cases are individualised, and excess iron-intake can be harmful.

### **However, due to higher iron needs in pregnancy, an iron supplement is recommended for women during this time.**

- For the general population in pregnancy, Health Canada recommends a supplement containing 16 to 20 mg of iron in each daily dose.
- It's best to consult a doctor to confirm whether this dose is appropriate as it may vary per person.

### **Pro tip**

When consuming beverages like coffee or tea, enjoying them at least an hour before or after a meal can already help with iron absorption!

## Resources

1. Amounts from [National Institutes of Health](#)
2. Amounts from [Dietitian's of Canada](#)