Taking Care of the NICU Graduate:
A Team Approach

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There are three general types of neonatal intensive care unit (NICU) graduates with overlap in diagnosis and needs in infancy and early childhood: premature infants, infants with congenital malformations or anomalies requiring surgical and subspecialty follow up, and term infants with distress after birth.

Most infants who stay in the NICU for more than 2 weeks require extensive follow-up care. These infants are often more medically complex and have increased risk of long-term neurodevelopmental impairments. Although NICU graduates are often medically managed by pediatricians in the community, a multidisciplinary approach can help to optimize neurodevelopmental trajectories. In this issue of Pediatric Annals, we are pleased to present the perspectives of professionals from various backgrounds, reflecting the multifaceted care that is often required in these high-risk NICU graduates.

As clinicians, we are obliged to set the tempo throughout the NICU period regarding medical needs and clinical expectations at the time of discharge. We should also be mindful that parents will look to us for guidance about early childhood as well. Introductions to subspecialty teams and the interventions that take place in the NICU are crucial to long-term comfort and ease of the parents facing a different experience from some families after the birth of a child. A methodical approach to discharging an infant from the NICU can aid families and their physicians considerably in the months and years to come.

In the case of the preterm infant, a pathway to discharge in the arenas of breathing, temperature control, feeding, and sleep should be explained as the child matures. Parents should be informed that growth and development of NICU graduates are typically “adjusted” back to take account of their prematurity. Parents should be provided with resources to understand medical problems, developmental milestones, feeding guidelines, overall safety, and specialized processes for making sure premature infants thrive after discharge.

In the first article, “Follow-Up Care for High-Risk Preterm Infants,” Dr. Stephannie M. B. Voller overviews the medical issues and developmental concerns that a pediatrician should consider when caring for a high-risk preterm infant. In the second article, “Common Queries About Immunizations in Preterm Infants,” Dr. Ansul Asad provides answers to commonly asked questions about immunizations specific to infants born preterm. Next, Taylor Peters and Cecelia Pompeii-Wolfe in their article, “Nutrition Considerations After NICU Discharge,” highlight the nutritional concerns and provide feeding resources for clinicians and families of preterm infants.

For children with congenital anomalies, especially where surgical intervention is needed, families can be taught about overarching clinical or genetic conditions while surgical procedures and planning ensue. Many centers have multidisciplinary groups for unique diagnoses such as cleft lip and palate, Prader-Willi syndrome, hyperinsulinism, neural tube defects, and others. Many conditions have support groups online for parents to unite and find novel evaluations or treatments.

Infants facing distress after birth are unique and often need tertiary care. The most common reasons for a term infant to need NICU care are infection, respiratory distress, perinatal depression, and seizures. These conditions often require a set of interventions unique to the infant’s presentation. Although many patients will have short treatment courses for these illnesses, some will be protracted after long-term ventilation or extracorporeal membrane oxygenation.
As patients in the NICU become more stable and approach graduation, the NICU team should build on the inpatient processes for outpatient care and care coordination. The specialized processes can include the use of durable medical equipment and specialized pharmacies for supplies and medications, respectively.

Each medical problem should be detailed with the parents of NICU graduates; the importance of follow-up care should be emphasized, with the intent of having an ongoing discussion that imprints the parents with the education and capacity to seek that follow-up care. NICU graduates, including those with congenital anomalies, who are in distress after term birth or those born preterm are all at risk of having adverse neurodevelopmental outcome. In the article, “General Movements: A Behavioral Biomarker of Later Motor and Cognitive Dysfunction in NICU Graduates,” Drs. Colleen Peyton and Christa Einspieler provide an overview of a clinical tool that can be used in infants younger than age 5 months to predict neurodevelopmental outcome in high-risk infants. In the final article, “NICU Graduates: The Role of the Allied Health Team in Follow-Up,” Dr. Jane L. Orton and colleagues offer a comprehensive overview about the role of the allied health team in the care of infants at-risk or with known developmental issues.

This issue is dedicated to exploring mechanisms of enhancing clinician and parent capacity to care for these patients after NICU discharge. Graduations come with hopes and dreams, but also concerns and uncertainties.

Disclosure: Colleen Peyton reports membership in the Prechtl General Movements Trust. The remaining author has no relevant financial relationships to disclose.

doi:10.3928/19382359-20180320-03

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