



# Iron

*Iron is an essential mineral for the human body  
and is part of the nucleus of every cell.*

Iron plays a key role in the making of **haemoglobin**, which is part of the red blood cells which carry oxygen from our lungs to our tissues, and **myoglobin** which helps supply our muscles with oxygen. Up to 90% of iron is contained in our blood.

The absorption of iron from foods takes approximately four hours. Up to 4% of iron content is absorbed into the bloodstream and is stored in our bone marrow until required.

Iron can be found in two forms—**heme iron** from animal products and **non-heme iron** from plants. Iron absorbed from plant sources tends to be less easily absorbed, which is why the Recommended Dietary Intake of iron for vegetarians and vegans is eight times higher than for meat-eaters.

## Excellent food sources of iron include:

**SEEDS:** Pumpkin, sesame, sunflower, coconut, olives, hemp, field and oyster mushrooms.

**GRAINS:** Soya beans—tofu, tempeh, edamame, white, red and lima beans, mung beans, barley, rice bran, wheat, chickpea, lentil, millet, pinto beans, wild rice, rye, cocoa, quinoa, oats, spelt, amaranth.

**GREENS:** Artichokes, parsley, dandelion, spinach, fennel, kale, lettuce, broad beans, peas, seaweed, turnips, swiss chard, beetroot greens, thyme.

**FRUIT:** Strawberries, prune juice, raisins, dates, figs, mulberries, dried tomatoes.

**NUTS:** Macadamia, pecan, peanuts, pistachio, almonds, cashew, chestnuts, walnuts.

## Recommended daily amount

Men and Children: 10mg/ day

Women: 30mg/ day

## Toxicity

Adults: 45mg/ day

Children: 40mg/ day

## Signs of iron deficiency - anaemia

- Tiredness, weakness, irritability, poor concentration, dizziness, fainting, muscle fatigue, shortness or difficulty breathing, rapid heartbeat, constipation and poor appetite, headaches.
- Decreased work and school performance –slow cognitive and social development during childhood.
- Difficulty maintaining body temperature.
- Decreased immune function, which increases susceptibility to infection.
- Glossitis (an inflamed tongue).



### **Causes of iron deficiency**

- Menstruation, women on average lose 30mg/ month.
- Excessive exercise e.g. ultra-running.
- Kidney disease and fevers.
- Pregnancy and childhood—due to rapid growth and inadequate intake of dietary iron.
- Medical treatment. Laxatives and chemotherapy can cause loss of iron.
- Lack of food, fasting, and poor eating.
- Illnesses, such as blood conditions, thalassaemia, internal bleeding, haemorrhoids, tuberculosis, and malaria.

### **Maximising iron absorption**

- Avoid caffeinated drinks. Drinking tea and coffee with meals can reduce iron absorption by 50-90%.
- The minerals calcium and copper are required for effective iron absorption.
- B vitamins are essential for the secretion of the stomach acid-HCL, which dissolves the iron content of food.
- Foods that are rich in vitamin C boost the ability of the body to absorption iron by 300%. High vitamin C levels are found in fresh fruit, berries, parsley, broccoli, and brussels sprouts.
- Soaking grains and legumes improves iron absorption by lowering the number of phytates in these foods.
- Cast iron pans provide two to three times more iron than non-iron cookware.
- Combining lysine-rich ingredients such as legumes and quinoa with iron-rich foods increases iron absorption.