

ANEMIA

Patient Information Fact Sheet

What is anemia?

Anemia is a condition in which the amount of hemoglobin in the blood, or the number of red blood cells, is reduced to below-normal levels. Hemoglobin is an iron-containing protein found in red blood cells that aids the transport of oxygen from the lungs to the body tissues. This means that if you are anemic, your body is less able to transport oxygen.

Two common types of anemia: iron deficiency anemia, which is caused by a lack of iron, and pernicious anemia, which is caused by faulty absorption of vitamin B₁₂. Iron deficiency anemia is the most common type and occurs most often in women between the ages of 15 and 44 years and in both men and women over the age of 75 years. Pernicious anemia often affects adults between the ages of 50 and 60 years. Pregnant women, children, premature infants, and vegetarians are all at an increased risk of becoming anemic (see below).

What are the symptoms of anemia?

Anemia can cause symptoms of fatigue, lethargy, breathlessness on exertion, dizziness, palpitations, and headache. Your doctor may examine your eyelids, which can lose their normal color, and your lips, tongue or skin, which may look pale. Some people will not have any symptoms.

What causes anemia?

The most common cause of iron deficiency anemia is blood loss. The blood loss may be gradual, such as in a woman having heavy periods, or sudden, as a result of severe bleeding (eg, in a patient with a perforated stomach ulcer or during childbirth). Anemia may also be caused if red blood cells are broken down too quickly. This can happen in conditions such as sickle-cell anemia, malaria, or kidney failure. Your body may be unable to produce enough red blood cells if your diet does not contain enough iron, vitamin B₁₂ or folic acid. Pregnant women, children, and premature infants all need supplemental iron. It is also more difficult for the body to absorb iron from vegetables than from meat, so vegetarians need to ensure that they have sufficient quantities of iron in their diet. Another cause of pernicious anemia is a lack of intrinsic factor, a protein that occurs naturally in the body. It is secreted by glands in the stomach and is necessary for the absorption of vitamin B₁₂. Lack of intrinsic factor can occur in people who have had previous stomach surgery. The reason for the condition is unknown but it could be genetic.

What tests confirm a diagnosis of anemia?

A blood test will show if you are anemic and may also indicate the reason for the anemia. Your doctor will ask for a medical history to determine any likely cause or combination



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of factors that may have caused you to become anemic. If it is thought that you may have pernicious anemia, your doctor will carry out a Schilling's test to check for vitamin B₁₂ absorption.

How is anemia treated?

Treatment will depend on the type and cause of the anemia. For iron deficiency anemia, iron tablets, such as **ferrous sulfate** (Slow Fe), will be prescribed for a period of months, initially to correct the deficiency and then to replenish the body's stores of the mineral. Sometimes the tablets can cause side effects such as constipation or, alternately, diarrhea; they can also darken stools. If oral supplements are not sufficient or if iron stores need to be replenished rapidly, your doctor may give you an iron injection. If there is a lack of the intrinsic factor necessary for B₁₂ absorption, vitamin B₁₂ injections (**cyanocobalamin** [Berubigen, Cobavite, Rubivite, Rubramin PC, Vi-twel] or **hydroxocobalamin**) may be prescribed. **Cyanocobalamin nasal spray** (Calomist) may also be used as maintenance therapy. These will need to be taken for life as the intrinsic factor cannot be restored. If the anemia has been caused by another illness, this will be treated directly.

Self-help measures

If the anemia is due to a deficiency in your diet, you must try to increase your intake of that element:

- Vitamin B₁₂ is found in meat, fish, eggs, and milk.
- Iron is found in liver, meat, green vegetables, enriched flour, eggs, and milk.
- Folic acid (another B vitamin vital to the formation of red blood cells) is found in green vegetables (lightly cooked) especially broccoli and spinach, and in liver and kidneys.
- Take your iron tablets with orange juice to aid absorption.
- Keep your iron tablets away from children; iron tablets can be fatal to children and often look similar to candy.
- If you are vegetarian, try to find other sources of vitamin B₁₂ such as eggs and milk; some breakfast cereals have added vitamin B₁₂, and soy milk and yeast extracts are also a good alternative to supplements.

Further information

Pubmed Health: <http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001586/>

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