West Virginia

Department of Health & Human Resources

Bureau for Public Health

Office of Maternal, Child & Family Health

Division of Research, Evaluation & Planning

Newborn Screening Program

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www.wvdhhr.org/nbms/

Hemoglobin E Trait

West Virginia

Newborn Screening Program

What is hemoglobin?

Hemoglobin is part of the blood that carries oxygen to all parts of the body. The usual type of hemoglobin is called hemoglobin A. Genes that we inherit from our parents determine what type of hemoglobin we have.

What is hemoglobin E trait?

Hemoglobin E trait means that your child has inherited one gene for the usual hemoglobin (A) from one parent and one gene for hemoglobin E from the other parent. **Hemoglobin E trait is not a disease and does not cause any health problems.**

What if a person has two hemoglobin E genes?

When a child inherits the gene for hemoglobin E from both parents rather than hemoglobin A, that child has homozygous (the same genes for) hemoglobin E. People with homozygous hemoglobin E have no serious health problems, but it may cause a mild anemia (low number of red blood cells).

Why was my child tested for hemoglobin E?

The Newborn Screening Program screens all infants born in West Virginia for certain disorders, including hemoglobin disorders. A small amount of blood was collected from your infant's heel and sent to the State Laboratory for testing. Other abnormal hemoglobin types are also detected.

If hemoglobin E does not cause any health problems, why do I need to know that my child has it?

It is important to know about your child's hemoglobin E status because future children in your family, or other family members, may be at risk for having hemoglobin E-beta thalassemia, a serious disease described on the next page. People with hemoglobin E trait or homozygous hemoglobin E can pass the gene to their children.

What is hemoglobin E-beta thalassemia?

Your child does not have hemoglobin E-beta thalassemia, but future children and other family members may be at risk for having it. When a person has hemoglobin E-beta thalassemia, they inherit one gene for hemoglobin E from one parent and one gene for "beta thalassemia" (low production of hemoglobin) from the other parent. These two genes together cause a life-threatening disease with no known universal cure. There are some therapies, like blood transfusions, that are necessary to help prevent complications, but hemoglobin E-beta thalassemia is a serious life-long disease requiring medical care.

What do I do now?

We recommend that you and your partner have testing to determine your hemoglobin status. This would provide you with information on your chances of having a future child with E-beta thalassemia. To have this testing done, talk to your health care provider.

What if I have questions?

If you have more questions, you can talk with your child's health care provider or for additional information about newborn screening or to find a current list of all disorders that are screened in West Virginia, go to www.wvdhhr.org/nbms/.