

Patient information from BMJ

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Anaemia, iron deficiency

You might develop anaemia if your body is low in iron. This can make you feel very tired. You might also find you become breathless easily. Taking iron tablets should help you start to feel better soon.

You can use our information to talk to your doctor and decide which treatments are best for you.

What is anaemia?

If you have anaemia your body doesn't have enough red blood cells. These cells carry oxygen from your lungs to cells around your body.

If your red cell count is low many of your body's tissues and organs can't work as well as they should. As a result you might feel tired, become winded easily, and look pale.

Anaemia can be caused by many things. The most common cause is not having enough iron. This is the type of anaemia we look at here. It's called **iron deficiency anaemia**.

Iron is a mineral that your body needs to produce haemoglobin, which is a protein in your blood that carries oxygen. If you have less iron for haemoglobin your supply of red blood cells drops and your blood cannot transport oxygen as well as it should.

Your body normally gets enough iron from what you eat and drink and from recycling old red blood cells. But some things can make your iron supply drop too low, leading to anaemia.

- **Blood loss.** When you lose blood you lose iron. You can develop anaemia from blood loss that is sudden (for example, from an injury or surgery) or more gradual (for example, from a slowly bleeding ulcer). Women who have heavy or frequent periods are also more likely to get anaemia.
- **Too little iron in your diet.** This can happen if you don't eat enough foods rich in iron. Good sources of iron are meat, eggs, beans, lentils, nuts, dried fruit, and iron-enriched cereals and breads.

Vegans, who don't eat any meat or animal products, have a greater chance than non-vegans of becoming anaemic.

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Pregnant women can become anaemic if they don't get enough iron to keep pace with their increasing blood supply and that of their growing baby. Many women also need more iron when breastfeeding, and some babies need extra iron, too.

- **Poor absorption of iron by the body.** During digestion, iron from the food you eat is absorbed into your bloodstream by your small bowel. However, the iron might not be properly absorbed if the small bowel is diseased or has been removed. For example, Crohn's disease and coeliac disease are bowel disorders that can interfere with the absorption of iron and other nutrients.

Some medicines, such as antacids and other drugs that decrease your stomach acid, can also hinder iron uptake. You need stomach acid to convert iron into a form that can be easily absorbed by the small bowel.

What are the symptoms?

Iron deficiency anaemia can cause a wide range of symptoms, including:

- fatigue
- shortness of breath
- dizziness and light-headedness
- pale skin colour
- a sore tongue
- hair loss
- unusual cravings for non-food substances, such as dirt, ice, paint, or clay. This is called pica
- thin nails that might start to curve backwards (called spoon nails)
- poor muscle performance (for example, you might not be able to exercise as long as usual)
- restless leg syndrome. This means you have an irresistible urge to move your legs to relieve uncomfortable sensations, such as itching or a 'crawling' feeling.

However, you might have no obvious symptoms if your anaemia is mild or develops slowly over time.

To find out if you have iron deficiency anaemia your doctor will take a blood sample and do several tests. These include tests to look at the size, colour, and number of your red blood cells, and at how many new cells are forming.

Your doctor will also measure your haemoglobin level and how much iron is in your bloodstream and stored in your body.

Your doctor might also do further tests to find out why you have iron deficiency anaemia. For example, your doctor might look for signs of internal bleeding by testing your stools for traces of blood. You might also have tests to look inside your digestive system for problems such as an ulcer or cancer.

What treatments work?

The usual treatment is to take iron tablets, which enable the body to produce more red blood cells. New cells start forming quickly and most people begin to feel better after about a week.

Haemoglobin levels usually return to normal in two to four months. However, doctors usually recommend taking iron tablets for another three to six months to fully build up the body's iron supply.

You might get side effects from iron tablets, including an upset stomach or constipation. Your stools might also turn black.

Doctors sometimes recommend people take their tablets with **orange juice** or **vitamin C supplements**. Vitamin C helps the body process iron.

Doctors usually recommend taking iron tablets on an empty stomach, as many foods and drinks, including tea, coffee, and wine, and foods rich in calcium or fibre, can get in the way of iron absorption. Certain drugs - including antacids and some antibiotics - can also interfere with iron uptake.

If iron tablets are irritating your stomach your doctor might advise taking them with food. Or you might try a different type of iron tablet or a liquid supplement.

If these things don't help - or if your iron loss is severe and getting worse - your doctor might give you **iron injections** instead of tablets. Some people need a **blood transfusion** to help replace their iron and haemoglobin quickly.

If an underlying condition caused your iron deficiency anaemia you will need treatment for that as well. Some people, such as vegans and women with frequent or heavy periods, might need to take extra iron over the long term.

What will happen to me?

The tiredness and shortness of breath caused by anaemia can interfere with your work, school, exercise, and daily routine. Treatment can help you rebuild your iron supply and start to feel better quickly.

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