

## NICU DEVELOPMENTAL CARE

### **ISSUE:**

The preterm infant experiences a hostile environment in the intensive care (NICU) setting as compared to the womb. This altered sensory experience can have a negative impact on an infant's brain development. While the history of neonatology has been characterized by monumental improvements in medical care, only recently has there been a focus on the environmental and interpersonal experiences of the preterm infant in the NICU.

### **BACKGROUND:**

The in-utero environment of a developing fetus is characterized by generalized extremity flexion and containment, limited light and noise exposure, sleep cycle preservation, and unrestricted access to mom via somatosensory, auditory, and chemosensory pathways. This environment is conducive to positive sensory input which is crucial for normal fetal brain development. A newborn preterm infant is deprived of these basic developmental needs upon transition from the womb to the environment of the newborn intensive care unit. This environment is typically characterized by painful procedures, excessive light and noise exposure, interrupted and inadequate sleep, and separation from mom. Negative replaces positive sensory input into the developing fetal brain which, as research shows, can permanently alter normal brain development.

Developmental Care in the NICU is defined by efforts in unit design, equipment selection, policies, care protocols, and staff training to maintain the basic physical, sensory, and interpersonal needs of the preterm infant while minimizing exposure to noxious and painful stimuli. The history of developmental care is rooted in the fields of neonatal nursing and physical/occupational therapy. While early research focused on improved short-term physiological stability, evidence is mounting that a comprehensive program which addresses NICU design, unit policies and staff training can positively impact preterm infant brain development and long-term outcome. These efforts include the provision of individual rooms for each patient/family, offering unrestricted access of infants to parents, supporting kangaroo care and breastfeeding, noise abatement, restricting light exposure, pain protocols, as well as training staff on appropriate infant handling, state recognition, and sleep preservation. A successful developmental care program is the product of a multidisciplinary team of parents, nurses, nurse practitioners, physicians, occupational/physical therapists, administrators, architects, engineers, and social workers. It requires a paradigm shift of attitudes regarding ownership of an infant's care and the personhood of the preterm patient.

**POLICY:**

The NPA supports guidelines, recommendations, and care standards that support the fundamental neuro-developmental and interpersonal needs of infants requiring intensive care.

**STRATEGY:**

In order to improve the access of preterm babies to developmentally appropriate NICU care, the NPA supports advocacy and education efforts to:

1. Improve awareness among perinatal professionals of the benefits of developmentally sensitive NICU care.
2. Improve public awareness of developmentally sensitive neonatal care and empower health care consumers to make informed perinatal health care decisions.
3. Support research and quality assurance efforts to identify individual, institutional, and community barriers which limit infant access to developmentally appropriate NICU care.
4. Incorporate developmentally sensitive NICU policies and design standards into national guidelines and recommendations put forth by the American Academy of Pediatrics and Joint Commission.

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