Hemoglobin D Trait Fact Sheet

What Is Hemoglobin D-Trait?

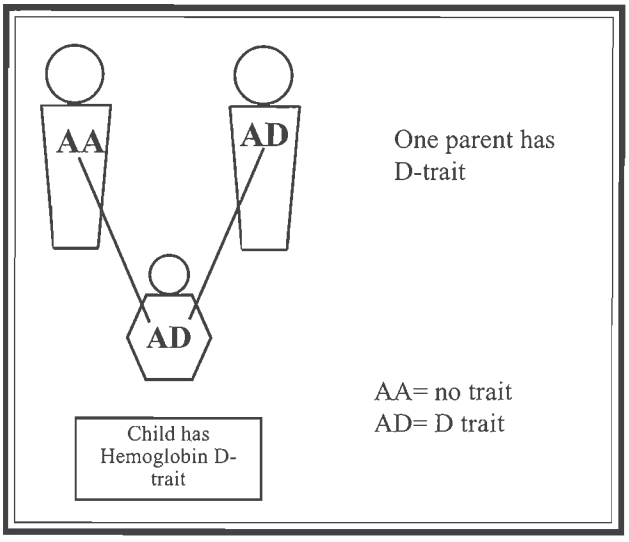
Hemoglobin D-trait means a person's body makes something different that shows up in the part of blood called hemoglobin ("he-mo-glow-bin"). **Hemoglobin D-trait is <u>not</u> a sickness or a health problem.** It is commonly found in people from Northern India but is widespread and has been observed in people from China, England, Holland, Australia, Yugoslavia, and Turkey. It is the fourth most common hemoglobin difference.

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 hemoglobin A (normal). Your child's body makes two kinds: hemoglobin "A" (normal) and hemoglobin "D" (different). Your child was born with this difference. It will not change as he/she gets older.

How Does a Person Get Hemoglobin D-Trait?

Hemoglobin D-trait is inherited. The type of hemoglobin people make 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 a "D" gene from the other parent. This means that at least one parent (mother or father) also has the D-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.

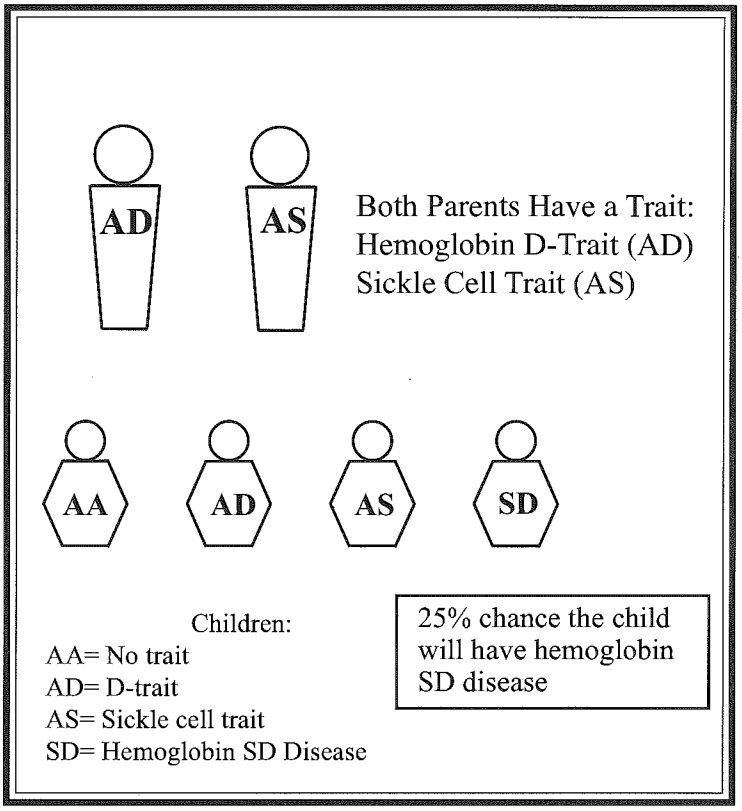
For hemoglobin, your child most likely has one "A" gene and one "D" gene. This causes Hemoglobin D-trait. As his/her parents, you could also have AD genes (hemoglobin D-trait).

(More on other side)

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 a parent who has the D-trait (AD genes) has children with someone who has sickle cell trait (AS genes), a future child could get a disease gene from each parent. When **both** parents have a trait (for example AD and AS), every baby has a 25% chance of having **Hemoglobin SD Disease**, a type of sickle cell disease found more commonly in the African-American population. If testing shows one parent has a trait and the other does not, there is no chance of having a child with a hemoglobin disease.

If both parents have a D-trait, their child may get two hemoglobin D genes (DD) and develop a mild anemia called Hemoglobin D Disease. This is not a sickle cell disease, but may cause low blood counts or mild anemia.



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 if you have a trait unless you ask to have this test. Other tests (e.g., Sickledex) may not detect some traits. 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 that can find out if the baby has a significant hemoglobin disease.

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