a The Midwife Mary Arizona publication

Chlorophyll and Blood Regeneration

All Women can benefit from supplementing with Chlorophyll every day. Mary the Midwife recommends Nature's Way Chlorofresh with mint but any chlorophyll supplement will work.

Taken from: Cereal Grass: What's in it for you? By Ronald L.Seibold, M.S.
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Chlorophyll is the substance which makes green plants. The chlorophyll molecule has the unique capacity to convert the energy of the sun into chemical energy (through photosynthesis), which the plant uses to make carbohydrates from carbon dioxide and water. Ultimately, all living things plant and animal derive their energy, and therefore their life, from solar and through photosynthesis.

Yet chlorophyll is not so unique in its chemical make-up. It is built around a structure known as a porphyrin ring, which occurs in a variety of natural organic molecules. The most interesting group of molecules which contain prophyrin rings are those involved in cellular respiration, or the transportation and consumption of oxygen. These include hemoglobin, myogloin and the cytochromes. Hemoglobin is of course, the substance in human blood which carries oxygen from the lungs to the other tissues and cells of the body.

The chemical similarity between hemoglobin and chlorophyll was first suggested by Verdel in1855, and specifically demonstrated in the early 1020's. In twenty years that followed, a considerable amount of research was done to see id the two substances were interconvetible in the body.

Can chlorophyll, so abundant in the world around us, supply the body with hemoglobin, a vital blood component? It's an attractive idea. Certainly, there is good anecdotal and research evidence that chlorophyll-rich foods such as wheat grass help in some way to "build" the blood. After an exhaustive review of the scientific research relating to chlorophyll to blood, we have concluded that the relationship between the two is much more complex, and indeed more beautiful, than the simple idea of the body's substituting an iron molecule for an magnesium molecule to make hemoglobin from chlorophyll.

The exchange of oxygen for carbon dioxide in the body takes place in the circulating red blood cells. These contain the red pigment **heme**, bound to a protein, **globin**, to make **hemoglobin.** Nutrients essential to the maintenance of healthy blood include: iron, copper, calcium, and Vitamins C, B-12, K A, Folic Acid and Pyridoxine, among others.

In 1936, Dr. Arthur Patek reported the results of an interesting study. Fifteen patients with iron-deficiency anemia were fed different amounts of chlorophyll with iron. It was already known that iron alone cures this condition, but Patek found that when chlorophyll and iron were given together, the number of red blood cells and the level of blood hemoglobin increased faster then with iron alone. No such results for this type of anemia were obtained with chlorophyll alone.

As stated by Dr. Patek:
"This study may serve to encourage the use of a diet ample in green stuff and protein foods, for it must be that over a long space of time favorably nutritious elements are absorbed which aid the blood reserve which furnish building stones for the heme pigments necessary to the formation of hemoglobin.

More recent research indicates that some porphyrins (ringed structures in heme and chlorophyll) stimulate the synthesis of the **protein** portion of the hemoglobin molecule. Thus, portions of the chlorophyll molecule may enhance the body's production of globin. This may provide a partial explanation of the effect of chlorophyll on hemoglobin synthesis.

Cholorophyll and Blood Regeneration: A Summary

There are many reasons why cereal grass and other dark green plants can be considered “blood-building” food. The vitamins and minerals in cereal grass are essential to the synthesis and function of the components of healthy blood. But perhaps the interesting connection between green foods and blood is the similarity in the structures of the two colored pigments, heme and chlorophyll. The biological relationship between these two molecules, though studied for over 60 years, is still not completely clear. It does appear, however, that small amounts of the digestive products of chlorophyll may stimulate the synthesis of either heme or globin or both in animals and humans.