



# Hemoglobin E Trait Fact Sheet

## What is Hemoglobin E-Trait?

Hemoglobin E means a person's body makes something different that shows up in the part of blood called hemoglobin ("he-mo-glow-bin"). **Hemoglobin E-trait is not a sickness or a health problem.** It is commonly found in people from Southeast Asia (Thailand, Malaysia, Indonesia, Vietnam, Cambodia and Laos), and sometimes people from India and Turkey. Children with E-trait often have smaller red blood cells than other children. This is not harmful as long as there is plenty of normal "A" hemoglobin too. Your doctor will be checking this again when your baby is one year old.

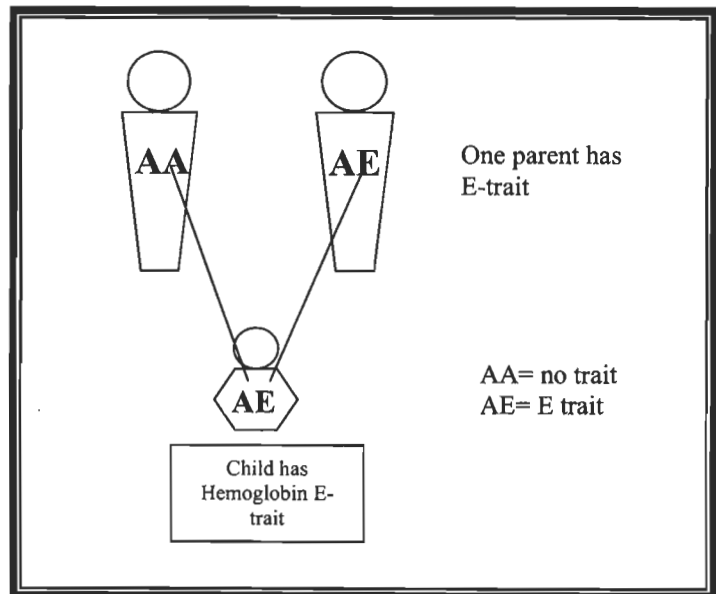
## What is Hemoglobin?

Hemoglobin is what makes your blood red. It delivers oxygen to all body parts. There are many different kinds of hemoglobin. The most common is called "A" (normal). Your child's body makes two kinds: Hemoglobin "A" (normal) and Hemoglobin "E" (different). Your child was born with this difference. It will not change as he/she gets older.

## How Does a Person Get Hemoglobin E-trait?

Hemoglobin E-trait is inherited. The type of hemoglobin a person makes depends on the kind that runs in their family. This means it is passed down from parent to child through the genes.

Most likely, your child inherited a normal hemoglobin "A" gene from one parent and an "E" gene from the other parent. This means that at least one parent (mother or father) also has the E-trait. Trait is another word for carrier. It means a person carries a gene for something different.



## What are Genes?

Genes are instructions for making all of our body parts and features. They are the blueprint for making a human. Genes come in pairs. Half of our genes come from our mother through the egg and half from our father through the sperm.

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For hemoglobin, your child most likely has one “A” gene and one “E” gene. This causes Hemoglobin E-trait. As his/her parents, you could also have AE genes (hemoglobin E-trait).

### **Why is it Important to Test Parents?**

Most people who have a trait don't know it because it does not make them sick. If both parents have some type of trait, a future child could be born with a hemoglobin disease.

When a baby is born with E-trait, it is also possible that both parents have the E-trait too. If a child inherits the hemoglobin “E” gene from both parents, no hemoglobin A is made in the body. Only hemoglobin E is made. This finding is called Hemoglobin EE.

In hemoglobin EE, the red blood cells are small. Children with hemoglobin EE are not sick, but they may have low blood counts (mild anemia).

If one parent has the E-trait and the other parent has another type of trait, the children can have a Hemoglobin E disease. Some of these conditions don't show up at birth. For this reason, all children with E-trait should be re-tested when they turn one year old. Your child's doctor knows the tests to do.

### **How do I know if I have a trait?**

A special blood test can be done to find out if both parents have any type of trait. This blood test is called electrophoresis (“ee-lek-tro-for-ee-sis”) and is the only way to know for sure. You will not know about your own trait unless you ask to have this test. Do not assume this testing has been done before.

You may want to speak with a genetic counselor or your doctor about your test results or the risks to your children and your choices. Genetic counselors can also tell you about tests during a pregnancy, which can find out if the baby has any hemoglobin disease.

