

## Preface

The purpose of this **2nd edition** of these blood utilization guidelines is:

1. To provide providers and health care professionals with a comprehensive overview of evidence-based practices for the appropriate use of blood and blood components in pediatric patients, including neonates, and promote optimal transfusion therapy.
2. To summarize findings from recent randomized controlled trials and current scholarly publications to support these practices.
3. To provide a resource for hospital transfusion or quality improvement committees for indications for local transfusion order sets and/or audit criteria for review of blood ordering practices.

The physicians and staff of Versiti Medical Science Institute (MSI) have compiled these guidelines after critical review of the cited references. The goal is to foster adoption of best practice for usage of blood and blood component at each institution. These guidelines should be reviewed by each institution's medical staff in collaboration with their transfusion service medical director. Modifications may be needed based on the particular patient mix and/or culture of the organization. Studies in transfusion practice continue and therefore some recommendations in this guideline may be superseded by results from ongoing clinical trials.

To aid in the discussion about pediatric blood transfusions, the table below describes definitions for the pediatric population:

|                    | Description  | Weight range   | Typical Volume Administered per Transfusion Event |
|--------------------|--|--|---|
| <b>Neonate</b>     | Infant in the first 4 weeks after birth (<28 days old) and includes both full-term (>39 weeks of gestation) as well as premature (neonate born prior to 37 weeks of gestation) infants | 1500 grams (VLBW)<br><br>Normal newborn (37-40 weeks gestation): 5 lbs 8 ounces to 8 lbs 13 ounces (2.5 to 4.0 kg) | 10-15mL/kg of body weight                         |
| <b>Newborn</b>     | 0-4 weeks of age   | 5-8 lbs (2.3 – 3.6 kg)   |   |
| <b>Infant</b>      | 4 weeks to 12 months of age  | 9-10 lbs (4.1 – 4.5 kg)  |   |
| <b>Toddler</b>     | 12 months to 36 months of age  | 18-35 pounds (8 – 15 kgs)  | 10-15mL/kg or ¼ adult unit                        |
| <b>Preschooler</b> | 3 to 5 years of age  | 27-42 pounds (12 – 19 kgs)   | ½ adult unit                                      |
| <b>School age</b>  | 6 to 12 years of age   | 40-90 pounds (18 – 40 kg)  | Full adult unit                                   |
| <b>Adolescent</b>  | 13 to 18 years of age  | Adult weight   | Full adult unit                                   |

*These pediatric guidelines are recommendations only.* The decision to transfuse or not to transfuse should be made by the patient's physician only after a careful assessment of the patient's clinical condition and laboratory parameters. Documentation for transfusion of all blood, blood components, and factor concentrates should include the indication(s) for the transfusion or infusion; this is especially important if the circumstances/indication for the transfusion falls outside established best practice.

**Publication History:**

Versions prior to 2006 included with hospital onboarding documents

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