

Blood Conditions

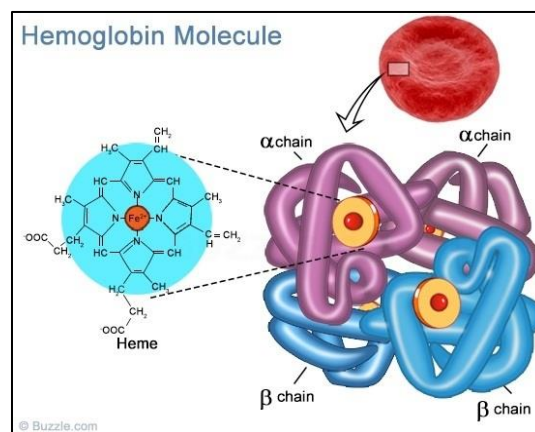
Inherited Blood Conditions Identified on the Newborn Screen

All newborns in Nevada are screened for abnormalities of hemoglobin.

- **Hemoglobin** is the protein inside red blood cells that carries oxygen
- Hemoglobin is made up of **two alpha globin chains and two beta globin chains**
- The genes for producing alpha and beta globin are **inherited from the child's mother and father**

In most cases, abnormal genes must be passed from BOTH parents in order to cause a significant problem. The most important findings from the newborn screen are:

- Hemoglobin S
 - A mutation in the beta globin gene
 - Having only one copy is called “sickle trait” (essentially harmless)
 - Having two copies—one from each parent—causes **sickle cell disease** (serious)
- Hemoglobin C
 - A **different** beta globin mutation
 - Having only one copy is called “C trait” (harmless)
 - Having both a C mutation and an S mutation causes another form of **sickle cell disease**
- Alpha Thalassemia
 - This results when two or three of the (four) alpha globin genes are missing
 - If three genes are missing (this is very unusual), the child will likely be very anemic and may need blood transfusions
 - If two genes are missing, the child will be only mildly anemic, but this can be *mistaken* for iron deficiency
- “Variant” Hemoglobin
 - These are *other* inherited forms of hemoglobin and **in most cases they are entirely harmless**. If, however, the gene for the variant hemoglobin is passed to a child along with another abnormal hemoglobin gene, illness can result. We usually do tests to identify the variant hemoglobin so that you can know if your child's children might someday be at risk.



For more information, call 775-982-3892.