

Why is iron so important?

Iron is involved in a wide variety of metabolic processes, including oxygen transport, DNA synthesis, and energy production.¹ In the human body, it is needed for the proper functioning of many systems, including the heart, muscles and red blood cells. It also plays a vital role in the immune system,² the development of the brain^{3,4} and cognitive function.⁵

What is iron deficiency?

Iron deficiency is a health-related condition where there is not enough iron available to meet the body's needs.⁶ It can occur with or without iron deficiency anaemia.⁶

Prevalence of iron deficiency

Iron deficiency is very common; present in one-third of people globally.⁷ Specifically, it is one of the few nutritional deficiencies still widespread in developed countries.⁷ It is most prevalent in premenopausal and pregnant women and children under the age of five.⁸ In Europe, for example, iron deficiency affects up to 33% of pre-menopausal women, up to 77% of pregnant women and up to 48% of children.⁸ Iron deficiency is also frequently associated with chronic inflammatory diseases.⁹

Effects

The consequences of iron deficiency differ from person to person, but it can be linked to an overall decline in general health and well-being, as well as an increase in fatigue.¹⁰ Even in the absence of anaemia, iron deficiency can be debilitating, and exacerbate any underlying chronic disease, leading to increased morbidity and mortality.⁶ In children, iron deficiency can significantly impair cognitive and motor development.¹¹

Causes of iron deficiency

People of all ages can become iron deficient, but there are certain times in life, as well as lifestyle choices, that can make it more likely to happen:



Blood loss. The blood lost during menstruation (periods) means that pre-menopausal women need up to twice as much iron in their diet as men to avoid becoming iron deficient.¹² Women who have particularly heavy periods are more prone to iron deficiency and should discuss this with a healthcare professional. Blood loss is also contributing to development of iron deficiency in patients with inflammatory bowel diseases (IBD), chronic heart failure (CHF) and chronic kidney diseases (CKD).⁶



Inflammation. The inflammation associated with certain long-term conditions, such as IBD, CHF or CKD can reduce the amount of iron absorbed by the gut and therefore lead to iron deficiency.⁶



Medications. Some medications used in the treatment of IBD, CHF or CKD can lead to blood loss, resulting in further risk of iron deficiency.⁶



Growth. Iron is needed for the body to grow – so during times of growth, the need for iron increases. This includes pregnancy, infancy (in children under five years old) and adolescence.¹³



Diet. Iron can be found in both animal products and plant foods, but iron from animal products is better absorbed by the body.¹⁴ Foods rich in iron include red meats (liver, steak etc.), eggs, pulses, beans, nuts and seeds.¹⁵ Restrictive diets, either by choice (vegetarian or vegan diets) or due to chronic illnesses (e.g. kidney disease), can increase the risk of iron deficiency.^{16,17,18}



Diagnosing iron deficiency

The symptoms of iron deficiency are varied and can be similar to those of other conditions, making a diagnosis challenging.^{6, 19} The Symptom Checker, available on www.irondeficiencyday.com, can help people identify the symptoms they might be experiencing, which can then be discussed with a healthcare professional.

If a healthcare professional suspects iron deficiency, they will arrange for a blood test to check the red blood cells, haemoglobin and iron levels.¹⁹ This is a simple procedure that requires a small sample of blood, usually from the arm. A laboratory will test the blood for several different things which can confirm iron deficiency, and if so, how much iron is lacking. The amount of iron required by the body varies between people, so healthcare professionals need to assess what the next steps should be.²⁰

For specific information about iron levels, check out our infographic www.irondeficiency.com/resources. And for more information and resources about iron deficiency and iron deficiency anaemia please browse the materials available at: www.irondeficiency.com/resources.



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Vifor Pharma, a company of the Vifor Pharma Group, is a world leader in the discovery, development, manufacturing and marketing of pharmaceutical products for the treatment of iron deficiency. The company also offers a diversified portfolio of prescription and non-prescription medicines. Vifor Pharma's operational headquarters are in Zurich, Switzerland, and the company has an increasingly global presence and a broad network of affiliates and partners around the world.

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Last updated: 01. July. 2018

About Iron Deficiency Day

Iron Deficiency Day takes place every year on November 26. The day is dedicated to:

- **Raising awareness about the serious public health problem iron deficiency poses**
- **Highlighting the significant impact iron deficiency and iron deficiency anaemia can have on the lives of those living with it¹**
- **Helping people recognise the common and often overlooked symptoms**

We want people to get iron-informed! To understand why iron is so important to our bodies and what can happen if we're not getting enough, by recognising the symptoms and taking action. By informing people about the importance of healthy iron levels, we will encourage more people to speak to their healthcare providers about iron deficiency and iron deficiency anaemia.

The importance of iron and iron deficiency

Simply put, without enough iron, the human body cannot work properly. Iron is required throughout the body. It is essential for the production of red blood cells, and ensuring that the heart and skeletal muscles can function effectively.² Iron also plays a vital role in fighting off infections and illness,³ maintaining energy levels³ and normal brain function.

Iron deficiency means that there is not enough iron available in the body to enable it to function properly.⁵

Iron deficiency anaemia

Iron deficiency anaemia occurs when the level of iron stored in the body is so low, the body can no longer make enough haemoglobin needed to develop healthy red blood cells.⁶ Haemoglobin is the protein found inside red blood cells that carries oxygen to tissues and organs throughout the body, which is essential for them to function properly.⁷

Iron deficiency, or iron deficiency anaemia?

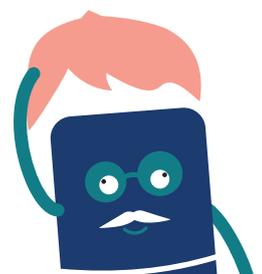
There is a clinical difference between iron deficiency and iron deficiency anaemia.⁵ Having low iron availability (iron deficiency), doesn't necessarily mean you will develop iron deficiency anaemia. To determine whether someone is iron deficient or has iron deficiency anaemia, a blood test is performed, which will look at a number of things:

- **Haemoglobin level:** this is the main component of red blood cells, which requires iron to transport oxygen around the body. A blood test will confirm if the level falls within the normal range expected for the person's age, sex, and physiological status (e.g. pregnancy).⁸ Haemoglobin alone however, cannot be used to diagnose iron deficiency.⁹
- **Serum ferritin:** measures the amount of iron that is stored in the body.¹⁰
- **Transferrin saturation (TSAT):** measures how much of your stored iron is available and can be used to make new red blood cells.¹¹

Awareness

Despite the serious consequences and high prevalence of iron deficiency,¹² it is still an under-recognised condition. As a result, many people are unaware that their health and well-being are being compromised.^{13,14} Even among those people who are aware of iron deficiency, some cannot recognise its symptoms.¹⁵

It is because of this lack of awareness that we are focused on education around the symptoms and impact of iron deficiency and recommending that people speak to a healthcare professional if they recognise any of the symptoms.

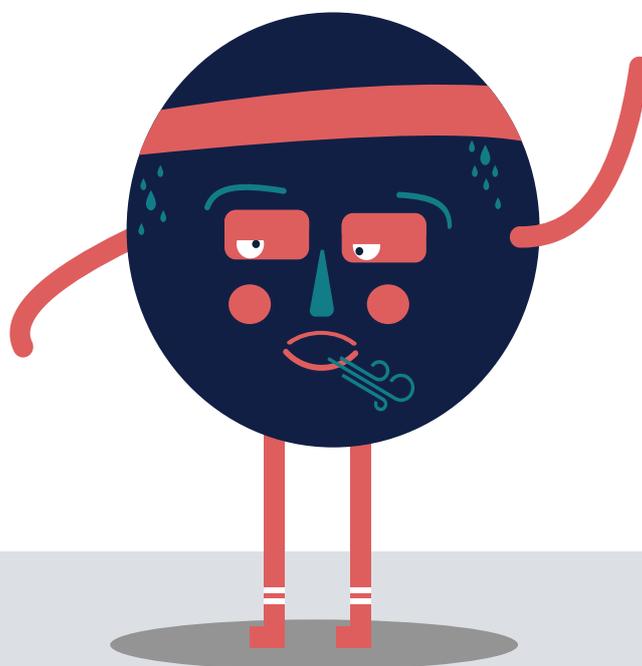


Meet the symptoms of iron deficiency and iron deficiency anaemia

Iron deficiency and iron deficiency anaemia can affect anyone – it is widespread; affecting men, women, the young and the elderly, throughout the world.¹¹ Recognising the symptoms of iron deficiency and iron deficiency anaemia is often the biggest hurdle to getting a diagnosis.⁵ The symptoms can manifest in different ways, they are hard to pinpoint and can be associated with a number of other health conditions.⁵

This Iron Deficiency Day, we are looking to highlight the symptoms of iron deficiency and raise awareness of the significant impact that this condition can have on the lives of those living with it.

Our Symptom Checker lists the main symptoms associated with iron deficiency and iron deficiency anaemia and brings them to life with an animated character, to further explain each symptom. Meet the symptoms at irondeficiencyday.com.



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