

Intensive Care Nursery House Staff Manual

Guidelines for Use of Erythropoietin

INTRODUCTION: These guidelines approximate the criteria from the large controlled trials of recombinant human erythropoietin (r-Hu-EPO) in preterm infants. For other situations in which r-Hu-EPO may be useful (*e.g.*, severe BPD, late anemia after intra-uterine transfusion), consult with the Neonatology Fellow, Attending Physician, Dr. Roderic Phibbs or Dr. Kevin Shannon (Division of Pediatric Hematology/Oncology).

CRITERIA:

1. Any infant with birth weight $\leq 1,250$ g and gestation < 31 weeks who has all of the following:
 - (a) Total caloric intake ≥ 50 kcal/kg/d, of which at least half is enteral
 - (b) Hematocrit (Hct) $< 40\%$ or 40-50% but falling 2% per day
 - (c) Mean airway pressure < 11 cmH₂O and FIO₂ < 0.40
 - (d) Postnatal age > 6 d and gestational age < 33 weeks
2. Any infant with birth weight 1,251-1,500 g and phlebotomy losses > 5 mL/kg/week who meet criteria (a) through (d) above.

EXCLUSIONS: Major anomalies, dysmorphic syndromes, hemolytic anemia, active major infection.

DOSE AND DURATION: 750 u/kg/week subcutaneously divided into three doses QOD (*e.g.*, 250 u/kg on Mon, Wed, Fri). Discontinue r-Hu-EPO when infant reaches 34 weeks gestational age. (Multiple patients can be treated using the same vial of r-Hu-EPO.)

IRON: Start oral iron at 2 mg/kg/d as soon as tolerated and increase to 4 mg/kg/d when feeds reach 100 mL/kg. If not on iron after 2 weeks of r-Hu-EPO treatment, consult with Dr. Shannon or Dr. Phibbs.

Consider:

1. Intravenous iron (1 mg/kg/d in intravenous alimentation fluid) or
2. Discontinue r-Hu-EPO.

When at full feeds, start UCSF preterm vitamins (see section on Vitamins, P. 55).

MONITORING OF R-Hu-EPO THERAPY:

- **Measure Hct and reticulocyte count weekly.**
- Reticulocyte count should reach 200,000 after 1-2 weeks of treatment with r-Hu-EPO.
- If Hct reaches 45% without transfusion, discontinue r-Hu-EPO, and consult with Dr. Shannon or Phibbs before restarting.

POST THERAPY: Hct and reticulocyte count will decline. Endogenous EPO will be released only when the infant becomes anemic (usually at Hct in the mid 20s). Only then will reticulocytes rise again. If reticulocyte count has not started to rise at the time of the infant's discharge, alert the primary MD to the need to follow the Hct and reticulocyte count.