

# Anemia and nutrition.

Anemia is a condition in which you do not have enough red blood cells. Red blood cells contain the hemoglobin that carries oxygen to your organs and tissues. When there are not enough red blood cells, you have less hemoglobin to carry oxygen throughout your body. This can leave you feeling very tired, weak, short of breath, or dizzy.

## WHAT IS IRON DEFICIENCY ANEMIA?

Without iron, your body cannot make hemoglobin. The main causes of iron deficiency anemia are: iron-poor diet, blood loss, inability to absorb iron, and increased requirements for iron during certain stages of life (infancy, adolescence, and pregnancy).

### Who is at risk for iron deficiency anemia?

**Those with poor diets.** At risk are low-income families and vegetarians (iron in vegetables is not as easily absorbed as iron in meat).

**Infants.** After the age of six months, infants need a good dietary supply of iron since the stores that they were born with are mainly depleted. Unfortunately, neither breast milk or cow's milk are good sources of iron.

**Adolescents.** Teens undergoing a growth spurt and teenage girls who have started to menstruate are at risk for iron deficiency.

**Women.** Iron is lost with blood each month. Pregnant women require additional hemoglobin to support the developing fetus.

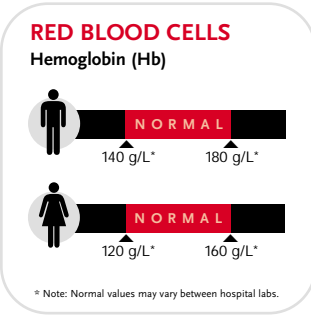
**Those with internal blood loss.** Bleeding may occur as a result of hemorrhoids, (benign) polyps, ulcers, or cancer.

**Inflammatory or allergic bowel diseases.** Celiac is an allergic reaction to gluten that can reduce the ability of the intestines to absorb iron and other nutrients. Inflammatory bowel diseases like Crohn's disease may also result in poor iron absorption.

## WHAT IS ANEMIA DUE TO VITAMIN DEFICIENCIES?

If the body lacks vitamin B<sub>12</sub> or folic acid, the red blood cells become abnormally large and have a shortened life span. Vitamin B<sub>12</sub> deficiency can be caused by inadequate dietary intake, poor absorption due to disease, bacterial overgrowth of the bowel, autoimmune diseases, or stomach surgery.

## HOW DO YOU KNOW IF YOU HAVE NUTRITIONAL ANEMIA?



The presentation of anemia varies depending on the individual. In the beginning, you may not notice any changes. As anemia progresses, people often report feeling fatigued and weak. You may look pale and, if the anemia is more severe, you may experience other symptoms such as shortness of breath, headaches, or loss of concentration.

If you have symptoms that suggest you have anemia, tell your doctor or nurse. The only real way to know if you have anemia is to have a blood test to check your red blood cells and, specifically, your hemoglobin. Depending on your hemoglobin level, your doctor will determine if

you have anemia. Normal hemoglobin levels range between 120 g/L to 160 g/L for women and between 140 g/L to 180 g/L for men.

Your doctor may do additional blood tests based on the appearance of red blood cells, stored iron levels, and vitamin levels. Finally, tests to determine the underlying cause of blood loss or poor absorption may be necessary.

### WHO BENEFITS FROM TREATING ANEMIA?

**Pregnant women.** Treating anemia can improve birth outcomes and improve the health of pregnant women during and after pregnancy.

**Infants, children and adolescents.** For infants, iron deficiency may cause a delay in mental and psychomotor development that may prove irreversible. Teenage girls with even moderate iron deficiency may demonstrate poorer cognitive and academic performance.

**Those with heart disease.** Since anemia is associated with a decreased number of red blood cells to carry oxygen around the body, this will worsen the symptoms of heart diseases. For example, the heart will beat even faster, and there will be more shortness of breath and leg swelling. There may also be an increased risk of heart attack.

### HOW IS NUTRITIONAL ANEMIA TREATED?

Treatment of iron deficiency anemia depends on its cause. If anemia is due to blood loss, it is important to treat the bleeding.

If it is due to inadequate dietary intake of iron, B<sub>12</sub> or folic acid, then modify the diet to include more iron-rich foods like red and white meat or poultry, fish, clams, oysters, dark green, leafy vegetables, whole grains, beans, and iron-fortified breads and cereals. Increasing the intake of vitamin C can help boost the absorption of iron. For infants six to 24 months of age, include iron-fortified cereals and if formula is used, make sure that it is iron-fortified.

Iron supplements should never be taken without consulting a physician. Oral tablets or intravenous iron may be prescribed. For infants, iron drops or syrup may be recommended (sprinkles are not yet commercially available). For pregnant women with severe anemia, recombinant erythropoietin in addition to intravenous iron may be an option.



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