

### Objectives

- Describe current practices related to restrictive neonatal transfusion guidelines
- Discuss the risk and benefits of using human recombinant Epo in the treatment of anemia and potentially as a neuroprotective agent as well as its impact on the development of retinopathy of prematurity
- Outline the epidemiology and risk factors associated with the incidence of NEC and the current understanding of its pathogenesis including the influence of care practices.
- List preventive measures being researched to reduce the incidence of NEC
- Explain the measurements used to assess growth patterns in the ELBW and VLBW preterm population and relate the potential risks associated with maximizing growth rates.
- Contrast the findings of studies reviewing “early” versus “late” enteral feeding approaches and recognize the role of trophic feeds, feeding advancement, amino acids, lipids and protein in supporting adequate growth patterns

### Content Outline

1. Current Controversies in the Management of Anemia of Prematurity
  - 1.1 Studies evaluating restrictive transfusion guidelines
  - 1.2 Neonatal transfusion guidelines
  - 1.3 Human recombinant Epo
    - 1.3.1 Randomized Epo trials
    - 1.3.2 Epo & retinopathy of prematurity
    - 1.3.3 Epo & neuroprotection
2. Necrotizing Enterocolitis
  - 2.1 Epidemiology & risk factors
  - 2.2 Etiology & pathogenesis
    - 2.2.1 Prematurity
    - 2.2.2 Intestinal motility & digestion
    - 2.2.3 Intestinal barrier
    - 2.2.4 Intestinal defense mechanism
    - 2.2.5 Intestinal circulatory regulation
    - 2.2.6 Abnormal bacterial colonization
    - 2.2.7 Enteral feeding strategies & NEC
    - 2.2.8 Vascular responses to feeding in preterm infants
    - 2.2.9 Feeding volume increments & breast milk
  - 2.3 Prevention
3. Optimizing Growth in the Preterm Infant
  - 3.1 Description of optimal growth rate for preterm infants
  - 3.2 Risks & benefits of early nutrition support
  - 3.3 Composition of early nutrition
  - 3.4 Initiation of enteral feeds for the VLBW infant
    - 3.4.1 Trophic feeds
    - 3.4.2 Delayed feeds
    - 3.4.3 Advancing feeds
  - 3.5 Growth promotion with enteral feeding

### Reading Material Resources

This self assessment module is based on the resources listed below. A copy of each article is included with the module.

“Current Controversies in the Management of the Anemia of Prematurity”, Bishara, MD, Nader, et al., [Seminars in Perinatology](#), Nol 33, pp. 29-34

“Necrotizing Enterocolitis”, Srinivasan, MD, Pinchi S., et al., [Clinics in Perinatology](#), No. 35, 2008, pp. 251-272

“Optimizing Growth in the Preterm Infant”, Uhing, MD, Michael, et al., [Clinics in Perinatology](#), No. 36, 2009, pp. 165-176