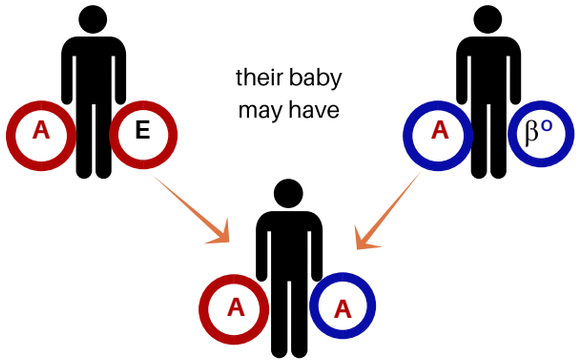
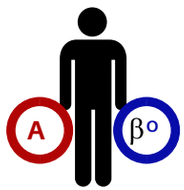
Inheritance Pattern for E/Beta Thalassemia

When one parent has E Trait (AE) and the other has beta thalassemia trait

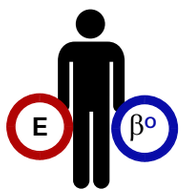


AA (hemoglobin) or

AE (beta thalassemia trait) or



Aβº (beta-zero thalassemia trait) or



Eβº (beta-zero thalassemia trait) or

It does not matter what their other babies have, their next one has the same three possibilities: AA, AE, Aβº, or Eβº.

SHOULD WE, THE PARENTS, TAKE A BLOOD TEST?

Before you have your next baby, we suggest that you and your partner get a special blood test. We all have two sets of genes for hemoglobin. One set is passed on to the baby from each parent. The testing should include, at minimum, a hemoglobin eletrophoresis, hemoglobin level and a mean corpuscular volume.

Only if **both you and your partner** are tested can you know exactly what kind of hemoglobin your children could have. Look carefully at the inheritance pattern for the possibilities of having a child with E/beta thalassemia.

A counselor can tell you if any of your 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

Get CONNECTED *Patient Powered Registry*

Register at www.getconnectedscd.com

Sickle Cell Disease Association of America, Inc.
3700 Koppers Street, Suite 570
Baltimore, MD 21227
www.sicklecelldisease.org

Hemoglobin E Trait (AE) & Your Baby

I want to learn more...

WILL HEMOGLOBIN E TRAIT MAKE MY BABY SICK?

No. **Hemoglobin E trait**, "E trait" for short, **is not an illness**. Your baby will **not** have to get special medical care because of E trait.

YOU SAY E TRAIT IS NOT A PROBLEM. THEN WHY WAS MY BABY TESTED?

Babies are tested to see if they have hemoglobin diseases, such as E/beta thalassemia or hemoglobin E disease, that could make them become ill. Your baby **does not** have any of these diseases.

WHAT IS E/BETA THALASSEMIA?

E/beta thalassemia is a disease of red blood cells. People with E/beta thalassemia do not make enough hemoglobin in their red blood cells. This results in **severe anemia**, or **very low blood count**.

WHAT IS HEMOGLOBIN E DISEASE?

Also called **EE**, hemoglobin E disease is a disease of red blood cells. People with EE make slightly less than normal hemoglobin in their red blood cells. They have **mild anemia**.

CAN HEMOGLOBIN E TRAIT EVER TURN INTO E/BETA THALASSEMIA OR EE?

⁎Never. Your baby's hemoglobin types are hers for life. They do not change.

WHAT SHOULD I DO FOR MY BABY?

Your baby **does not** need special medical care. Give her the best care possible, not because she has E trait, but because **she is your baby**. She needs love and good medical care to grow up happy and healthy.

HEMOGLOBIN E TRAIT- WHAT DOES THAT REALLY MEAN?

It means that your baby makes the usual hemoglobin called "A" and another hemoglobin called "E" in her red blood cells. Put the two together in a red blood cell and you have **hemoglobin E trait: A and E = AE**.

Many Southeast Asians and Indians have E trait. It is common in Asians. Less often, it is found in people of Middle Eastern, Mediterranean or African descent.

HOW DID MY BABY GET E TRAIT?

She got or **inherited** E trait the same way she got the color of her eyes, the shape of her nose and the texture of her hair. She got it through the **genes** that her mother and father passed on to her. Genes also tell the body what kind of blood to make.

She got a **gene** for hemoglobin E from one of her 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 she gets the **abnormal gene** from both parents, she is said to have the **disease**.

WHAT EXACTLY IS HEMOGLOBIN?

Hemoglobin is the oxygen carrier in red blood cells. Red blood cells pick up oxygen from the air in our lungs and carry it to all parts of the body. Hemoglobin also gives blood its deep red color.

WHAT'S SO SPECIAL ABOUT HEMOGLOBIN E?

Hemoglobin E acts differently than hemoglobin A. Red blood cells with mostly hemoglobin E do not have enough hemoglobin. This makes them a little smaller in size than normal and also causes anemia, or low blood count.

A child with E trait, **AE**, does **not** have enough hemoglobin E in her red blood cells to cause anemia.

HOW DO BABIES GET E/BETA THALASSEMIA?

If your baby got one **E gene,** the gene for hemoglobin E, from one parent and one **beta thalassemia gene** from the other parent, she would have **E/beta thalassemia**:

E + beta thalassemia = E/beta thalassemia

E/beta thalassemia is a serious condition. Children who have it need special medical care.

SUPPOSE MY BABY GOT TWO HEMOGLOBIN E GENES? COULD THAT HAPPEN?

Yes. A baby who gets one **E gene** from one parent and a second **E gene** from the other has **EE**.

EE is not a serious condition. A person with EE has mild anemia and may need special medical care sometimes.

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