

## Do you have low energy levels?

### You could be anaemic?

Anaemia (USA anemia), is the condition arising when a person has low iron levels in their body.

A routine blood test will pick up your circulating iron levels (ie serum iron) but will not tell you what your cells have absorbed, therefore your real iron levels. This is best done with Iron Studies or a Hair Analysis.

I believe anaemia is under-diagnosed (and it's impact underestimated) by many medical and health care professionals. It should be one of the first things considered when consulting a female with low energy levels. And I am sure in years to come it will be across a wider population base as more people rely on take away foods.

I would estimate that 10 – 20% of people (particularly women) benefit from taking an iron supplement.

This includes pregnant and breast feeding ladies, athletes, people who don't eat much meat, meat who don't absorb meats (such as those with irritable bowel syndrome – which affects 1 in 5 Australians), ladies with heavy periods to name a few.

### Iron

I am a big fan of supplementing women whom are in their fertile years with iron, B12 and folate. I will only discuss iron in this article, but as a combination the 3 nutrients help decrease anaemia (state of low iron), homocysteine (which is elevated in all sorts of conditions such as heart disease, endometriosis), and decreases the risk of spina bifida and neural tube defects in unborn babies.

#### Where is iron used?

Red Blood Cells (or erythrocytes) are the small cells in the blood that contain haemoglobin which carries oxygen around the body. Within the red blood cells is the molecule called haemoglobin. Haemoglobin is a molecule that contains 2 pairs of polypeptide chains. The 2 pairs (ie 4 strands) are attached to a heme unit. Each heme unit surrounds an atom of iron. The role of the iron is to **bind oxygen** and each heme unit can carry 4 units of oxygen. Oxygen is therefore transported by the red blood cells to the tissue cells (for example muscle cells). Once blood passes next to these cells, oxygen disassociates and is up-taken by the cells. The deoxygenated red blood cell will continue circulating until it passes through the pulmonary (lungs) system for re-oxygenation (which occurs when you breath in).

Each red blood cell has a lifespan of 120 days. The iron gives haemoglobin its red appearance. When there is a lack of haemoglobin (ie less iron) there is less redness in the blood and at a micro-vascular level this gives the overall appearance of **pallor** (ie people look pale and pasty in the face).

Deficiencies of iron can be classified into 3 groups:

1. not enough iron ingested
2. increased iron loss from the body (eg heavy bleeding)
3. poor absorption

In accessing anaemia, I look at 3 things:

1. is their iron intake adequate?
2. are they absorbing all the iron from food (eg IBS sufferers)
3. do they have increased loss (ie people on NSAIDs may have an insidious bleed in their bowel and lose iron over time).

### Symptoms of Anaemia (what you feel)

Tiredness, fatigue, depression, clumsiness, short of breath walking, floaters in your eyes, long term square nail beds

### Signs of anaemia (what someone will notice)

Pale looking face, quicker heart rate, a cause (such as very heavy periods, an operation), if there is a gastrointestinal bleed – faeces can become dark, smelly and sticky, a very late sign is chest pains.

### Tests to establish anaemia

Most Doctors will test for Serum (blood) levels of iron in routine testing (ELFTS). They will also check for haemoglobin in an Full blood evaluation (FBE).

The better test to request is an iron study – this will show what your stores are like.

A hair analysis will tell you what the cells have absorbed over a longer period of time – which can be vastly different to circulating (or serum) iron levels.

Iron for the heme is obtained from diet and recycled red blood cells. Iron typically is found 80% in heme (haemoglobin), and 20% in bone marrow, liver, spleen.

### Sources of Iron (increase your ingestion)

Ladies should be eating 20mg of iron per day and 30mg if breast feeding. A piece of steak the size of you palm has approx 10-12 mg of iron.

Dietary consumption of iron is essential in maintaining adequate iron stores. Good iron sources are meats. Some vegetables and plant matter such as green leafy vegetables, apricots and prune juice , have good iron levels, but are way less than meats.

### Absorption of Iron

Iron is absorbed from the small intestine (particularly the duodenum). In normal function, low stores or low heme will trigger erythropoietin production and absorption from the small intestine will increase. Calcium competes for absorption so having milk with meat will decrease the iron available to be absorbed.

If you have an irritable bowel issues, such as wheat intolerance, you may be suffering anaemia. Infact, I believe anyone diagnoses with anaemia should be tested for coeliac disease (wheat allergy). Ask your GP or naturopath to do these tests.

Treatment (see a health practitioner to establish cause)

1. eat more iron
2. ensure good absorption (correct stomach problems)
3. take a supplement
4. stop source of bleeding if an issue