Iron kids

Your child needs iron for vital growth and brain development, says dietitian **Jaclyn Reutens.**

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Iron has been recognised as an essential nutrient. The adult human body contain iron in two major pools:

- Functional iron in myoglobin, enzymes, and haemoglobin to carry oxygen around in the blood and in the development of the red blood cells which is its main function;
- Storage iron in ferritin, haemosiderin and transferrin (transport protein in blood).

Iron is highly conserved in the body.

Approximately 90% is recovered and reused everyday. The rest is excreted mainly in the bile, small amounts are excreted through faeces, sweat, normal exfoliation of hair and skin.

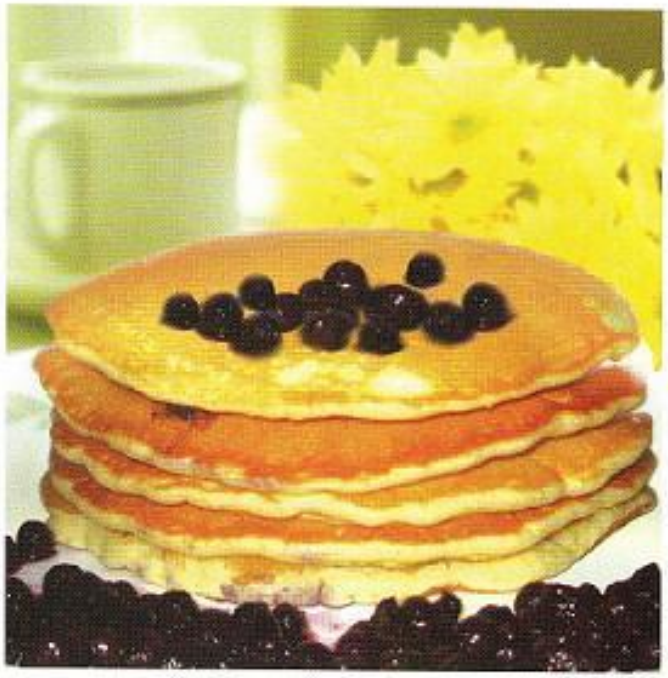
Who needs iron more?

Men lose iron but women lose more because of menstruation. Dietary iron must be available to maintain iron balance or else iron deficiency anaemia will result. Iron deficiency anaemia is the world's most common nutritional deficiency disease. We require a certain amount of iron intake to maintain our stores. The requirements are increased for selected groups of individuals such as pregnant women, children between six months to three years, teenagers and during menstruation.

Pregnant women's needs are elevated as the foetus draws iron stores from her iron reserve. Blood formation demand is increased and iron absorption is stimulated. If she does not consume enough iron, the foetus may not reach optimal growth and this may result in a low birth weight and pre-term infant.

How to incorporate iron into our kids' diet

From infancy stage, iron is vital growth and brain development. Motor skills and mental functioning



Sources of iron

Dietary iron exists in two chemical forms: **heme iron** found mainly in **animal foods** and **non-heme iron** found mainly in **plant foods.** Heme iron is more readily absorbed into the blood because it requires a shorter process to breakdown and be absorbed than non-heme iron.

The best sources of iron are found in liver, oysters, seafood, lean red meat, chicken, dried fruits, egg yolks, wholegrain or enriched breads and cereals, iron fortified milk, beans, peas, dark green leafy vegetables, prunes, raisins and beverages that contain Milo powder.

begin to develop and therefore at four months of age, cereals fortified with iron should be given because breast milk does not contain enough iron to meet the needs.

Up to three years of age, the child undergoes rapid growth and red blood cell production is increased. For infants, simply give iron fortified cereals when they are at four months of age. When introducing pureed and minced meats, give 1 to 2 tablespoons lean red meat, chicken and pork and pureed green leafy vegetables

After the age of two, providing iron rich meals can be as easy as:

- **Breakfast** – A bowl of cereal with raisins and iron fortified milk followed by half an orange;
- **Lunch** – Home-made burger using ground lean beef and lentils;
- **Dinner** – Chicken drumstick (without skin) with rice and *chye sim.*

We are surrounded by iron rich foods so incorporating it is not difficult. Portion size is important. Eat 90-120g of meat, chicken or fish at lunch AND at dinner (120g would be for those with increased needs like pregnant women and adolescent females).

For a normal healthy individual, it is rare to have too much iron that is harmful through our daily diet. The risk is when we overdose on iron supplements, that may have adverse side effects if not used correctly. It can result in severe constipation and abdominal discomfort. Also, excessive iron can generate excessive amounts of free radicals that attack cellular molecules, increasing the potentially carcinogenic molecules within cells. So stick with getting your iron from foods and not supplements, unless prescribed by a doctor or dietitian. SC

How can vegans get their iron intake?

Plant-based foods that are high in iron include green leafy vegetables, broccoli, beans, peas, pumpkin, dried fruits like raisins, prunes, apricots, tomato, cocoa powder, Milo powder, wheatgerm, oatmeal, iron fortified cereals and iron fortified milk.

At breakfast, try a bowl of iron-fortified cereal with iron-fortified milk or oatmeal with raisins cooked with milk, or a wholemeal egg sandwich with one glass of Milo. Add wheatgerm where possible. At lunch and dinner, try baked beans with baked potato, lentil curry with brown rice, bean salad, stir-fried green leafy vegetables, put peas into fried rice or stir frys, tofu and chickpeas lasagne.

If you feel like you are not getting enough iron, try these iron rich snacks: Adding two tablespoons of raisins to 100g of low fat yoghurt, wholewheat biscuits, prune cake, a 3-in-1 milo, baked potato with skin, 1 slice of toasted wholewheat bread with fruit jam, red bean soup or handful of nuts. If you are ovo-vegetarians, include eggs in dishes as iron is found in the egg yolk.

To enhance iron absorption, eat a piece of fruit that is high in vitamin C. Ascorbic acid reduces iron, as we ingest, to ferrous iron. Ferrous iron is the preferred state of entry for absorption. This means eating an orange after your bowl of cereal or eating a kiwi after dinner. For vegetarians, every milligram of iron in food counts because of its lowered bioavailability in plant based foods.

Vegetarians need to be careful with their intake of strong teas and coffee. They contain phytates and other substances that may bind to iron and make them less readily absorbed. Limit to two cups a day.

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