

Iron

Iron is one of the most abundant metals on Earth. If it comes to nutrition, iron is classed as a trace element and is essential to most life forms and human physiology. Iron is an integral part of many proteins and enzymes, which are vital to life. Iron is an essential component of proteins involved in oxygen transport in the blood. Iron also plays a role in the regulation of cell growth and differentiation. Interestingly, too much iron is toxic to the body.

The human body normally contains 3-4 g of iron, of which almost two thirds are found in haemoglobin (the red pigment in blood that transports oxygen). Smaller amounts of iron are found in myoglobin, a protein that supplies oxygen to muscle. Iron is also found in proteins that store iron and transport iron in the blood. Iron stores are regulated by intestinal absorption. If iron stores are low, more dietary iron will be absorbed and vice versa.

The average woman will require 14.8 mg per day, and the average man requires 8.7 mg per day. Women's requirements are high because of monthly blood losses at menstruation.

The two forms of dietary iron are: haem and non-haem iron. Haem iron is found in animal foods, such as red meats, fish and poultry. Most dietary iron is non-haem iron and is found in plant foods such as lentils and beans, soya products, dried fruit etc. Non-haem iron is also the form of iron added to iron-enriched and iron-fortified foods such as cereals. Haem iron is better absorbed than non-haem iron. As an example, up to 22% of the iron in meat is absorbed, while only 1-8% is absorbed from eggs and plant foods.

Foods containing iron are as follows:

| Food | Milligrams per serving | % Of requirements of adult |
|----------------------------------|------------------------|----------------------------|
| Chicken liver, cooked, 100g | 12.8 | 70 |
| Baked beans, 3 tablespoons | 1.7 | 8 |
| Beef, tenderloin, roasted, 100 g | 3.0 | 15% |
| Turkey, roasted, 100g | 1.6 | 8 |
| Chicken leg, roasted, 100g | 1.3 | 6 |
| Chicken breast, roasted, 100g | 1.1 | 6 |
| Halibut, cooked, 100g | 0.9 | 6 |
| Pork, loin, 100g | 0.8 | 4 |
| Tuna, canned, 100g | 0.8 | 4 |
| 2 Weetabix | 4.5 | 25 |
| Lentils, 1 cup, boiled | 6.6 | 35 |
| Beans, pinto, 1 cup, boiled | 3.6 | 20 |
| Tofu, raw, ½ cup | 3.4 | 20 |
| Spinach, ½ cup, boiled | 3.2 | 20 |
| Raisins, seedless, ½ cup | 1.5 | 8 |
| Whole wheat bread, 1 slice | 0.9 | 6 |
| Cashew nuts, 30 g | 2 | 10 |
| Sesame seeds, 20 g | 2 | 10 |
| Dried figs, 4 | 3.4 | 20 |
| 1 boiled egg | 1 mg | 6 |

The absorption of iron from plant foods is improved by the presence of vitamin C in a meal. Although vegetarians are often referred to or classed as being at risk of iron deficiency

anaemia, this is not the case. Many vegetarians and vegans have three to four times the recommended amount of vitamin C.