



Iron

– to Supplement or Not?

WHAT IS IRON AND WHAT DOES IT DO?

Iron is the most abundant mineral in the blood. It is involved in respiration, as it carries oxygen to all the body cells. It is essential to the oxidation of fatty acids. All iron exists in the body combined with protein and comes in two forms. The first is functional, as in haemoglobin and enzymes, and the second is in the transport and storage forms, like transferrin, ferritin and haemosiderin. Iron is also necessary for collagen synthesis. Iron is found in the brain as a co-factor in the synthesis of serotonin, dopamine and noradrenalin, which are known to regulate behaviour. The major function of iron is to combine with protein and copper in making haemoglobin, the colouring matter of red blood cells. Haemoglobin transports oxygen in the blood from the lungs to the tissues, which need oxygen to maintain the basic life functions. Thus, iron builds up the quality of the blood and enhances the immune system, energy production, growth in children and resistance to stress and disease. Calcium and copper must be present for iron to function properly. Molybdenum is a vital part of the enzyme responsible for iron utilisation in the body.

BEST NATURAL SOURCES

The best source of dietary iron is liver, with kidneys, heart, lean meat, tongue and oysters, as secondary choices. Leafy green vegetables, whole grains, cocoa, brewer's yeast, dried fruits, legumes and molasses are rich in iron. Other sources are, green peas, chicken, strawberries, pumpkin seeds, salmon, brussel sprouts, almonds, avocados, beets, egg yolks, wheat bran, nuts, seeds, alfalfa, broccoli, cherries, kale, parsley and seaweeds. Iron content will be increased by 30% by consuming foods rich in vitamin C along with those rich in iron.

ABSORPTION AND STORAGE

Evidence indicates that naturally occurring ferrous iron is used more efficiently and that most ferric iron is reduced to ferrous iron before being absorbed. Iron is absorbed from food into the blood and bone marrow in regulated amounts. Of that, 1% is used for enzyme activity and the rest is placed into storage, primarily in the liver, spleen, bone marrow and blood. The iron in fortified foods is poorly absorbed, but still does contribute to dietary needs.

90% of iron ingested never reaches the blood and remains unabsorbed. Only 2%-10% of iron in beans, fruits and vegetables is absorbed. The iron found in animal protein is more readily absorbed than the iron in vegetables. The degree of gastric acidity regulates the solubility and absorption of the iron in food, which occurs in the upper part of the small intestine within 4 hours after ingestion. Antacids reduce the ability of iron to be absorbed as does alcoholism, chronic liver disease and pancreatitis. Vitamin A, the B complex, copper, calcium, manganese and molybdenum are needed for complete iron absorption. Vitamin C enhances absorption by helping reduce ferric to ferrous iron. The balance of calcium, phosphorus and iron is very important. Excess phosphorus hinders iron absorption. In addition, a lack of hydrochloric acid, the administration of alkalis, a high intake of cellulose, coffee or tea and increased intestinal motility will all interfere with iron absorption.

Iron from the body is excreted in small amounts in the urine, faeces and through perspiration. Pregnancy, menstruation and blood loss from injury will remove stores of iron. Adolescence, childhood and infancy increase the need for protein, which will also raise the level of iron required. Daily losses average 1mg.



RDA (Recommended Daily Allowance)

The RDA for iron is 14mg. Increased iron is needed by pregnant women and nursing mothers; during menstruation; periods of rapid growth; or whenever there is loss of blood. NB: It is not recommended that men and post-menopausal women supplement with iron unless recommended by your practitioner. Iron, if taken in excess, may be harmful to very young children. **

IRON – to supplement or not

Only recently have the medical profession become aware of the potential ill-effects of iron supplementation in people who have sufficient already in their bodies and there is a very fine line between the minimum level of iron that we must have and what is excessive. Children and menstruating women need iron to build and replace red blood cells but indiscriminate supplementation can be harmful in that iron stored in tissues can do damage to cells, tissues and internal organs.

Men over 40 and post-menopausal women can easily ingest too much iron and develop excessively high iron storage counts. Tissue iron measurably accumulates as a function of age. The average daily intake in food for people in the western world is 13.2 mg, which is plenty for almost all people – the optimum intake is deemed to be 15 mg for children and menstruating women. The upper safe level is 20 mg.

Excess iron accumulates in the liver, causing liver enlargement and cascading damage to many other organs in the form of diabetes (pancreatic and insulin receptor damage) cardiovascular damage and arthritis. Liver enzyme tests of people with high iron counts can look like those of people who have been badly abusing alcohol for many years (even though not drinking a drop!).

The human body has no mechanism to lower excessive iron levels other than through blood loss.

** For recommended suppliers and supplement advice please contact Pauline

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