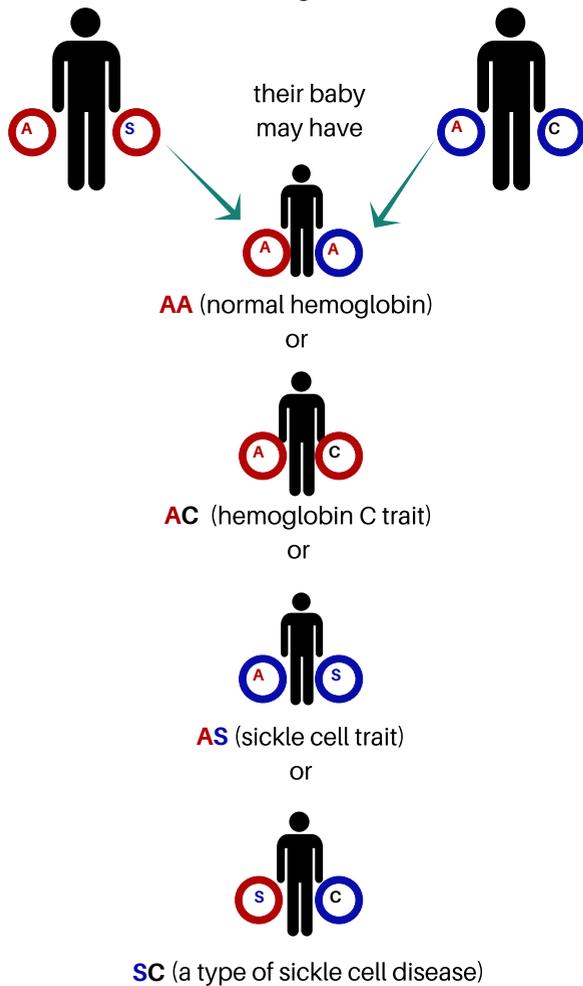


Inheritance Pattern for Sickle Cell - SC

When one parent has sickle cell trait (AS) and the other has hemoglobin C trait (AC)



It does not matter what their other babies have, their next one has the same four possibilities: AA, AC, AS, or SC.

WHAT SHOULD A PERSON WITH C TRAIT DO?

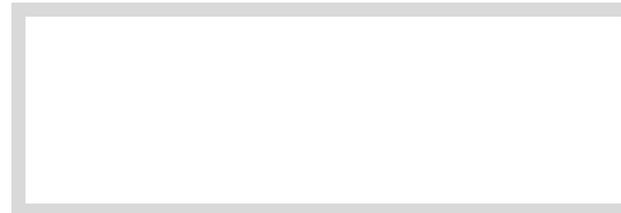
In planning a family, it is wise for you to ask your partner to be tested. The testing should include, at minimum, a hemoglobin electrophoresis and a mean corpuscular volume. A sickle solubility test (sickledex) is not sufficient!

Everyone has two sets of genes for hemoglobin. One set is passed on to the baby from each parent. Only if **both partners** are tested can they know exactly what kind of hemoglobin their children could have. They should look carefully at the inheritance pattern for the possibilities of having a child with SC form of sickle cell disease.

A counselor can tell them if any of their future children could have a form of sickle cell disease.

For more information

Contact your local SCDAA organization or other health agency at:



Or contact the SCDAA National Office at the address and telephone number below.

*Stay connected with Get Connected
the first patient powered registry*



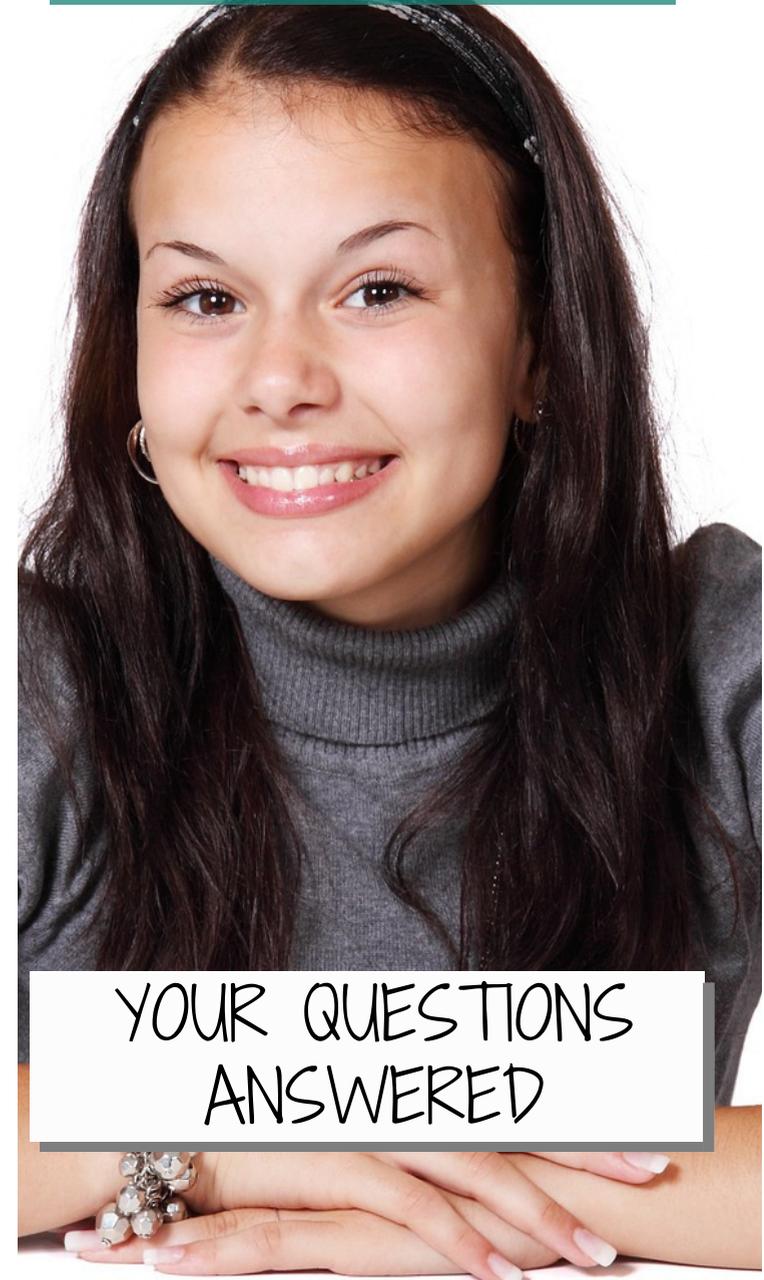
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Sickle Cell Disease
Association of America, Inc.
3700 Koppers Street, Suite 570
Baltimore, MD 21227
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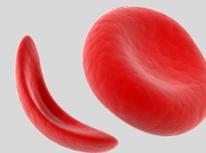
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Hemoglobin C Trait (AC)



YOUR QUESTIONS
ANSWERED

I want to learn more...



DOES HEMOGLOBIN C TRAIT EVER MAKE A PERSON SICK?

No. **Hemoglobin C trait**, "**C trait**" for short, is **not an illness**. A person with C trait is healthy.

YOU SAY C TRAIT IS NOT A PROBLEM. THEN WHY ARE PEOPLE TESTED?

Teens and adults are tested mainly to see if they can have a baby with the disease.

WHAT IS SICKLE CELL DISEASE?

Sickle cell disease is a disease of red blood cells. People with sickle cell disease have red blood cells that become hard and pointed instead of being soft and round. Sickle cells cause anemia, pain and many other problems.

WHY IS IT CALLED SICKLE CELL?

Many red blood cells in people with sickle cell disease look like a sickle, a tool used by farmers. So, a red blood cell that looks like a sickle is called a **sickle cell**.



Normal red cell



A sickle



Sickle cell

CAN C TRAIT EVER TURN INTO SICKLE CELL DISEASE OR CC?

Never. A person's hemoglobin types are *his for life. They do not change.

IF SOMEONE HAS C TRAIT, CAN HE HAVE A CHILD WITH SICKLE CELL DISEASE?

Yes, he can have a child with the **SC** form of sickle cell disease, but only if his partner has sickle cell trait or a form of sickle cell disease.

HEMOGLOBIN C TRAIT- WHAT DOES THAT REALLY MEAN?

A person with hemoglobin C trait makes the usual hemoglobin called A and another hemoglobin called C in his red blood cells. Put the two together in a red blood cell and you have **hemoglobin C trait: A and C = AC**.

Many African Americans have C trait. It is common in people of African origin. It is also found in people of Mediterranean descent..



HOW DOES A PERSON GET C TRAIT?

A person gets or **inherits** C trait the same way he got the color of his eyes, the shape of his nose and the texture of his hair. He got it through the **genes** that his mother and father passed on to him. Genes also tell the body what kind of blood to make.

He got an **abnormal gene** for hemoglobin C from one of his parents and the **normal genes** for hemoglobin A from the other.

WHY IS IT CALLED TRAIT?

Trait is a common word for a condition where a person gets an **abnormal gene** from one parent and the **normal** type of that gene from the other parent. If he gets the **abnormal genes** from both parents, he is said to have the **disease**.

*C trait is found equally in both males and females. To make this easy to read, we have used **he**, **his** and **him** in this pamphlet. In other pamphlets we have used **she** and **her**.

WHAT EXACTLY IS HEMOGLOBIN

Hemoglobin is inside the red blood cells. It helps them carry oxygen from the air in our lungs to all parts of the body. Hemoglobin also gives blood its deep red color.

WHAT'S SO SPECIAL ABOUT HEMOGLOBIN C?

Hemoglobin C acts differently than hemoglobin A. Red blood cells with mostly hemoglobin A inside are round and soft and squeeze through small blood vessels very easily.

Red blood cells with mostly hemoglobin C inside are round, but are a little stiff. Such red cells break down slightly faster than normal and cause a mild anemia, or low blood count.

A person with C trait, AC, does not have enough hemoglobin C in his red blood cells to cause anemia.

HOW DOES A PERSON GET THE SC TYPE OF SICKLE CELL DISEASE?

The gene that causes sickle cell disease is called the **S gene**. If a person got one **C gene** from one parent and the **S gene** from the other parent he would have the SC type of sickle cell disease **S and C = SC**.

SC is a serious condition. People who have it need special medical care. The more common form of sickle cell disease is SS.

CAN A PERSON GET TWO C GENES?

Yes, a person who gets one C gene from one parent and a second C gene from the other has CC. This is not as common as SC.

CC is not a serious condition. However, a person with CC may need special medical care sometimes.