What is Haemoglobin (Hb)?

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About Haemoglobin (Hb)

- It is an iron-containing protein found in the red blood cells that carries oxygen from the lungs to the body's tissues and returns carbon dioxide from the tissues back to the lungs.
- It is made up of four protein molecules (globulin chains) that are connected together.
- Haemoglobin forms an unstable reversible bond with oxygen. In the oxygenated state, it is called oxyhemoglobin and is bright red; in the reduced state, it is purplish blue.
- It also plays an important role in maintaining the shape of the RBCs. In their natural shape, RBCs are round with narrow centers resembling a donut without a hole in the middle. Abnormal haemoglobin structure can, therefore, disrupt the shape of RBCs and impede their function and flow through blood vessels.
- Haemoglobin levels vary from person to person. Men usually have higher levels than women.
- What does a low haemoglobin level mean?
    - A low haemoglobin level is referred to as anemia or low red blood count.

    - A lower than normal number of RBCs is referred to as anemia and haemoglobin levels reflect this number.
    - Some of the more common causes of anemia are:
- loss of blood (traumatic injury, surgery, bleeding, colon cancer, or stomach ulcer),
- nutritional deficiency (iron, vitamin B12, folate),
- bone marrow problems (replacement of bone marrow by cancer),
- suppression by red blood cell synthesis by chemotherapy drugs,
- kidney failure, and
- abnormal hemoglobin structure (sickle cell anemia or thalassemia).

Q1) What are Proteins?

Proteins are large, complex molecules that play many critical roles in the body. They do most of the work in cells and are required for the structure, function, and regulation of the body's tissues and organs. Proteins are made up of hundreds or thousands of smaller units called amino acids, which are attached to one another in long chains. There are 20 different types of amino acids that can be combined to make a protein.

Source: Haemoglobin isn't used only in blood, scientists find in major discovery