SICKLE CELL DISEASE TRANSFUSION POLICY

☒ St. Joseph Medical Center Tacoma, WA ☐ St. Clare Hospital Lakewood, WA ☐ St. Elizabeth Hospital Enumclaw, WA
☐ St. Francis Hospital Federal Way, WA ☐ St. Anthony Hospital Gig Harbor, WA ☐ PSC

PURPOSE

To define the blood product attributes necessary for transfusion of patients with Sickle Cell Disease within the Franciscan Health System.

BACKGROUND

Sickle Cell Anemia, also referred to as Sickle Cell Disease (SCD), is an autosomal recessive hemoglobinopathy that affects nearly 1 in 500 people of African descent. These patients have abnormal hemoglobin (HbS) that deforms their red blood cells, creating the characteristic sickle shape seen under the microscope. HbS is sometimes inherited with another abnormal hemoglobin, such as HbC or beta thalassemia. These patients often have milder forms of SCD. A single abnormal HbS gene causes Sickle Cell Trait, which is usually asymptomatic. Sickled red cells may become trapped in capillaries and can cluster together leading to thrombi. The thrombi cause very painful and sometimes fatal events such as strokes, acute pain crises, and acute chest syndrome. Patients with SCD may be transfused frequently in order to maintain their HbS levels at or below 30% to prevent and treat these events. Because of frequent transfusions and because people of African descent often have multiple negative red cell antigens, SCD patients are prone to developing allo-antibodies. Antigen matching decreases alloimmunization in patients with SCD.

RELATED DOCUMENTS

R-PO-TS0300	Blood Component Selection Policy
R-W-TS0107	Adding Comments to Patient Comment File (PTC)
J-W-TS0105	Previous Record Check
J-W-TS0214	Antigen Phenotyping

GUIDELINES

1. When a patient is noted to have a diagnosis of Sickle Cell Disease, Sickle Cell Anemia, or Sickle Cell Crisis the patient should be antigen typed for the following antigens, ideally prior to transfusion.

   Rh (D, C, E, c, e), K, Jk^a, Jk^b, Fy^a, Fy^b, S, and s

2. If the patient has been previously phenotyped at Tacoma General Hospital or the Puget Sound Blood Center, this information can be faxed here and placed in the patient's file. Phenotyping does not need to be repeated.

3. The following blood product modifications should be provided on all current and future orders.

   Note: This policy applies to patients with Sickle Cell Disease only. This policy does not apply to patients with Sickle Cell Trait or other hemoglobinopathies.

   - Leukoreduction
   - Red blood cells should be antigen matched for Rh (D, C, E, c, e) and Kell.
   - All other clinically significant antibodies should be honored.
   - Patients who have active warm autoantibodies should receive fully antigen matched red cell units.
   - Patients should receive HbS negative red blood cell units, unless no other suitable units are available. If an HbS positive unit must be given, the ordering physician should be notified.

REFERENCES

AABB Technical Manual

AABB Standards for Blood Banks and Transfusion Services

Mintz, Paul D. ed, Transfusion Therapy: Clinical Principles and Practice

Quirolo, Keith. How do I transfuse patients with sickle cell disease? Transfusion. 2010:50(9):1881-6.

DOCUMENT APPROVAL **Purpose of Document / Reason for Change:**			
1. To create a document that defines how Sickle Cell Disease patients should be managed for transfusion from a blood bank perspective.			
☐ *No significant change to process in above revision. Per CAP, this revision does not require further Medical Director approval.*			
Committee Approval Date	☒ Date: 3/27/14 ☐ N/A – revision of department-specific document which is used at only one facility	**Medical Director Approval** *(Electronic Signature)*	Kaare Wilkinson, MD 3/27/14