



The Infant as Catalyst: Promoting Early Parent-Child Relationships

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Monday 31st March, 2008

Ui Chadhain Theatre, Arts Building, TrinityCollege.

The infant as catalyst

- *"It is fortunate for their survival that babies are so designed by nature that they beguile and enslave mothers."*

John Bowlby

- *"The baby stands for the renewal of the self. The birth can be experienced as a psychological re-birth for the parents"*

Selma Fraiberg



The Importance of Early Relationships

- There is a growing awareness of the importance of the first three years of life in the child's development
- Theoretical emphases from Freud to Bowlby to Stern and related research tend to focus on the role of mothers/parents in shaping the child's development
- Accordingly, early intervention strategies are usually directed at parents and on supporting them
- Only recently has the role of the infant been studied and the contribution of the infant on the course of the parent-infant relationship
- This presentation will describe an infant-focused family-centered approach to early intervention

"A sub-cortical organism"

- It is perhaps difficult for the 21st century researcher or clinician to imagine how much our understanding and appreciation of the human newborn has changed since the middle of the last century when infants were generally seen as passive recipients of sensory stimulation, responding to environmental input with innate reflexes.

The "discovery of the newborn"

- In 1963, Robert Fantz demonstrated that newborn infants could not only see but also has clear-cut visual preferences, while in the journal *Science*, Max Wertheimer showed that newborns could orient towards a sound as early as 8 hours of age.

The "organized infant" and behavioral states

- Peter Wolff's seminal work on "newborn behavioral states" led to a greater appreciation of the human newborn as a responsive organism, capable of organized behavior.
- He described newborn behavioral states:
 - deep (non-REM) sleep;
 - light (REM) sleep;
 - drowsy;
 - bright alert;
 - active alert;
 - crying

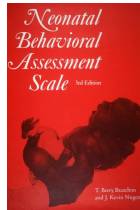
(See Brazelton and Nugent, 1995)

T. Berry Brazelton's contribution: Competencies and differences

- It was **Berry Brazelton** who emphasised individual differences in newborn behavior and recognized that each infant had his/her own individual style of responding or his/her own temperament
- He recognized that the infant could not only see and hear but, more significantly, the infant's visual system – his powerful gaze – serves to elicit a dyadic form of interchange and that the infant indeed is fully responsive and social from the very beginning

The Neonatal Behavioral Assessment Scale (Brazelton, 1973; Brazelton & Nugent, 1995)

- A *Neurobehavioral Scale* consisting of 28 behavioral items and 18 reflex items
- The NBAS is designed to elicit the full richness of the infant's repertoire
- Designed to identify individual differences in newborn behavior
- Describes the autonomic, motor, state and attentional/interactive capacities



The newborn: The contribution of the NBAS

- **The competent infant – the infant is competent in all five modalities**
- **The organized infant**
- **The social infant**
- **The infant as an individual with her own unique set of dispositions and sensibilities**
- **The newborn infant had an active role to play in his own development from the very beginning has the capacity to influence parent caregiving or the parent-child relationship.**

Uses of the NBAS – a research tool

- Studies of at-risk infants – nutrition, IUGR, PCBs, prematurity
- Effects of obstetric medication, mode of delivery
- Effects of behavioral teratogens – nicotine, alcohol, marijuana, cocaine, lead etc. (e.g. Dublin Longitudinal Study)
- Prediction studies (e.g. Ohgi et al. 2003; Sternqvist, 2006)
- NBAS-R – study of temperament (Nugent, Snidman and Kagan, 2005)
- Cultural differences and normative studies
- Intervention (See Nugent and Brazelton, 2000, for a review)

The effects of the NBAS in intervention: selected research

- Increased maternal self-esteem (Rauh et al. 1988)
- Increased father involvement in caretaking (Myers, 1982)
- Enhanced parent-child interaction (Gomes-Pedro et al, 1995)
- Positive developmental outcome with VLBW infants (Nurcombe et al. 1990)
- Parker, Cole and Zahr (1992), for example, invited mothers to actively participate in the behavioral assessment of the infant in the NICU setting, with positive effects on maternal perceptions of their infants
- Meta-analysis (Das Eisen and Reifman, 1996)

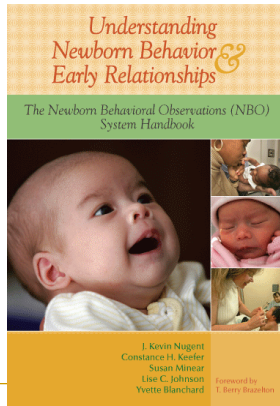
From the NBAS to the NBO

- The NBAS is undoubtedly an effective form of intervention, but, because it is very long and has a particular focus on reflexes, clinicians wanted a more flexible and more developmentally-focused tool they could use to sensitize parents to the competencies and individuality of their infant
- Professionals wanted a tool that they could easily integrate into their practices, whether in hospital, clinics or home visit settings.
- They wanted an approach that was relationship-based, that was both family-centered and culturally sensitive.
- This led us to develop the Newborn Behavioral Observations (NBO) system

The NBO

•The development of the NBO is based on over twenty-five years of research and clinical practice with the Neonatal Behavioral Assessment Scale (NBAS) and clinical work with families in a range of settings

•The NBO comes from this tradition and grew from our desire to provide clinicians with a tool that retained the conceptual richness of the NBAS but shifted the focus from assessment and diagnosis to observation and relationship-building and, above all, could easily be integrated by practitioners into their everyday clinical practice with parents.



Relationship-based intervention beginning in the newborn period

- Most successful interventions, whether they are primarily preventive or therapeutic, are based on facilitating that relationship and helping both the child and the caregiver learn to adapt successfully to each other's individuality as early as possible
- There is a growing body of scientific literature, demonstrating the positive preventative effects of **relationship-based interventions** for infants and their families

(Als et al. 2004; Birss, 2007; Blanchard and Mouradian, 2000; Broton et al., 1986; Meisels and Shonkoff, 1990; Nugent and Brazelton, 2000; Shonkoff and Phillips, 2000)

Rationale for the importance of supporting the development of the parent-infant relationship

- In a number of longitudinal studies, the impact of early parent child interactions on development were found to be highly significant (Beckwith and Cohen, 1999; Rutter et al., 2004).
- The importance of providing parents with information on their child's behavior and development so that they can respond appropriately to their infant's cues has been well documented (Als et al., 2003, 2004; Taffe Young et al. 1998).
- Developmentally appropriate interventions, designed to provide information and emotional support to parents, in order to foster the parent-child relationship, can enhance the social, cognitive and emotional development of the infant (Als, 1993; Conner and Nelson, 1999; Sameroff et al. 2004; Singer et al. 1999)

The transition to parenthood can be.....

- The transition to parenthood can be especially difficult for single or adolescent parents, parents who are isolated or poor, parents of premature or disabled infants, parents who suffer from postpartum depression or have a history of mental illness, or, indeed, for any parents who feel unprepared for their new role as mothers or fathers.
- The birth of a child provides clinicians with a remarkable opportunity to support parents at a time when they may feel anxious, alone, and vulnerable and at a time when they are facing a series of dramatic personal challenges as new parents.
- *We developed the Newborn Behavioral Observations (NBO) system as a means of supporting parents during this critical life transition.*

The goal of the NBO

to strengthen the relationship between parents and their infant

and

to promote a positive relationship between clinician and family

The Newborn Behavioral Observations (NBO) system

The NBO consists of a set of 18 neurobehavioral observations:

Autonomic, Motor, Organization of State and Responsivity (AMOR)

The NBO*

- ... is a relationship-based, structured, neurobehavioral observation which enables family workers to describe and interpret newborn behavior for parents



*Nugent, Keefer, O'Brien, Johnson & Blanchard, 2007

Sensitizing parents to the behavioral repertoire of their newborn infant

- The NBO can be used to help parents understand their baby's competencies and individuality
- The NBO can be used to help parents read their infant's communication cues
- The NBO can be used to capture the essence of the baby – the very individuality of the baby – "who he/she is"

Newborn Behavioral Observations (NBO) (Nugent, Keefer, O'Brien, Johnson, Blanchard)

The **NBO** is a brief structured set of observations which enables pediatric professionals

- to describe and interpret newborn behavior for parents
- provide *individualised* guidance to parents on caregiving in order to promote positive parent-infant interactions

The NBO is designed to be used in

- Hospital settings – newborn nursery/Neonatal Intensive Care Unit
- Follow-up clinical visit
- Home visit
- Early Intervention setting

Is appropriate for use with infants from birth to three months (corrected age)

The effectiveness of the NBO
[n=222 pediatric professionals]

- NBO increases parents’ understanding of their new baby and helps them become better observers of their baby’s behavior
- NBO strengthens maternal confidence
- When practitioners learn to administer the NBO they find it helpful in their practice
- Pediatric professionals trained in the NBO report that it helps them “connect” with their patients

**Theoretical Assumptions:
The transition to parenthood
and the first months of life**

A period of great vulnerability for the baby, the parents and the baby’s family system

A unique opportunity for early intervention clinicians:
*the teachable/learning/
relational moment
par excellence*

The NBO offers clinicians an entrée into the “*sphere of attachment potential*”

The significance of the early months of life and the timing of the NBO

1. A major **bio-behavioral shift** for the infant
2. A period of rapid **brain development**
3. A crucial stage in the **transition to parenthood** and in parent development
4. A sensitive stage in the **development of the parent-infant relationship**
5. A formative period in **family development**
6. A key stage in the **practitioner-family relationship**: the *“teachable or “relational moment par excellence”*

1. The Newborn Period: a major biobehavioral shift

- The first 3 months of life can be called a period of rapid developmental transition, as the infant’s behavior and physiology shift from intrauterine to extrauterine regulation.
- The developmental agenda now centers on the regulation of the infant’s states and involves major reorientations in person–environment relations (Emde, 1979, 1987, 2000).

The Competent Newborn and the developmental agenda of the newborn

- **Competent in all five modalities (taste, smell, touch)**
- **Can visually track** (Dannemiller and Friedland, 1991; LaPlante et al. 1996; Meltzoff and Moore, 1999)
- **Can hear and locate sounds** (Muir and Field, 1979; Moon and Fifer, 2000)
- **Can habituate** (Hood et al. 1996; Slater et al. 1984)
- **Can recognize mother’s voice and smell** (deCasper and Spence, 1991; Schaal, 1998; Spence and Freeman, 1996)
- **Can discriminate mother’s face from stranger** (Pascalis et al. 1995)
- **Can recognize emotional expressions** (Field, 1984)
- **Look significantly more at a face with direct gaze than at a face with averted gaze** (Faroni et al (2001).
- **Many of these competencies are compromised in the preterm infant** (Als et al. 1989, 2004)

A major biobehavioral shift involving a new series of developmental challenges

- The achievement of autonomic stability and motor regulation
- State organization and regulation: the development of sleep-wake patterns; management of crying
- Growing awareness of the environment and capacity for interaction
- Role of the parents in supporting this agenda and in providing a sensitive caregiving environment

(Als, 1982, 2004; Barr, 1998; Brazelton, 1992; Nugent and Brazelton, 2000; Nugent and Blanchard, 2005; Rochat, 1998)

The NBO and the infant as catalyst

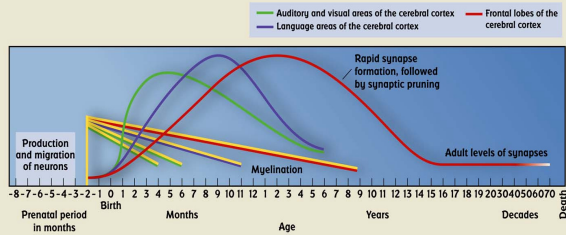
- The infant's behavior is at the center of this shared observation: behavior is the infant's language
- Through his behavior, the infant can elicit from his caregiving environment the nurturing and caregiving that he needs for his successful adaptation.
- It is through the infant that clinicians hope to motivate and support parents in their efforts to respond to their infants and enhance the relationship between parent and infant.
- The aim of the NBO is to "capture" what the infant is bringing to the relationship – his or her behavioral profile, his/her uniqueness as an individual

2. The newborn period: a time of rapid brain development

- The newborn period involves a major transformation in neural functioning, a time when all the essential refinements of brain wiring – dendritic growth, synapse selection, and even myelination – are being influenced by the infant's experience.
- Everything the infant sees, touches, hears, feels, tastes, and thinks translates into electrical activity in just a subset of synapses, tipping the balance for long-term survival.

(Als et al. 2004; Dobbing, 1990; Hopkins, 1998; Huttenlocher, 2002.)

A critical period in brain development



Brain development and the role of stimulation

- While the timing of brain cell growth unfolds organically, the determination of which brain cells survive and interconnect is the product of stimulation
- Synapses that rarely are activated, whether because of the absence of appropriate parent–infant interaction, crying that never is relieved, smiles that never are reciprocated, or expressions that never are exchanged, will wither and die (Eliot, 1999).
- It is the quality of the stimulation and the degree to which this stimulation is individualised to meet the needs of this particular baby that hinders or halts the development of the brain

The effects of individualised developmental care on brain structure (Als et al. 2004)

- Results suggest that individualised developmental care, given at a sensitive period in brain development, alters not only brain function but also brain structure (observed on MRI)
- Differences involved mainly the left frontal regions, and were associated with improved behavioral regulation (less hypersensitivity and improved attention)
- The NBO can be used to identify the level of stimulation that is appropriate for this individual baby that is likely to promote brain development

3. The Transition to Parenthood and the "Birth of a Parent"

- A **normative crisis**, a period that is characterized by rapid change as parent attempt to establish a relationship with their new infant and search for "the goodness of fit" between themselves and their infant
- In the first weeks after the birth of the child, parents are concerned about their ability to adequately nurture or support their baby's development
- Maternal representations may interfere: "the wished-for-baby" and the "feared baby" (Bruschweiler-Stern, in press)
- **The Birth of a Parent**: Identity disruption and ambivalence and reorganization and acceptance of new role as parent (Slade, 2002)
- The mother also has a heightened sensitivity to her infant – a "primary maternal preoccupation" - which enables the new mother to "feel herself into her infant's place, and so meet the infant's needs." (Winnicott)

Mourning the loss of the "wished for" baby.

- Mothers of premature infants are more likely to have had illness during the pregnancy, pre-existing medical conditions or history of fertility treatments, making them more at risk for postpartum illness and depression.
- In general, they experience higher levels of distress, are often confronted by feelings of disappointment and failure as well as anxieties about the infant's survival and future healthy development, as they mourn the loss of their still-living child or the loss of the "imagined" or "wished for baby" (Bruschweiler-Stern, 1997; Fleming et al., 1990; Klaus, Kennell and Klaus, 1996; Singer et al. 2003)

Influencing parental representations

- The task of influencing parents' perceptions of their infant is complex because the meanings that parents attribute to their infant's behavior may have their origin in the parents' personal history and unconscious.
- Although the resolution of such distorted perceptions may be prolonged and painstaking, the NBO intervention can begin to contribute to the resolution of such perceptions by enabling parents to observe their infants' own unique behavioral makeup and the infants' own interaction capacities, thereby helping to prevent the development of noncontingent interaction patterns.

The Motherhood (and fatherhood) Trilogy (Stern, 1995)

The New Mother is engaged in

- Reworking her own relationship with her own mother
- Reworking her internal view of herself as mother
- Sorting out her feelings about her new baby

Fathers, too, are engaged in

- Reworking their relationship to their own mothers and fathers
- Reworking their relationship to their partner and their own identity as fathers
- Sorting out their feelings about their new infant
(Barrows, 2004; Birss, 2007)

Use the NBO to address parent's concerns - nurturing the nurturer
(See chapter 2 in the NBO Handbook - Birss, 2007)

Ghosts (and angels) in the Nursery (Fraiberg; Lieberman et al.)

- Ghosts from the parent's past may interfere with the parents efforts to respond to their infant, by reenacting scenes from their own unremembered early relational experiences of helplessness and fear.
- The parent fails to read or understand the child's communication cues, either by ignoring them or misconstruing them as evidence of the child's inherent badness and responding with anger and rejection. Thus they may transmit punitive or neglectful caregiving practices in the present, with their own small children.
- **Angels in the Nursery** are caregiving experiences characterised by intense shared affect between parent and child, in which the child feels understood, accepted and loved – and can provide the child with a core sense of security and self-worth, that can be drawn upon when the child becomes a parent to interrupt the cycle of maltreatment (Lieberman et al. 2005)
- *The NBO can serve as a protective factor in preventing the development of the cycle of mistrust and interactional misattunement*

4. A critical period in the parent-child relationship

- This is a period characterized by rapid change, as the parents are learning to read their baby's communication cues, searching for "the goodness of fit" between themselves and their new baby (Carey and McDevitt, 1995; Landy, 2000).
- The infant, too, is in a heightened state of readiness to interact with his/her caregiver, to ensure the proximity of the caregiver (Brazelton, 1992; Bowlby, 1982)
- Parental caregiving behaviors influence the course of attachment (Grossmann et al. 2005)
- Using the NBO to sensitize parents to these communication cues and thus promote positive parent-infant interactions

Isolation and Depression in the newborn period

- The increase in postnatal depression has been attributed to parents' feelings of isolation and the absence of social and cultural support systems (e.g., Campbell, Cohn, Flanagan, Popper, & Meyers, 1992; Cutrona, 1983)
- While pregnancy and motherhood are expected to be experienced as happy, ambivalence is common, not only during pregnancy, but also once the baby has arrived (Slade, 2000).
- Postnatal depression tends to color mothers' perceptions of their infant's behavior and interfere with their ability to enjoy mutually reciprocal positive interactions with their children (Cooper and Murray, 1997; Lyons-Ruth et al. 2003)

NBO and Postnatal Depression

- NBO can be used to help parents read their baby's cues and provide them with feedback on how their babies responded to them and enhance the mother's sense of competency as a parent and thus reduce the likelihood of depressive symptoms.
- The NBO offers clinicians an entrée into the "sphere of attachment potential"
- Case Study – Reynard and his mother

Postnatal Depression and parent-infant interaction

- In a recent controlled study of first time mothers and their healthy infants (n=112), we used the NBO to help parents read their baby's cues and provide them with feedback on how their babies responded to them and enhance the mother's sense of competency as a parent and thus reduce the likelihood of depressive symptoms.
- Results showed that mothers who were involved in the NBO were almost 5 times less likely to show depressive symptomatology (EPDS) (p<.05) (Nugent et al. 2007).

Effects of NBO on the mother-infant relationship (Nugent et al. 2006)

- Mothers who participated in the NBO were 4 times more likely to be judged as more sensitive in their interactions with their infants (n=38)
- Infants were 6 times more likely to be judged as responsive as compared to control group infants who were exposed to the NBO (Crittenden's CARE-INDEX)

5. A Formative period in the development of the Family

- A vital re-definition of roles – fathers, grandparents, siblings
- An open system – boundaries become permeable to incorporate the new member
- The NBO provides a unique entrée into the family system

NBO principles: family-centered care

- Seeking for strengths not pathology
- Emphasising infant competencies but recognizing difficulties as developmental challenges
- Valuing parent/family strengths
- Supporting and confirming parents
- Respectful of culture especially in the area of anticipatory guidance

The NBO is therefore best done in a family context, which provides an opportunity to focus on the potential role of the infant in influencing mother, father, grandparents, neighbors or whoever makes up the informal network of relatives or friends that has an investment in the growth and well being of this new baby.

6. A vital stage in the practitioner-family relationship

- The establishment of trust
- A collaborative partnership
- The NBO involves the promise of an on-going relationship – a continuity of care model

The Teachable/Learning/relational Moment par excellence for both infant, parent and clinician

- The newborn period is a point in the child's or the family's development when the clinician can provide the kind of developmental information and emotional support that parents need that can have long-lasting effects on the parent-infant relationship
- It is a time when the parents can tell the clinician what they bring (capital) and what they need
- In the newborn period, it is also a teachable moment for the infant as she begins to reveal herself to her parents through her behavior - tell them who she is – make herself more comprehensible (Slade).
- Understanding the baby's behavior becomes the key challenge for parents and understanding the parent's behavior become the key challenge for the infant

The NBO and child guidance

By attempting to identify the newborn's unique behavioral capacities and individuality, the clinician hopes to

- increase parents' awareness of their infant's competencies and areas of difficulty
- promote parent's sense of competence
- form a supportive partnership with the parents
- facilitate the development of positive parent-child interaction from the beginning
- use the information derived from the NBO as a form of anticipatory guidance to help parents make informed choices about caring for their baby

NBO – infant-focused and family-centered

- The NBO gives the infant a voice – **the infant's story**

(answers the "who am I" question?)

- The NBO session gives parents a voice – **the family story**

("who we are and what our hopes and expectations are")

In sum, the NBO presents the clinician with a significant clinical window into the parent-infant relationship, offering a unique opportunity to enter into a supportive partnership with parents at a time when they may feel vulnerable and in need of support.

Theoretical Assumptions: summary

- Newborns come into the world with a wide array of mental skills and predispositions and a set of abilities that are uniquely suited to the critical needs of early life.
- The infant can communicate her needs (the language of affect)
- The infant is actively engaged in influencing and transforming her own environment from the beginning
- The newborn period is a critical transition period for both infant and family and for the parent-infant relationship
- While the family is in a state of transition and parents are engaged in a life-changing psychological shift, they also bring social capital to the relationship
- Relationship-based and developmentally appropriate interventions, designed to provide information and emotional support to parents, can enhance the social, cognitive and emotional development of the infant (*Als et al 2004; Conner and Nelson, 1999; Nugent and Brazelton, 2000; Sameroff et al. 2004; Singer et al. 1999*)

NBO training: Objectives

To use the NBO effectively, clinicians must be trained

- To have a deeper understanding of the importance of relationship-based care beginning in the newborn period
- To learn how to identify, describe and interpret newborn behavior for parents in the context of the NBO
- To learn how to administer the NBO
- To learn how to be able to provide basic caregiving guidelines to parents in a way that is developmentally sound and culturally appropriate based on the NBO

To use the NBO effectively clinicians need training to achieve:

1. **Good observation skills** and to develop the ability to read even the most subtle communication cues
2. To develop confident **handling techniques in administering the NBO** and to be able to integrate it into one's own clinical work with parents in a way that is flexible and responsive to both the baby's and parent's needs.
3. To have an integrated understanding of theoretical principles in infant, parent and family development to be able to **interpret** observed behavior appropriately
4. Good **communication skills** – ability to listen to and engage parents
5. To be able to **offer guidance** that is non-didactic but is developmentally appropriate and culturally sensitive

Overview of NBO certification program (see www.brazelton-institute.com)

- Complete two-day NBO training program
- Study the NBO Handbook thoroughly
- Administer the NBO to minimum of 5 families
- Avail of on-line mentoring with NBO mentor at Brazelton Institute for questions or guidelines
- Complete five NBO observation forms and have parents fill out Parent Questionnaire for each session
- Submit completed forms to Brazelton Institute for evaluation
- Certificate will be signed and mailed to new NBO trainee
- For further information please contact us at brazelton.institute@childrens.harvard.edu
