

Table 5: Evidence Supporting Outpatient Blood Testing in Children with Sickle Cell Disease

Type of evidence	Key findings	Level of evidence (USPSTF ranking*)	Citation(s)
Clinical guidelines	<p>The NHLBI suggests the following routine clinical laboratory evaluations for children with SCD:</p> <ul style="list-style-type: none"> • Complete blood count with white blood count differential, every 3 months for children ages 3 to 24 months and every 6 months for children ages 2 years and over. • Reticulocyte count every 3 months for children ages 3 to 24 months and every 6 months for children ages 2 and over. • Pulmonary function (transcutaneous O₂ saturation), every 6 months for children over 1 year of age. (NHLBI, pg. 26) 	III	National Heart, Lung and Blood Institute. The Management of Sickle Cell Disease. National Institutes of Health. Bethesda, MD, 2002.
Clinical guidelines	<p>The AAP sections on Hematology/Oncology and the Committee on Genetics suggest the following:</p> <ul style="list-style-type: none"> • Obtain baseline complete blood and reticulocyte counts during the first year of life. • For children ages 1-5 years, document baseline complete blood and reticulocyte counts (every 6–12 months for patients with HbSS and S beta zero thalassemia and at least yearly for patients with HbSC and S beta plus thalassemia) • For children ages 5-18 years, document baseline complete blood and reticulocyte counts at least yearly. • Baseline pulse oximetry may be indicated, ages 1 year and older. (AAP, pgs. 531-534) 	III	American Academy of Pediatrics Section on Hematology/Oncology and Committee on Genetics. Health supervision for children with sickle cell disease. Pediatrics. Mar 2002;109(3):526-535.
Descriptive study	<ul style="list-style-type: none"> • Pulse oximetry provides a safe, noninvasive, accurate way to measure arterial hemoglobin [oxygen] saturation in patients with SCD who are prone to decreased oxygen states (hypoxemia) caused by hemoglobin S. 	III	Fitzgerald RK, Johnson A. Pulse oximetry in sickle cell anemia. <i>Crit Care Med.</i> Sep 2001;29(9):1803-1806.

Note: USPSTF criteria for assessing evidence at the individual study level are as follows: I) Properly powered and conducted randomized controlled trial (RCT); well-conducted systematic review or meta-analysis of homogeneous RCTs. II) Well-designed cohort or case-control analytic study. III) Opinions of respected authorities, based on clinical experience; descriptive studies or case reports; reports of expert committees.