



Developmental Observer

The Official Newsletter of the NIDCAP® Federation International

NIDCAP Federation International (NFI)

Founded in 2001, the NFI is an international, non-profit membership organization. The NFI encourages the implementation of developmental care and assures the quality of the Newborn Individualized Developmental Care and Assessment Program (NIDCAP) approach in all intensive and special care nurseries around the world. The NFI serves as the authoritative leader for research, development, and dissemination of NIDCAP, and for the certification of trainers, health care professionals, and nurseries in the NIDCAP approach.

“Relationships change us, reveal us, evoke more from us. Only when we join with others do our gifts become visible, even to ourselves.”

MARGARET WHEATLY, 1998

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NIDCAP Nursery Certification Program

Deborah Buehler, PhD, Karen Smith, RNC, BSN, MEd and Heidelise Als, PhD

The NIDCAP Nursery Certification Program (NNCP), under the auspices of the NFI, seeks to recognize a hospital nursery's commitment to, and integration of, the principles of NIDCAP for infants and their families. Nurseries eligible for consideration must meet the following basic criteria: They must be licensed and accredited; provide care to preterm infants under 1500 grams and 30 weeks gestation, either from birth (NICU, Level III Nurseries) or in a convalescent mode (Level II Nurseries); and employ a full-time NFI-certified NIDCAP professional. The NNCP's evaluation of the quality of a nursery's developmental orientation and care is based on a combination of written materials submitted by the applicant nursery, as well as a series of interviews and observations conducted on-site by an NFI appointed NNCP Review Team. This review team consists of three NIDCAP professionals with complementary backgrounds (i.e., neonatologist, NICU nurse, and a member of one of the developmental disciplines [e.g., psychologist, occupational therapist]).



The Newborn Intensive Care Nursery at St. Luke's Children's Hospital, Boise, Idaho is the first to have earned the NFI certification as a NIDCAP Nursery. The certification ceremony took place on December 9, 2008.

NIDCAP Nursery Certification (NNC) Application Process

The NNC application process involves the following steps:

1. NICU professionals interested in NIDCAP Nursery Certification first complete an initial screening application, which includes a site self-assessment, NICU demographic materials, and the identification of a contact professional at the site. Should a nursery fail to meet the basic eligibility criteria, the NNCP Review Team will provide recommendations and suggestions for the nursery's next steps towards a successful application.
2. Once the screening application is deemed appropriate, NICU professionals prepare and submit the *Nursery Self-Assessment Questionnaire* with additional supporting documents (e.g., nursery policies, procedures, guidelines; the nursery floor plan; photographs; and parent and staff testimonials). The applicants furthermore rate their nursery on the *NIDCAP Nursery Certification Criterion Scales (NNCCS)*

further described below. This process of self-evaluation serves to identify the nursery's readiness for NIDCAP Nursery Certification. The NNCP Review Team will review the documentation submitted and may request further documentation and/or clarification of the materials that were submitted.

3. Should the review of the materials indicate that further development is required before NNC is likely, the NNCP Review Team's recommendations may include: further education and preparation of the site by attending one of the NNCP workshop; obtaining further mentoring from a NIDCAP trainer; and/or by obtaining further NIDCAP training. Specific guidance will be offered to the site for the next steps of growth of their developmental program. The hospital's NICU developmental leadership team will be supported in solidifying their developmental program towards successful NIDCAP Nursery Certification.
4. When the materials submitted are deemed to reflect high likelihood of success of certification, the NNCP Review Team, in interaction with the applicants, will develop a site visit schedule for the review of various aspects described in the self-assessment documents, and for face to face interaction with the nursery's leadership and staff. In addition, the NNCP Review Team will also meet with parents and others in the nursery in order to obtain a full picture of the nursery's functioning.
5. The NNC Site Visit consists of a three-day, on-site visit by the NNCP Review Team. This team will seek to identify and confirm the applicant nursery's strengths and, as indicated, provide additional guidance towards growth and successful certification. During the site visit, the NNCP Review Team will most likely wish to walk the path that families take through the hospital to their infants' bedsides, and will wish to observe the nursery environment and various care opportunities in action. The team will also schedule opportunities to meet with: the hospital and nursery administrative leadership; representatives from across and within the various disciplines active in the nursery; parents who may have in the recent past had a child in the nursery; and parents, who together with their infant, currently experience the nursery.

6. Upon completion of the site visit, the following day the NNCP Review Team summarizes the information and impressions gleaned from the site visit, decides upon the success of the nursery's application for NNC, and prepares their summary report. This report will be shared with the NFI NNCP Steering Committee, and upon the Committee's review and approval, the NFI Board will be informed. Once the Board concurs with the NNCP Steering Committee's recommendation, the applicant nursery will be informed of the outcome by the Chair of the NNCP.
7. Should the review process yield a successful NIDCAP Nursery Certification, the NNCP Chair in collaboration with the NFI Board and the applicant nursery will determine the nature and timing of the NNC Award ceremony.

NIDCAP Nursery Certification Criterion Scales (NNCCS)

The NNCP Steering Committee has developed the NIDCAP Nursery Certification Criterion Scales (NNCCS). This tool assists an applicant nursery to assess itself on the level of quality and the degree of adherence to the key NIDCAP concepts of: individualization of all care and environmental aspects; family-centeredness; developmental support for all infants and families cared for in the nursery; and developmental support for the staff involved in delivering such care. The NNCCS are also utilized by the NNCP Review Team in the assessment of the applicant nursery's standing on the key NIDCAP concepts outlined above. The NNCCS describes five levels, which are operationalized by 5-point, descriptively defined rating scales. These are grouped under four main categories of a nursery's characteristics: 1. The Physical Environment of the Hospital and the Nursery; 2. The Philosophy and Implementation of Care of the Infant; 3. The Philosophy and Implementation of Care of the Family; and 4. The Philosophy and Implementation of Care of Professionals and Staff Members. Additionally a 5-point Nursery Summary Score is defined. The five points of each of the rating scales refer to the following five levels of care: (1) traditional, conventional care; (2) beginnings of NIDCAP adherence;

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Senior Editor Rodd Hedlund, MEd
Associate Editors Deborah Buehler, PhD
 gretchen Lawhon, RN, PhD
Text Editor Sandra Kostka, BA

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Laura and her mother, Melissa Johnson, at the NIDCAP Trainers Meeting in Winston-Salem, North Carolina, October, 2008.

Every year around my birthday, my mom likes to re-tell the story of my somewhat eventful but ultimately happy birth. She went into early labor when we were only 31 weeks along. She spent the next two weeks in the hospital, flat on her back, and I was born at 33 weeks, which, back in 1981, was nothing to sneeze at. After three weeks in the Duke University Newborn Intensive Care Unit (NICU), she and my dad were able to take me home, just in time for Christmas. As I learned more about the fascinating process of childbirth, I had more and more questions for my parents. How many people were in the room when I was born? What was it like to have to go home from the hospital and leave me in the unit? Were you scared when you knew I was coming early?

After I started medical school, my questions became more scientific: Did I need supplemental oxygen? Did my mother receive antenatal steroids? How did the team treat my PDA? Did I breastfeed right away? I suppose these are not the normal questions one asks about one's early weeks of life, but I had a willing source of answers and never got tired of hearing the story one more time. I learned that my mom panicked when she got a casual phone call from the nursery saying I was in a "little bit of heart failure but should just pee it out." Not the best way to update a mother on her baby's condition! I paged through my baby album while my mom pointed out how much we've learned about developmentally appropriate positioning, and we both cringed at the sight of my four-pound body strapped down to a Brumley board (a flat mattress that allows an infant to be supine in four-point restraints), squinting in the harsh glare of the nursery lights.

I realize now that by growing up hearing about developmental care and a family-centered approach, I had always thought of NIDCAP and neonatology as almost one and the same. *Of course* the early environment has a profound effect on

Laura Johnson is a MD/MPH Candidate at Emory University School of Medicine and Rollins School of Public Health, Atlanta, Georgia. She is the daughter of Melissa Johnson, PhD, NIDCAP trainer and co-director of the Carolina NIDCAP Training Center, and Robert B. Johnson, MD.

the developing brain. *Of course* the family should be involved in the decision-making and care of the newborn. *Of course* each individual baby is a person with unique strengths, challenges, and needs. During my third year of medical school, while doing a two-week rotation in the Special Care Nursery, I came to learn that not everyone views newborns, especially preterm infants, in the same light. When my classmates or mentors find out that I want to specialize in neonatology, they sometimes ask, "Why? You never get to talk to your patients and find out what's wrong." Or, "It's like veterinary medicine." I know neonatology is not for everybody, but I find these comments frustrating. By implying that the only way to communicate is with words, they are ignoring the many non-verbal cues that we all use to convey what we're feeling and thinking: body language, facial expressions, and vocalizations. In neonatology, the goal is to integrate these individual attempts at communication with the critical information provided by the physical exam, vital signs, laboratory tests, and imaging. It's the challenge of piecing together a puzzle that is unique and special to every baby that I think I will find so rewarding about this field.

Until this October, the annual "NIDCAP Trainers Meeting" was an abstract concept—a meeting that my mom looked forward to every year and from which she returned inspired. This year, I went with her to Winston-Salem, North Carolina, a town about an hour from where I was born. The conference had special meaning for her, I think. I was thrilled to be able to put faces to names and to be surrounded by a group so dedicated to the NIDCAP model and to improving the care of preterm infants. One of the recurring themes of the conference was the importance of passing down the NIDCAP philosophy to the upcoming generation of providers. Who will carry the torch of individualized developmental care, and who will spearhead the worldwide research that is needed to support and expand the model? For myself and many of the other first-timers at this meeting, we could not have felt more welcomed and encouraged to be there, learning more about NIDCAP, networking with committed providers from all over the world, and reflecting on why we had chosen this path.

My experience at the NIDCAP conference brought to mind another time when I had been taken under the wing of a more experienced mentor, a neonatologist at one of the hospitals where I am training. We had a fullterm baby in our NICU

with essentially no brain function due to an almost-complete placental abruption. The family and care team had decided on a time to remove the baby from a ventilator, support his father in holding him, and let him go in peace. I didn't know what to expect and was incredibly moved by the family's history—they had lost an older child less than a year ago. My attending saw the look in my eyes as 2 pm, the designated hour, approached and pulled me aside into the resident call room. We sat on the twin beds and she asked me if I had any questions about what was going to happen. "Have you ever seen anyone die before?" I hadn't. "Do you have any ethical concerns about why we're removing him from the ventilator?" I didn't. "Are you worried that you're not going to be able to do this and be there for the father?" I definitely was. The neonatologist then told me about the first time she was in a similar situation, as a new intern, and about all of the emotions she felt then and still feels every time she reaches this junction with a family. In fact, her mentor had pulled her aside and asked her the exact same questions she was asking me now.

It was valuable to hear how she processed that experience and how she has struggled since then to find the right balance

in her involvement with the baby and the family. She explained in detail the dying process, how we could make it more comfortable for the father and the baby, and gave me concrete tasks to do once 2 pm arrived. All of this I found extremely helpful as a learning opportunity, but what I appreciated the most was that she: a) read my non-verbal cues and recognized that I was overwhelmed with this situation, and b) passed on what she had learned from an older and wiser doctor that she trusted. She understood that not everyone responds identically to difficult situations, and she was willing to take the time to make sure that I was prepared both clinically and emotionally to support the family. I am certain that I will do the same for another scared young medical student someday.

As the daughter of a child psychologist and NIDCAP trainer, a former 33-week preterm, and now a medical student interested in neonatology, I believe that NIDCAP is a thread that ties it all together. It is a philosophy that was under development when I was born in 1981, it has been important to my mom's work for many years, and it is an approach that I am now committed to integrating into my practice as a future physician. See you at the next NIDCAP Trainers Meeting, in Chicago, in 2009!

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(3) inconsistent NIDCAP adherence; (4) consistent NIDCAP adherence; and (5) distinguished level of NIDCAP adherence. Nurseries that consistently score ratings of (4) on the key areas of functioning (i.e., infant, family, professional and nursery staff care and support) are considered appropriate for NNCP certification designation. Aspects of the physical environment that are beyond the control of the nursery leadership and staff, are weighted less in the final determination.

Next Steps

At this time, the NNCP has certified one nursery, the NICU at St. Luke's Children's Hospital in Boise, Idaho. By the end of 2009 the NNCP expects to have completed two additional successful NIDCAP Nursery Certifications. The NNCP expects to accept new applications at the beginning of 2010. At this point three nurseries have indicated that they wish to be placed on the waiting list for 2010. The NNCP Steering Committee will accept Statements of Intent of application and will continue to place such nurseries on the NNCP waiting list. The NNCP Steering Committee has adopted a "first come, first serve" policy in establishing the order of consideration for application review. The NNCP Steering Committee furthermore is very aware of the ultimate necessity to develop special financial supports in the form of grants for the certification of nurseries in third world countries and those that serve indigent populations.

Interested nurseries should contact the NNCP Chair Person,* or the NIDCAP Trainer with whom they currently work, in order to obtain assistance in planning their application. Assistance to a nursery with the process of self-evaluation is typically helpful in guiding an interested nursery towards producing a successful application. The NNCP additionally plans to develop workshops and educational conferences, which will assist nursery representatives in their NNCP application and nursery development.

The NIDCAP Nursery Certification Program is both a goal and a process. Nurseries, which apply for NIDCAP Nursery Certification, define the areas of their current strengths and those for future growth. Successful NIDCAP Nursery Certification represents distinction in the provision of a consistently high level of NIDCAP care for infants and their families, as well as for the staff, and as such is to be commended and celebrated as an inspiration for all.

**Contact: NNCP Chair, Karen Smith, RNC, BSN, MEd, St. Luke's NIDCAP Training Center, St. Luke's Regional Medical Center, 190 East Bannock Street, Boise, ID 83712, USA
Voice: 208-381-4374; Fax: 208-381-7668;
e-mail: smithka@slrmc.org*



NIDCAP Professionals: Collaboration and Nurturance



The disciplines of neonatology, nursing, physical therapy, occupational therapy, speech and language therapy, early childhood education, early childhood special education, and psychology were represented at the 19th Annual NIDCAP Trainers Meeting in Winston-Salem, North Carolina, October 2008.

The “voices” of each individual infant and family in newborn intensive care nurseries hold the key to understanding, and therefore re-designing, our approach to best promote health and well-being. This is the basic premise of the Newborn Individualized Developmental Care and Assessment Program (NIDCAP). *Each infant and family member informs and shapes our collective care to promote optimal outcome.*

NIDCAP has become integral to the newborn intensive and special care nursery experience all around the world. NIDCAP professionals are represented within all disciplines working in these nursery settings and each professional discipline brings a unique perspective to their work. These caregivers work as cohesive team members to achieve their overall goal, that of supporting infants and families. At the 19th Annual NIDCAP Trainers Meeting, NIDCAP professionals discussed the implementation of NIDCAP within and across their profession, the challenges in understanding and integrating the NIDCAP approach, the opportunities inherent in NIDCAP, and next steps of development of the NIDCAP model. Presented below are the themes that emerged from each of the discipline-based groups’ observations and discussions.

Applications of NIDCAP

Each professional group described NIDCAP as the theoretical framework and systematic approach to care that provides support, and expands and deepens their understanding of infants and their families. Each of the professions working in newborn intensive care settings draws inspiration from the basic principles of NIDCAP. These principles state among others, that infants are active participants in their own care; that change is a continuing process; that focus on strengths enables vulnerabilities and problems to be overcome; that infants and families must be understood in a holistic ecological framework; that support for infants and families must be meaningful and effective in the context of their social and physical environments; that the family system is the functional framework for and relevant context of an infant’s development; that infant’s mental health is as important as their physical health; and that the relationship between brain and behavior is inseparably intertwined and must be respected and regarded at all times. All of the professional groups viewed NIDCAP as a framework and an instrument used to hone and refine their observational and direct care skills, thus effecting positive change not only in the everyday experiences of the infants and families, but ultimately in the very culture of the newborn intensive care nursery. The professionals from all disciplines described how the NIDCAP perspective informs and guides them in how they view each infant and family. They articulated that NIDCAP supports and enhances their understanding of the infants’ language and the methods by which they communicate comfort, discomfort and pain. Nurses described

NIDCAP's influence on their care as offering them a way to use "their hands and their hearts" differently, for when they understand infants better, they are better equipped to care for them. For these nurses, NIDCAP captures "the art of nursing"; rather than performing care "on the infant", and "doing to the infant," NIDCAP care assures that the nurse provides care in a nurturing and sensitive manner. This framework of collaboration and nurturance supports all nursery caregivers to feel and be more effective in their care, as they strive to support the infant's comfort, medical stability and development during their intensive or special care nursery stay.

There was great consensus among all professional groups at the meeting that NIDCAP contributes the unique and valuable perspective of relationship-based and individualized care to the newborn intensive care nursery experience. The nurses reported feeling supported in their highly specialized nurturing and nursing skills, while they fulfill the many technological and medical care aspects of care, which sometimes require the infliction of clinical pain. The Neonatologists reported feeling validated by NIDCAP in their highly specialized yet always relationship-based implementation of intensive medical care procedures and decision making for high risk newborn infants. They commented that NIDCAP enhanced their feeling of competence in the interaction with infants and families, enhanced their sense of effectiveness, and also increased their work satisfaction.

NIDCAP support professionals and consultants (e.g., respiratory therapists, physical and occupational therapists, special educators, psychologists) gain self esteem and confidence through NIDCAP in realizing the importance of sharing and transferring their expertise with the infants' 24-hour front-line caregivers, namely parents, and primary nursing and neonatologist teams. For them NIDCAP provides greater insight for guidance and education of families and staff in the following ways: Providing methods to supportively hold the infant and support the infant's own movements and postures; comforting an infant; providing appropriate sensory-motor experiences; enhancing pleasure and effectiveness of feeding and oral-motor skill; modifying the infant's environment; supporting infants and families during transition home and intervention planning; supporting hospital and nursery systems throughout the process of change; and conducting and evaluating research that supports infant and family optimal outcome, education, and development. The NIDCAP model supports nursery staff collaboration within and across professions, thus enabling family/infant relationships to flourish.

It is evident that all these disciplines acknowledge the NIDCAP model as supportive of infant development, parent well-being and competence, and enhancement of nursery staff relationships within and across disciplines. All professions acknowledged NIDCAP as providing greater understanding and impetus for the use of anticipatory guidance, support and

education for families and staff; for regularly performed serial observations, evaluations, adjustments and revisions of the infant's experiences; for support and achievement of neurodevelopmental milestones; and for the appreciation of risks, facilitation of short and longer term outcomes, and preparation and assurance of success regarding transitions to home and community. Professional support for caregivers plays a key role in self-awareness and growth, and therewith the enhancement of care for infants and families. Such growth also aids mutual support of the staff in the nursery, in the hospital, and in the community. NIDCAP professionals consider it their responsibility to be informed about state early intervention requirements and regulations and to advocate for infants and their families to qualify for and receive appropriate services. NIDCAP professionals furthermore consider it their responsibility to provide consultation and training to early intervention providers.

NIDCAP Challenges & Opportunities

Across disciplines, NIDCAP professionals make every effort to facilitate a shift from the traditional task-oriented, "fixing what is wrong" pathology-based approach to an individualized, process-orientated, strengths-based approach to care that supports development and well-being. When the nursing group described the implementation of NIDCAP as "an art" they were speaking to the level of astute skill involved in providing care by "participating with" rather than "doing to" infants and families. Some misperceptions exist about NIDCAP; they range from NIDCAP as a minimal stimulation approach, to an environment modification approach that may include nests, incubator covers, and quiet-times among others. Caregivers, using conventional practices, may believe that they are providing developmental care yet may have limited understanding about the effectiveness of their implementation. For instance, "turning off the nursery's overhead lights" may be one ingredient of developmental care, yet it is embedded in a much deeper appreciation of infants, families and staff dynamics. NIDCAP care requires a deeper understanding of the critical aspect of relationships for the well-being of infants and their families. Greater confidence in competencies must be fostered for individualizing care to avoid relying on prescriptive caregiving procedures. Assimilation of NIDCAP into practice and policy guidelines and performance evaluations is required. Changes within the whole nursery care experience from direct care to policy development may occur slowly and require patience. NIDCAP professionals describe that it takes continuous mindful renewal and team support to maintain the momentum for ongoing change and improvement.

NIDCAP professionals described that integrating the NIDCAP approach into nursery practice with consistency is challenging. The timing and methods of teaching and mentoring NIDCAP may hold important keys to strengthening integration of NIDCAP within nurseries. The current model of NIDCAP

training is a level of advanced education for in-nursery professionals. Yet for NIDCAP implementation to be smoothly and effectively incorporated, NIDCAP professionals call for NIDCAP to be thoroughly integrated into all professional training programs, in-nursery education and ongoing mentorship support. Increased education is needed for nursery support specialists working in newborn intensive care nurseries for learning the medical model (including terminology), medical conditions, and the culture of the newborn intensive care nursery. Newborn intensive care specialists must have advanced training and supervision in infancy and pediatrics and NIDCAP certification to be more effective. Further, nursery professionals may require support around adopting the roles of supporters and mentors of their nursery colleagues who may be more familiar and comfortable with a “hands on” approach to care.

In addition, there was a consistent call for the development of training programs within college and university settings. Institutions of higher learning that offer professional entry-level through specialized graduate study and fellowship programs with NIDCAP as a foundation for each of the discipline training programs would be invaluable. An in-depth study of the NIDCAP model (regarding topics such as health, medical principles, human development, psychology, family systems, organizational systems, infant mental health, and systems learning, education and cognition) and implementation should be woven into professional curriculums. This would serve to most cohesively allow newborn intensive care to flow “from” the developmental model. Further, education for hospital administrators, particularly those overseeing rehabilitation departments, is needed for the recognition, assignment and integration of only those qualified as infant development specialists to work in the newborn intensive care unit as a constant presence and resource.

Other challenges described include: (1) continuing to feel a responsibility to demonstrate to some of their “academically-driven” peers that NIDCAP is an integral approach used to enhance the infant’s medical and developmental well-being; (2) the field of medicine’s greater valuation of traditional medical outcome research rather than the “whole organism” research that NIDCAP is studied with; and (3) need for creative approaches to address reimbursement for nursery services since much of the specialists’ practice is difficult to document and measure and does not lend itself to 15 minute billing installments.

Next Steps for NIDCAP

In discussing the next steps for NIDCAP, the professionals at the meeting suggested that since learning methods vary among people and professions, other mediums for teaching should be explored, such as audiovisual materials and guided demonstrations. Continued development and refinement of NIDCAP training materials into easily understandable formats and training experiences need to be further developed.

Professionals across disciplines described the desire to be consistently guided and mentored to observe and to provide developmentally supportive care as they strive to integrate their understanding and translate these experiences into practice and mentoring of others. Exploring ways in which NIDCAP education can offer continuing education credits will support caregivers in their integration of NIDCAP.

Endorsement and promotion of NIDCAP principles as standards of practice, regulation and policy by professional organizations (e.g., National Association of Neonatal Nursing, American Physical Therapy Association, American Speech-Language-Hearing Association) were described as critical next steps for integration of NIDCAP within the respective groups. For appreciation of NIDCAP as the best practice in the newborn intensive care nursery, neonatologists recommend that NIDCAP be integrated in all main neonatology topics.

Opportunities for change exist for NIDCAP professionals who are new to working in the nursery setting. These individuals are in a position to establish NIDCAP as the developmentally appropriate foundation for practice. Special educators, and specifically early interventionists, have opportunities within the NIDCAP model to support families after nursery discharge in their communities, by fostering understanding of infants’ self-regulation and mental health. Through research and clinical experience validation, NIDCAP has increasingly become woven into the fabric of nurseries around the world. Although many of the professional groups using NIDCAP were represented in the observations above, other professionals whose perspectives and insights add to the NIDCAP experience include: parent liaisons, social workers, respiratory therapists, child life therapists, reflective process consultants, hospital administrators and nursery support staff. The myriad humanistic perspectives brought to the nurturing of health and well being of individuals and their relationships are integral to NIDCAP professionals’ effectiveness.

Training with and using the NIDCAP approach forever changes professionals in how they view the experience of the nursery for the infant, the family and one another. Professionals describe being sensitized to appreciating the environment and its impact on medical stability, development and social interactions. Because each discipline and each individual brings their own philosophical framework, training and experiences, the NIDCAP perspective and its implementation become integrated in unique and important ways. Valuing and drawing from these different perspectives and contributions will lead to true collaboration. This collaboration supports each individual’s professional contribution to care as well as the nursery’s overall goals in striving to best serve and meet the needs of infants and their families.



Kaye Spence AM, RN, RM, MN, FCN

We welcome Kaye Spence as the new contributing author of this column. She is a Clinical Nurse Consultant in Neonatology at the Children’s Hospital at Westmead, Sydney, Australia. Kaye has been a supporter of NIDCAP since clinicians from her unit started their training in 1999. She is an active clinical researcher with an interest in neonatal surgery, pain and feeding. Kaye holds the honorary position of secretary of the Council of International Neonatal Nurses and was awarded Member of the Order of Australia (AM) for her services to neonatal nursing.



Joy was the Keynote speaker for the Sixth International Neonatal Nursing Conference in Delhi, India 2007. There were 1000 delegates from all over the sub-continent and Joy presented on humane neonatal care.

Joy V. Browne, PhD, RN

I first met Joy in 2000 when she came to Sydney, Australia during the Olympic Games. As a NIDCAP Trainer, Joy took on the task of training some of our staff at the Children’s Hospital at West Mead, in NIDCAP here in Sydney. Somehow she managed to combine NIDCAP training, inspiration, gentleness and insight into the different cultural environment she was entering. She even managed to attend the Olympic Beach Volleyball events, sample the great reds, and sightsee with her daughter, Jamie. She was given the title of “Honorary Aussie.”

I asked Joy some questions to gain an insight into her life, and I have decided to use her own words to reflect Joy’s special spirit and contributions.

Kaye Spence (KS): *How and when did you start your professional career?*

Joy Browne (JB): I can remember wanting to be a cowgirl when I was little. That didn’t happen. When I was growing up the options available to girls were fairly limited. Nursing seemed to be a good one for me. I started in a diploma school (there aren’t many of those any more) and worked on my bachelors as I was completing my diploma. An over-achiever from the beginning! After graduation, I worked in an operating room to get through school. Then, I got a BSN and a Masters in Maternal Child Nursing. After that, I worked briefly in a NICU.

I went to a meeting in Colorado in 1976, and attended a workshop given by a developmental psychologist (also a nurse

originally). She was talking about some of the recent studies on attachment and it came to me, like a bolt of lightening, that I had to become a developmental psychologist!

KS: *When were you first introduced to NIDCAP?*

JB: In 1981 I was seven months pregnant with my second baby, Traci Brynne. I had just been accepted to my PhD program in New Mexico and decided to attend an interesting meeting in Boston---something about infant mental health, as I recall. Dr. Berry Brazelton was involved in putting it on. At the time I was directing a Pediatric Pulmonary Center and was caring for a lot of babies who had developed bronchopulmonary dysplasia. I can remember being in a large conference room and listening to this slight woman with long dark hair who had a thick German accent (Heidelise Als, PhD). Dr. Als and her colleague, Frank Duffy, MD were talking about the Assessment of Preterm Infant Behavior (APIB) and about the promise of intervening with those fragile infants that I worked with back in New Mexico. I immediately had to find out how to do the APIB and learn more.

At the time, Elsa Sell, MD was being trained by Dr. Als in the APIB. In 1983, I and a couple of other brave professionals began our training with Dr. Sell in Albuquerque, and then we were checked off on reliability with Dr. Als and Dr. Sell. Later on, when I moved to Oklahoma City, I was recruited by Martha Holmes, MSW to work at the Oklahoma Infant Transition Program. She was determined to have NIDCAP in the Sooner State. So, I was trained in NIDCAP and became a trainer and the Sooner NIDCAP Training Center was established in 1986. I think it was the first training center to be established outside of the Boston group.

KS: *What are your goals for NIDCAP?*

JB: I’m so invested in the vision of what NIDCAP provides. That is, better outcomes for babies and families, and a different view of how to treat them while hospitalized. I think that if we can clearly articulate what the babies and families are going through, and what a change we can make in their lifelong journey, that it will completely change the way we do things.

KS: *Who do you admire most?*

JB: Jacques Sizun, MD for his adeptness in the politics of getting things done and getting NIDCAP accepted in Europe. Dominique Haumont, MD for her leadership and unquestioned support and dedication to the developmental work, this was in spite

of so many setbacks. And you, Kaye, who exemplifies the richness of neonatal nursing and what nurses bring to the research and clinical care agenda. I'm not sure if people realize the impact you have had on neonatal nursing in Australia!

KS: Thank you. Who is your mentor in relation to NIDCAP?

JB: From the start, I have seen Dr. Als as the “go to” person. I think that she has more of the grander picture than anyone else on the planet. In other respects, the trainees that I have worked with have mentored me, teaching me so much about how they learn, what obstacles they face, and how to solve problems.

KS: What do you see as the most exciting thing about NIDCAP?

JB: What I have learned from the APIB. It has been an enormous help and support in terms of my understanding and communicating with babies. When I have my hands and mind on a baby, and can see him or her begin to relax, trust my intentions, and begin to ask what I'm about----it is an awe inspiring experience.

KS: What do you see as the future for NIDCAP?

JB: Hopefully there will be more research that will make the work unquestioned and put into practice in every NICU as not only appropriate, but also a top priority. Right now, I am dealing with several instances where the administration is facing so many financial problems and the first program to go is the developmental one. Once people realize that the brain work cannot be omitted for any reason, perhaps there will be the kind of support that is needed and it will become a mandate.

KS: What is your most memorable experience in the last 12 months?

JB: Seeing Dr. Als receive a well earned award at the Graven's High Risk Developmental Care Meeting in Florida this year, and hearing her autobiographical presentation when she accepted the award.

KS: If you could change something, anything, what would it be?

JB: Peace.....I'm so glad that we have accomplished some change in the US, which will impact the world.....that of getting a new, intelligent and reasonable person in charge!

KS: Now I want to find out what it is that makes Joy Browne the person she is. Tell me about your family

JB: Jamie, is my first child, and she is finishing her PhD in Townsville, Australia in Tropical Biology. Traci Brynne, my second child, is finishing her PhD in Ethnic Studies at the University of California San Diego. My husband, Wyatt, is finally winding down. He had his last weekend of being “on call” forever! He directs the Research Department at the Medical Center of the Rockies. And finally, Mosa Darling, our patient, protective Great Pyrenees who does an excellent job of holding the carpet down at our home in Loveland.

KS: When you have time, what do you like doing most?

JB: Traveling! I would love to hit every country on the planet. So far, I think I have “bagged” about 30.

KS: That's quite a record --- what do you least like doing?

JB: Cleaning the house. What a waste of time.

KS: Of your favorite books, which book has made the greatest impression on you?

JB: The First Idea* by Greenspan and Shanker, brought together so many of the ideas and information that I had been exposed to. A very interesting integration.

KS: What are your favorite places and why?

JB: If I could live among the following three places I would die happy: Paris, which is such a sensuous place. I love melting into the scenery, trying to not be recognized as an American. Sydney, one has only to breathe in the smells of the water at the Opera House to understand this. I spent the 2000 Olympics there and would move there in a heartbeat. And finally, Taos---my soul gets rested here. There is a sense of ethereal beauty and being held in the arms of mother earth.

KS: How would you like people to remember you?

JB: As the best mother my daughters could have, my husband's partner, and as a trusted friend to so many people around the world.

KS: Thank you Joy for sharing so much of yourself. I hope the readers of this column have discovered something about you and I am sure they will gain some inspiration from your journey.



Joy enjoying what she loves – walks along the beach at Surfer's Paradise on the Gold Coast in Australia.

Reference:

*Greenspan SI & Shanker SG. The First Idea: How Symbols, Language and Intelligence Evolved from our Primate Ancestors to Modern Humans. 2004; Cambridge, Mass.: Da Capo Press.



Melissa Johnson, PhD and Jim Helm, PhD

The Carolina NIDCAP Training Center—Twenty Years and Going Strong



From left to right, Jim Helm, PhD, Melissa Johnson, PhD, Ann Marie Elmore, LPT, MS, Beth Cooper, MEd, Marie Reilly, PT, PhD and Cindy Redd, MEd. Missing from the photograph are: Ross L. Vaughan, MD, Clinical Professor, Pediatrics, University of North Carolina (UNC) School of Medicine at UNC-Chapel Hill, Medical Director of Carolina NIDCAP Training Center, and Medical Director of Neonatology, WakeMed Faculty Physicians, WakeMed, Raleigh, North Carolina; and Lynn Policastro, BS. Photo by Brenda Nabors.

Located at the WakeMed Health and Hospitals in Raleigh, North Carolina, the Carolina NIDCAP Training Center has provided NIDCAP training to nurseries in the Southeast and beyond since 1989 – it’s been 20 years! It hosted its third NIDCAP trainers meeting in October of 2008, offering a timely opportunity to reflect on its development over the years, its current status as one of the longest established training centers (second longest in continuous operation), and one of the few based in a community hospital.

WakeMed Health and Hospitals was founded as a county hospital but has since functioned as a private not-for-profit general hospital with a training affiliation with the School of Medicine at the University of North Carolina (UNC) at Chapel Hill. In the early 1980’s, a forward-thinking neonatologist, Dr. James Thullen (now retired), and his colleague, Dr. Ross Vaughan (now Medical Director of the center), recognized the importance of input from developmental professionals in their care of premature infants. They started one of the first hospital-based neonatal follow-up clinics in the state and hired a psychologist and physical therapist. Quickly the team evolved to include early childhood educator Jim Helm, PhD, as well as physical therapist Ann Marie Elmore, LPT, MS, and pediatric psychologist Melissa Johnson, PhD.

In our efforts to find proven strategies to improve developmental outcomes for the infants in the rapidly expanding

intensive care nursery, our team discovered the work of Heidelise Als, PhD and her colleagues in Boston, and from 1986 through 1990, we obtained training and certification as NIDCAP practitioners. Jim Helm and Melissa Johnson became NIDCAP trainers in 1989 and 1990, respectively. Over the years, we have continued the work of the center as well as providing developmental services in the Intensive Care Nursery (ICN), follow-up clinic and pediatric service. Jim Helm, the center director, and Melissa Johnson, NIDCAP trainer have attended every NIDCAP Trainers Meeting since the first meeting was held outside of Washington, DC in 1990. The Carolina NIDCAP Training Center is unique in its position in a community hospital with an academic affiliation but with a strong identity and mission in patient care. The unflagging support of the medical and nursing leadership of the hospital has allowed the developmental team to maintain an integrated role in the daily life of the unit.

With this support, the group of developmental specialists has expanded over the years, along with the help of innovations, grant-writing, and broad institutional support. Marie Reilly, PT, PhD, joined the team in 1991 and divides her time between WakeMed and her faculty position in the physical therapy program at UNC-Chapel Hill. In 2002, a successful grant authored by Jim Helm and Ann Marie Elmore, with support from the rest of the team, brought resources from the North Carolina Smart-Start program to WakeMed to begin a program called Hospital-to-Home Intervention Program, or HHIP. This innovative model drew inspiration from the NIDCAP program, and also from the Infant Behavioral Assessment¹ (IBA[®]) and the Family Infant Relationship Support Training² (FIRST[®]) program. HHIP provides relationship-based support to families of preterm infants at the bedside during their ICN stay and as they are transitioned home and connected with community service providers. Currently HHIP has a diverse staff of five who each bring unique professional skills including the parental perspective.

Another key function of the team is providing ongoing follow-up to ICN graduates through age three in the Special Infant Care Clinic. This clinic has grown to three mornings a week, with three neonatologists and five developmental specialists. All nine of WakeMed’s neonatologists rotate to cover the clinic, thus facilitating a degree of continuity of care and solidifying an appreciation of the importance of ICN-based developmental care, not always available when non-ICN physicians provide coverage to a follow-up clinic. To further improve continuity for families, the clinic staff has recently collaborated with ICN management to develop a program for nurses who are given educational credit for observing visits in the follow-up clinic. It has turned out to

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Parental Satisfaction: The NIDCAP Approach to Developmental Care

Joke M. Wielenga, RN, PhD

Joke Wielenga is presently working as a nurse researcher at the Emma Children's Hospital/Academic Medical Center in Amsterdam, the Netherlands. Joke is conducting research on developmental care including NIDCAP (i.e., pain, breastfeeding). In 2008 she received her PhD after writing her dissertation on stress and discomfort in the care of preterm infants, a study of the Comfort Scale, and NIDCAP in a Dutch Level III NICU.

In child health care it is known that parental satisfaction is highly dependent on the amount and quality of communication between care providers and parents.¹ Parents convey a strong message to care providers about the importance of being kept informed about the care that their infant is receiving and the infant's progress. Parental satisfaction identifies the match between the unit culture and the parents' expectations.²

Previous research has indicated that parents of infants who are hospitalized in a newborn intensive care unit (NICU) are particularly stressed by the appearance and behavior of their sick infant, and by the alterations in their parental role.³⁻⁵ Knowing this, we hypothesized that implementing the Newborn Individualized Developmental Care and Assessment Program (NIDCAP) would make a difference in the lives of these parents and their infants.

Methods

A prospective, phase-lag cohort study was performed. In the first phase, a cohort of infants receiving conventional care was enrolled, and assigned as the control group (CG). Subsequently followed by a NIDCAP introduction phase during which five nurses were NIDCAP trained and certified as NIDCAP observers.^{6,7} All other NICU nursing and medical staff were also introduced to the NIDCAP approach to care. Then a second cohort of infants, the intervention group (IG), were enrolled. These infants received care guided by the NIDCAP approach. Infants born 30 weeks of gestational age and admitted to the Level III NICU at the Emma Children's Hospital, Academic Medical Center, Amsterdam, the Netherlands,

were consecutively included within three days after birth. The CG was enrolled between August 2001 and January 2002 and the IG was enrolled between October 2002 and April 2003. Parental consent was obtained for both groups of infants. Infants with congenital abnormalities, congenital infections, and parents who were not able to communicate in Dutch or English were excluded.

The CG received the standard care practiced at that time. This included: primary care nursing; skin-to-skin holding; supported breastfeeding; early use of clothing; use of sheepskins and/or hammocks; and provision of pacifiers, stuffed animals, and toys. Parents were supported to take part in the daily care of their infant. The IG received individualized care based upon the naturalistic observation of the infant before, during and after caregiving. A written report and recommendations were developed from the NIDCAP behavioral observations. Parents, nurses and doctors were supported by the NIDCAP trained nurses to use these individualized recommendations while caring for the infant. The NIDCAP behavioral observations were implemented within three days after birth and were repeated every seven to ten days, or when major changes in condition and hence treatment occurred. NIDCAP care ended with the discharge of the infant from the NICU to home or to another hospital.

Assessment Tools

The NICU-Parent Satisfaction Form (NICU-PSF)⁸ is a self-reporting questionnaire developed to measure parents' perceptions of care. It targets areas for improvement and evaluates the quality of

care delivered (i.e., that meets or exceeds the needs and expectations of parents and their families). The concepts measured include: general satisfaction; continuity of care; communication and information; preparedness; involvement in care; being a parent; being near the baby; support; and follow up.⁸ The possible scoring range is between 50 to 243 points, higher scores reflect greater satisfaction.

The Nurse Parent Support Tool (NPST)⁹ is also a self-reporting instrument. Parents rate the amount of nursing support received from the nursing staff. The scoring range is between one to five points, with higher scores reflecting greater amounts of perceived support. The scale uses four dimensions (i.e., information, appraisal, emotional support, and nursing care) to measure the amount of support.⁹

Both of these aforementioned instruments were tested for their validity and reliability.^{8,9} Questionnaires were given to parents on the day their infant was transferred to another hospital or was discharged home.

Results

In the CG, two infants died and their parents were not given the questionnaires. Background characteristics of the two groups of parents and infants studied were not statistically significant, except for two infant descriptors: birthweight ($p = 0.03$) and multiple births ($p = 0.15$). Response rates for both questionnaires were high (CG: 96% and IG: 92%).

The mean score for the CG on the NICU-PSF was 174.04 (SD = 20.98); for the IG the mean score was 185.67 (SD = 17.74). This is a statistically significant difference ($p = 0.041$) indicating that IG (NIDCAP) resulted in a higher level of satisfaction. Almost all separate concepts showed an increase in mean scores in favor of the IG. Only the concept of preparedness showed statistically significant difference, with a mean CG versus IG of 13.83 versus 16.38 ($p = 0.038$). The

concept of being a parent had a slightly lower mean score (9.39, SD = 1.73) in the IG compared to CG (9.78, SD = 2.09), though this was not statistically significant.

On the NPST, the CG had a mean total score of 4.10 (SD = 0.59); the IG had a slightly although not statistically significant higher mean value of 4.26 (SD = 0.37). The correlation between support (NPST) and satisfaction (NICU-PSF) scores was outstanding ($r = 0.893$). In addition further analysis was conducted utilizing the NICU-PSF, NPST, and the Neonatal Therapeutic Intervention Scoring System (NTISS)¹⁰ which measures the length of stay and socioeconomic status. Significant correlations among the scores of these three instruments were not found. There was no correlation between the number of NIDCAP behavioral observations (median: 4; range: 2-9) conducted and the scores on the NICU-PSF or NPST in the intervention group. There were no differences between the scores of the fathers and mothers.

The open-ended questions of the NICU-PSF on positive experiences were categorized. Parents of the CG most frequently mentioned: the (unexpected) progress of their infant; the gifts they received because of national holidays; the pictures made by the nurses; and the stories nurses wrote in the infants' diaries. Parents remarked on the kindness of the nurses and their way of communicating. The parents of the IG (NIDCAP) reported on the support, involvement, interest, and honesty of the nurses and the explanation of the behavioral observations. Some of these parents also acknowledged the national holiday gifts and the progress that their infant was making. Both groups of infants experienced set backs and medical complications and the parents reported these as major negative experiences. CG parents also mentioned negative experiences concerning the transfer and the communication around transferring their infant to another hospital, resulting in feelings of powerlessness. The IG parents mentioned the discrepancy between nurses in the way the recommendations from the NIDCAP behavioral observations were implemented.

Discussion

With traditional care (CG) scoring as high as it did, it seemed almost impossible to expect a significant increase after implementing NIDCAP (IG). This is complicated by the fact that satisfaction is measured among parents of infants receiving traditional care; they did not know about other care possibilities. Considering that we have only just started with NIDCAP, we are content with the extent of improvement thus far.

Evaluating the separate concepts of the NICU-PSF, we expected changes in concepts like involvement in care and being a parent. These concepts can be seen as the measurement of the core concepts of NIDCAP. Only small changes in these concepts were seen, probably because parents adapted NIDCAP much faster than the professional caregivers. Professionals had to go through the process of changing their attitudes. Nurses, in particular, needed some time to change, feel comfortable and become satisfied with the NIDCAP¹¹ approach. Nurses reported feelings of intimidation and loss of control as a result of perceiving parents as telling them what to do or trying to take over. This has been reported by others as well.¹² The perceived support (NPST scores) suggests that parents are highly satisfied about encounters with the nurses. It also indicates that the nurses are perceived as providing emotional, informational, and esteem support, as well as giving a high level of care to their sick infant.

As a result of this study we became aware of nursing care improvement areas. In weekly reflection sessions, the way nurses handled and made choices in care were discussed to decrease the discrepancy between nursing care practices, as well as to support the nursing staff to see the infant as part of a family. The transition to developmental care involved: acknowledging the central role of the parent in the care of the infant; fostering the parent as a competent caregiver; and integrating the roles of coach, teacher and facilitator into the existing technically expert nurse role.¹³

Changing the NICU culture to a more individualized family-centered

approach to care is a slow process; it is more of a journey than a destination. The results of our study, shortly after the introduction of NIDCAP, were positive and encouraged us to continue with the implementation of NIDCAP in caring for infants and their families.

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The Special Needs of Adolescent Parents

Individualizing the developmental care of each infant, is the goal for tailoring our support for families. The demographic characteristics by which we describe family members, such as gender, race, religion and country of origin, provide information that can be helpful in some cases and misleading, or even destructively stereotyping in other cases. This applies to another variable that has received surprisingly little attention given its potential importance. The age of the mother and father, especially when either is a young teen, brings up important questions about the possible needs and challenges that these young parents may face. The key for developmental caregivers is to think of the designation of “adolescent parent” as an indicator of the questions that need to be asked or issues considered in planning the support of the parent, rather than as an indicator of conclusions already drawn.

The literature suggests that some characteristics found more often in young parents can be especially relevant to those parents' capacity to cope with the challenges of preterm parenting. Adolescent parents may be developmentally inclined to focus on their own needs rather than those of another. While teens can be wonderfully idealistic and giving, most of their parents report that even the most responsible teens are dealing with so many of their own growth issues, that they can appear remarkably self-centered at times. They typically enter parenting with more limited economic and educational opportunities. The young mother is also less likely to be in a stable, long-term relationship with the father of the baby; and may have increased obstetric risks, which may or may not have contributed to the early delivery of the baby.^{1,2} There is evidence that many of the maternal behaviors thought to facilitate infant developmental progress, such as talking, touching and smiling at the baby, as well as realistic developmental expectations and supportive parenting practices, are less likely to be present in very young parents. However, it is also evident that social support and better psychosocial function in the parent moderate these risks.³ Yet, every professional who works with preterm infants and their families can think of counter examples to each of these assertions, recalling adolescent parents who respond successfully to the challenge of meeting their infant's needs. It may be most useful to think of the parent's age as a marker of risk and a trigger for a thoughtful assessment of certain possible issues, which can then be addressed on an individual basis.

The following issues may be useful to reflect upon:

First, it is important to recognize that maturity is a moving target for teens. For adolescent mothers, this is a time of tremendous

change for young women from early adolescence (ages 12-14) through late adolescence (ages 17-18). The youngest teens tend to be facing complex issues of cognitive development, adjusting to puberty, defining their self-concepts, navigating transitions in their relationships with their own parents, and figuring out how to negotiate peer relationships. For these young women, parenting any baby, especially one with health concerns, is likely to be an overwhelming task for which she will need much support from her own family and community as well as the NICU staff. Mid-adolescents have typically made progress along these dimensions, though still have many uncompleted tasks. They may be more likely to make use of support programs and to set goals for themselves as parents and as individuals. Later in adolescence, young women tend to have more personal and educational resources and to have more realistic appraisals of the challenges they face, though they still need a great deal of support to reach their educational potential and to negotiate the accelerated transition to adulthood, emotionally and practically.

Second, the adolescent's cognitive and educational foundation is important to consider, since early pregnancy is correlated with difficulties in these areas. Helping parents problem-solve the need for child care to allow the young mother to continue her education while meeting the infant's health and development needs may be critical. Continuing education is one of the most important predictors of future economic stability and delayed further pregnancies for young mothers. Though many preterm infants are not good candidates for regular group day care programs, due to health issues, other arrangements might be considered to reduce health risk concerns (e.g., immediate or extended family members, and/or friends may offer to share caregiving responsibilities during the day within the parent's home).

And finally, health and mental health challenges including substance abuse and depression should be assessed and addressed through direct support and appropriate referrals, in collaboration with the mother's health care providers, community support and child protection resources. One of the most important issues to assess is the mother's relationship with her family, especially her own mother and mother figures, as well as her relationship with the father of the baby, and the degree to which he is accepted by the maternal family. The amount of support the mother receives from these individuals may be one of the most important factors affecting her ability to successfully parent her infant.

The task facing many NICU caregivers today is in supporting these developing relationships; welcoming and supporting the involvement of the people that nurture both parents; and supporting the mother's, and if appropriate, the father's central roles as parents of the infant. Several strategies may be useful and especially powerful in this complex task, such as:

1) supporting the mother to breastfeed; 2) supporting both parents to participate in kangaroo care as much as possible,

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Staff Satisfaction with NIDCAP

Psychological theories about why people do or do not implement evidence based practice identify a range of influential domains such as: knowledge, skills, roles, self-efficacy, beliefs, motivation, cognitive processes, environmental and social influences that can be investigated.¹ How do these apply to the implementation of NIDCAP?

Westrup, Wallin, Wikibald, Stjernqvist, and Lagercrantz,² developed a questionnaire for surveying staff opinions on the benefits of NIDCAP compared to conventional care. The same method was used by van der Pal, Maguire, Cessie, Veen, Wit, Walther, and Bruil³ in the Netherlands, and Mambrini, Dobrinski, Ratynski, Sizun, and de Parscau⁴, in France. This questionnaire addresses staff beliefs about outcomes (e.g., the well-being of the infants, parental participation and attachment); their views about their own skills and effectiveness; the influences of the environment; and their motivational factors (e.g., working conditions). In these studies, staff reported a positive view on: the impact on the infants' well-being; their own ability to assess the infant; the participation of parents; and the parent's attachment to their infant. The impact recorded on staff well-being and job satisfaction was more variable; lighting appeared to be a particular problem. Van der Pal et al³ also inquired about staff attitudes to NIDCAP with a questionnaire based on the Theory of Planned Behavior (TOPB), and found that on average, it was perceived as enjoyable and fulfilling, as well as beneficial to the baby, but was also perceived as somewhat time consuming. This study also found a high level of intention to use NIDCAP, although staff did not always feel that this was by choice (i.e., administrative decision). Medical staff generally expressed less positive views than nurses. When asked about knowledge of this developmental approach to care, 63% of staff said they were familiar with NIDCAP, but 50% said they would have liked more information. Both tools would appear to be useful in evaluating the impact of NIDCAP on staff and for pointing the way for improvement (e.g., through ongoing education, and attention to the way the environment and social influences impact job satisfaction).

Wielenga, Smit, and Unk⁵ compared job satisfaction among nurses before and after introduction of NIDCAP using the Index of Work Satisfaction (IWS).⁶ Items on the IWS include pay, autonomy, task requirements, organizational policies, social and professional interaction at work, and professional status. They found that nurses expressed the same overall level of job satisfaction before and after the introduction of NIDCAP with increased satisfaction in some aspects after the introduction. However, there was no way of knowing if the staff who completed the survey were comparable in characteristics, such as

experience, at these two points or if there had been other changes in the service (care implementation) that could have affected the results, a common pitfall in pre- and post-test surveys.

Several qualitative studies involving small groups of nurses have used interviews to tease out views that have not been raised in questionnaire-based studies.^{7,8} In this way, Premji and Chapman⁸ highlighted some of the tensions that can arise between staff who are developmental care trained and those that are not. Hendricks and Munoz,⁹ by contrast, gave out a questionnaire at a regional neonatal nursing conference and received 146 responses from the 170 nurses who attended this conference. While 93% of the respondents thought that developmental care was essential, 86% did not believe their unit was doing it well. Satisfaction with developmental care was greatest in those units that had multidisciplinary teams.

Finding ways to measure staff satisfaction with NIDCAP could help us to understand more about the barriers to implementation. From the data available, it appears that concerns about safety and working conditions are most likely to trouble staff while, at the same time, most of the staff see benefits for the well-being of the infant and the engagement of parents. The support of developmental care teams and leaders is perceived to be a positive way to overcome barriers to developmental care implementation. The units that have attempted to measure staff satisfaction with the NIDCAP approach to care have been early adopters of NIDCAP in Europe. These units may be forward looking units where one would expect to find high levels of satisfaction. As hospitals struggle to find staff to care for a growing population of preterm infants, positive staff feedback may help to sway management to implement NIDCAP; not only because it is perceived as a better way to care for babies and their families, but also because it could be an attractive recruitment incentive.

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Introductory Developmental Care Education Program

“NDC: Neonatal Developmental Care” is a self-paced computer CD program designed to promote introductory understanding of developmental care and application to NICU practice. The program was developed by an interdisciplinary team led by Terri Daniels, M.Ed. and affiliated with Southern Mississippi, Forrest General Hospital, and Southern Mississippi Neonatology.

Overall Program Strengths and Opportunities

The program has numerous strengths. Each volume begins with a developmental care philosophy statement promoting a holistic perspective and emphasizing the need to “modify care, interactions, and the environment based on individual needs.” A preface follows, acknowledging variation of practice across facilities and the inevitable changes in practice which will occur with evolving research.

Each volume is well organized. Audio and text present a key concept followed by the related implications for care before moving to a new concept. Many photographs and narrated video clips illustrate the concepts and implications. Videos of infant handling typically show the caregiver providing smooth, gradual support for transitioning and responding to touch and movement. The parent is shown as the primary regulator for their infant in multiple videos.

Terri Daniels shares that: “The hardest aspect to capture on video is relationship-based care. It is hard to video emotion and thoughts that lead individuals to do one thing versus another during care,” (personal communication, August 31, 2008). Addressing this challenge, video narration often follows the pattern of describing first what the caregiver is observing, secondly the caregiver’s interpretation, and lastly their subsequent action. This pattern nicely links observation with processing

and response. Topical references are listed on most slides and a reference list is provided at the end of each volume.

Some content areas provide opportunities for further discussion and critical review with a NIDCAP professional or trainer. The Synactive Theory is not addressed. Subsystem information is mostly categorized by physiologic and body part response (e.g., facial, extremity) with some merging of the autonomic and motor systems. At times infants identified as being stress-free actually demonstrate disorganization such as decreasing facial tone. Motor support intermittently transitions to immobilization and restraining. Occasional product endorsement is present with the use of bathing and positioning items, sometimes with the manufacturer’s information visible. The content does not address consideration of timing of care within the context of the infant’s 24 hour, every day, experience.

Individual Volumes

The individual volumes also present strengths and opportunities:

Volume 1: Observing, Interpreting, and Responding to Preterm Infant Cues

(30 minutes) emphasizes that infant behavior guides caregiving decisions and interactions. Excellent photos and videos illustrate behaviors. Some include images of corresponding cardio-respiratory monitor displays inset in the corner of the video to show heart rate, respiratory rate, and oxygen saturation information simultaneously with the behavior. Some typographical errors exist in the reference list at the end of the volume.

Volume 2: Positioning Preterm Infants

(90 minutes) contains numerous photo and video examples of optimal handling and positioning support. Occasionally turning is unsupported, especially when

positioning the infant with a chest or abdominal roll. Some positioning sequences are lengthy and would benefit from discussion as to why the actions presented were selected.

Volume 3: Feeding Preterm Infants

(45 minutes) emphasizes appropriate information including individual maturation, the need for infant stability with caregiving prior to initiating oral feeding, and the importance of the infant engagement during feeding. The content, however, contains some seemingly contradictory information. For example, one slide states the environment should not be distracting, yet conversation and a radio are audible in a video clip. Other slides emphasize maturation, yet a later slide stresses the need for infants to learn to feed. The content highlights the benefits of timing feedings based on behavior rather than a schedule, then later suggests offering a pacifier every three hours to see if the infant will move to alertness for feeding. A couple of videos show an infant being well supported held in the caregiver’s arms for feeding. Most, however, show infants being fed seated on the caregiver’s lap and appearing to be supported at the neck. Recommendations for burping include rubbing the infant’s back or sitting the infant upright on the caregiver’s lap rather than by being placed upright on the caregiver’s shoulder or chest. There is little discussion of specific application to breastfeeding.

Volume 4: Diapering Preterm Infants

(30 minutes) is the strongest volume. The content thoughtfully and thoroughly emphasizes the importance of developmental support surrounding a common caregiving intervention. One of the many video clips shows handling that is less supportive, however, the rest of the content, which is well done, overshadows this.

Volume 5: Bathing Preterm Infants

(45 minutes) discusses and demonstrates spot and immersion bathing. The immersion bathing video of presumably



a mother bathing her infant with the assistance of the infant's older sister is instructional. The infant being bathed in the spot bathing video could have benefited from greater motor support and rest breaks. Some of the videos have lengthy segments without narration and would profit from discussion of the actions chosen by the caregivers.

Volume 6: Using Developmentally Supportive Practices During Routine and Emergency Care for Preterm Infants (45 minutes) discusses pain assessment and non-pharmacologic support, procedure support provided by parents, and skin-to-skin holding. Procedures such as heelstick, x-ray, suctioning, umbilical catheter placement, and resuscitation are shown. One of the program's gems is a video of a neonatologist performing an exam showing a gradual approach with containment, provision of rest breaks with support, and infant repositioning following the exam. The physician explains how the infant's behavior guides his actions. Opportunities for further discussion include practices which vary from the learner's facility such as a feeding tube taping method, specific use of oral sucrose, and use of specific equipment. Loud environments are audible in some of the videos.

Technical information

The CD series is compatible with Win-

dows 98, NT, ME, 2000, or XP computer systems with PowerPoint or PowerPoint Viewer and an audio card and mouse. The format works well for persons of all computer skill levels. Sound level varies but can be easily adjusted. Background sounds are seemingly unintentionally audible for a few video clips and can make the narration difficult to hear. Some photos and videos are dark and more difficult to see. Narration on one slide in the series reviewed stuttered and partially repeated the narration. These minor technical issues are overshadowed by the strengths of the program. Anyone who has tried to create computer video education knows how challenging it is to accomplish.

Summary

The program can serve as an introduction to developmental care for new and existing staff establishing a foundation for later NIDCAP training. In general, beginning application of NIDCAP work is evident in the content. Exemplary caregiving is illustrated along with videos and information that would benefit from discussion and guided practice with a NIDCAP professional or trainer. Variations in practice between the learner's facility and the program, such as considering oral sucrose a pharmacologic agent rather than a non-pharmacologic pain management strategy, can be addressed at the individual facility.

The lack of an evaluation component can be overcome by individual discussion and guided practice. Some content, such as Volume 4, may be appropriate for parent education.

Purchasing Information

The complete series costs \$950 USD, is competitively priced for a computer-based education program. Individual volumes can be purchased for \$275 USD. Lost or damaged CDs are replaced at no cost. Volume 2 of the set reviewed kept freezing on various slides and was quickly replaced with a functional CD. Licensing allows the purchasing facility permission for unlimited use by employees of that facility. For more information, visit: www.neonataldevelopmentalcare.com. Periodic updates are planned and will be sent as revised CDs, free of charge.

Many thanks to Terri Daniels and the "NDC: Neonatal Developmental Care" team for sharing their unit environment and caregiving for all to see and for allowing the Developmental Observer to review the education program.

We invite you to send in information that you may encounter, such as upcoming conferences, websites, books, journals, articles, videos, etc., that may be shared with our readers. Please send items for inclusion in the *Developmental Observer* to: developmentalobserver@nidcap.org.

The Newborn Individualized Developmental Care and Assessment Program (NIDCAP)

The Newborn Individualized Developmental Care and Assessment Program (NIDCAP), originated in 1984 by Heidelise Als, PhD, is a developmental, family centered, and evidence-based care approach. NIDCAP focuses on adapting the newborn intensive care nursery, including all care and treatment and the physical environment, to the unique neurodevelopmental strengths and goals of each high risk newborn and his or her family, the infant's most important nurturers and supporters. For a complete description of training centers and the training process please visit our website: www.nidcap.com.

The Assessment of Preterm Infants' Behavior (APIB)

The Assessment of Preterm Infants' Behavior (APIB) is a comprehensive and systematic neurobehavioral assessment of preterm and fullterm newborns developed by Heidelise Als, PhD and her colleagues (published in 1982, see www.nidcap.com for details). The APIB requires in-depth training and provides a highly valuable resource in support of developmental care provision by professionals and families.

Developmental Care in the Moment



Contented



Radiant

LETTERS TO THE EDITOR

December 10, 2008

Dear NFI,

Camphill Village Copake, USA is a community of people, some with special needs, and some house parents, who care for and love one another with all their hearts and souls, and who care for the earth.

This way of life is good for all people, and also for the babies and mothers that you care for.

Your friend,

Christopher Duffy

Columbine House
23 Hall Pond Lane
Camphill Village Copake, NY

From the Editors

We invite you to write us with your comments regarding the content of any of the columns presented in this newsletter. We are also interested in any suggestions that you have with regard to future topics that you would like to see addressed in the *Developmental Observer*. Please contact us at: developmentalobserver@nidcap.org.

Developmentally yours,

Rodd Hedlund, MEd
SENIOR EDITOR

Deborah Buehler, PhD
ASSOCIATE EDITOR

gretchen Lawhon, RN, PhD
ASSOCIATE EDITOR

Sandra Kosta, BA
TEXT EDITOR

be a delight for both the nurses and the families coming to clinic with their growing children.

In addition, training activities go beyond formal NIDCAP training. Monthly talks to pediatric residents rotating through the ICN deepen the appreciation of physicians-in-training for the importance of the developmental care they see being practiced by the permanent staff members and highlight their important role in supporting these efforts. Frequent participation by clinical and school psychology, physical therapy, and special education graduate students expands the learning opportunities regarding ICN developmental care for young professionals. Most exciting is a current effort spearheaded by Ann Marie Elmore called the “Developmental Caregiver” model. This model provides one-to-one video-assisted bedside training in NIDCAP based care for nurses who want to work on maximizing their own skills in developmental care and increase their ability to serve as a resource and support for their colleagues in their work with infants and families. Community-wide training offered to early intervention professionals and early intervention care coordinators has also brought NIDCAP principles to those who follow our families into the early childhood years. Other community activities include active participation in the Local Interagency Coordinating Council, a county-wide Young Child Mental Health Collaborative, and the county-wide Smart Start Program Planning Committee, which supports the team to share ideas about individualized, relationship-based infant and family care with a wider group of professionals.

With such a longstanding commitment to the NIDCAP approach to care, the unit at times has had the opportunity to try multiple strategies to achieve ongoing important goals. For example, over the years, there have been several attempts to develop a parent support group. Each time, efforts tended to be intermittently successful and then put on hold. However, with the energy and creativity provided by the HHIP staff, a new model began in 2003 that has continued with success ever since.

SUPPORTING FAMILIES Continued from page 13

while helping relatives understand the value of these activities; 3) sharing observations of the infant’s behavioral signals and apparent needs with the parents, and helping them share this information with their families, can keep the focus on the baby and the parent-infant relationship while helping supportive kin find a role; and 4) linking the parents with community supports, early intervention resources and with other NICU families.

The good news is that many young parents are motivated to succeed with their infants, and respond warmly to adults who reach out to them persistently and respectfully. The time that

Called “Parents Together Time,” it integrates short informative talks by various staff members or media presentations such as “No Matter How Small” (VIDA Health Communications, Inc.) with time for discussion and mutual support among families and the sharing of a meal. Facilitated by HHIP members, especially a graduate mother with training and experience in child development and child care, this model has proven to be sustainable and vigorous over the last five years. It further benefits the unit through easy and accessible family input and feedback and has led to increased family participation in advisory boards and committees as well.

Several lessons can be drawn from the work of this stable and productive center based in a community hospital in a medium-sized town. First, it is possible and extremely rewarding to undertake NIDCAP training and ongoing training activities in units that are not necessarily large or primarily academic centers. Second, each team member brings something special and unique to the work of supporting infants and families, including (but not limited to): bedside observations; hands-on evaluation of infants; bedside parent support; bedside staff support; ongoing education for nursing, medical and community professionals; group parent support; reflective process consultation; support in the transition to home; evaluation and intervention in follow-up; community advocacy; and formal NIDCAP training activities. And finally, close involvement and support with medical and nursing leadership provides the bedrock of stability that allows the developmental team to both continue ongoing, valued work and to challenge itself to innovate and reflect on ways to improve the quality of their work.

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2. Browne JV & MacLeod AM. Manual for Family Infant Relationship Support Training (FIRST[®]) program. Center for Family and Infant Transition, Denver Children’s Hospital, Denver, Colorado. 1997. Please see: Center for Family and Infant Transition: Amanda.millar@uchsc.edu

preterm infants spend in the NICU can be a time to develop a relationship with the adolescent parent and extended family that may be critical in supporting successful parenting.

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NIDCAP Senior Master Trainer
APIB Master Trainer
Director, National NIDCAP
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email: heidelise.als@childrens.harvard.edu

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Director, Mid-Atlantic NIDCAP
Center
email: Lawhon-gretchen@cooperhealth.edu

SECRETARY

Deborah Buehler, PhD

NIDCAP Master Trainer
APIB Trainer
West Coast NIDCAP and APIB
Training Center
email: deborahbuehler@comcast.net

TREASURER

Gloria McAnulty, PhD

National NIDCAP Training Center
email: gloria.mcanulty@childrens.harvard.edu

ASSISTANT SECRETARY

Sandra Kosta, BA

National NIDCAP Training Center
email: sandra.kosta@childrens.harvard.edu

James M. Helm, PhD

NIDCAP Senior Trainer
Director, Carolina NIDCAP
Training Center
email: jimhelm@med.unc.edu

Tracy Price-Johnson, MA

Faculty at UCDHSC and
The Family Centered Care
Consultant at The Children's
Hospital in Colorado
email: Price-Johnson.Tracy@tchden.org

Roger Sheldon, MD

Co-Director, Sooner NIDCAP
Training Center
email: roger-sheldon@ouhsc.edu

Jacques Sizun, MD

Director, French NIDCAP Center
email: Jacques.sizun@chu-brest.fr

Karen Smith, RNC, MEd

NIDCAP Senior Trainer
St. Luke's Regional Medical Center
email: smithka@slrmc.org

Kathleen VandenBerg, PhD

NIDCAP Master Trainer
Director, West Coast NIDCAP and
APIB Training Center
email: vandenbergek@peds.ucsf.edu

Victoria Youcha, EdD

Child Development Specialist
Children's Medical Associates
Alexandria, VA
email: vyoucha@gmail.com

David Wahl

Executive Director
email: nfidirector@nidcap.org



NIDCAP TRAINING CENTERS

by order of establishment

National NIDCAP Training Center

Brigham and Women's Hospital and Children's Hospital Boston
Boston, Massachusetts USA
Contact: Sandra M. Kosta, BA
email: sandra.kosta@childrens.harvard.edu

Sooner NIDCAP Training Center

University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma USA
Co-Director and Contact:
Laurie Mouradian, ScD, OTR/L
email: laurie-mouradian@ouhsc.edu

Carolina NIDCAP Training Center

WakeMed
Raleigh, North Carolina USA
Director and Contact:
James M. Helm, PhD
email: jimhelm@med.unc.edu or jhelm@wakemed.org

Colorado NIDCAP Center

University of Colorado, Department of Pediatrics at The Children's Hospital Denver, Colorado USA
Director and Contact:
Joy V. Browne, PhD, CNS
email: browne.joy@tchden.org

West Coast NIDCAP and APiB Training Center

San Francisco, California USA
Director and Contact:
Kathleen VandenBerg, PhD
email: vandenbergek@peds.ucsf.edu

St. Luke's NIDCAP Center

St. Luke's Regional Medical Center Boise, Idaho USA
Contact: Karen M. Smith, RNC, BSN, MEd
email: smithka@slrnc.org

Mid-Atlantic NIDCAP Center

The Children's Regional Hospital at Cooper University Hospital Camden, New Jersey USA
Director and Contact:
gretchen Lawhon, RN, PhD
email: lawhon-gretchen@cooperhealth.edu

Scandinavian NIDCAP Center, Lund and Stockholm, Sweden

Astrid Lindgren Children's Hospital, Stockholm; Children's Hospital, Lund University Hospital, Lund and Department of Pediatrics, Borås Hospital
Contact: Ann-Sofie Gustafsson, RN, BSN
email: nidcap@karolinska.se

French NIDCAP Center, Brest, France

Medical School, Université de Bretagne Occidentale and University Hospital Brest, France
Co-Director and Contact:
Nathalie Ratynski, MD
email: nathalie.ratynski@chu-brest.fr

Sophia NIDCAP Training Center,

Rotterdam, The Netherlands
Erasmus MC-Sophia, Children's Hospital Rotterdam, The Netherlands
Co-Director and Contact:
Monique Oude Reimer, RN
email: nidcap@eramusmc.nl

Centro Latinoamericano NIDCAP

Fundación Dr. Miguel Margulies Buenos Aires, Argentina
Director and Contact:
Graciela Basso, MD, PhD
email: basso.grace@gmail.com

UK NIDCAP Training Centre at St. Mary's

St. Mary's NHS Trust
London, England
Director and Contact:
Inga Warren, Dip, COT, MSc
email: inga.warren@imperial.nhs.uk

University of Illinois Medical Center at Chicago (UIMCC) NIDCAP Training Center

Women's and Children's Nursing Services
University of Illinois Medical Center at Chicago
Chicago, Illinois USA
Contact: Jean Powlesland, RN, MS
email: jpowlesl@uic.edu

The NIDCAP Training Center at Connecticut Children's Medical Center

Connecticut Children's Medical Center Hartford, Connecticut USA
Co-Director and Contact:
Dorothy Vittner, RN, MSN
email: dvittner@ccmckids.org

NIDCAP Training and Research Center at Cincinnati Children's

Cincinnati Children's Hospital Medical Center
Cincinnati, Ohio USA
Contact: Tammy Casper, MSN, RN
email: tammy.casper@cchmc.org

The Brussels NIDCAP Training Center, Belgium

Department of Neonatology
Saint-Pierre University Hospital
Free University of Brussels
Brussels, Belgium
Contact: Delphine Druart, RN
email: ddruart@hotmail.com

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