Self Care Health Facts Column
By John Bell – 23 February 2011 No. 1244

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The spinach conspiracy

The cartoon character "Popeye the Sailor Man" famously relied on spinach for his strength and stamina. Allegedly it was the iron content in this green leafy vegetable that provided him with superhuman powers to combat the forces of evil.

Now a recent Swedish study has confirmed that spinach could indeed have contributed to Popeye's bulging muscles, but rather than iron it would have been the presence of compounds called nitrates that made spinach such a super food.

Nitrates are necessary; but to become so strong and muscular, Popeye certainly needed iron in his diet as well. Of course, there's no doubt spinach has great nutritional value; and iron is just one of the so-called essential micronutrients it contains; but to get our recommended intake of iron just from spinach, we would need upwards of half a kilo a day. There wouldn't be much room on the plate for anything else. Popeye was most likely also eating his share of lean red meat.

We all need iron. And there's a fair chance we may not be getting enough.

Iron deficiency is common. In fact, it's the most common nutritional deficiency in the world, affecting about a third of the world's population. Menstruation, pregnancy and breastfeeding all increase the need for iron. Babies, toddlers and teenage girls need extra iron too; as do athletes, especially female athletes – this is because regular exercise and hard training increase the production of red blood cells (iron is required for effective function of red blood cells) and iron is lost through sweating.

Vegetarians and people on fad diets may also be at risk of iron deficiency.

Iron is an essential component of many enzymes involved with important chemical reactions in the body. It's also a component of haemoglobin which is responsible for the transport of oxygen through the blood stream.

So, no iron, no energy. Other symptoms of low iron levels include general tiredness, irritability, poor concentration, shortness of breath, dizziness and headache. Significant iron depletion can also lead to poor immunity and, therefore, increased infections.

There are two types of iron from dietary sources. So-called haem iron comes from animal products, primarily red meat, but chicken and fish also provide haem iron. This form of iron is easier for our bodies to absorb. Non-haem iron comes mainly from plant foods – bread, cereals, fruit and vegetables – including spinach. However, tomatoes, broccoli, pumpkin and cabbage may actually be a better source than spinach. Non-haem iron is poorly absorbed; although absorption is enhanced by vitamin C; so a glass of orange juice with your iron-fortified breakfast cereal makes good sense.

On the other hand some foods actually hinder the absorption of iron. Tannin (in tea or coffee) reduces the absorption of iron as do antacids and aspirin. Other minerals such as calcium and zinc can also interfere with the absorption of iron.

If you suspect you could be deficient in iron, check with your doctor or pharmacist. A simple blood test can confirm the status of your iron levels.

If iron levels are low and dietary changes are not sufficient to rectify the problem, an appropriate supplement can be recommended. Remember, iron in overdose can be toxic; so keep iron tablets out of the reach of children. Nicely coloured tablets can be easily mistaken for lollies. Also, iron can accumulate in the body if iron therapy is given in excessive amounts for too long.

You can get more general advice on diet and health, and iron deficiency in particular, from pharmacies around Australia providing the Self Care health information. Phone the Pharmaceutical Society on 1300 369 772 or log onto the Pharmaceutical Society website at www.psa.org.au for the nearest location and ask for the *Nutrition* series of fact cards. Meanwhile, keep on eating spinach.