

# Newborn Critical Care Center (NCCC) Clinical Guidelines

## Joint Obstetric and Neonatology Antenatal Counseling for Anticipated Deliveries of Premature Infants 30 - 34 weeks gestation

*A consult from neonatology for counseling may be requested for any patient regardless of gestational age; however, counseling in this gestational age bracket should come initially from an obstetrical physician. When time is limited, the NCCC will prioritize to consult with those at highest risk first.*

### Background

Preterm infants are at risk for numerous problems, including hypothermia, hypoglycemia, respiratory problems, apnea, feeding difficulties, and jaundice. They also have an increased susceptibility to infections. With each additional week of gestation in utero, these risks decrease.

Premature infants have twice the risk for readmission after birth, hospitalization, and discharge in the first month of life. They continue to be at higher risk for both mortality and morbidity during their first year of life compared to full-term newborns.

### Statistics

- Infants 30-34 weeks gestational age comprise 2.8% of US live births
- Mortality based on gestational age:
  - 30-34 weeks: 18.5/1000 live births
  - 35-36 weeks: 6.9/1000 live births
  - Term (>37 weeks): 2.5/1000 live births

### Counseling:

- **Respiratory:** Preterm infants are at greater risk for respiratory distress syndrome, transient tachypnea, and respiratory failure. Some babies will require help breathing right after birth, either with CPAP or a ventilator. Other babies will not need any respiratory support. This varies widely between patients, and parents should be prepared for all possible scenarios.
- **Apnea:** Preterm infants are at risk for apnea of prematurity due to an immature central nervous system until about 35 weeks of corrected age and will need to be on a monitor while in the Newborn Critical Care Center (NCCC).
- **Thermoregulation:** Babies will require an incubator until about 34-35 weeks of corrected age or until > 1700 grams in weight.
- **Feeding:** Breast milk is the BEST nutrition for a premature baby. We support breastfeeding mothers and will work to help moms begin pumping and providing milk. While waiting for the mother milk supply, we STRONGLY recommend donor breast milk. The majority of these premature infants will require a feeding tube. Preterm infants cannot coordinate the suck, swallow, and breath technique required for oral feeding until about 34 weeks gestation, and many will be slow to learn the PO feeding technique.

- **Infection:** Premature babies have immature immune systems and are at risk for infection and necrotizing enterocolitis (an infection of the intestines). Breast milk can help reduce the risk of both.
- **Neurological:** The risk of intraventricular hemorrhage, a known predictor of poor neurodevelopmental outcome, varies inversely with gestational age. Neurodevelopmental outcomes are dependent on the severity of the hemorrhage but can include the risk of cerebral palsy, learning, and developmental delays. There is a small risk of intraventricular hemorrhage at 30-32 weeks and no measurable risk at 33-34 weeks.
- **Vision:** The risk for retinopathy of prematurity is minimal after 30 weeks gestation and typically only occurs with a complicated course.
- **Long-term Outcomes:** Preterm infants are at increased risk of developmental disability, school failure, behavior problems, and social and medical disabilities. All infants <32 weeks and those with a complicated course will follow up outpatient with our Special Infant Care Clinic to monitor for delays and provide appropriate interventions.

#### Helpful definitions to use as examples when communicating with parents:

- **Cerebral palsy:** movement disorder that affects how the child can move their big/small muscles, interact, and communicate with the surrounding world
- **Apnea of prematurity:** shallow breathing or pauses in infants' breathing for  $\geq 20$ secs
- **Incubator:** heated bed
- **Intraventricular hemorrhage:** "Bleeds within the brain"
- **Retinopathy of Prematurity:** abnormal development of the blood vessels behind the eye which can cause blindness

#### Discharge:

- Prior to discharge, an infant must be able to:
  - Breathe spontaneously without respiratory support or apnea
  - Stay warm without a heat source
  - Grow appropriately while taking all feedings PO (breast or bottle)
    - The majority of the time, feeding is the last goal to be mastered before discharge
  - The infant must be 4 lbs to fit safely in the smallest car seat
- Discharge at < 36 wk PMA: 45-54%
- Discharge at 36-38 wk PMA: ~ 40%
- Discharge at > 38 wk PMA: 7-12%

#### References:

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