

Anemia

DEFINITION

Anemia is a condition that occurs when the number of red blood cells (RBC's) and/or amount of hemoglobin found in the red blood cells drops below normal. Red blood cells and specifically the hemoglobin contained within them are necessary for the transport and delivery of oxygen from the lungs to the rest of the body. Decreased oxygen to the rest of the body can have serious effects on organs and the brain. Anemia is the most common blood condition in the U.S. It affects about 3.5 million Americans. There are more than 400 types of anemia, and women of child-bearing age are among the largest group effected by the condition.

SYMPTOMS

Anemia can be mild or severe, and can be either a temporary condition or a chronic one, depending on the cause. The most common symptoms are:

- general sense of weakness or fatigue
- Lack of energy
- Headache
- Feeling of coldness or numbness in hands or feet
- Shortness of breath

Because symptoms may be mild or masked by other conditions, Anemia is often first discovered during a complete physical which includes a Complete Blood Count (CBC). This routine test counts the number and proportion of the cells in your blood. If the CBC indicates anemia, your physician may want to follow up with a blood smear or differential test which will provide more data as to the cause of the anemia.

CAUSES OF ANEMIA

Blood loss is the most common cause of anemia, especially iron deficiency anemia. Blood loss can be short term or persist over time. Heavy menstrual periods or bleeding in the digestive or urinary tract can cause blood loss. Surgery, trauma, or cancer also can cause blood loss.

Both acquired and inherited conditions and factors can prevent your body from making enough red blood cells. Examples of acquired conditions and factors that can prevent your body from making enough red blood cells include diet, hormones, some chronic (ongoing) diseases, and pregnancy. Chronic diseases, like kidney disease and cancer, can make it hard for your body to make enough red blood cells.

Some cancer treatments may damage the bone marrow or damage the red blood cells' ability to carry oxygen. If the bone marrow is damaged, it can't make red blood cells fast enough to replace the ones that died or were destroyed.

People who have HIV/AIDS may develop anemia due to infections or medicines used to treat their diseases.

Anemia can occur during pregnancy due to low levels of iron and folic acid and changes in the blood. During the first 6 months of pregnancy, the fluid portion of a woman's blood (the plasma) increases faster than the number of red blood cells. This dilutes the blood and can lead to anemia.

One example of an acquired condition that can do this is an enlarged or diseased spleen. The spleen is an organ that removes worn out red blood cells from the body. If the spleen is enlarged or diseased, it may remove more red blood cells than normal, causing anemia.

Examples of inherited conditions that can cause your body to destroy too many red blood cells include sickle cell anemia and lack of certain enzymes. These conditions create defects in the red blood cells that cause them to die faster than healthy red blood cells.

Hemolytic Anemia is another example of a condition in which your body destroys too many red blood cells. Inherited conditions can cause this type of anemia. Acquired conditions or factors also can cause hemolytic anemia. Examples include immune disorders, infections, certain medicines, or reactions to blood transfusions. (source: National Institutes of Health)

TREATMENT ALTERNATIVES

Treatment for anemia depends on the type, cause, and severity of the condition. Treatments may include dietary changes or supplements, medicines, or procedures. The goal of treatment is to increase the amount of oxygen that your blood can carry. This is done by raising the red blood cell count and/or hemoglobin level. (Hemoglobin is the iron-rich protein in red blood cells that carries oxygen to the body.) Mild anemic conditions may be treated with supplements and dietary adjustments; severe anemia will require more aggressive procedures, including transfusions and surgical procedures. (Source: National Institutes of Health).

WHEN TO SEE A DOCTOR

If you are experiencing one or more of the symptoms listed above, make a note of them and schedule a visit that includes time for a blood test, as many of these symptoms are also indicative of other health conditions. Your doctor will diagnose anemia based on your medical and family histories, a physical exam, and results from tests and procedures.

Precision Trials serves clinical study participants in the Phoenix, AZ area, including Gilbert, Chandler, Mesa, Scottsdale, Glendale, Paradise Valley, Peoria, and Sun City.

If you are interested in participating in a clinical trial, please contact us at research@precisiontrials.com or call a clinical research coordinator at 602-931-4507.

Go to www.precisiontrials.com/conditions for information on an Iron Deficiency Anemia Study at Precision Trials.