



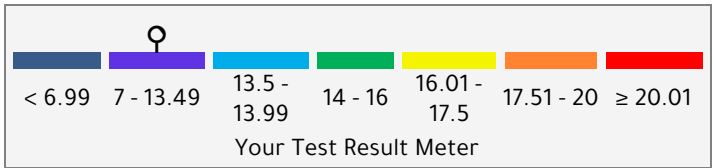
Lab: Supreme Labs
123 Talaat Harb square, Misr
Address: Insurance Building, Cairo,
Cairo
Country: EG
Phone: 00255635554

Report for: John R. Smith
Gender: Male
Age: 24 year



Hemoglobin (Hb) (7 g/dL)

Test Date: 2023-01-11



Overview:

This test measures the amount of hemoglobin (Hb) in your blood.

Hemoglobin is a protein found in red blood cells that transports oxygen from the lungs to the rest of the body. It contains the mineral iron, which helps it carry oxygen. After the oxygen is used, hemoglobin also carries carbon dioxide back to the lungs where it is exhaled.

Hemoglobin levels are used to help diagnose anemia (decreased amount of red blood cells) and polycythemia (increased production of red blood cells).

Both low and high hemoglobin levels can impact your health. They both decrease the oxygen supply to the tissues, although by different mechanisms. High hemoglobin is further associated with an increased risk of high blood pressure and blood clots.

A hemoglobin test is usually done as a part of a complete blood count (CBC), that also looks at other properties of your red blood cells. Your doctor will interpret a rise or drop in hemoglobin together with other tests, such as RBC, hematocrit, and red blood cell indices.

Remember that there is some lab-to-lab variability in ranges due to differences in equipment, techniques, and chemicals used. Don't panic if your result is slightly out of range in the app - as long as it's in the normal range based on the laboratory that did the testing, your value is normal.



Your Result:

▮ Your hemoglobin (Hb) levels are lower than the normal range!



Comment:

Hemoglobin usually decreases when there are less red blood cells. Low hemoglobin levels may mean that your blood carries oxygen less efficiently, a condition known as anemia.

But remember that a single test isn't enough to make a diagnosis. Your doctor will interpret this test, taking into account your medical history and other tests, such as RBC, hematocrit, and red blood cell indices. A result that is slightly low may not be of medical significance, as this test often varies from day to day and from person to person.

Low hemoglobin can be caused by:

- Excessive blood loss, including bleeding due to injuries, ulcers, or heavy menstrual bleeding
- Nutrient deficiencies, due to dietary lack of iron, vitamin B12, folate (vitamin B9), and less frequently vitamin B6, vitamin A, or copper
- Conditions that impair nutrient absorption, such as celiac disease, inflammatory bowel disease (IBD), autoimmune gastritis (a disease that destroy the cells that produce stomach acid), and Helicobacter pylori infection
- Bariatric and other weight loss surgery
- Chronic disease and inflammation
- Obesity

- Conditions that cause red blood cell destruction (hemolytic anemia), including infections such as malaria, hereditary conditions such as sickle-cell anemia, or autoimmune conditions
- Genetic disorders in hemoglobin production, such as thalassemia
- Kidney failure
- Hypothyroidism
- Endurance exercise (sports anemia)
- Heavy metals and toxins
- Bone marrow disorders (e.g. leukemia, lymphoma, myeloma) and damage due to toxins, radiation, chemotherapy, and cancer that have spread to bone marrow
- Aging

Several drugs can decrease hemoglobin, including:

- Nonsteroidal anti-inflammatory drugs, such as ibuprofen.
- Drugs used to lower blood pressure

Hemoglobin is normally decreased in pregnancy.

Causes shown here are commonly associated with low hemoglobin levels. Work with your doctor or another health care professional to get an accurate diagnosis.

When you have anemia (low hemoglobin), you may experience:

- Fatigue
- Headaches
- Shortness of breath
- Dizziness
- Poor concentration
- Fast or irregular heartbeat
- Intolerance to exercise
- Cold hands and feet (inability to maintain core body temperature)



Recommendations:

△ The most important thing is to work with your doctor to find out what's causing your low hemoglobin and to treat any underlying conditions. While sometimes anemia can be treated with dietary changes and supplements, other times a person may require blood transfusion, drugs that stimulate RBC production, or changing medications.

△ The additional lifestyle changes listed below are other things you may want to discuss with your doctor. None of these strategies should ever be done in place of what your doctor recommends or prescribes!

△ If your hemoglobin is low and your doctor suspects a nutritional cause, they may check your levels of:

- Iron
 - Vitamin B12
 - Folate (vitamin B9)
 - Vitamin B6
 - Copper
- A diet deficient in any of these nutrients can decrease hemoglobin, and that's why it's important to maintain a healthy, well-balanced diet. However, remember that deficiencies of these nutrients may have non-dietary causes, such as bleeding or gut issues (malabsorption), in which case they can't be corrected by simple dietary changes.

△ Reduce the use of antacids and over the counter medications for ulcers because this can lower stomach acid and decrease iron absorption in your body.

△ If overweight you will benefit from losing weight.

△ Alcohol consumption should be limited as it decreases red blood cell production.

△ Exercise should only be performed in moderation as athletes can be more susceptible to iron loss, and over-exercising can cause damage to red blood cells.

△ Reduce your consumption of fish high in mercury (tuna, swordfish, and king mackerel) as these can negatively affect your red blood cells.

△ Discuss the following supplements with your doctor:

- Depending on your levels: iron, B vitamins, vitamin A, Copper
- Vitamin C - helps the body absorb more iron

- Vitamin D (if deficient)
- Zinc (if deficient)
- Vitamin E

Further laboratory tests should be performed:

- ✓ RDW
- ✓ MCH
- ✓ MCHC
- ✓ WBC
- ✓ RBC
- ✓ Hemoglobin Electrophoresis
- ✓ Hematocrit
- ✓ Iron
- ✓ Lead
- ✓ Vitamin B12
- ✓ Vitamin B6



References:



To review references for the medical content mentioned in this report:

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