Necrotizing Enterocolitis (NEC)

- Necrotizing enterocolitis (NEC) is the most common serious intestinal disease among extremely preterm infants (preemies born < 28 weeks gestational age), and is one of the leading causes of mortality among these very young patients.¹

- The amount of cow milk in a preterm infant’s diet is a significant predictor of NEC and NEC surgery, according to a cohort study published in the journal *Breastfeeding Medicine*.² For each 10% increase in cow milk in the infant’s diet, the risk of NEC increases by 11.8%, the risk of surgical NEC increases by 21% and the risk of sepsis increases by 17.9% in extremely premature infants born weighing less than 1,250g (2 lbs 12 oz).²

- Mortality for babies with NEC requiring surgical intervention can be as high as 50% and has not improved significantly over the past 30 years.³

**Treatment**

- All infants suspected of having NEC need to be treated with medicines and bowel rest. About one-third may need surgery to remove the affected part of the intestines. After diagnosis, treatment begins immediately and may include:
  - Temporarily stopping all feedings
  - Nasogastric drainage (inserting a tube through the nose into the stomach to remove air and fluid from the stomach and intestines)
  - Intravenous (IV) fluids for fluid replacement and nutrition
  - Antibiotics to treat or prevent infection
  - Examinations and X-rays of the abdomen
  - Consultation with a pediatric surgeon to discuss if surgery is needed

**Health Impact**

- Premature babies who require surgery for NEC have a high risk for developing future health problems. A health economic study published in *BMC Pediatrics* demonstrated that within the group of preemies observed at ages six to 12 months who survived surgery for NEC, those infants were:⁴
  - Four times more likely to develop the chronic lung disease, bronchopulmonary dysplasia.
  - Forty-seven times more likely to develop malabsorption syndrome, which is the inability to absorb nutrients, vitamins and minerals from the intestinal tract into the bloodstream.

- Within the group of preemies observed at ages 24-36 months, those who survived surgery for NEC were:⁴
  - Five times more likely to develop bronchopulmonary dysplasia, a chronic lung disease
  - Sixty-two times more likely to develop malabsorption syndrome. Other serious conditions noted in the study resulting from NEC or surgical NEC included a higher risk of developing cerebral palsy, various disorders of the gastrointestinal tract and neurodevelopmental delays.

- Several studies have reported that premature infants, specifically those born weighing 500-1,250g (1 lb 1 oz to 2 lbs 12 oz), who received an exclusive human milk diet (EHMD), as opposed to cow milk-based preterm formula or cow milk-based fortifier, have a reduced risk of developing medical NEC or surgical NEC.⁵,⁷,⁸

- Prolact® H²MF®, when used as part of an EHMD, is the first and only clinically proven human milk fortifier to reduce NEC, surgical NEC, sepsis, and mortality in premature infants weighing between 500-1,250g (1 lb 1 oz to 2 lbs 12 oz) at birth, compared to cow milk-based preterm formula or cow milk-based fortifier.²,⁷,⁹
References


5. An EHMD is when 100% of the protein, fat and carbohydrates in an infant’s intake are derived solely from human milk.


9. Hair A, et al. “Beyond Necrotizing Enterocolitis Prevention: Improving Outcomes with an Exclusive Human Milk-Based Diet.” Breastfeeding Medicine. March 2016. 11(2): 70-74. doi:10.1089/bfm.2015.0134. The study included more than 1,500 infants weighing less than 1,250g at birth from four large centers in TX, IL, FL and Calif. Researchers compared data from approximately two years before and two years after the implementation of an exclusive human milk diet in the study centers’ neonatal intensive care units. Infants who received a diet of mother’s milk fortified with a cow milk-based fortifier and/or preterm formula, were compared to infants who received an exclusive human milk diet, indicating mother’s own or donor milk fortified with a Prolacta HMF®.