



### Indications for Blood Transfusion in Sickle Cell Disease

#### I. Simple Transfusion

##### A. Episodic transfusion

1. Symptomatic anemia due to:
  - a. Aplastic crisis
  - b. Acute hemorrhage
  - c. Acute splenic or hepatic sequestration
  - d. ACS
  - e. Multiple organ failure syndrome
  - f. Sepsis and meningitis
  - g. Acute neurologic event
2. Preparation for major surgery
3. Angina or high output failure

##### B. Chronic Transfusion

1. Recurrent sequestration crises in young children
2. Recurrent ACS
3. Congestive heart failure
4. Chronic renal failure associated with symptomatic anemia and hemodialysis
5. Pulmonary hypertension or chronic hypoxia
6. Prevention of recurrent stroke in children with:
  - a. History of acute cerebrovascular accidents
  - b. Abnormal transcranial doppler study
  - c. Silent infarcts on magnetic resonance imaging (MRI) accompanied by abnormal neurocognitive testing
7. Recurrent acute priapism not responsive to routine management

#### II. Exchange Transfusion

1. Acute cerebrovascular accident\*
2. ACS\*
3. Multiorgan failure syndrome including fat embolism\*
4. Acute priapism not responsive to routine therapy\*
5. Prevention of recurrence of stroke\*
6. Surgery on the central nervous system\*
7. Surgery on the posterior segment of the eye

\* The transfusion in these conditions could be either simple or exchange depending on the level of hemoglobin. Patients with hemoglobin level of 9-10 g/dL need exchange whereas those with hemoglobin level of 6 g/dL or lower need simple transfusion initially followed by exchange if needed.  
ACS = acute chest syndrome.

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