

Quick Thalassemia Facts

Thalassemia Support Foundation

www.helpthals.org

What is it?

- Thalassemia is a genetic blood anemia. It is inherited from your parents.
- Anemia-(def.) a condition in which there is a reduction of the number of red blood cells or of the total amount of hemoglobin (Hb) in the blood stream or of both, resulting in paleness, generalized weakness, etc.
- The commonest anemia is “iron deficiency anemia”, which can be cured by taking iron supplements. However, Thalassemia is an inherited anemia, and it is very severe. It cannot be cured by taking medicines.
- Thalassemia major is the most severe of the thalassemias.
- For many years it was thought that Thalassemia was untreatable and that patients would inevitably die at an early age. We now know that with proper treatment, patients can lead full and fulfilling lives.
- Other names for Thalassemia are: Cooley’s anemia (named after Dr. Thomas Cooley, an American pediatrician who first described and reported some of the characteristic features of the disease in 1927), and Mediterranean Anemia, because it was first believed that the disease was only limited to the region around the Mediterranean Sea.

About Blood

- Whole blood is made up of two parts: Non-cellular (plasma) and Cellular (red blood cells, white blood cells, and platelets).
- The blood transports oxygen and nutrients to the cells of the body, and takes away carbon dioxide and other waste products.

- The blood also transports hormones, delivers nutrients from food that has been broken down by the digestive system, and helps the body fight infections and diseases through the immune system.
- Blood is produced mainly in the bone marrow, the center cavity of the bones.
- Your red blood cells (RBCs), or erythrocytes, contain hemoglobin, which is red and it is what makes your blood look red.
- Red cells make up about 45% of the total volume of your blood.
- RBCs have a life span of about 100-120 days, after which they are destroyed in your spleen.
- It is the hemoglobin in your red blood cells which picks up oxygen from your lungs and carries it around to your tissues, where it delivers it to your cells.
- To live, your tissues need to breathe, so they need oxygen. One of the common symptoms of anemia is fatigue because the blood fails to carry and deliver enough oxygen to the cells of your body.
- Normal Hb levels are: 13-16 for males; 11-14 for females and children; 8-11 for moderate anemia; less than 8 for severe anemia

Transmission of the disease

- Thalassemia is inherited from your parents.
- You inherit two genes for hemoglobin from your parents, one each from your mother and your father.
- These two genes control how Hb is made in your red blood cells.
- “Normal” people have two normal genes for Hb.
- Carriers of Thalassemia trait have one “normal” gene and one altered gene. One of the genes functions normally which produces a normal Hb level.
- Thalassemia major patients have two altered genes for Hb. Both parents must be carriers of the disease for this to occur.