TRANSFUSION GUIDELINES FOR PEDIATRIC PATIENTS

Indications for RBC Transfusion

In premature neonates <37 weeks gestational age

- **Hematocrit < 40% (Hgb <13 g/dL)**, and any of these following conditions:
  - Mechanical ventilation with mean airway pressure ≥8 cm H₂O
  - Cyanotic congenital heart disease or congestive heart failure
  - Interhospital or intrahospital transport on mechanical ventilation
  - Major surgery

- **Hematocrit < 35% (Hgb <12 g/dL)**, and any of the following conditions:
  - Receiving >0.35 supplemental oxygen by hood or CPAP
  - Mechanical ventilation with mean airway pressure 6 – 8 cm H₂O

- **Hematocrit < 30% (Hgb <10 g/dL)**, and any of the following conditions
  - Receiving ≤0.35 supplemental oxygen by hood or CPAP
  - Mechanical ventilation with mean airway pressure ≤6 cm H₂O
  - Apnea or bradycardia (≥2 episodes in 24 h requiring bag and mask ventilation) without any definite cause
  - Heart rate ≥180 beats/min or respiratory rate ≥80 breaths/min for 24h without any definite cause
  - Weight gain <10g/kg/day for 4 days, while receiving ≥100 cal/kg/day
  - Minor surgery

- **Hematocrit < 20% (Hgb <7 g/dL)**, and any of the following conditions
  - Asymptomatic with reticulocyte count <2%
  - Symptomatic anemia

Other:__________________________________________

< 4 months of (chronological) age

- Hematocrit < 30% (Hgb <10 g/dL), – term neonates < 24 hours old
- Hematocrit < 35% (Hgb <12 g/dL), – and at least one of the following conditions:
  - Severe cardiopulmonary disease (heart failure, cyanotic heart disease, ventilator support with high volume oxygen or ECMO)
- Symptomatic anemia if no other therapy (i.e., iron, folate, etc) is likely to correct the anemia
- Acute blood loss > 10% of total blood volume (8-9 mL/kg body weight)
- Anemia and exchange transfusion for hemolytic disease of newborn
- Hematocrit < 24% (Hgb <7 g/dL), in stable infants with clinical manifestation of anemia
  - tachycardia, tachypnea, failure to thrive
- Other:__________________________________________

Reviewed May 2009
> 4 months of age

- Hemoglobin < 8 g/dL
  - Intra- and postoperative period with symptomatic anemia
  - Chemotherapy or radiation therapy
  - Chronic congenital or acquired symptomatic anemia
- Intraoperative blood loss of ≥15% of total blood volume (>10 mL/kg)
- Acute blood loss with hypovolemia not responsive to crystalloids or colloid
- Hemoglobin < 13 g/dL and severe pulmonary disease, cyanotic heart disease or heart failure
- Sickle cell disease with one of the following:
  - Cerebrovascular accident
  - Acute chest syndrome
  - Splenic and/or hepatic sequestration
  - Recurrent priapism
  - Preparation for surgery with general anesthesia

**Indications for Platelet Transfusion**

**Premature infants (gestational age <37 weeks)**

- Platelet count < 50,000/µL – stable preterm infant
- Platelet count < 100,000/µL – sick preterm infant

**All other patients**

- Platelet count < 20,000/µL
- Platelet count < 50,000/µL
  - Actively bleeding patient
  - Major surgery or impending invasive procedure
  - Coagulopathy, including DIC, with bleeding
- Platelet count < 100,000/µL
  - Prophylaxis for neurologic (CNS) or ophthalmologic surgery
- Platelet dysfunction
  - Severe hemorrhage
  - Prophylaxis for major surgery
- Other:__________________________________________

**Indications for Plasma Transfusion**

- Bleeding with coagulopathy (PT > 19.0 sec, INR > 1.5 or PTT > 44 sec)
  - Factor concentrates should be used for factor VIII, IX and VII deficiency
- Warfarin reversal in life threatening bleeding or emergent surgery (also consider Vitamin K)

Reviewed May 2009
• Massive blood transfusion to prevent coagulopathy
• Plasma exchange where plasma is beneficial
• Replacement therapy for antithrombin, protein C and S deficiencies
• Other:_________________________________________

**Indications for Cryoprecipitate Transfusion**

• Hypofibrinogenemia when fibrinogen < 100 mg/dL
• Dysfibrinogenemia with active bleeding
• Factor XIII deficiency
• Fibrin surgical adhesive
• Other:_________________________________________

Note: Criteria approved by the Transfusion Committee will be used for prospective and retrospective blood utilization review by the transfusion service.