



State of CT Genetics Newborn Screening Program

Hemoglobin D and Sickle Cell Test For Newborns

Q: Why did my baby have this test?

A: All babies born in Connecticut have this test to check for Sickle Cell Trait, Hemoglobin E Trait, Hemoglobin C Trait, Hemoglobin D Trait or Sickle Cell Disease.

Q: What is Hemoglobin?

A: To understand Hemoglobin D, it is helpful to understand a little more about our blood. Hemoglobin is a protein found in red blood cells that carries oxygen and gives blood its red color. The way hemoglobin is made in the body depends on the genes a child gets from both parents. 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 D* is one type; *sickle hemoglobin* is another type.

HEMOGLOBIN D TRAIT

Q: What is Hemoglobin D Trait and will Hemoglobin D Trait make my baby sick?

A: No! Hemoglobin D Trait is *not a sickness*. It is good to know about it. But it should *not* cause health problems or blood problems for your baby.

Q: How do babies get D Trait?

A: If the baby gets a Hemoglobin D gene from one parent and a non-D gene from the other parent, the baby has Hemoglobin D Trait. Parents pass the D genes on to their children the same way they pass on the genes for skin color or eye color.

If both parents have Hemoglobin D Trait there is a two in four chance with each pregnancy of having a baby with Hemoglobin D Trait and a one in four chance of having a baby with two normal hemoglobin genes.

HEMOGLOBIN DD

Q: What is Hemoglobin DD?

A: If the baby gets a Hemoglobin D gene from both parents, only hemoglobin D is made in the body. When only Hemoglobin D is present, the red blood cells are broken down in the body a little faster than usual. This can cause mild anemia but people with Hemoglobin DD usually have no health problems.

SICKLE-HEMOGLOBIN D DISEASE (SD)

Q: Why should I be concerned if I have Hemoglobin D Trait?

A: You should not be concerned for your own health, but if your partner has sickle cell trait, there is a 1 in 4 chance with each pregnancy of having a child with Sickle-Hemoglobin D Disease, which can be serious.

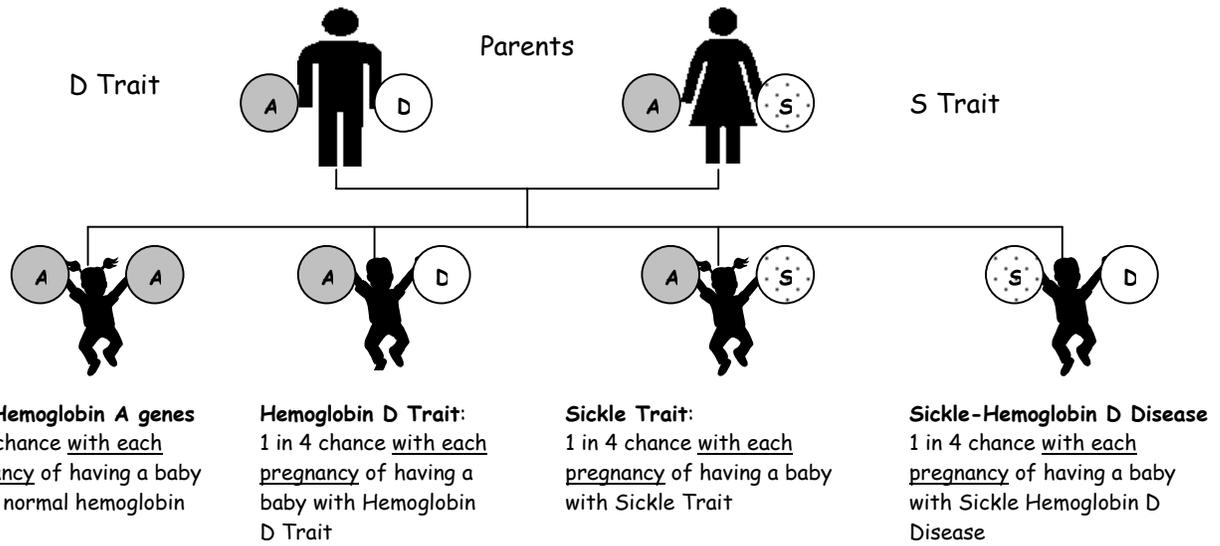
Q: What is Sickle-Hemoglobin D Disease?

A: Sickle-Hemoglobin D Disease causes the red blood cells to sometimes change from a very flexible round shape into a rigid crescent or "sickle" shape. Sickle-shaped red blood cells can prevent the usual flow of blood and oxygen to body organs. It is very important that people with Sickle-Hemoglobin D Disease receive regular medical care.

Q: Can Hemoglobin D Trait turn into Sickle Hemoglobin D Disease?

A: No! One cannot turn into the other.

If one parent has Hemoglobin D Trait and the other parent has Sickle Trait
A = Normal Hemoglobin Gene / D = Hemoglobin D Gene / S = Sickle Gene



PARENTS

Q: How can parents know if they have the Hemoglobin D gene?

A: You have to ask for a *special blood test, called Hemoglobin electrophoresis*. A little blood will be taken from your finger or arm. Hemoglobin D genes run in some families and not in others. Families who trace their roots to Pakistan, Australia, China, the Middle East, and Northwestern India and occasionally Europeans especially the British and Irish might carry the Hemoglobin D gene.

Q: How can I get the test?

A: Ask your doctor or health care clinic.

FOR MORE INFORMATION CONTACT:

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