

Iron deficiency anaemia

What is iron deficiency anaemia?

Iron is one of the vital chemicals of *haemoglobin*, which is the red pigment in red blood cells. If iron is deficient in the body, the production of haemoglobin is reduced, the red cells are therefore reduced or weak, and this is known as *anaemia*.

What are the symptoms of anaemia?

There may be no symptoms at first, then tiredness, weakness, breathlessness, faintness and loss of interest in things are the main symptoms. Pallor, especially of the lining of the lower eyelid, is a sign.

What are the causes?

Lack of iron is due to 1 or more of 3 main reasons:

1. not enough iron in the diet, especially in growing infants and vegetarians
2. poor absorption of iron from the bowel
3. excessive loss of blood, such as menstrual loss, bleeding from cancer or ulcers in the bowel or stomach or from haemorrhoids (piles)

Who is likely to get anaemia?

- premature infants
- children, especially those 6-36 months old with a diet high in cow's milk and low in iron-containing foods
- women, especially those with heavy periods and lack of dietary iron (3 in 10 have low iron reserves)
- the elderly (e.g. through poor diet and chronic illness)
- vegetarians
- athletes, who lose iron in sweat and urine

Anaemia can also develop in those with rapid growth spurts (e.g. adolescents). Those taking certain drugs, such as aspirin or anti-inflammatories, are prone to slow gastric bleeding, which can lead to anaemia. The commonest cause of iron deficiency in the world is from hookworm infestation of the bowel in tropical areas.

How is anaemia diagnosed?

Anaemia is diagnosed by taking a blood sample and sending it to a laboratory for testing. Iron deficiency can be diagnosed by the appearance of the blood and size of the cells. If this is so, further blood is taken to measure the level of iron stores in the body.

What are the main problems?

Iron deficiency anaemia is unlikely to be fatal, but the cause is the concern. In older adults the possibility of bleeding from cancer of the bowel or stomach must be considered. The ideal tests for this are looking directly into the empty organs with a viewing scope. The outlook for those with iron deficiency anaemia is usually very good.

What is the treatment?

The most important thing to do is correct the underlying cause. If investigations give the all clear for a serious bleeding problem, it is likely that the cause is lack of iron in the diet and

this is easily corrected. Sometimes a blood transfusion is necessary to correct severe anaemia, especially if you are facing surgery.

Medication

Iron supplements: Iron tablets are preferred to injections of iron but have a reputation for causing gastric upsets such as indigestion and nausea. It needs to be in the ferrous (not ferric) form.

- Take 1 tablet a day or 2 tablets every second day.
- Take iron on an empty stomach (e.g. 30 minutes before meals).
- Take vitamin C to help absorption.
- Wait 2 hours before taking other medications such as antacids.
- Take iron tablets with a small amount of food (not milk) if they upset the stomach.
- Continue the tablets for at least 3 months.

In children iron is best given daily before meals with orange juice (not milk). Liquid iron can discolour children's teeth—drinking it through a straw helps avoid this. Milk intake should be no more than 500 mL a day.

Diet

Adults should limit milk intake to 500 mL a day while on iron tablets. Avoid excess caffeine, fad diets and excess processed bread. Eat ample iron-rich foods (especially protein).

Protein foods

- meats: beef (especially), veal, pork, liver, poultry
- fish and shellfish (e.g. oysters, sardines, tuna)
- seeds (e.g. sesame, pumpkin)
- eggs

Fruits

- dried fruits (e.g. prunes, figs, raisins, currants, peaches)
- juices (e.g. prune, blackberry)
- most fresh fruit

Vegetables

- greens (e.g. spinach, silver beet, lettuce)
- dried peas and beans (e.g. kidney beans)
- pumpkin, sweet potatoes

Grains

- iron-fortified breads and dry cereals
- oatmeal cereal

For better iron absorption, add foods rich in vitamin C (e.g. citrus fruits, cantaloupe, brussel sprouts, broccoli, cauliflower).

Prevention of iron deficiency

- Aim for a well-balanced diet with adequate iron.
- Give bottle-fed infants an iron-fortified formula and iron-containing foods as soon as solids are started.