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**Policy Name: Pediatric Transfusion**

**Department: Blood Bank**

**Departmental Review:**

**Policy #: B4.3**

**INITIATE DATE**  
08/2000

**DATE REVIEWED/REVISED**

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**PURPOSE:**

Many physiologic changes accompany the transition from fetus to neonate, neonate to infant, and throughout childhood. Hematologic values, blood volume and physiologic responses to stresses such as hypovolemia and hypoxia vary widely. The most dynamic changes occur during early infancy. Consequently, pediatric transfusion concerns are usually divided into two periods: neonates from birth through 4 months and older infants (>4 months) and children under the age of 12 years.

Full-term newborns have a blood volume of approximately 85 ml/kg; preterm low birthweight newborns have an average blood volume of 100 ml/kg. Infants have an immature and inexperienced cellular and humoral immune system. Red blood cells are the component most often transfused during the neonatal period. Because the neonate and young infant are immunologically immature, alloimmunization to red cell antigens is rare in the neonatal period. Antibodies present derive almost entirely from the maternal circulation.

**PROCEDURE:**

Red Cell Transfusion In Infants Less Than 4 Months Of Age.

1. Physician order for transfusion **MUST** indicate the amount of blood to be transfused in cc's (ml).
2. The patient is banded as required by laboratory policy, the ABO and Rh testing is done on a specimen from the infant. The antibody screen can be done either from a specimen from the infant or the mother.
3. If the Antibody screen is negative, repeat ABO and Rh testing maybe omitted for the current hospitalization, as long as the patient receives either group-O RBCs or ABO-identical or compatible red cells that are either D-negative or the same D-type as the patient.
4. If an unexpected non-ABO red cell antibody is detected in the infant's specimen or the mother's serum contains a clinically significant red cell antibody, the infant should be given either red cell units tested and found to lack the corresponding antigen or units compatible by antiglobulin testing.
5. It is unnecessary to test the infant's serum for anti-A or anti-B as a component of blood typing. If there will be non-group-O transfusion, testing for passively acquired maternal anti-A and/or anti-B must include the antiglobulin phase.
6. Order pedi packs from OneBlood that is less than 7 days old and negative for sickle cell.

Red Cell Transfusion In Children Greater Than 4 Months Of Age

1. If the physician requests a specific volume of blood to be transfused the blood will be prepared following the steps outlined in #6 of the above procedure.
2. All pediatric patients over the age of 4 months must be tested for ABO and Rh as well as for the presence of clinically significant antibodies before transfusion.
3. The same procedures regarding specimen collection, labeling and testing apply to these patients as also apply to adult patients.

**REFERENCES:**

AABB Technical Manual



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Reviewed by	Reviewed Date	Reviewed by	Reviewed Date
<i>[Signature]</i>	8-19-14		
<i>[Signature]</i>	5-27-15		
<i>[Signature]</i>	5-29-15		

Initial Implementation Date: \_\_\_\_\_

Reviewed by: *[Signature]* Date: 7.10.13  
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Department Medical Director