Nursery Wide Developmental Care Implementation in Newborn Intensive Care Units (NICU) - Recommendations for Training, Education, Staff and Resource Development

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Recommendations for Training, Education, Staff and Resource Development

Developmental care improves infant and family outcome and is also highly cost effective immediately due to significant reduction in length of hospital stays. The following document provides an outline of the recommended education, training, staff, and resource development towards successful developmental care implementation for a mid-sized (40–50 bed) NICU.

Introduction

Based on published research (Als, 1998; Als et al., 1996; Als et al., 1986; Als et al., 1994; Becker et al., 1991; Fleisher et al., 1995; Heller et al., 1997; Parker et al., 1992; Petryshen et al., 1997) and on the results from a recent study involving four NICUs (Als et al., 2003), developmental care improves outcome for very low birthweight preterm infants in terms of better weight gain and growth in height and head circumference; fewer days of hyperalimentation; earlier enteral feeding; younger ages at hospital discharge; fewer days of intensive care; fewer overall days in the hospital; and therefore lower hospital charges. The children receiving developmental care also perform significantly better neurobehaviorally in terms of autonomic, motor system, state organization, and attentional functioning, and according to one of the studies in terms of neurophysiological functioning (Als et al., 1994). Two of the published studies furthermore show that mental and psychomotor performance at 9 months is significantly improved, indicating that the children receiving developmental care are also more well functioning after hospital discharge and therefore presumably require less continued professional attention than the control group children. The multi-site study additionally measured parent functioning and found significantly reduced stress scores and improved perception of their infants. A further study (Buehler et al., 1995) shows that healthier, non-intubated preterm infants also benefit from the developmental approach in terms of significant improvement in neurobehavioral functioning, as well as in brain functioning.

The developmental approach to care tested in these research studies is based on a model, referred to as NIDCAP (Newborn Individualized Developmental Care and Assessment Program) (see Program Guide). Based on the experience of the professionals currently providing education and training in the NIDCAP model, in order to bring about the results of the studies nursery wide, the components of training and staff development must include the following:

1. Training of a developmental specialist and a developmental care nurse educator
2. Training of a multidisciplinary leadership team (approximately 7-8 members)
3. Training of a core group of developmental resource staff nurses
4. Establishment of salaried position(s) for the developmental specialist and developmental care nurse educator
5. Establishment of a salaried position for a parent representative
6. Regularly available reflective process consultation for the professionals in the nursery and the nursery as a system

Education consists of a multi-year program for advanced professionals in a theory driven systems-oriented and relationship-based framework of intensive care delivery. The approach is based in a neurodevelopmental, evolutionary, co-regulatory, and family centered perspective on infants, parents and professional care givers. Specific training in observation of the environment as well as specific in depth training in observation of infant behavior and of the environment provides the foundation for developmental care planning and implementation. An understanding of the individuality of each infant and each family is at the core of the program. Regularly provided consultation involves consultation in regard to environment; staff and team development; development of consistency of individualization of care implementation; and development of reflective process opportunities. In addition, training for the developmental specialist and developmental care nurse educator includes training in formal neurobehavioral infant assessment (Assessment of Preterm Infants’ Behavior, APIB) (Als et al., 1982a; Als et al., 1982b), and specific guidance in the facilitation of staff towards developmental care implementation. The appended Program Guide spells out the NIDCAP and APIB training components in detail. Aside from the two dedicated salaried positions of the developmental specialist and the
developmental nurse educator a part-time position for a parent representative is needed for ongoing collaboration in care development. Furthermore, regularly available reflective process consultation is of key importance for leadership and bedside staff in order to support ongoing self-reflection and growth.

**Recommended Qualifications and Criteria for Developmental Care Training and Implementation**

The key positions to be developed are those of a Developmental Specialist, a Developmental Care Nurse Educator, a multi-disciplinary leadership team, and a developmental resource group of nurses. Parent counsel and reflective process consultation support needs to be simultaneously developed.

1. Developmental Specialist and Developmental Care Nurse Educator

   Dedicated (salaried) full-time positions for the developmental specialist and the developmental care nurse educator assures their effectiveness in their work for the nursery as a whole.

   a. Developmental Specialist

   This is a professional with typically a minimum of master’s degree or equivalent professional training and experience in a developmental discipline, including psychology (PhD), psychiatry (MD), developmental pediatrics (MD), social work (MS), physical or occupational therapy (MS), or early childhood education (0–3 years) (MS), with advanced knowledge and clinical expertise in the areas of:

   - Fetal, newborn, and infant development
   - Fetal, newborn, and infant development in the face of a disturbance
   - Brain development
   - Pre-, peri-, and post-natal medical conditions of preterm and fullterm newborns
   - Interactive effects of pre-, peri-, and postnatal medical conditions on development
   - Behavioral functioning of preterm and fullterm newborn and infant
   - Interactive effects pre-, peri-, and postnatal conditions on preterm and fullterm newborn functioning
   - Family development and parenting process
   - Family development and parenting process in the NICU the face of disturbance
   - Ecology and culture of the NICU and hospital setting
   - Change theory
   - Adult learning process

   Specific competencies need to include:

   - Competence in communicating with and supporting staff in the NICU
   - Competence in supporting infants and families in the NICU
   - Competence in teaching and sharing developmental knowledge and expertise with professionals and families
   - Competence in supporting the integration of intensive medical and nursing care into a developmental framework of care delivery
   - Competence in multifaceted program evaluation of care

   The developmental specialist is responsible for the fostering and building of the developmental knowledge and skill base of the caregiving staff in the NICU, and is available for ongoing developmental consultation, inservices, mentoring, partnering, leading of the developmental team, participating in daily rounds, and consultation to professionals in the NICU. This person is the key resource and facilitator of the developmental care implementation. Opportunities for regularly scheduled reflective process consultation and for continuing education need to be available for the developmental specialist.
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b. Developmental Care Nurse Educator

The developmental care nurse educator should be a master’s prepared or equivalently-experienced NICU nurse with a minimum of three years of NICU staff experience. This professional has a background in maternal-child nursing or other psychologically oriented field of nursing, in addition to newborn intensive care nursing, and is well grounded in general pediatric nursing. Leadership and interaction skills equip this professional to be a mentor and teacher who is respected for technical expertise as well as family support, and interdisciplinary communication and teaching skills. This professional has the confidence and respect of the medical caregivers, the nursing caregivers and other professionals from the range of disciplines in the NICU; is well organized; professionally and personally mature and generous; proactively system and strategies oriented in problem solving and conflict resolution, and skilled in providing anticipatory guidance on an individual and group level.

The developmental care nurse educator is the key link in the process of the day-to-day nursing care transformation into a developmental care framework and in fostering the process of system change in the nursery. This person works closely with the developmental specialist and is of key importance in supporting integration of overall developmental care and organ specific care. Regular reflective processes and continuing education opportunities need to be available for this person.

2. Multidisciplinary Developmental Leadership Team

This team should have representation from the key disciplines represented in a NICU. This typically involves neonatology, nursing, respiratory therapy, occupational and/or physical therapy, social work and others. A parent representative should be a member of this team and be available on a regular basis. It is recommended that the medical director of the NICU, the nurse manager, the lead nurse practitioner, the NICU’s case manager, as well as the supervisory respiratory therapist, occupational therapist, physical therapist, and the social worker become fully NIDCAP trained. This will equip them to support the cohesiveness of the practice and education effort on a continuing basis for their own discipline’s members and in the nursery at large.

Furthermore, additional representatives of the key disciplines in the NICU, identified for NIDCAP training might be the neonatologist in charge of the follow-up clinic, and/or in charge of the curriculum for house officers; for nursing, this might be the nurse educator and/or the clinical nurse specialist, the caseworker and the discharge planner. NIDCAP training should furthermore be made available to the parent representative.

It is recommended that the developmental specialist, developmental care nurse educator, the seven or eight leadership professionals from the different disciplines, and the parent representative have the opportunity for regular monthly meetings in order to coordinate the developmental effort.

3. Core Group of Developmental Resource Staff Nurses

From experience over the last fifteen years, NIDCAP training to reliability of at least 10% of staff nurses providing bedside care creates the minimum resource for the successful implementation of developmental care nursery wide. Thus, in a NICU with 160 nurses, it is recommended that at least 16 nurses receive training to reliability. These nurses should represent all three shifts and have skills and personal maturity to model for and collaborate with less experienced peers in an educative and supportive way. Nurses-in-charge are in key roles to support nursery wide implementation. Trained staff nurses should have designated responsibilities to serve in various roles as developmental care partners and mentors for other staff members.

4. Reflective Process Consultation

Regularly available process consultation by a psychologist, psychiatrist, or other well-trained professional with formal reflective process training should be made available.
Specific Training and Staff Development

NIDCAP training is currently available from fourteen NIDCAP training centers, nine in the United States of America, four in Europe and one in South America. APIB training is available from two centers (see Program Guide). NIDCAP training is largely performed at the sites of the trainees. A five year plan needs to be developed with corresponding budget. This opportunity for onsite guidance fosters increased team building, and regularly scheduled consultation provides increased cohesiveness for site development. Aside from formal training costs, costs for a site are incurred in terms of the trainees’ time required for those in training to acquire and gain experience in their new skills. Further costs may involve renovation costs and costs for acquisition of developmentally-supportive furniture and care supports.

1. Specific training steps:

   Step 1: Preparatory Consultation, Site Self-Assessment, Trainee Self-Assessment and Preparation

   Step 2: NIDCAP Introductory Training consists of the following:
   • Introductory Lecture (~4 hours) and workshop (~3 hours) (the lecture is open to larger audience; the workshop is open to trainees only).
   • On the second day training in bedside observation, written documentation and formulation of recommendations is provided for two trainees per day.
   At least one day at the end of each training visit is devoted to site consultation, feedback to the site and planning of next steps.

   Step 3: Consultation and Practice
   The trainer provides detailed written feedback to each trainee and to the site as a whole and is available for telephone consultation in follow-up.

   Step 4: Each trainee after extensive practice in observation and written documentation submits an observation with recommendations (NIDCAP write-up) to the trainer for review and feedback

   Step 5: Each trainee conducts an observation with the support of the trainer and prepares a full written report (2 trainees per day), for feedback from the trainer

   Step 6: The trainer provides telephone consultation and report reviews of additional reports submitted by each of the trainees.

   Step 7: Each trainee follows an infant and family from admission to the NICU to discharge, ending with a home observation (Advanced Practicum). The trainer reviews the journal which chronicles the progression.

   Step 8: NIDCAP Reliability Training
   The trainer works with two trainees at the bedside. They each independently develop their written formulations, feedback and recommendations based on the observation. The trainer evaluates the trainees’ work and consults with the trainees (2 trainees per day)

   Step 9: The trainer provides extensive consultation to each of the trainees, to the leaders of the site and to the site as a whole; and follows up with written and telephone consultation.
Step 10: APIB Training for Developmental Leaders
This consists of one day of APIB introductory training for two trainees, e.g., typically the developmental specialist and developmental nurse educator. This is followed by extensive APIB practice by each of the two. After approximately 15-20 full practice examinations, each of the developmental leaders spends an in-depth APIB work day with the trainer. After further practice, APIB reliability days are scheduled for each of the two developmental leaders. Guidelines and follow-up consultation are provided by the trainer.

2. Practice Time for Trainees in Training
Typically at least 20 NIDCAP observations are needed by a trainee for practice and self-study depending on the trainee’s background. Each observations with written formulation and documentation of reflection requires approximately 8 hours for a trainee in training. Furthermore, weekly observations of the same infant are required for the Advanced Practicum when the trainee follows an infant from admission to discharge. In the Advanced Practicum the trainee gains experience in coordinating the infants’ various caregivers into a developmentally cohesive and supportive team for the infant and family.

3. Development of a Parent Counsel
Simultaneously with the specific training outlined, the leadership staff in the nursery develops a formal process for the creation of a parent counsel. A parent counsel avails the nursery of the critically important feedback, perspectives, and teaching from those who understand their infants in a very special way and have a very special lifelong commitment to the infant.

4. Development of Reflective Process Consultation
The leadership staff, furthermore, develops opportunities for regularly available reflective process work and consultation for the developmental leaders and core group of professionals, as well as the staff members in the nursery at large. This may be provided by more than one professional. Such professionals may include consulting psychologists and psychiatrists, occasionally a psychiatric social worker with expertise in the guidance of healthcare system professionals. In some settings disciplines thrive most when they each have their own reflective process consultation; in other settings, such consultants are shared across the disciplines. Formats typically include regularly scheduled sessions with developmental leaders of the site; the core leadership professionals and the core resource staff nurses; the medical and nursing leadership staff of the nursery individually and as groups; and the staff at large in various formats. The goal of reflective process work is to assure the nurturance and growth of those in the nursery who in turn seek to nurture and support the infants and families in their care.

Summary
The processes and training steps outlined describe the recommendations for newborn intensive care nurseries which seek to implement individualized, family-centered, developmental care as standard of all care. The process of training typically takes between three and five years by which time noticeable change and increased consistency in nursery wide developmental care practice becomes apparent and the benefits as documented in the research studies become realized. Periodically, new training will be needed for newly hired staff. Furthermore, continuing education and training is necessary for developmental key staff, as is periodic evaluation of the competence of the developmental leadership staff, and supportive consultations from the NIDCAP trainer involved with the site.

Enclosures: NIDCAP Program Guide
References


