

## Iron deficiency Anaemia

We need iron for many important body functions, the most important of which is the manufacture of haemoglobin, the oxygen-carrying protein in our blood. Iron is absorbed from food and drink in our intestinal tract. It's carried by our blood to your bone marrow, where blood cells are produced. Our bone marrow combines iron with proteins to make haemoglobin. Any spare iron is stored in our liver.

Men on average need 8.7mg of iron a day and while women on average need 14.8mg a day. Many of us get enough iron from our diet; however, some people suffer from a condition called anaemia, which means their iron levels are low. Small amounts of iron are lost from our body in urine, faeces and dead skin cells. Much more is lost if blood is lost, which is why women who have heavy periods are at more at risk of anaemia.

When iron levels are low; the production of red blood cells in our bone marrow slows down and the bone marrow produces small red blood cells that don't contain enough haemoglobin. These red blood cells do not carry enough oxygen to organs and tissues. This leads to the symptoms of anaemia such as lack of energy. Babies, teenagers and women (especially women with heavy periods) are more likely to suffer from iron-deficiency anaemia. For the purpose of this article I will deal primarily with the most common form of anaemia which is called iron deficiency anaemia, however I will also describe the other types of anaemia. The good news is that anaemia is easily treated and after a few weeks of treatment you will have your energy back.

### The role of iron in the body

Essentially iron is needed to enable the body to transport oxygen to all its organs efficiently. To explain the link between iron, haemoglobin, red blood cells and oxygen, I will start by explaining what happens to the oxygen we breathe in. When we breathe in, oxygen enters the lungs. From the lungs, oxygen is carried throughout the body via the bloodstream. 80% of the body's metabolic energy production is created by oxygen. Every cell and organ in the body needs oxygen to function. Oxygen is carried throughout the body by red blood cells which are manufactured in our bone marrow. To understand this, think of red blood cells as boats, ferrying oxygen (the passenger) around the body throughout the rivers of the bloodstream. The red blood cells contain a protein called haemoglobin whose role is to hold on to oxygen while in red blood cells. To make haemoglobin, the body needs plenty of iron. If iron levels are low, not enough haemoglobin is made, less oxygen can be carried around the body, leading to the classic signs of oxygen deprivation (anaemia) such as tiredness, breathlessness (even during mild exercise such as climbing the stairs) and paleness.

### Getting haemoglobin checked

A haemoglobin test is a quick and handy way of checking for low iron levels and associated anaemia. Whelehans pharmacy now have haemoglobin test in store which is proving very popular. It is simple 2 minute finger prick test in our private consultation room. Results are immediate. You can call in anytime without an appointment to get checked. It costs €5. If you are suffering from unexplained

tiredness and general lack of energy and you feel you could be at risk of anaemia, I would advise calling in to get your haemoglobin checked.

Haemoglobin levels in the blood are measured in grammes per 100 millilitres, which is abbreviated to g/dl. The normal range of haemoglobin for a man is 13.5 to 17.5 g/dl and for a woman is 11.5 to 15.5 g/dl. Anything less than these numbers is called anaemia. Not everyone will get symptoms at the same level. Some elderly people, whose heart and lungs are less good at compensating for their anaemia, may develop severe symptoms at around haemoglobin of 9 to 11g/dl. If someone has narrowing of the blood vessels to the heart, they too may get angina at haemoglobin of this level. Some young fit patients may be to manage with much lower haemoglobin and only develop symptoms when their haemoglobin falls to around 6g/dl. However recent studies have shown that most people feel less tired if their haemoglobin is above 12g/dl. There is also some evidence to suggest that people may respond better to chemotherapy if their haemoglobin is at higher levels. As a result many practitioners nowadays tend to treat a moderately low haemoglobin (below 11 or 12), particularly if someone is suffering from fatigue.

If your haemoglobin result is low, you may need to have other blood tests with your GP such as a ferritin test, which can give an idea of how much iron is in your body. In Whelehans, we have successfully treated patients with an iron supplement as a result of discovering they have a low haemoglobin level during our in store test. The main thing people notice when they get their haemoglobin back to normal levels is an increase in energy. If your haemoglobin levels are normal and you still suffer from tiredness despite adequate sleep, it is a good idea to get a full blood check with your GP to check for other causes of tiredness such as low thyroid levels.

## **Haemochromatosis**

If your haemoglobin levels are high, it could be a sign of a hereditary condition called haemochromatosis. Haemochromatosis is a condition where the body absorbs excessive amounts of dietary iron leading to iron overload. Haemochromatosis if left untreated can lead to serious organ damage. Ireland has the highest prevalence of haemochromatosis in the world leading it to be sometimes known as the “Celtic curse”. The ironic thing is that one of the first signs of it is extreme tiredness, which is the same symptom you notice if you have low iron levels. There is more information on haemochromatosis available in Whelehans Pharmacy or at [www.whelehans.ie/ailments](http://www.whelehans.ie/ailments)

## **Types of anaemia**

Anaemia is not always due to insufficient iron in the diet. Broadly speaking, there are 3 different causes of anaemia. Anaemia occurs when red blood cells are lower than normal. The three causes for this are:

1. Loss of red blood cells
2. The body produces red blood cells at a slower rate than normal
3. Red blood cells are destroyed by the body

Each of these three causes of anaemia can be further broken down into different subsections which I will further explain.

### **Anaemia due to blood loss**

The first type of anaemia is caused by blood loss. When a person loses a small amount of blood, the bone marrow will replace it which prevents a person becoming anaemic. If a large amount of blood is lost due to accident or injury the bone marrow can not make it quickly enough and the person becomes anaemic temporarily. Losing a small amount of blood frequently can also lead to anaemia. This can occur in women who have heavy periods, especially those who get insufficient iron in their diet. Intestinal bleeding due to digestive problems can also lead to anaemia. For example, taking too much aspirin or non-steroidal anti-inflammatory drugs such as ibuprofen (Nurofen<sup>®</sup>) or diclofenic (Difene<sup>®</sup>) can lead to stomach bleeding and resulting anaemia. Some digestive conditions such as stomach ulcers, ulcerative colitis, crohn's disease and diverticulitis can lead to intestinal bleeding and anaemia if left untreated. Bleeding from haemorrhoids is another potential cause of anaemia if not treated.

### **Iron deficiency anaemia**

Iron deficiency anaemia is the most common form of anaemia. It most often occurs when the person's diet has insufficient iron. Conditions that affect the digestive tract can also reduce the absorption of iron. An example of this is coeliac disease, which is an allergy to gluten which is found in wheat. Symptoms include stomach pain, diarrhoea, bloatedness, weight loss. If untreated coeliac disease damages the lining of the digestive tract thus reducing the absorption of many nutrients including iron. More information on coeliac disease can be obtained in Whelehans pharmacy or at [www.whelehans.ie](http://www.whelehans.ie). Whelehans now have a food intolerance test in store which can help confirm diagnosis of coeliac disease. When the body's iron levels become low, the production of haemoglobin slows down. The best way to counteract this is eating a diet high in iron (see more info on this later in this article) or taking an iron supplement such as Galfer<sup>®</sup>, Ferrograd C<sup>®</sup> or Whelehans Traditional Tonic; especially in cases where low iron levels are confirmed.

### **Pernicious anaemia**

There are some other nutritional reasons for a deficiency in red blood cells. For example, folic acid and vitamin B12 are also needed to produce red blood cells so insufficient B12 and folic acid in the diet can lead to a drop in red blood cells. Anaemia caused by vitamin B12 deficiency is called pernicious anaemia. Not eating enough foods that contain vitamin B12 is a common cause. A vegetarian or vegan diet can cause B12 deficiency as vitamin B12 is only found in foods of animal origin such as meat, fish, eggs and milk. Another cause of vitamin B12 deficiency is a lack of a protein called intrinsic factor which is needed by the stomach to absorb vitamin B12. The exact cause of loss of intrinsic factor is not fully understood but there is thought to be a genetic reason (meaning it runs in families). Older people and young women are particularly at risk of vitamin B12 deficiency. Many of the symptoms of pernicious anaemia are similar to other types of anaemia including tiredness, paleness, palpitations, breathlessness, dizziness and fainting. A blood test with your GP can confirm diagnosis. If you are diagnosed with low vitamin B12 levels, your GP may prescribe vitamin B12 injections and you will be advised to eat more meat. Whelehans Traditional Tonic also is a good source of vitamin B12 as well as iron in those suffering from pernicious anaemia.

Another possible cause of anaemia is the bone marrow not working properly and hence not producing enough red blood cells. Causes of bone marrow damage include cancers such as leukaemia, infections such as tuberculosis and cancer treatment (chemotherapy and radiation).

### **Haemolytic Anaemia**

Haemolytic anaemia occurs when red blood cells die off or are killed off early and the bone marrow is unable to keep up with production. There are a number of possible causes. The general classification of haemolytic anaemia is either hereditary or acquired (due to a disease or substance). Hereditary causes include sickle cell anaemia or sphenocytosis. Normal red blood cells have a life cycle of 120 days, but it can be as low as 5 days in some types of haemolytic anaemia such as sickle cell anaemia. Haemolytic anaemia can be caused by an autoimmune disease in which the body's own immune system produces antibodies which destroys red blood cells by mistake. In many cases the cause is unknown, and in some cases the antibodies which destroy the red blood cells are formed as a result of an infection or due to certain medication (eg) sometimes as a result of penicillins.

### **Why do women need more iron than men?**

The biggest and most obvious reason women need more iron is the monthly loss of blood due to menstruation. Women lose a significant amount of red blood cells from their blood every month during their period, therefore iron is needed to reproduce these red blood cells. Another reason women tend to have lower iron levels than men is that they tend to consume smaller portions of food than men and thus have less of a chance to consume the required amount of iron. Women, on average eat more fruit and vegetables than men, and while these have a very positive effect on health, the iron in fruit and vegetables tends to be harder to absorb than iron in meat products. Anaemia is more common during pregnancy as the unborn baby takes its supply from its mother which means a higher iron requirement is needed. Iron supplements are often required by pregnant mothers.

### **Why teenagers need more iron?**

Teenagers often experience rapid growth spurts which make them more prone to iron deficiency. During a growth spurt, a teenager has a greater need of all types of nutrients including iron; therefore a nutritious, balanced and healthy diet is particularly important.

After puberty, girls are more prone to iron deficiency anaemia due to menstruation so girls need more iron to compensate for blood lost during periods. Unfortunately teenage girls are more likely to go on diets leading to iron deficiency as well as other negative effects on their health. Many teenagers decide to become vegetarian or vegan. Vegetarians are more at risk of iron deficiency anaemia than meat eaters. Red meat is the richest and best source of iron. Although there is iron in grains, vegetables fruit and nuts, there is less than is found in meat and the iron contained in these food sources are not as readily absorbed as the iron in meat. Many parents would agree with the assertion that the most common reason for iron deficiency in teenagers is a poor diet. Many of us know (or were) teenagers who eat nothing but junk food. A diet consisting primarily of pizza, pasta and chips without much fruit and veg will lead to a deficiency of iron and many other essential vitamins and minerals. Many adults are also guilty nutritionally poor diet.

## **Symptoms of iron deficiency anaemia**

The symptoms of anaemia generally develop slowly over a period of time which leads to many people overlooking the symptoms and not getting diagnosed. Older people often put the symptoms such as tiredness, lack of energy and breathlessness down to a normal part of aging and leads to them suffering unnecessarily from a condition which is easily rectified. In fact, many of the symptoms can be easily reversed by a simple iron supplement or vitamin B12 supplement in the case of pernicious anaemia.

The more common symptoms of iron-deficiency anaemia include feeling breathless after only very little exercise, tiredness, palpitations (the sensation of feeling the heartbeat thumping in the chest), a rapid pulse and a pale skin colour.

Less common symptoms can include tinnitus (ringing in ears), an altered sense of taste, brittle nails, soreness at the edges of the mouth, a short attention span and poor concentration

These symptoms are not always due to iron-deficiency anaemia so if you are suffering from any of these symptoms I would advise firstly getting a haemoglobin check and if this is normal I would advise a full blood test from your GP. You do not need to make an appointment to get your haemoglobin checked in Whelehans. The test is quick (only takes 2 minutes and results are instant) and inexpensive (now only €5).

## **How to ensure you get enough iron in your diet?**

Meats, especially liver, followed by beef are the best sources of iron. Most seafood, especially oysters, are also good sources of iron. Vegetables and fruit with the highest levels of iron are sundried tomatoes (9mg per 100g), dried apricots (6mg per 100g), fresh parsley (6mg per 100g), cooked spinach (3.5mg per 100g), coconut (3.3mg per 100g), olives (3.3mg per 100g) and raisins (3mg per 100g).

Vitamin C helps the body to absorb iron. Thus, eating fruits or vegetables high in vitamin C in addition to those high in iron helps make the iron foods more effective. Good sources of vitamin C include peppers, sweet potatoes, oranges and kiwi fruit. Some drinks reduce the absorption of iron from the digestive tract. Phosphates found in carbonated soft drinks can decrease iron absorption. Tea and coffee contain polyphenols which bind to iron and make it harder to absorb. People prone to iron deficiency should cut down on fizzy drinks, tea and coffee to increase their iron levels. It is very unlikely to overdose on iron from diet alone. Normally, the only cases of iron overdose are due to the use of iron supplements.

## **Iron Supplements**

The best and safest way to ensure adequate iron levels is through a healthy diet. However in some cases, people need to take an iron supplement. Taking too much iron is harmful so iron supplements should only be taken after getting advice from your doctor or pharmacist. There are many iron supplements on the market.

The most popular brands are Galfer<sup>®</sup> capsules and Ferrograd<sup>®</sup> tablets. Galfer<sup>®</sup> and Ferrograd<sup>®</sup> are also allowed on the medical card and on the drug payment scheme once you have a valid prescription from your GP. The dose you will need to take depends on how low your iron levels are. Your doctor or pharmacist will advise you on dosage. You may take to take a higher dose initially to get your iron levels quickly back to normal and then a lower maintenance dose once your iron levels reach the advised level. Possible side effects of iron supplements include upset stomach and nausea, constipation and occasionally diarrhoea. To prevent constipation with an iron supplement try to eat a balanced diet with lots of fibre and drink about 6 to 8 glasses of water per day. The majority of people can tolerate iron supplements with no side effects but some people are more prone to side effects than others. Therefore, when starting an iron supplement for the first time, it is a good idea to start with the lowest possible dose and increase slowly to your recommended dose to ensure you can tolerate it. Iron is absorbed better if taken on an empty stomach but if the iron supplement causes stomach upset, taking it after food may ease it. If iron supplements are causing side effects, some people are better able to tolerate the slow release versions of iron supplements such as Ferrograd<sup>®</sup> as they release the iron slowly over a longer period of time in the digestive tract. People who are very sensitive to the side effects of iron can often tolerate Spatone<sup>®</sup> Sachets as it is easier on the stomach, however the iron level of Spatone<sup>®</sup> Sachets is lower and it is not allowed on the medical card. Whelehans Traditional Tonic contains 100% of the recommended daily allowance of iron. We put a flavour in our tonic to mask the bitter taste that iron has and is generally very well tolerated, even by people who can't tolerate other brands of iron supplement. Our traditional tonic has the additional benefit that it contains all the B vitamins, including vitamin B12 which can be lacking in people who consume little meat and those suffering from pernicious anaemia (more common in older people). Whelehans Children's Tonic also contains iron which is designed to promote growth, mental awareness and the immune system in children. Our Children's Tonic also contains B vitamins which can also be lacking in kids who are fussy eaters.

Iron supplements will cause your stools to turn black, but this is normal and nothing to worry about. If you must take an iron supplement, it is a good idea to take it with a glass of orange juice as the vitamin C will help absorb the iron better. Certain medicines such as some indigestion remedies (eg. Rennie's<sup>®</sup>) can reduce the absorption of iron so should not be taken at the same time. Your pharmacist will advise you on what medicines to avoid when taking your iron supplement. Keep iron supplements out of the reach of children. Iron supplements are among the most common causes of accidental drug overdose in children as iron tablets and capsules often have bright colours making them look like sweets.

## **Too much iron**

Too much iron can have a negative effect on your health. Too much iron leads to production of harmful free radicals which interfere with metabolism causing damage to organs like the heart and liver. You are unlikely to consume too much iron from your diet, so iron supplements are the most common cause of iron overdose. This is why you should always consult with your doctor or pharmacist prior to starting an iron supplement.

## **Health Services**

Benefit from our Heart Screening Service or professional advice on weight loss through our unique, successful, in house results driven programme. Our heart screening service will only takes about 15 minutes. We will check you for cholesterol, diabetes, blood pressure, body mass index and percentage risk of heart disease. Results are instantaneous. We have recently introduced food intolerance testing in store. An intolerance to a food can cause symptoms such as nausea, bloating, abdominal pain and diarrhoea, so if you feel you could be intolerant to a food, you can get checked by us and we will have your results the next day. Whelehans pharmacy has an in store chiropodist, James Pedley. His clinic is every Thursday morning. The consultation with our chiropodist takes place in a private consultation room. There is a reduced price for medical card holders. Our free hearing test service with our audiologist, Tony Battersea, takes place on Mondays. Call us at 04493 34591 to book any of our clinics. Our haemoglobin check is a walk in service so there is no need to book an appointment.

For comprehensive and free health advice and information call in to Whelehans, dial 04493 34591 or log on to [www.whelehans.ie](http://www.whelehans.ie). You can also e-mail queries to [info@whelehans.ie](mailto:info@whelehans.ie). Find us on Facebook