

**UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE – JACKSONVILLE  
Resident Manual**

**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  $\geq 8$  cm H<sub>2</sub>O
  - 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 H<sub>2</sub>O
- **Hematocrit < 30% (Hgb <10 g/dL)**, and any of the following conditions
  - Receiving  $\leq 0.35$  supplemental oxygen by hood or CPAP
  - Mechanical ventilation with mean airway pressure  $\leq 6$  cm H<sub>2</sub>O
  - Apnea or bradycardia ( $\geq 2$  episodes in 24 h requiring bag and mask ventilation) without any definite cause
  - Heart rate  $\geq 180$  beats/min or respiratory rate  $\geq 80$  breaths/min for 24h without any definite cause
  - Weight gain  $< 10$ g/kg/day for 4 days, while receiving  $\geq 100$  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: \_\_\_\_\_

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## > 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  $\geq 15\%$  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/ $\mu$ L – stable preterm infant
- Platelet count < 100,000/ $\mu$ L – sick preterm infant

### All other patients

- Platelet count < 20,000/ $\mu$ L
- Platelet count < 50,000/ $\mu$ L
  - Actively bleeding patient
  - Major surgery or impending invasive procedure
  - Coagulopathy, including DIC, with bleeding
- Platelet count < 100,000/ $\mu$ L
  - 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)

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- 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.