

Definition of hemoglobin essay sample



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Hemoglobin is a crystallizable, conjugated protein consisting of an iron-containing pigment (called heme or hematin) and a simple protein, globin. In the lungs, it combines readily with oxygen to form a loose, unstable compound called oxyhemoglobin, a process called oxygenation. In the tissues of the body, where oxygen tension is low and carbon dioxide tension is high, oxyhemoglobin liberates its oxygen in exchange for carbon dioxide. The composition of the globin chain can vary, giving rise to several normal and abnormal forms of hemoglobin. The amount of hemoglobin in the blood averages between 12 and 16 grams/100 milliliters of blood in adult females, about 14 and 18 in males, and somewhat less in children. Function

The principal function of hemoglobin is to combine and transport oxygen from the lungs following inhalation, and then deliver it to all body tissues, where it is required to provide energy for the chemical reactions of all living cells. Carbon dioxide (produced as the waste product of these reactions) is transported to the lungs in the blood and is then released when we exhale.

Anemia (also see Health Profile: Anemia)

Defects in hemoglobin production may be either genetic in origin (for example, sickle cell anemia) or acquired. Anemia is a general term referring to a shortage of red blood cells or a reduction in hemoglobin. If anemia is suspected, a simple blood test can be taken to detect a shortage of red blood cells or hemoglobin. Any adult who has a hemoglobin content of less than 12 grams/100ml blood in women, and less than 13.5 grams/100 ml in men, is diagnosed as having anemia. A specific diagnosis is necessary because each type of anemia has a different cause and therefore, a different treatment. Anemia can be categorized into those caused by decreased

production of red blood cells and those caused by increased destruction or loss of red blood cells.

For example, anemia may be caused by vitamin or mineral deficiencies, or an inability to absorb certain vitamins, inherited abnormalities in the blood, the failure of the bone marrow to manufacture enough red blood cells or blood loss. People with a poor diet or a history of alcoholism are likely to suffer from one of the types of anemia caused by vitamin and mineral deficiencies. Iron deficiency anemia is caused by a shortage of the mineral iron, which is necessary to produce hemoglobin. This shortage can be caused by a variety of conditions, among them a drastic blood loss such as from an accident; chronic blood loss, such as from a bleeding ulcer; and a diet low in iron. Regularly including foods with a good source of iron in your diet will help prevent iron deficiency. Iron supplements may be prescribed, along with a diet high in iron, to correct the problem. Foods Rich In Iron include Oysters, sardines and shrimp; red meats; dried peas and beans; dark green, leafy vegetables; whole grains; iron-enriched cereals; dried apricots; prunes and raisins.

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Questions To Ask Your Doctor About Hemoglobin

What is anemia?

What is the cause of the low hemoglobin levels?

What treatment will you be recommending?

How successful is this treatment?

Can diet alone help increase the hemoglobin?

How long does it take with diet alone to increase the hemoglobin level?