

WHAT IS HEMOGLOBIN ?

Hemoglobin is a protein found in red blood cells that carries oxygen and gives blood its red color. Most people have the type of hemoglobin called hemoglobin A (also called normal or adult hemoglobin). However there are many different types of hemoglobin found in people throughout the world. Hemoglobin C is one type; sickle hemoglobin is another type.

HEMOGLOBIN TYPE IS INHERITED

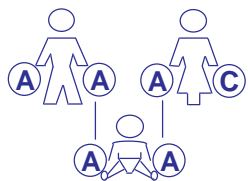
... We inherit our hemoglobin type from our parents

If you have been told you have hemoglobin C *trait*, it means you inherited one hemoglobin C gene from one parent and one normal hemoglobin gene from the other parent. A person with hemoglobin C trait is well and may not be aware of having the trait.

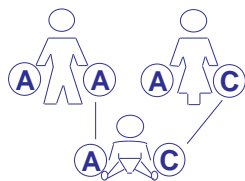
... We pass our hemoglobin type to our children

When one parent has hemoglobin C trait and the other parent has normal hemoglobin, the child will inherit:

- . two normal hemoglobin genes *or*
- . one normal hemoglobin gene and one hemoglobin C gene



child with normal hemoglobin
50% chance



child with hemoglobin C trait
50% chance

WHAT IF MY PARTNER ALSO HAS HEMOGLOBIN C TRAIT?

If you and your partner have hemoglobin C trait, there is a 25% chance with each pregnancy that your child will inherit both hemoglobin C genes and have hemoglobin C disease. A child with hemoglobin C disease will have a mild anemia.

SHOULD I BE CONCERNED IF I HAVE HEMOGLOBIN C TRAIT?

Hemoglobin C trait does not cause any health problems. However, if you have hemoglobin C trait and your partner has sickle cell trait, there is a 25% chance with each pregnancy, that your child will have hemoglobin SC disease, which can be serious.

WHAT IS IT LIKE TO HAVE HEMOGLOBIN SC DISEASE?

A person with hemoglobin SC disease may suffer from anemia and bouts of pain called crises. These crises can occur without warning, affect any part of the body and last hours or days. There may also be problems with frequent infections and unexplained fevers.

Daily doses of penicillin and folic acid are required.

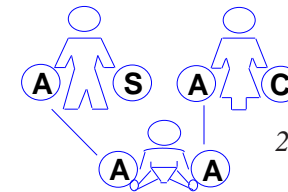
A pregnant woman with hemoglobin SC disease may have complications.

The severity of the disease varies in individuals from mild anemia to frequent problems with pain and infection.

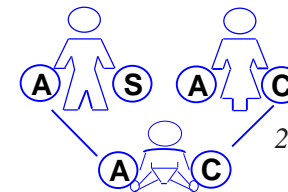
CAN I HAVE A CHILD WITH HEMOGLOBIN SC DISEASE?

Yes...if you have hemoglobin C trait and your partner has sickle cell trait then there is a 25% chance with each pregnancy that your child will inherit:

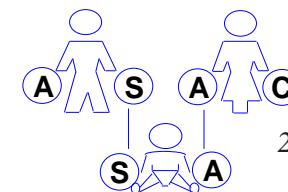
- . two normal hemoglobin genes *or*
- . one normal gene and one hemoglobin C gene *or*
- . one normal gene and one sickle cell gene *or*
- . one hemoglobin C gene and one sickle cell gene



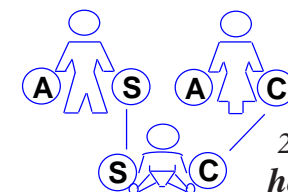
25% chance of a child with normal hemoglobin



25% chance of a child with hemoglobin C trait



25% chance of a child with sickle cell trait



25% chance of a child with hemoglobin SC disease

A = normal hemoglobin gene
S = sickle hemoglobin gene
C = hemoglobin C gene

HOW CAN I FIND OUT WHAT MY HEMOGLOBIN TYPE IS?

A blood test is required to determine hemoglobin type. The test is not done routinely and must be requested by name. The test is called hemoglobin electrophoresis.

HOW COMMON ARE UNUSUAL HEMOGLOBINS?

There are many unusual hemoglobins. Although anyone can inherit an unusual hemoglobin, they tend to be found in people from certain ethnic and racial groups.

Hemoglobin C trait is found primarily in Americans whose ancestors come from Africa. It occurs in approximately 2% of African-Americans.

Sickle hemoglobin is the most common unusual hemoglobin in the world. It is found in people whose ancestors come from Africa and countries around the Caribbean Sea, such as Puerto Rico, Cuba, Haiti and Jamaica, and also from countries around the Mediterranean Sea, such as Italy, Greece, Turkey, Syria and South India.

Sickle cell trait occurs in approximately 8% of African-Americans.

The second most common unusual hemoglobin in the world is hemoglobin E. It is most commonly found in people from Southeast Asia: Vietnam, Cambodia, Laos and Thailand.

HEMOGLOBIN C

What is it ?



For further information
ask your health care provider
or call or write to us:

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*What Does it Mean for
Me and My Family?*