

# Support for Healthy Blood Building

Developed and reviewed by the clinical, chiropractic, and naturopathic members of the Standard Process team

## Importance of Blood and Blood Building

Blood building refers to the process of enhancing the body's ability to produce and maintain healthy blood cells and improving overall blood quality. Nourishing the body with essential nutrients needed for blood building is critical to ensure proper immune system function, good energy levels, mental clarity, and overall vitality.

The human body contains over 20 trillion red blood cells, making them the most abundant cell type. Red blood cells (RBCs) are critical to the function of all organ systems and vital for oxygen transport. Erythropoiesis — the process of RBC formation — occurs in the bone marrow and is regulated by hormones, nutrients, and cofactors. The first step in this process is driven by kidney detection of low oxygen levels in the blood and the release of erythropoietin (EPO): a hormone that stimulates RBC production in the bone marrow. Stem cells in the bone marrow commit to becoming immature RBCs and begin producing hemoglobin: a protein that is composed of iron-containing heme groups that bind oxygen. As immature RBCs develop, they produce increasing amounts of hemoglobin. They eventually leave the bone marrow and enter the bloodstream where they mature into functional RBCs and circulate for about 120 days.

Nutrients like iron, copper, folate, B<sub>6</sub>, and B<sub>12</sub>, zinc, vitamin A, and vitamin C are essential for RBC development. Deficiencies in critical cofactors can compromise the quality and quantity of blood cells and lead to an array of symptoms. Blood-building support is especially important for people with anemia, low energy, poor circulation, and those recovering from illness or blood loss. Lifestyle and nutritional interventions can support healthy blood building by modulating hormone production and providing key nutrient cofactors for erythropoiesis.

## Supportive Lifestyle Practices

Regular exercise can increase the concentration of hormones like erythropoietin, testosterone, and growth hormone that induce red blood cell production and their release from bone marrow. Athletes have been shown to have a higher number of young red blood cells than sedentary individuals.<sup>1</sup>

Advise patients to reduce or eliminate alcohol consumption. Chronic heavy alcohol intake negatively impacts RBC production; it can change the structure of red blood cell precursors, prevent their maturation, and impair their function.<sup>2</sup> Alcohol intake can indirectly compromise red blood cell health through the reduced absorption and increased excretion of vital nutrients, such as folate.

## Whole Foods Nutritional Recommendations

Encourage patients to consume folate-rich leafy greens and cruciferous vegetables to support healthy blood building processes. Folate is essential for the production and normal repair processes of DNA and RNA in red blood cell precursors and supports the production of hemoglobin.<sup>3</sup>

Recommend vitamin B<sub>12</sub>-rich foods like meat, poultry, eggs, and dairy. B<sub>12</sub> is required for red blood cell division and maturation. B<sub>12</sub> and folate work together to facilitate DNA synthesis and modulate homocysteine.<sup>4</sup>

Encourage consumption of foods rich in heme iron, including beef, liver, poultry, and seafood. Heme iron is better absorbed and more bioavailable than non-heme iron, making it a more efficient source of iron for RBC production and oxygen transport.<sup>5</sup> Iron is required for the synthesis of hemoglobin: a crucial component of red blood cell health and oxygen delivery.

# Dietary Supplement Regimen



## Whole Food Folate™

Suggested Use: **6 tablets per day**

- Contains a vegetarian whole food source of natural folate and vitamin B<sub>12</sub>
- Supports red blood cell health\*
- Supports central nervous system health\*
- Supports healthy cellular processes such as DNA formation and replication\*
- In combination with a healthy, folate-rich diet:
  - Supports homocysteine metabolism\*
  - Supports healthy methylation capacity\*



## Chlorophyll Complex™

Suggested Use: **2 softgels per meal**

Chlorophyll Complex™ is a chlorophyll supplement in a softgel that helps support the body's detoxification mechanisms.\*



## Ferrofood®

Suggested Use: **1 capsule per day with food**

- Promotes and supports normal blood production\*
- Provides iron and vitamin B<sub>12</sub>, which are essential for the synthesis of hemoglobin and helps deliver oxygen to red blood cells\*
- Supports enzyme actions in the body\*
- Contains vitamin C to help with iron absorption\*
- Excellent source of iron, vitamin B<sub>12</sub>, and antioxidant vitamin C



## Fe-Max Iron Tonic Phytosynergist®

Suggested Use: **Dilute 5 mL (approx. 1 tsp.) in water or juice 2 - 3 times daily.**

Fe-Max Iron Tonic Phytosynergist® contains Codonopsis Root, Nettle Leaf, Licorice, Ashwagandha and Ginger. These herbs have been traditionally used in herbal preparations to:

- Provide iron, which is essential for the normal functioning of red blood cells\*
- Promote and support healthy blood production\*
- Support good nutrition\*
- Promote an overall feeling of well-being and vitality\*

## Assessment of Blood Health

## In Office/Physical Exam

- Vital signs
- Lab studies: Iron panel with ferritin, complete blood count (CBC) with differential, homocysteine, methylmalonic acid (MMA), thyroid panel
- Signs/symptoms such as fatigue, shortness of breath, heart palpitations, pallor, heavy menstrual bleeding, dizziness, numbness and tingling in hands or feet, confusion, difficulty concentrating
- Medical History: autoimmunity, blood loss, anemia, restrictive diet

## REFERENCES

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3. Raval, J. S., et. al. (2013). Transfusion medicine (Oxford, England), 23(2), 87–93.
4. Hooda J, et al. (2014) Nutrients. Mar 13;6(3):1080-102.
5. Olaso-Gonzalez, G. et al. (2022) IUBMB life, 74(1), 74–84.