Sickle Cell Trait vs. Disease

Sickle cell trait is the inheritance of one gene for normal hemoglobin (A) and one gene for sickle hemoglobin (S). National incidence rates of SCT are approximately 8% in African Americans, 0.5% in Hispanics, and 0.2% in whites. South Carolina has the fourth highest incident rate (1:9) of sickle cell trait in the United States. Sickle cell disease occurs when a person inherits a gene for sickle (S) hemoglobin from one parent and a sickle (S), C, D, E or beta thalassemia gene from the other parent. There are several types of sickle cell disease. The most common are: Sickle Cell Anemia (SS), Sickle-Hemoglobin C Disease (SC), Sickle Beta-Plus Thalassemia, and Sickle Beta-Zero Thalassemia. Approximately 1 in 400 African Americans have sickle cell disease. South Carolina has the second highest incident rate (1:350) of sickle cell disease in the United States.

Since 1987, the state of South Carolina has implemented newborn screening, which includes testing for sickle cell trait and sickle cell disease, along with other hemoglobinopathies. Therefore, any person born in South Carolina after 1987 can contact SCDHEC to get tested or obtain their results. Also, some institutions in South Carolina have worked with Sickle Cell organizations that offer free testing at their annual physical exams. Moreover, if an athlete wants to be tested or obtain genetic counseling there are four sickle cell centers in South Carolina: Charleston, Columbia, Greenville, and Spartanburg.