

May 20, 2007

Transfusion Guidelines

Rationale

The following guidelines were formed by consensus of the neonatologists of the University of Washington, Division of Neonatology. As empirical data regarding the optimal approach to managing anemia in infants are largely lacking, these guidelines are based primarily on theoretical and practical considerations. For this reason they are meant to serve as a reference to decrease unnecessary transfusions, rather than as a rigid protocol. As in the past, any thoughtful variations from these guidelines are encouraged.

Guidelines:

Transfuse 15 mL/kg

- **Transfuse for Hct < 35% if:** 1st week of life and unstable*
- **Transfuse for Hct < 28% if:** 1st week of life or unstable*
- **Transfuse for Hct < 20% if:** > 1 week old and stable

Do not routinely obtain a post-transfusion hematocrit or give a "topping-off" transfusion to avoid complications associated with volume overload. Situations where a post-transfusion Hct with a "topping-off" transfusion might be considered include:

- A small premature infant where it is likely that 8 assigned aliquots will not be sufficient to meet transfusion needs and use of each aliquot should be maximized.
- An older infant where assigned aliquots are not available and the use of a single "Pedi-pack" unit should be maximized.

Instability is defined as an increased risk for poor oxygen delivery, for example

- Prolonged oxygen desaturation episodes
- Hypotension requiring treatment (pressors, hydrocortisone, boluses of isotonic fluid)

Selected References

1. Kirpalani H, Whyte RK, Andersen C et al. The Premature Infants in Need of Transfusion (PINT) study: a randomized, controlled trial of a restrictive (low)

versus liberal (high) transfusion threshold for extremely low birth weight infants. *J Pediatr* 2006; 149(3):301-307.

2. Bell EF, Strauss RG, Widness JA et al. Randomized trial of liberal versus restrictive guidelines for red blood cell transfusion in preterm infants. *Pediatrics* 2005; 115(6):1685-1691.
3. Sola MC, del Vecchio A, Edwards TJ, Suttner D, Hutson AD, Christensen RD. The relationship between hematocrit and bleeding time in very low birth weight infants during the first week of life. *J Perinatol* 2001; 21(6):368-371.