



NIDCAP Federation International
nidcap *changing the future for infants in intensive care*

Program Guide

Newborn Individualized Developmental Care and Assessment Program (NIDCAP)

An Education and Training Program for Health Care Professionals

- **NIDCAP Education and Training for Professionals**
- **Consultation and Guidance in NIDCAP Care Implementation and Integration into the Nursery**
- **NIDCAP Nursery Certification**
- **Establishing a NIDCAP Training Center and Becoming a NIDCAP Trainer**
- **APIB Behavioral Assessment Training**
- **Becoming an APIB Trainer**
- **Becoming a NIDCAP Master Trainer**

Heidelise Als, PhD, 1986, 2000
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Introduction

Advances in perinatal and newborn intensive care have greatly decreased the mortality rates for preterm newborns and newborns otherwise at high risk for developmental compromise. The challenge confronting healthcare professionals who care for these infants and their families is not only to assure the infants' survival, but to optimize their developmental course and outcome. Through assessment and documentation of infants' competence and behavioral thresholds to disorganization, a better understanding of the developing nervous system may be gained. This in turn may lead to the provision of developmentally appropriate experiential opportunities for the newborn in the hospital setting and the provision of supportive care for the infant's family. Structuring a physical and social environment supportive and nurturant of the individual infant's immature or dysmature nervous system and of the family's sense of competence becomes a critical component of care in the newborn intensive care unit (NICU) and of follow-up care in the home and the community. The Newborn Individualized Developmental Care and Assessment Program (NIDCAP) has been established to provide education and specific training in developmental observation and assessment for health care professionals, who have responsibility for the long- and short-term care of high-risk newborns and preterm infants and their families, and for staff members, who are involved in the implementation of their care on a day-to-day basis. A key focus of the NIDCAP program is the educational and consultative support and assistance to NICU and special care nursery (SCN) settings towards effective delivery of intensive and special care in a neurodevelopmentally supportive, individualized, and family-centered framework. The NIDCAP Federation International (NFI), a not for profit incorporated international professional membership organization, is the agency that safeguards the quality of all training and education in the NIDCAP model. It is the certifying agency for all levels of NIDCAP training.

Background

The goal of education and training in the developmental approach to care is to bring about a shift from protocol-based to strategic process thinking and from task-oriented to relationship-based care. The developmental approach to care sees infants as active structurers of their own developmental trajectories, supported by the ongoing co-regulation process of infant and parent development. The newborn's three evolutionarily adapted and inherited niches, biologically expected for good-enough development, are the mother's womb, the parents' body and mother's breast, and the family's social group. Preterm newborns unexpectedly have removed themselves from the intrauterine environment and its complex co-regulatory inputs. By virtue of the need for hospital care, they, as well as high-risk fullterm newborns in need of hospitalization, are separated from the expected intimate parent and family environment for prolonged periods. Developmental care takes advantage of the infant's expectation for co-regulatory care and for a close, emotionally attuned and invested relationship. It sees an opportunity for the increased effectiveness of intensive care delivery in supporting the realignment and co-regulation of the newborn and the family. Implementation of intensive care in such a framework requires knowledge and understanding of infant, parent and family development, and of the interplay of the infant's medical issues with the developmental process. In order to achieve multi-disciplinary collaboration in developmental care implementation, appreciation of each of the professional disciplines coming together in the NICU is necessary, as well as understanding of the organizational structures of the hospital and the nursery. Furthermore skill and sensitivity are required in supporting and nurturing infant and family. Professionals in such a complex setting must be committed to further their own personal growth, self-knowledge and emotional maturity. The NFI seeks to provide information, education, and support towards those aspects by provision of reading materials as well as didactic presentations, observation training, and opportunities for individual and system guidance and consultation. It is the responsibility of each professional who participates in training to create additional opportunities as indicated. It is the responsibility of the leadership in a setting to create opportunities for staff development, as well as enhancement of

organizational and physical structures as indicated. NIDCAP training entails systems change. Therefore, the specific training of individuals at a setting occurs only once the setting has developed sufficient leadership support, institutional commitment, and a five-year education, training and staff development plan in order to effectively support the changes in environment and care that are required for the successful implementation of developmental care in the NIDCAP model. Detailed observation and interpretation of the infant's behavior and the formulation of appropriate recommendations constitute care skills taught in specific NIDCAP training.

In the NIDCAP model, specific estimation of each individual infant's current goal strivings is derived from the direct observation of each infant's behavior in the context of ongoing care delivery. The infant's behavior provides the guide for the caregiver to estimate the infant's current strengths and active efforts in catalyzing and structuring his or her own development. Direct observation of the infant's behavior with inference of the infant's own goals provides the basis from which to explore opportunities with the family and with professional caregivers to support the infant's goal strivings and differentiating competencies.

A systematic behavioral observation methodology, referred to as NIDCAP observation, as well as a formal evaluation, the APIB (Assessment of Preterm Infants' Behavior, Als et al., 1982), have been developed to be particularly geared to the understanding of the preterm and otherwise at-risk newborn's behavior. Both methodologies, NIDCAP observation and APIB, are based in the Synactive Theory of Development (Als, 1982) and are designed to specifically document the complexity and sensitivity of the preterm and the at-risk newborn infant by focusing on the interplay of the infant's autonomic, motoric, state organizational, and attentional functioning as the infant interacts with the caregiver and world around the infant.

The results of the systematic observations and formal evaluations provide the basis for the estimation of the infant's current goals, which in turn leads to the consideration of opportunities in support of the infant's development, such as:

1. The structuring of an appropriate physical environment in the NICU for infant and family
2. The timing and organization of medical and nursing interventions appropriate to the individuality of infant and family
3. The support and nurturance of the parents' cherishing of their infant, and of their confidence in caring for and taking pride in supporting their infant's development
4. The coordination in the developmental framework of the care delivered by special service providers such as respiratory therapists, occupational and physical therapists, social workers, nutritionists, early intervention professionals, public health nurses, and others.

The NIDCAP approach lends itself to system-based, process-oriented, attuned and responsive support of individualized developmental care for each infant and family. Results to date show that medical and developmental outcome for infants and competence of parents cared for in such a developmental framework are much improved (Als, 1986; Als et al., 1986; Als et al., 1987; Als et al., 1994; Becker et al., 1990; Becker et al., 1993; Parker et al., 1992; Fleisher et al., 1995; Buehler et al., 1995; Westrup et al., 2000; Kleberg et al., 2000; Kleberg et al., 2002; Als et al., 2003; Als et al., 2004). The APIB (Als, et al., 2005) provides an additional systematic, formal means for assessment of behavioral functioning of the preterm and otherwise at-risk newborn. In the hands of the professional with advanced background and training in child development and clinical infant psychology, the APIB becomes a diagnostic and prognostic tool, further supporting the caregiver in identifying specific opportunities and issues in complex situations and/or at clinical transition and decision points. Some nurseries aim ultimately to become a NIDCAP Training Center and develop two NFI certified NIDCAP Trainers within their system. NIDCAP Trainers are advanced level experienced Developmental specialists who aside from APIB certification achieve the certification components required for NIDCAP Trainers.

These are specified in NFI policy documents and are summarized below. The education, training and support for the developing NIDCAP Trainer is provided by a NIDCAP Master Trainer, who additionally has met all NFI required conditions to qualify for NIDCAP Master Trainer Certification; This includes among others the achievement of APIB Trainer certification. Again the specific requirements for NIDCAP Master Trainers and APIB Trainers respectively are spelled out in the respective NFI Policy documents, and are summarized briefly below. All approved NIDCAP Trainers in Training, certifies NIDCAP Trainers, APIB Trainers and NIDCAP Master Trainers are NFI members. NIDCAP certified professionals may apply for NFI membership with the specific endorsement of their NIDCAP Trainer and the approval by the NFI Board. NFI membership privileges and responsibilities are spelled out in more detail on the NFI website www.nidcap.org

Overview of Specific NIDCAP Training Components and Levels

Effective developmental care implementation on a nursery-wide basis is the goal of all education, training and consultation provided within the NIDCAP framework. Consultation and training is currently available from sixteen NIDCAP training centers, ten in the United States of America, five in Europe, and one in South America. Based on extensive experience, moving towards successful delivery of newborn intensive care in a developmental framework is typically a 5-year process. It involves:

- Training of at minimum two developmental care specialists
- Assuring salaried positions (2 FTE) for the developmental care specialists
- Training of a multidisciplinary leadership support team and institutional system support
- Training of a core group of nursing staff
- Development of a parent council
- Development of reflective process and continuing education opportunities

Initial training consists of training in environment and care assessment as well as in depth infant behavioral observation. This training is then integrated into developmental care planning and implementation based on the observations. (Basic NIDCAP Training or NIDCAP Level I). All training is embedded in consultation to the NICU regarding environment, developmental team building, developmental care implementation and family inclusion. In addition, formal training for the developmental care specialists includes training in neurobehavioral assessment (Assessment of Preterm Infants' Behavior, APIB), as well as consultation to the developmental specialists and the multi-disciplinary leadership support team in the facilitation of implementation of developmental care (Developmental Care Specialist Training or NIDCAP Level II). A document entitled, "Cost-Effectiveness Analysis of Developmental Care (NIDCAP) in the Newborn Intensive Care Unit," is available from the training centers, and spells out in more detail the process of implementation. Two full-time positions are typically required to effectively support a NICU of between 40 and 50 beds for consistent developmental care growth and sustained implementation.

Following is an overview of the specific training and consultation components involved.

NIDCAP Nursery Development includes NIDCAP education and training of professionals as well as consultation and guidance for implementation and integration of developmental care in to the nursery.

▪ **NIDCAP Education and Training of Professionals**

An important component in the care of the preterm and at-risk newborn infant in the NICU is developmental facilitation of the adaptation from intrauterine to extrauterine environment and the re-establishment of the developmental trajectory in co-regulation with the infant's family. Research is increasingly showing that the preterm newborn is highly reactive to the environment and profits from a developmental approach to the structuring of environment and care. The developmental approach is based on the observation of the environment, the care delivered, and the infant's behavioral communication of current capacities of self-regulation, strivings for the next developmental step, and current disorganization. The information is used to structure environment and care in such a way that the infant's self-regulatory capacity and developmental progression is supported and disorganization is diminished. The goal of the individualized approach to care is to enhance stabilization, modulation, and increasing differentiation of functioning for each infant, in order to provide opportunity for the best possible potentiation of each infant's unique developmental course in the context of the infant's family and the care setting.

Professionals appropriate for the role of Developmental Care Specialist and to guide Developmental Care Implementation in their Nurseries are advanced level professionals including neonatologists, nurses, respiratory therapists, social workers, physical, occupational, and speech and language therapists, nutritionists, psychologists, infant developmental therapists, educators, pediatricians, psychiatrists, neurologists, and other health care professionals with graduate degree preparation or the equivalent leadership experience, who become the professionals specifically responsible for guiding developmentally appropriate care implementation for all infants and their families in the NICU. Additionally those professionals who seek expansion of their developmental observation skills for the purpose of conducting research also may find NIDCAP training useful.

All NIDCAP consultation, education and all training sessions are conducted at the site of the hospital which seeks the training and wished to ultimately implement developmentally supportive care. It would represent a rare exception when training might be conducted at the Trainer's site. Education and specific training consist of the following steps:

1. Preparatory Reading (see Bibliography); Planning of the training and nursery development process
2. Site Assessment of the nursery seeking developmental care training; Self Assessment of the professionals seeking training
3. Specific Training
Specific Training consists of formal introductory training; independent observational studies; guidance; assessment of competency development; and reliability assessment for the establishment of certification.

a. Introductory Training

Two days of formal instruction for the key professionals designated by their site to lead the developmental care efforts are offered. These are followed by a day of feedback, planning, and site consultation.

Day 1- Didactic Introduction

(1) Lecture

An introductory lecture is given by the specific NIDCAP Trainer, explicating the theoretical background and empirical basis for developmental care. For the presentation the following materials are used: A PowerPoint presentation that covers the main topic areas of developmental care background, research and challenges; and selections from a commercially available DVD-series on the brain development of the preterm infant, implementation of developmental care in an NICU, as well as parental and family inclusion and perspectives on the role of the family in the NICU. The set of three DVDs is available from www.VIDA-Health.com. The introductory session lasts approximately 3.5 - 4 hours. The NIDCAP Trainer decides on the number of participants.

(2) Workshop

The introductory workshop involves discussion of the observation approach, including environment, path to the infant, and care, and the specifics of the observation methodology. Videotaped vignettes and written examples are used. The process of care implementation and change in the NICU is discussed, typically with the use of a PowerPoint presentation. The session typically lasts 3 hours and is restricted to Trainees and a few key leadership personnel. Some training centers combine the lecture and workshop into one full-day workshop session restricted to Trainees only. This is at the discretion of the Trainer.

Day 2 — Direct Observation Training (2 Trainees maximum)

(1) Direct Observation in the NICU

The path to the infant from hospital entrance to observation of a specific infant before, during, and after a caregiving intervention by the infant's caregiver, typically a nurse, follows, with guidance by the NIDCAP Trainer to see the environment and see and chart the behavior of the infant in interaction with the environment and a caregiver (1,5 – 2 hours).

(2) Write-up of the Observation and Assessment of Environment and Care

This involves discussion of the observation, observation write-up, study of infant's medical chart, specification of the infant's current goals, discussion of implications and recommendations for consideration in structuring environment and care for infant and family and in supporting the caregiving staff in the development of an individualized developmental care plan (4 to 5 hours). Discussion and scoring of the "Profile of the Nursery Environment and of Care Components", Template Manual, Part I (Als et al., 1990 1995 Rev 1997).

Day 3 – Feedback, Planning and Consultation

It is very important to set aside sufficient time on a separate day, typically the third day of the training week, in order to discuss with the Trainees, and in group session with the leadership team, the accomplishments of the training days, review progress on the time line and overall plan for the site's development, and map out the next steps with specific time frames and the necessity to free up the Trainees for their practice and independent study time. Realistic dates for the next formal on-site training session should be planned with consideration of holidays, other NICU and personal obligations etc in order to assure success.

(1) Discussion of Independent Observational Study

Discussion of the independent observational study, as outlined below and expected from the Trainees is an important opportunity and responsibility for the Trainer. Strategy development with the participants for their next steps, and for any additional supports that are deemed helpful, is indicated.

(2) Reflective Guidance, Timeline Development, and Evaluation with Trainees

Guidance to each of the two Trainees and exploration of their strengths and perceived difficulties in accomplishing the training goals, joint formulation of a timeline and planning for resource development are provided; an initially submitted Trainee self assessment provides the starting point for discussion. The session is jointly evaluated by Trainees and Trainer.

(3) Reflective Guidance, Timeline Development, and Evaluation with Site Leadership Team

Each training visit should end with a reflective and consultative session with the site's leadership team in order to share and stay aware of progress, difficulties encountered, timeline adjustments, and or additional opportunities perceived or realized. Such a session is at times difficult to schedule, given the full time tables of leadership staff. The more important is it to target the dates for the next visit's week realistically, in order to assure that the key members of the leadership team will be available.

b. Independent Observational Study

Independent observation study is accomplished by the Trainees in their respective NICUs and Fullterm Nurseries.

- (1) Observation of a 24-hour course of three different preterm infants' is recommended in order to appreciate the 24-hour flow of events in the respective nursery as they impinge on the infant. These observations may be pieced together in 4- or 6-hour blocks:
 - High Intensive Care
 - Intermediate
 - Close to Discharge
- (2) Observation before, during, and after caregiving of at least five preterm infants at each of the following levels of care is recommended. Each observation is followed by the writing up of the developmental observation, the history, the infant's current goals, and care recommendations (Total: 15 observations):
 - ICU
 - Intermediate
 - Predischarge
- (3) Observation before, during and after caregiving and write-up of the observation of at least five well fullterm infants is recommended (Total: 5 observations).
- (4) Observation, before, during, and after caregiving, of three infants under the Trainee's own care, when cared for by someone else; writing of developmental observations and recommendations, subsequent implementation of recommended caregiving modifications when the participant is providing the observed child's care; and re-observation of the success of the recommendations.

(5) Preparation of a full write-up with history and documentation for submission to the Trainer for feedback. Once judged adequate, see f and g below. Typically training centers require the submission of more than one write-up for review of all Trainees. This is at the discretion of the training center. Once the write-up submitted with full documentation and self reflection is judged appropriate by the Trainer, the next step, namely one or more Work Days, preceding the Advanced Practicum, take place.

c. Work Days: Guidance and Assessment of Competence

Guidance and Assessment of Competence is accomplished again at the Trainees' nursery. For this purpose one or more work days or a work week is scheduled. The bedside workday(s) must again be followed by a separate day for feedback, planning and consultation to the individual Trainees as well as to the site.

Day 1 – Bedside Work Day(s) (Maximum 2 Trainees)

One or more workdays are scheduled. The Trainer and Trainee perform an observation together and discuss the write-up and recommendations. Some training centers require more than one workday of all Trainees before the Trainee is judged competent to embark on the Advanced Practicum. At maximum two Trainees may participate in a work day bedside observation and discussion.

Day 2 – Feedback, Discussion and Planning of Advanced Practicum

The Advanced Practicum (AP) presents the first opportunity for the Trainee to test his or her newly acquired skills in the clinical arena. An AP consists of approximately weekly observations of a very low birthweight infant from admission to discharge and transition to the home environment. Each observation is followed by a formal write-up. Furthermore, the Trainee offers daily support and guidance to the caregiving team and the family, based on the information gleaned from the observation. Since the AP focuses on the NICU from the infant and family's vantage point, it reveals the difficulties and inconsistencies in care implementation that are frequently part of NICU care. The AP may provide a catalyst for change in NICU structures and team work. Therefore it is critically important to plan each Advanced Practicum with great care, and assure that enough safeguards and supports are available and/or will be developed before the Trainee embarks on this key step. It is also important to build into the planning of the AP enough staff time in order to assure sufficient opportunities for meeting and reflection with the members of the care team and with the NICU leadership. It is usually advisable that only one Trainee at a time embark on an AP in a NICU, and the other Trainee(s) support the consistency in care implementation for the family involved in the AP. The completed AP in the form of a bedside binder or Developmental Diary containing the formal write-ups as well as entries by the family and care team, photographs and other items that chronicle the infant's progress, becomes the property of the family. A copy of the materials together with the Trainee's reflective process documentation and the formal evaluations of the usefulness of the Trainee's support completed by the family and the key team members are submitted to the Trainer, who reviews and evaluates the Trainee's progress, and as deemed appropriate, schedules NIDCAP reliability assessment.

Day 3 – Feedback, Planning and Consultation

Depending on the complexity of the site and the number of Trainees involved, a third day for site preparation and leadership consultation and reflection is indicated, in order to prepare and support the next training and growth step supportively.

d. Reliability (2 Trainees maximum)

Reliability provides the culmination for an individual Trainee to demonstrate astuteness and thoughtfulness in observation and care planning as well as in systems resource management for the care of an individual infant and family. For a nursery this provides the beginning of true change since now there is a trained and knowledgeable professional, or two professionals, available to work as resource and guide for the staff and leadership and for the families.

Day 1 – Bedside Observation Day(s) (Maximum 2 Trainees)

The environment is observed by the Trainer and the Trainee from hospital entrance to the infant's bedside, followed by the observation of the infant before, during, and after a caregiving interaction. Trainer and Trainee make independent written observations, goal specifications, and recommendations for modification of care. Trainer and Trainee compare and discuss their respective observations and recommendations.

In preparation for the next day the Trainee is charged with the responsibility and opportunity to reflect on their journey from introduction to the NIDCAP process to the accomplishments of the reliability session. The Trainee is asked to develop a detailed assessment of their own competencies at this stage, of areas of further development and of supports and next steps that the Trainee is planning or hoping to plan for.

Day 2 – Evaluation, Feedback and Planning with Trainees

The Trainer invites the Trainee to reflect on the Trainee's own path to this stage in training and to assess their accomplishments and performance along the way and specifically in the course of the reliability day. The Trainer gives feedback to the Trainee regarding the Trainer's assessment of the Trainee's work and judges the Trainee(s) written products in terms of

- Completeness of observation
- Astuteness of understanding
- Articulation of the infants' strengths, difficulties, and goals in view of the infant's history
- Articulation of the dynamic process of the infants' current developmental issues and steps in the co-regulatory context of the infants' family and the NICU setting
- Conceptual astuteness, pedagogic supportiveness, and effectiveness in formulation of the recommendations offered for consideration
- Accuracy of assessment of environment and care

Trainees may show progress towards reliability and be deemed in need of further practice in observation and articulation, in need of further development of conceptual understanding, or of maturity in generating creativity and growth in those their support addresses. Discussion of the Trainee's and Trainer's assessments is helpful in arriving at next steps. Suggestions are made by the instructor for the next steps, and time lines are discussed. Further work and/or reliability sessions are scheduled and/or other opportunities for growth and development outlined. Upon completion of the training, when the criteria outlined are satisfied, the participant is awarded a certificate. In the US, some states are also currently awarding CEUs for nurses upon completion of the introductory training, as well as upon completion of Reliability. Application for CEUs typically is the responsibility of the professionals seeking the training.

Day 3 – Feedback, Planning and Consultation to the Site

Discussion with the site and the key leadership constituencies, as to the Trainees' accomplishments, next steps, and plans for the further development and growth of resources and competencies for the site are discussed. It is important to celebrate the hard work that has been accomplished while simultaneously engage in the discussion of the dynamic guidance and mentoring nature of this work, which requires the full time presence of the well trained NIDCAP certified professional on site in the nursery, in order to promote and maintain growth and progress.

- **Consultation and Guidance of Developmental Care Implementation and Integration**

From the outset of planning for developmental care training, site leadership professionals are encouraged to develop a strategic 5-year plan for the comprehensive and systemic integration of developmental care. Financial and organizational planning for the development of opportunities towards nursery integration of developmental care as the overall framework and philosophy of care delivery is important. Individual professionals targeted for specific training, as well as their supervisors and directors, are therefore encouraged to review in their settings opportunities supportive of such change that may already exist or may be created and developed. The NIDCAP Trainer will furnish the organizer(s) of the training process at a site with the Site Self Assessment instrument which will provide the site with a starting point. Also included is support in the form of telephone and/or on-site consultation from the director or a senior Trainer of the NIDCAP Center, including assessment of organizational structures and the physical environment; assistance in strategizing and planning next steps of providing information to the setting, e.g., medical and/or nursing grand rounds, neonatology seminars, workshops, in-services, etc.; being available for group and individual meetings with key professionals; assisting in the identification of opportunities for further development of resources; and mapping out timelines appropriate for the setting. Once the specific training process is begun, each formal NIDCAP education and training session with individual professionals is embedded in a planning and review session with those in the leadership and change-agent position at the respective settings. The allocation of telephone and correspondence communication time, as well as on-site meeting time for the organizational strategizing component is important. Following on-site training day and Consultation and Planning Meetings with the individual Trainees, at a minimum, a 2-hour meeting of the Trainer with the on-site organizers and key leadership professionals is an essential component in this process.

The site organizers are furthermore encouraged to define and think through in advance the roles targeted for those professionals and staff members participating in formal NIDCAP training. This is helpful for the Trainer and the participants in training in order to most cohesively map out and support the overall change process. Reflective process consultation a regular basis at minimum for the developmental leaders in a setting is essential. The development of key resource professionals, aside from the developmental specialist and developmental nurse educator, has proven effective. Six or seven advanced level professionals who represent the key disciplines in the NICU, e.g., neonatology, nursing, respiratory therapy, social work, physical and/or occupational therapy, case managers and neonatal nurse practitioners, and who are respected for their leadership skills, form the developmental resource, nurturance and advocacy team in the setting. This is important in order to integrate the developmental care framework as catalyst of the alliance of medical and nursing care and the dynamic process of infant and family development. An annual site self-assessment is indicated in identifying progress, continued challenges, and new opportunities.

A detailed overview, including budget projections, of the NIDCAP training process for nursery-wide implementation of developmental care is available from training centers.

- **NIDCAP Nursery Certification**

The NFI is currently developing an international NIDCAP Nursery Certification Program which will certify nurseries for their appropriate implementation of evidence based individualized developmental care and assessment, as upheld in the NIDCAP model. Preconditions include that the NICU/SCN be approved by the respective state/country overview licensing and accreditation board. The nursery will furthermore demonstrate that there are two NIDCAP certified professionals on staff as developmental care facilitators and educators, that families are full members of their infant's care team, that space is adequate and conducive to family-centered, individualized, developmental care implementation, and that education and evaluation for all disciplines in the NICU includes as equal to other, technical components, the appropriate knowledge and demonstrated skill in family-centered individualized developmental care implementation. This program with application materials, specified educational and guidance opportunities, and with a review process is expected to be rolled out at the beginning of the medical year 2007-2008.

▪ **Establishing a NIDCAP Training Center**

Once a center has developed the resources and advanced level leadership staff training necessary to provide developmental care, such a center may consider the establishment of a NIDCAP Training Center. The requirements for moving from a center delivering care in a developmental framework to a NIDCAP Training Center include the commitment to teach, guide, nurture, consult to, and advise professionals from and at other settings.

For this goal, it is necessary to identify and develop a core group of at least two advanced level clinicians, who will become NIDCAP Trainers and will provide such education, training, and consultation for others. The medical and nursing directors of the NICU must be in full support of and agreement not only with the goals of the NIDCAP approach, but also with the opening of the NICU to professionals from other institutions for the learning process. Demonstrating to Trainees from outside of one's own unit's practices requires special staff support for those who agree that their care be observed by outsiders, as well as special support towards the development of model environments and care delivery at the training site. Specific requirements for the prospective Trainer team members are as follows:

1. NIDCAP reliability
2. APIB reliability
3. Reliability in providing the didactic introduction
4. Reliability in providing direct observation training
5. Bringing independently to reliability at least two Trainees
6. Reliability in providing consultation and guidance to other sites and Trainees

The reliability of the prospective Trainers in providing these components is assessed by NFI certified NIDCAP Master Trainers. At this point NFI certified NIDCAP Master Trainers are H. Als, PhD, National NIDCAP Training Center, Boston, MA, USA; J. Browne, PhD, Colorado NIDCAP Center, Denver, CO, USA; D. Buehler, PhD, West Coast NIDCAP and APIB Training Center, San Francisco, CA USA; A. Kleberg, PhD, Karolinska NIDCAP Center, Stockholm, Sweden; g. Lawhon, RN, PhD, Mid-Atlantic NIDCAP Center, Camden, NJ, USA; and K. VandenBerg, PhD, West Coast NIDCAP and APIB Training Center, San Francisco, CA, USA.

To facilitate the consistency in material to be covered in the theoretical preparation, a prospective Trainer and training center is provided by their master Trainer with a basic PowerPoint presentation at cost, which is to be supplemented by the respective center in development. All supplemental training materials must be reviewed and approved by the respective master Trainer

and in case of uncertainty are to be reviewed and approved by the NFI Quality Assurance Committee.

Each training center is expected to develop a minimum of two Trainers, and is led by a center director, who takes ultimate responsibility for the appropriate organization, conduct, and ongoing quality control of training by that site, and for communication with the respective Master Trainer. The center director is typically supported by a NIDCAP Center medical director and a NIDCAP Center nursing director, specifically in agreement to serve the training program, who assure the appropriate interface of the training program with the management of the NICU itself and are available as indicated to nurse managers and medical directors from NICUs interested in or seeking training. Each NIDCAP center is expected to develop its own certificate in keeping with the NFI specifications and to be approved by the Chair of the NFI Quality Assurance Committee. The NFI President's signature must be included with the signatures of the site's director(s), and the leadership staff of the pertinent disciplines and or department chairpersons of the site's director(s). This serves to assure the official support of the program at the respective site. Examples of certificates are available from the NFI Executive Director. The NIDCAP Training Center's director is typically an advanced degree professional, PhD or MD, with a full-time appointment at the respective institution. Participation in the annual NIDCAP Trainers meeting is expected of all Trainers-in-training, Trainers, center directors in development and center directors, in order to maintain up-to-date communications and to discuss developments. A register of Trainees is maintained by each NIDCAP center and uploaded regularly to the international Training Data Base, managed by the Chair of the NFI Communications Committee – Database, the Carolina NIDCAP Training Center, J. Helm, PhD, NFI Board of Directors, and Director, Carolina NIDCAP Training Center, Raleigh, NC, USA. Trainer reliability is re-established typically on a biannual basis, or as deemed necessary by the respective Master Trainer. It is the responsibility of the training center to arrange for and finance the periodic training center reliability re-assessments, which include site assessment and consultation, and Trainer assessment and consultation. Aside from documentation of site and training self-assessment information, this involves a 3- to 4-day assessment and consultation process at the respective training center in order to be re-certified.

▪ **APIB — Behavioral Assessment Training**

The APIB is a comprehensive, systematic assessment of the preterm and fullterm newborn, and provides a valuable resource in support of developmental care provision by professionals and families. It is a neurodevelopmental diagnostic instrument for clinicians and developmental consultants in the nursery setting, such as psychologists, neonatologists, neurologists, psychiatrists, developmental pediatricians, and advance practice nurse clinicians. APIB training is a requirement for all those providing formal NIDCAP training. It is highly recommended for all developmental specialists and developmental nurse educators in charge of the facilitation of developmental care. It is furthermore necessary for those who wish to use the APIB as research instrument.

1. Preparation

The examination of preterm and otherwise at-risk newborns requires much skill and preparatory training. The following steps provide suggestions for the necessary background preparation for those who wish to achieve reliability in the APIB. The Trainee first establishes a good liaison and working relationship with the medical and nursing staff of the NICU or Special Care Nursery. Since it is important to also examine fullterm infants on a regular basis, a good working relationship with the fullterm newborn nurseries needs to be established as well. The following steps are recommended:

- a. Participation in daily rounds in the NICU with the medical and nursing staff, in order to gain familiarity with the medical care concerns, terminology, and decision making in this setting. Extensive reading of pertinent literature complements this experience. At least three months of such experience are helpful.
- b. Observation of normal and high-risk deliveries in order to appreciate the newborn period from the parent's and infant's perspective as well as from the perspective of the medical and nursing staffs. Familiarity with obstetric anesthesia procedures and pediatric procedures in the delivery room is indicated. Extensive reading accompanies this experience.
- c. Achievement of competence in the handling of preterm, at-risk, and healthy newborn infants and in the observation of their responses to manipulation. Under the supervision of a primary nurse, the Trainee participates in caregiving activities, such as holding, diapering, etc., in order to achieve confidence in the handling of infants and in observing infant responses while interacting with the infant.
- d. Observation of several infants in the course of complete 24-hour nursery days. This includes observation of state behavior, movement patterns, autonomic reactions, etc., focusing on the changes in these patterns in the course of various care routines and medical procedures. The prospective examiner observes each infant throughout at least one 24-hour cycle, which can be pieced together in 4-hourly blocks. It is important to be aware of the differences in infant behavior and nursery atmosphere during the often more quiet, past-midnight hours and during the typically more active hours of medical rounds or shift changes. Each nursery has its own rhythm and pattern, of which the Trainee-examiner needs to be aware. The observation of several infants provides awareness of the difference in infants' reactions and strategies in experiencing the nursery.
- e. NIDCAP Level I training is recommended at this juncture (see above for details).
- f. Experience with the administration of the maneuvers of the APiB is the next step. Expertise in the administration of reflex assessment, the response decrement, and interaction sequences needs to be acquired. Training in the Brazelton Neonatal Behavioral Assessment Scale (Brazelton, 1984) and the Prechtl Neurological Examination of the Newborn (Prechtl, 1977) are highly recommended. Supervision and input from a neurologist and neonatologist are also recommended. Practice of the sequence of maneuvers with healthy fullterm newborns is usually the first step until the flow of the examination is fully mastered.
- g. The next step is the assessment of a NICU infant who is judged to be stable and is near discharge. By then, the examiner has studied the manual and training guide carefully and is completely familiar with the sequencing of packages so as to provide the infant with a skilled examination. It is necessary to identify, with the nursing staff, an infant appropriate for examination and an appropriate examination time. The training purpose of performing the examination is discussed with the primary nurse. The nurse or experienced professional should be present during the initial examinations until the examiner feels confident in judging the infant's color changes, respiratory patterns, etc., while handling the infant. This is also important in terms of suggestions such as warming up the examination room in advance, etc. Furthermore, it facilitates the examiner's role definition as assessor of behavior and defines the examiner's limits in respect to nursing and medical practice as appropriate. Five or six stable infants are examined this way. At least one of them is a healthy fullterm infant. After each examination, the examiner scores the exam, even if the examiner has only administered one package or a few items. The scoring process fosters

astuteness in observation and in turn systematizes the administration of the examination.

2. Introduction Days

The next training step is formal Introduction to the APIB, which is accomplished in a two day session. APIB Introduction occurs at the Trainee's site so that the Trainer may consult to the Trainee regarding site expectations, set-up for examinations and other site-specific parameters, and interact with the Site's leadership in terms of support required for the Trainee and the Site's expectations regarding APIB use once reliability and certification are established. The introduction days usually last from about 9:00 A.M. to 6:00 P.M. Starting times of the days depend on the feeding schedules of the infants to be examined. On each of the two days the Trainer examines an infant while the Trainee observes. Complete scoring of the APIB is discussed, with opportunity for questions of scoring and administration issues that have arisen in the course of the Trainee's preparation. Maximally two Trainees may participate in the APIB introduction sessions.

3. Independent Self-Preparation and Practice; Work Session(s) with the Trainer

After the introduction days, the Trainees return to their own respective settings, examine at least 25 infants, and score each of the examinations. Five of these infants must be healthy fullterms. This preparation is typically a sufficient base for a two or three day Work Session with the Trainer. In the course of the APIB Work Session under the Trainer's supervision and guidance the Trainee examines an infant at least on one of the two work days. As indicated for best progress the Trainer may examine one of the infants in solidifying administration aspects for the Trainee. Should two Trainees participate in the Workday Session each of the Trainees typically assesses one of the infants. At times a three-day session is productive especially when a considerable amount of time such as a full year or more has elapsed between APIB Introduction and Work Days. In such cases the Trainer performs the first examination with explanations and the Trainer and Trainees discuss the scoring of the examination. On the second and third workday, Trainer and Trainee(s) score the examinations independently or together, depending on the Trainee(s)' confidence and level of preparation. They then discuss administration and scoring questions as they arise. Workdays typically are 8 – 9 hour days. The Trainees then return to the home nursery and now fine-tune scoring and/or administration further by examination of usually an additional 20 to 25 infants. The preparation necessary depends on the Trainee's background, experience and opportunity made time allocated to regularly scheduled APIB practice.

Set-up time for an examination with obtaining of staff and parent permission and offering of explanation as to the nature of the session, as well as room set-up, typically takes between 2 – 2.5 hours. An examination with a preterm infant typically lasts between 1 and 1 1/4 hours. Early on a novice Trainee requires between 3 and 4 hours for scoring. Feedback to the staff and the parents requires another 0.5 – 1 Hour. That means, the novice Trainee must set aside a minimum of 25 8-hour time blocks of undisturbed time in order to accomplish the preparatory training. The APIB Systems Sheet is the most demanding to score, since it requires the simultaneous attention to five or six subsystems of functioning at any one time in the examination. Once this is mastered, Score Sheets 2 and 3 are usually easier. The examiner may wish to concentrate initially on the Systems Sheet and leave Score Sheets 2 and 3 for last. Then, in a second phase, the examiner may wish to start with Score Sheets 2 and 3 and leave the Systems Sheet until last. In a third phase, the examiner may go back to scoring the Systems Sheet first until both segments are equally familiar to the Trainee. During the self-training and preparation process it is recommended to examine and score only one infant per day. For the skilled examiner, scoring should take approximately 60 minutes, maximally 90 minutes.

A number of Trainees will require more than one APIB Work Session. The Trainer determines when an additional APIB Work Session is indicated before Reliability is likely successful.

4. Reliability Session

When the Trainee has accomplished full preparation, the two-day Reliability Session is set up. This usually requires the administration of at least one examination (Day 1) and the scoring of at least two examinations (Day 1 and Day 2) for a Trainee. The Trainee examines the infant, Trainee and Trainer score the examination independently, and then the Trainer discusses the administrative process and the scoring with the Trainee. For two Trainees a two-day reliability session is best set up as follows: Trainee A examines an infant on Day 1, Trainee B and Trainer observe. All three score. The Trainer gives feedback regarding Trainee A's administration of the examination, and discusses the scoring of both Trainees. Trainee A takes the lead in discussion and explanation of scores assigned. On Day 2, Trainee B examines an infant, Trainee A observes; both Trainees and the Trainer score. The Trainer gives feedback regarding Trainee B's administration and discusses the scoring of both Trainees, with Trainee B taking the lead in discussion and explanation of scores given. This gives each Trainee one chance for administration and two chances for scoring, maximizing Trainee and Trainer time. At some instances a three-day Reliability Session is set up, especially when the time lag between Work Days and Reliability Session is a year or longer. In the three-day Reliability Session the Trainer performs the infant examination on the first day and scoring maybe performed in joint discussion. For reliability, the successful independent administration of one and scoring of at least two examinations is necessary for each Trainee. When reliability is achieved, the APIB Professional Certificate is issued to the Trainee.

Training in clinical report writing on the basis of the APIB is not part of the formal training process provided in this framework and is negotiated on an individual basis. It requires an extensive internship with supervision by the Trainer and depends on the background of the examiner, as well as the purpose and focus of the assessment.

APIB training is set up on an individual basis. APIB Introduction, Work and Reliability Sessions must be conducted at the Trainee's Site. This maximizes consultation and support to the Trainee and the Site.

Each APIB training component, Introduction Session, Work Session(s), and Reliability Sessions must be followed by one-day schedule of Feedback, Reflective Processing, Planning, and Consultation Sessions, which must address all trainees and the site leadership. This day is planned in collaboration with the Trainees and the Site's Leadership.

In order to maintain reliability, it is advisable to send several sample examination score sheets to the Trainer at decided upon intervals. There are certain built-in checks in the score patterns, which may be used to monitor the ongoing accuracy of scoring. A videotape of an examination with accompanying score sheet may also be helpful. This permits a check on continuing administration and scoring accuracy. This type of long-distance check is set up individually with the Trainer. It requires much Trainer time. Direct recheck of reliability is necessary on a frequency schedule determined by the Trainer, typically on an annual or biannual basis. It is critical to assess fullterm healthy newborns on a continued basis in conjunction with preterm or otherwise at-risk infants, be it for clinical work or in the framework of research. Otherwise, one's internal standards for the infant's modulation and differentiation of performance easily drift. Reliability requires confidence and expertise in examining and scoring infants of all gestational ages and a wide range of clinical conditions.

All NIDCAP Trainers must have achieved APIB Professional certification and must feel confident and have gained expertise in the clinical and as indicated research use of the APIB.

▪ **Becoming an APIB Trainer**

As a NIDCAP Trainer prepares to become a NIDCAP Master Trainer, a basic requirement is that the NIDCAP Trainer first or simultaneously becomes an APIB Trainer. For the initial generation of NIDCAP Master Trainers the NFI adopted the clause that APIB Trainer certification may be acquired after all other Master Trainer requirements have been accomplished, and or an otherwise qualifying NIDCAP Master Trainer may seek the partnership with an established APIB Trainer who makes the commitment to fulfill the NIDCAP Master Trainer's APIB Training requirements in a timely and responsible fashion.

Preparation:

(1) APIB Re-Reliability Certification (2.5 – 3.5 days):

A prospective APIB Trainer first reestablishes APIB reliability in a 2.5-3.5 day APIB session with the APIB Master Trainer (H. Als, PhD, National APIB Training Center, Boston MA USA).

(2) Observation of APIB Trainer in Conducting Training Process (Three 3.5-Day Sessions)

Once APIB reliability is re-certified, the APIB Trainer-in-Training observes the APIB Master Trainer's introductory APIB Training Sessions, APIB Work Days, and APIB Reliability Sessions as spelled out above under APIB Training, and debriefs with the APIB Master Trainer after each of these 3 day sessions. A three hour time block is typically sufficient per 3-day session for debriefing.

(3) APIB Training of Two New APIB Trainees

The APIB Trainer-in-Training introduces two new APIB Trainees to the APIB (3-day session). This is followed by a 3 – 4 hour review and guidance session with the APIB Master Trainer who observed the APIB Trainer-in-Training's APIB Introductory Days. Subsequently the APIB Trainer-in-Training schedules the two APIB Trainees for their Workdays (3-day session). This is again followed by a 3 – 4 hour review and guidance session with the observing APIB Master Trainer. Once the APIB Trainer-in-Training schedules the two APIB Trainees for their Reliability days (3-day session), the APIB Master Trainer attends and observes and subsequently debriefs and gives feedback and guidance to the APIB Trainer-in-Training. The APIB Trainer-in-Training's two APIB Trainees remain the ultimate responsibility of the APIB Master Trainer; thus, depending of the amount of input and guidance the APIB Master Trainer gave during the APIB training process of the Trainees, the APIB Trainer-in-Training may be required to bring two additional Trainees to APIB reliability, now with little to no direct guidance during the sessions for the Trainees. It is at the discretion of the APIB Master Trainer to judge and assure the independent APIB Trainer competence of the APIB Trainer-in-Training.

The APIB Trainer process thus requires at minimum 21 days of APIB Master Trainer Time, in work with and/or consultation to the APIB Trainer-in-Training.

▪ **Becoming a NIDCAP Master Trainer**

Once a NIDCAP Trainer is also an accomplished APIB Trainer and independently has developed at minimum two level-3 NICUs with their respective NIDCAP certified professionals and the site guidance involved, and has furthermore trained at minimum two APIB professionals to reliability, who ideally are the leadership NIDCAP professionals in one of the sites that the NIDCAP Trainer has independently developed, then the NIDCAP Trainer qualifies for application to become a certified NIDCAP Master Trainer.

The requirements include developing at least one NIDCAP Training Center successfully from initial NIDCAP certification through NIDCAP Trainer certification of at minimum two developmental care specialists, who apply officially to achieve NIDCAP Trainer certification and whose center applies officially to be certified as NIDCAP Training Center (see above). The NFI must review and approve a NIDCAP Trainer's application to become a certified NIDCAP Master Trainer. The NIDCAP Master Trainer applicant must identify the NIDCAP professionals and the nursery that he or she seeks to bring to NIDCAP Training Center and NIDCAP Trainer status. The respective center and NIDCAP professionals must apply and be approved by the NFI to be admitted to training and establishment of a NIDCAP Training Center respectively. The Master Trainer applicant must secure the availability and commitment of a Senior NIDCAP Master Trainer to guide the Master Trainer-in-Training in the process to become a certified NIDCAP Master Trainer. The Senior NIDCAP Master Trainer, currently there is only one such Trainer H. Als, PhD, National NIDCAP Training Center Boston, MA, USA, observes and guides the NIDCAP Trainer along the process of training two NIDCAP Trainers and a NIDCAP Center to certification. This requires typically three one-week sessions when the Senior Master Trainer is on-site for observation and guidance to the Master Trainer-in-Training, who trains the NIDCAP Trainers-in-Training in the Introduction Training, Workdays, and Reliability Days with their respective Trainees.

The cost for the training by a Master or Senior Master Trainer of APIB Trainers, NIDCAP Trainers and NIDCAP Master Trainers respectively is the responsibility of the person seeking the level of training which requires the Master and/or Senior Master Trainer's supervision. The quality of training for the NIDCAP and APIB Trainees involved is the responsibility of the Master Trainer and or Senior Master Trainer respectively, who therefore may be required to co-train, amplify and supplement the training of the Trainer and/or Master Trainer in Training.

Centers with Master Trainers continue to be referred to as NIDCAP and/or APIB Training Centers respectively.

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Further Training Documents Available

1. Cost-Effectiveness Analysis of Developmental Care (NIDCAP) in the Newborn Intensive Care Unit
2. Nursery Wide Developmental Care Implementation in Newborn Intensive Care Units (NICU)– Recommendations for Training, Education, Staff and Resource Development
3. Outline of NIDCAP Training Process: Joint Guide for Trainers and Site Organizers
4. Guidelines and Suggestions for NIDCAP Trainees, NIDCAP Professionals, NIDCAP Trainers-in-Training, NIDCAP Trainers and Master Trainers, as well as Center Directors
5. Developmental Care Guidelines for Use in the Newborn Intensive Care Unit (NICU)
6. Fee Structure for Training Center

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5. **Colorado NIDCAP Center, Established 1989**

University of Colorado Denver School of Medicine, Department of Pediatrics, Colorado
And The Children's Hospital Newborn Intensive Care Unit, Aurora, Colorado

Training Center Director

Joy V. Browne, PhD, PCNS-BC, IMH (IV) Mentor
Developmental/Infant-Parent Psychologist
Associate Professor of Pediatrics and Psychiatry
Director, Center for Family and Infant Interaction
Interdisciplinary Training Director, JFK Partners
University of Colorado Denver
Department of Pediatrics

Training Center Medical Director

Theresa Grover, MD
Medical Director, NICU

**The Children's Hospital
Leadership**

Randall B. Wilkening, MD
Professor
Section Head, Neonatology
University of Colorado Denver School of Medicine

Theresa Grover, MD
Associate Professor of Pediatrics
University of Colorado Denver School of Medicine
Medical Director, NICU

Katheryn Boada, MA, CCC/SLP
Director, Audiology, Speech Pathology and Learning Services

Kristen Hampton, RNC, BSN
Clinical Manager, NICU

Sharon Sables-Baus, PhD, PCNS-BC
Assistant Professor
University of Colorado, College of Nursing
Advanced Practice RN, NICU

Clinical Coordinators of NICU

Susan Arato, RNC, BSN
Patricia Boldt, RN, BSN
Erin Carey, RNC, BSN
Karen Jones, RNC, BSN
Michelle Mueller, RN, BSN
Camilla Shea-McAleavey, RN, MSN
Sara Sullivan, RN, BSN

Clinical Resources of NICU

Betsy Smith, RN, BSN
Alicia Jiron, RNC, BSN
Heidi Christophersen, RN, BSN
Manojkumar Sebastian, RN, BSN
Rebecca Mayka, RN, BSN
Charito Madrideojos, RN, BSN

Colorado NIDCAP Center — continued

Clinical Coordinator of Department Education	Carrie Rafferty, RN, ND, MS
Lactation Program Program Manager	Lisbeth Gabrielski, RN, MSN, IBCLC
Neonatal Educator	Sheila Kaseman, RN, MS
NIDCAP Master Trainer	Joy V. Browne, PhD, PCNS-BC, IMH (IV) Mentor Developmental/Infant-Parent Psychologist Associate Professor of Pediatrics and Psychiatry University of Colorado Denver School of Medicine
Parent Advisors	Suzanne Smith, BS Debra Paul, BS, OTR
Program Advisor	Cordelia Robinson, PhD, RN Director, JFK Partners Professor of Pediatrics and Psychiatry University of Colorado at Denver and Health Sciences Center
Clinical Psychology and Reflective Practice Advisor	Ayelet Talmi, PhD Associate Director, Irving Harris Program in Child Development & Infant Mental Health Assistant Professor of Psychiatry University of Colorado at Denver and Health Sciences Center
Neonatal and Bioethics Advisor	Peter Hulac, MD Senior Instructor, Pediatrics (neonatology)
Contacts	Amanda (Mandi) Millar, BA Program Coordinator Center for Family and Infant Interaction C234 University of Colorado at Denver and Health Sciences Center L28 Room Number 5112 Aurora, CO 80045 Voice: 303-724-7667 Fax: 303-724-7664 E-Mail: amanda.millar@uchsc.edu Joy V. Browne, PhD, PCNS-BC, IMH (IV) Mentor Associate Professor of Pediatrics and Psychiatry University of Colorado Denver School of Medicine Center for Family and Infant Interaction C234 L28 Room Number 5112 Aurora, CO 80045 Voice: 303-724-7668 Fax: 303-724-7664 Email: browne.joy@tchden.org

6. **St. Luke's NIDCAP Center, Established 1995**
St. Luke's Regional Medical Center, Boise, Idaho

Training Center Co-Directors	Beverly Holland MSN, RN, NE-BC St. Luke's Regional Medical Center Karen M. Smith, RNC, BSN, MEd St. Luke's Regional Medical Center
Training Center Medical Director	Scott A. Snyder, MD Medical Director Newborn Intensive Care Unit St. Luke's Regional Medical Center
Training Center Nursing Director	Jody Gibson, BSN, MEd Nursing Director Newborn Intensive Care Unit St. Luke's Regional Medical Center
NIDCAP Trainer	Karen M. Smith, RNC, BSN, MEd St. Luke's Regional Medical Center
NIDCAP Trainer-in-Training	Julie Swanson, BSN, RN St. Luke's Regional Medical Center
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7. Mid-Atlantic NIDCAP Center, Established 1995

The Children's Regional Hospital at Cooper University Hospital, Camden, NJ

Training Center Director

gretchen Lawhon, RN, PhD

Clinical Nurse Scientist
Division of Neonatology
The Children's Regional Hospital at
Cooper University Hospital
Associate Professor of Pediatrics
University of Medicine and Dentistry of New Jersey
Robert Wood Johnson Medical School at Camden, NJ

Training Center Medical Director

Sonia O. Imaizumi, MD, FAAP

Associate Head, Division of Neonatology
The Children's Regional Hospital at
Cooper University Hospital
Associate Professor of Pediatrics
University of Medicine and Dentistry of New Jersey
Robert Wood Johnson Medical School at Camden, NJ

NICU Leadership

Gary E. Stahl, MD, FAAP

Head, Division of Neonatology
Vice-Chief, Department of Pediatrics
The Children's Regional Hospital at
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Associate Professor of Pediatrics
University of Medicine and Dentistry of New Jersey
Robert Wood Johnson Medical School at Camden, NJ

Joanne Fox, RNC, BSN

Clinical Nurse Manager, Newborn Intensive Care
The Children's Regional Hospital at
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NIDCAP Master Trainer

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Clinical Nurse Scientist
The Children's Regional Hospital at
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Associate Professor of Pediatrics
University of Medicine and Dentistry of New Jersey
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NIDCAP Trainers

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Division of Neonatology
The Children's Regional Hospital at
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Rodd Hedlund, MEd

Division of Neonatology
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Mid-Atlantic NIDCAP Center – continued

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8. **Karolinska NIDCAP Training Center, Stockholm, Sweden, *Established 1999***
Astrid Lindgren Children's Hospital at Karolinska University Hospital, Stockholm

Training Center Director	Björn Westrup, MD, PhD Medical Director in Neonatology Astrid Lindgren Children's Hospital at Karolinska University Hospital, Danderyd, Stockholm
Training Center Co-Directors	Agneta Kleberg, RN, PhD Astrid Lindgren Children's Hospital at Karolinska University Hospital, Danderyd, Stockholm Karin Stjernqvist, PhD Professor of Psychology Department of Psychology, University of Lund
Training Center Medical Director	Hugo Lagercrantz, MD, PhD Hugo Lagercrantz, MD, PhD Professor of Pediatrics Karolinska Institute Astrid Lindgren Children's Hospital at Karolinska University Hospital, Stockholm
Training Center Medical Co-Director	Lena Westas, MD, PhD Associate Professor Department of Pediatrics, Uppsala University Hospital
NIDCAP Master Trainer	Agneta Kleberg, RN, PhD NIDCAP Master Trainer Astrid Lindgren Children's Hospital at Karolinska University Hospital, Danderyd, Stockholm
NIDCAP Trainer	Ann-Sofie Gustafsson, RN, BSN Astrid Lindgren Children's Hospital at Karolinska University Hospital, Solna, Stockholm
Lecturer	Kerstin Hedberg-Nyqvist, RN, PhD Assistant Professor Department of Pediatrics, Uppsala University Hospital
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9. **Connecticut Children's NIDCAP Training Center, Established 2007**
Connecticut Children's, Hartford, CT (Formerly University of Connecticut NIDCAP Training Center, Farmington, CT, 2002)

Training Center Co-Directors**Dorothy Vittner, RN, MSN**

Assistant Professor, Department of Pediatrics
University of Connecticut School of Medicine
NIDCAP Trainer, Newborn Intensive Care Unit
Connecticut Children's Medical Center

Ann Milanese, MD

Associate Professor, Department of Pediatrics
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Medical Director, Education and Rehabilitation Services
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Training Center Medical Director**Marilyn Sanders, MD**

Professor, Department of Pediatrics,
University of Connecticut School of Medicine
Attending Neonatologist
Connecticut Children's Medical Center

Training Center Nursing Director**Marla Booker, BSN, RNC**

Nurse Manager, Newborn Intensive Care Unit
Connecticut Children's Medical Center

NICU Leadership**Victor Herson, MD**

Professor, Department of Pediatrics
University of Connecticut School of Medicine
Medical Director, Newborn Intensive Care Unit
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NIDCAP Trainer**Dorothy Vittner, RN, MSN**

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10. French NIDCAP Center, Brest, France, *Established 2004*

Medical School, Université de Bretagne Occidentale & University Hospital, Brest, France.

Training Center Director**Jacques Sizun, MD**

Professor of Pediatrics
Medical Director, Neonatal Units
Woman, Mother and Child Department
University Hospital, Brest, France

Training Center Co- Director**Nathalie Ratynski, MD**

Neonatalogist
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Medical Director,
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11. **SOPHIA NIDCAP Training Center, Rotterdam, The Netherlands, Established 2005**
Erasmus MC-Sophia Children's Hospital, Rotterdam, The Netherlands.

Training Center Director	Nikk Conneman, MD Consultant in Neonatology Erasmus MC-Sophia Children's Hospital Rotterdam
Training Center Co-Director	Monique Oude Reimer, RN NIDCAP Consultant Erasmus MC-Sophia Children's Hospital Rotterdam
Training Center Medical Director	Bert Smit, MD, PhD Senior Consultant in Neonatology Erasmus MC-Sophia Children's Hospital Rotterdam
Training Center Nursing Director	Yvonne Kant, RN Nurse Manager, Newborn Intensive Care Unit Erasmus MC-Sophia Children's Hospital Rotterdam
NICU Leadership	Hans van Goudoever, MD, PhD Professor of Pediatrics Erasmus MC-Sophia Children's Hospital Rotterdam
	Bert Smit, MD, PhD Senior Consultant in Neonatology Erasmus MC-Sophia Children's Hospital Rotterdam
NIDCAP Trainer	Nikk Conneman, MD Consultant in Neonatology Director Erasmus NIDCAP Center, Rotterdam, Erasmus MC-Sophia Children's Hospital Rotterdam
Developmental Care Educator	Monique Oude Reimer, RN NIDCAP Consultant Erasmus MC-Sophia Children's Hospital Rotterdam
Center Advisor	Nynke Weisglas, MD Senior Consultant in Pediatrics Erasmus MC-Sophia Children's Hospital Rotterdam

SOPHIA NIDCAP Training Center – continued

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12. Centro Latinoamericano NIDCAP, Established 2005

Hospital Fernández, Fundación Dr. Miguel Margulies, Fundación Alumbrar, Buenos Aires, Argentina

Training Center Director**Graciela Basso, MD, PhD**

Neonatologist
Infant Psychoanalyst IPA

Training Center Medical Director**Liliana Voto MD, PhD**

Professor of Obstetrics
Universidad de Buenos Aires
Mother and Child Center Director
Hospital Fernández
President of Fundación Margulies

NIDCAP Trainer**Graciela Basso, MD, PhD**

Neonatologist
Infant Psychoanalyst IPA

NIDCAP Professional**Maria Luisa de Anchorena**

Psychologist

NICU Leadership**Jorge Tavosnaska, MD**

Professor of Pediatrics
Universidad de Buenos Aires
Director, Newborn Medicine
Hospital Fernández

Liliana Roldan, MD

Neonatologist
Hospital Fernández

Rumilda Lorenzatto

Nurse Manager, Intensive Care Unit
Hospital Fernández

Follow Up**Teresa Sepulveda, MD**

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Hospital Fernández

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13. UK NIDCAP Training Centre at St. Mary's, Established 2006

St. Mary's Hospital, Imperial College Healthcare NHS Trust, London, England

Training Centre Director	Inga Warren, Dip COT, MSc Consultant Occupational Therapist in Neonatology and Early Intervention, Winnicott Baby Unit
Training Centre Medical Director	Tom Lissauer, MB, BChir, FRCPCH Consultant in Neonatal Medicine
Training Centre Medical Co-Director	Sunit Godambe, MBBS; DCH; MD; MRCPCH Consultant in Neonatal Medicine
Training Centre Nursing Director	Kathryn Jones, RGN, RSCN, MSc, BSc, PGCE Deputy Director of Nursing Services
Training Centre Therapy Director	Julie Say, Dip COT Head of Occupational Therapy Services
Winnicott Foundation / Parent Representatives	Pippa Jones, BaHons Chief Executive, Winnicott Foundation Fiona Lupson, B Eng (Hons), C Eng, FIEE Winnicott Foundation Board Member
NICU Leadership	Anne Maloy, RGN, RM. Head Nurse, Neonatal Services Manager
NIDCAP Trainer	Inga Warren, Dip COT, MSc Consultant Occupational Therapist in Neonatology and Early Intervention, Winnicott Baby Unit
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14. **University of Illinois Medical Center at Chicago (UIMCC) NIDCAP Training Center,**
Established 2006
Women's and Children's Nursing Services, University of Illinois Medical Center at Chicago

Training Center Director

Beena Peters, RN, MS
Associate Director of Nursing,
Women's and Children's Services
University of Illinois Medical Center at Chicago

Training Center Medical Director**Director of Developmental Care
Education**

Jennifer Hofherr, OTR/L
Developmental Specialist
Newborn Intensive Care Unit
University of Illinois Medical Center at Chicago

**Director of Developmental Care
Training**

Jean Powlesland, RN, MS
Developmental Specialist
Newborn Intensive Care Unit
University of Illinois Medical Center at Chicago

NICU Leadership

Rebecca Kole, RN, BSN
Nurse Manager, Newborn Intensive Care
and Intermediate Care Nurseries
University of Illinois Medical Center at Chicago

NIDCAP Trainers

Jennifer Hofherr, OTR/L
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15. NIDCAP Training & Research Center at Cincinnati Children's, *Established 2007*
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

Training Center Director	Patricia G. Bondurant, MN, RN, CNS Senior Clinical Director Regional Center for Newborn Intensive Care Cincinnati Children's Hospital Medical Center
Training Center Medical Director	Tanya Cahill, MD Assistant Professor of Neonatology Cincinnati Children's Hospital Medical Center
Training Center Business Director	Mike Karbowski, MBA RCNIC Business Director Regional Center for Newborn Intensive Care Cincinnati Children's Hospital Medical Center
NICU Leadership	Beth Haberman, MD Director of Neonatology Professor of Pediatrics Cincinnati Children's Hospital Medical Center
NIDCAP Trainers	Tammy Casper, MSN, MEd, RN Developmental Specialist Regional Center for Newborn Intensive Care Cincinnati Children's Hospital Medical Center Linda Lacina, RN Developmental Specialist Regional Center for Newborn Intensive Care Cincinnati Children's Hospital Medical Center
Contacts	Tammy Casper, MSN, MEd, RN Regional Center for Newborn Intensive Care Unit Cincinnati Children's Hospital Medical Center 3333 Burnet Avenue Cincinnati, Ohio 45229 Phone: 513-636-7134 Email: Tammy.Casper@cchmc.org Linda Lacina, RN Regional Center for Newborn Intensive Care Unit Cincinnati Children's Hospital Medical Center 3333 Burnet Avenue Cincinnati, Ohio 45229 Phone: 513-636-7434 Email: Linda.Lacina@cchmc.org

16. The Brussels NIDCAP Training Center, Belgium, *Established in 2007*

Department of Neonatology, Saint-Pierre University Hospital, Free University of Brussels, Belgium

Training Center Director	Dominique Haumont, MD Professor of Pediatrics Head Department of Neonatology Saint-Pierre University Hospital, Brussels
Training Center Medical Director	Dominique Haumont, MD Head Department of Neonatology Saint-Pierre University Hospital
Training Center Nursing Director	Carine Lambeau, RN Nurse Manager Saint-Pierre University Hospital
NICU Leadership	Dominique Haumont, MD Head Department of Neonatology Saint-Pierre University Hospital Christiane Raspé, RN Nurse Manager Department of Neonatology Saint-Pierre University Hospital Inge Van Herreweghe, MD Associate Professor of Pediatrics Department of Neonatology Saint-Pierre University Hospital
NIDCAP Trainers	Delphine Druart, RN Department of Neonatology Saint-Pierre University Hospital
Developmental Specialists	Anne Vanvaerenbergh, PT Ann Marchand, RN
Developmental Clinical Psychologists	Emmanuelle Lempereur Annabel Piron
Lactation Program Coordinator	Anna Gonzalez, RN
Parent Advisor	Laure Dorchy
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APIB Training Center Directory**1. National NIDCAP Training Center, Boston, *Established 1982***

Brigham and Women's Hospital and Children's Hospital Boston, Boston, Massachusetts

Training Center Director**Heidelise Als, PhD**

Associate Professor of Psychology (Psychiatry),
Harvard Medical School
Director, Neurobehavioral Infant and Child Studies
Children's Hospital Boston

Training Center Medical Director**Steven A. Ringer, MD, PhD**

Assistant Professor of Pediatrics
Harvard Medical School
Director, Newborn Medicine
Brigham and Women's Hospital

Training Center Nursing Director**Marianne Cummings, RN, MSN**

Nurse Manager, Newborn Intensive Care Unit
Brigham and Women's Hospital

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Assistant Professor of Pediatrics
Harvard Medical School
Director, Newborn Medicine
Brigham and Women's Hospital

Marianne Cummings, RN, MSN

Nurse Manager, Newborn Intensive Care Unit
Brigham and Women's Hospital

APIB Master Trainer**Heidelise Als, PhD**

Associate Professor of Psychology (Psychiatry)
Harvard Medical School
Director, Neurobehavioral Infant and Child Studies
Children's Hospital Boston

APIB Trainer in Training**Samantha Butler, PhD**

Research Associate in Psychology (Psychiatry)
Harvard Medical School
Neurobehavioral Infant and Child Studies
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**2. West Coast NIDCAP & APIB Training Center at University of California San Francisco
School of Medicine, Division of Neonatology, *Established 2008***

Training Center Director	Kathleen A. Vandenberg, PhD Director, Neurodevelopment Center University of California San Francisco School of Medicine, Division Neonatology
Training Center Associate Director	Deborah Buehler, PhD Developmental Psychologist University of California San Francisco School of Medicine, Division of Neonatology
Training Center Medical Director	Yao Sun, MD, PhD Associate Professor of Clinical Pediatrics Director of Clinical Programs NICU University of California San Francisco School of Medicine, Division of Neonatology
Training Center Nursing Director	Michelle Cathcart, BSN, CCRN ICN Patient Care Manager Children's Hospital at UCSF Medical Center
NICU Leadership	David Rowitch, MD, PhD Professor of Pediatrics & Neurological Surgery University of California San Francisco School of Medicine, Division of Neonatology Chief of Neonatology at Children's Hospital, UCSF Medical Center Sally Sehring, MD Clinical Professor of Pediatrics University of California San Francisco School of Medicine, Division of Neonatology Director of Newborn Services, Marin General Hospital Greenbrae, California Sue Pelloquin, RN, PNP Coordinator, Neuro-Intensive Care Nursery Children's Hospital at UCSF Medical Center
APIB Trainer	Deborah Buehler, PhD Developmental Psychologist
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NIDCAP Required Readings

NFI Quality Assurance Committee Approved, October 2, 2009

Theoretical/Conceptual

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Research

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