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DEPT. OF HEALTH AND HUMAN SERVICES

**ACT SHEET FOR POSITIVE NEWBORN SCREENING RESULT  
(FAC)  
HEMOGLOBIN C TRAIT (Hb AC)**

**Disease Category:** Hemoglobinopathy

**Meaning of the Screening Result:** Hemoglobin FAC pattern on newborn screen is highly suggestive of Hemoglobin C trait. However, IEF (the test used for screening) does not quantitate results. Without quantitation those newborns with A and C hemoglobins where the C hemoglobin is nearly as much as the A hemoglobin, could be at risk of a thalassemia.

**YOU SHOULD TAKE THE FOLLOWING ACTIONS:**

- Contact the family to inform them of the screening result and to offer education and counseling.
- Reassure the family that infants do not have clinical problems related to the carrier state for Hemoglobin C.
- Order confirmatory testing (hemoglobin electrophoresis).
- Encourage parents to seek genetic counseling and testing as indicated.
- Report findings to Nebraska Newborn Screening Program.

**Pediatric specialists in hemoglobinopathies are available at Children's Hospital (402) 955-3950 and UNMC/Nebraska Medical Center (402) 559-7257.**

**Condition Description:** Individuals with Hemoglobin C trait are carriers of the gene for Hemoglobin C.

**Clinical Expectations:** Prognosis is for a normal life expectancy. Target cells may be seen in the peripheral blood smear. Mild microcytosis may also be noted. Rarely patients may have a borderline low hemoglobin, though the vast majority of the individuals with Hemoglobin C trait have normal levels of hemoglobin. Carriers are at risk for having children affected with Hemoglobin C disease, Hemoglobin S-C disease or Hemoglobin C Beta thalassemia.

**Confirmation of diagnosis:** Diagnosis is confirmed by hemoglobin electrophoresis and parental or DNA studies as indicated. (However, if on confirmation a thalassemia or coexistent thalassemia is identified, it is important to refer these patients to pediatric hematology for further work-up, to determine clinical significance.)

**Additional information:**

- Acute and Chronic Complications - [www.tdh.state.tx.us/newborn/sc\\_guide.htm](http://www.tdh.state.tx.us/newborn/sc_guide.htm)
- Grady Comprehensive Sickle Cell Center Web Site - [www.scinfo.org](http://www.scinfo.org)
- Management and Therapy of Sickle Cell Disease - [www.nhlbi.nih.gov/health/prof/blood/sickle/index.htm](http://www.nhlbi.nih.gov/health/prof/blood/sickle/index.htm)
- Sickle Cell Disease Association - [www.sicklecelldisease.org](http://www.sicklecelldisease.org)
- Hemoglobinopathy Podcasts <http://feeds.feedburner.com/Pediatrics>