

Hemoglobin C

What is Hemoglobin?

Hemoglobin is the part of the blood that carries oxygen from the lungs to all parts of the body. There are different types of hemoglobin. Your hemoglobin type comes from the genes you inherit from your parents. Genes are instructions in each of our cells that determine a person's traits such as eye color, blood type and risk of disease. Hemoglobin A is the most common type and is normal.

What is Hemoglobin C Trait?

Hemoglobin C Trait has nothing to do with sickle cell. Hemoglobin C trait is most common in people of West African ancestry, as well as persons of Mediterranean, East Indian, or Latin American descent.

Hemoglobin C Trait occurs when a normal gene (Hemoglobin A) is inherited from one parent and the Hemoglobin C gene is passed down from the other parent. Hemoglobin C Trait red blood cells look like a bull's eye on a dart. Hemoglobin C Trait is not a disease; individuals have no health problems; and there are no physical abnormalities.

What is Hemoglobin C Disease?

Hemoglobin C disease is a condition affecting a protein in the blood (hemoglobin) which transports oxygen throughout the body. Symptoms of this condition can include fatigue, weakness and anemia. The spleen may become enlarged as a result of this disease. For many people with this condition, symptoms are relatively mild and the lifespan is normal. Some people with this condition do not exhibit any symptoms at all. Treatment for any symptoms that do present, include taking folic acid supplements.



Sickle Cell Foundation of Georgia, Inc.

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Family Planning

This information is important for those who are planning to have children, particularly African Americans and those of West African ancestry. Children born into your family may be at risk for a disease. Hemoglobin A is the most common type and is normal.

If one parent is Normal (AA) and the other parent has Hemoglobin C Trait (AC), there is 50% chance that the child will be Normal (AA) and a 50% chance that the child will have Hemoglobin C Trait (AC).

If both parents have Hemoglobin C Trait (AC), for each pregnancy there is a 25% chance the child will be Normal (AA); a 50% chance the child will have Hemoglobin C Trait (AC); and a 25% chance for Hemoglobin C Disease (CC).

If one parent has Hemoglobin C Trait (AC) and the other parent has Sickle Cell Trait (AS), there is a 25% chance the child will be Normal (AA); a 25% chance the child will have Hemoglobin C Trait (AC); a 25% chance for Sickle Cell Trait (AS); and a 25% chance for Sickle Cell Hemoglobin C Disease (SC Disease).

What do I do now?

Get yourself and family tested to see if you carry the trait for an abnormal hemoglobin. If you take the test, ask your provider to perform a hemoglobin electrophoresis for accurate results. See your provider or call the Foundation for genetic counseling about your test results. This provides you with the facts to make an informed decision about having children.

Visit sicklecellga.org



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