The Newborn Behavioral Observations (NBO) System as a Form of Intervention and Support for New Parents

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ABSTRACT

The period covering the first 3 months of life consists of a series of pivotal, life-changing transitions for the infant, for the parents, and for the emerging parent–child relationship. The Newborn Behavioral Observations (NBO) system is a relationship-based tool that offers individualized information to parents about their baby's communication strategies and overall development, in order to strengthen the relationship between infants and parents. The content and uses of the NBO, the theoretical framework on which it is based, and the growing evidence for its effectiveness as form of support for parents and families will be discussed.

The First Months of Life–An Intervention Point *par Excellence*

Although the newborn period and the first 3 months of life make up a very short phase—in chronological terms at least—compared with the whole life span or even with the years from birth to 3 years old, there is compelling evidence to indicate that this period involves a series of life-changing transitions for the child, for the parents, for the parent–child relationship, and also for the family system and indeed for the whole community network into which the child is born (Als et al., 2012; Barnard & Sumner, 2002; Bedford, Pickles, Sharp, Wright, & Hills 2014; Brazelton, 2009; Bruschweiler-Stern, 2009; Feldman & Eidelman, 2006; Landsem, Handegård, Ulvund, Kaaresen, & Rønning, 2015; Lubbe, Van der Walt, & Klopper, 2012; Trevarthen, 2001, 2003: Tronick, 2007). Although there is an equally strong body of research to show that basic clinically relevant issues such as self-regulation, trust, attachment, and individuation are life course issues, (Center on the Developing Child at Harvard University, 2010; Osofsky & Thompson, 2000; Sameroff, 2010; Sheridan, Fox, Zeanah, McLaughlin, & Nelson, 2012; Thompson, 2012; Zeanah, 2009), the underlying assumption of the approach to intervention described in this article is that these issues are being actively negotiated by the infant and parents from the very beginning.

The psychological process of preparation for an infant and a future family does not begin at the moment of birth, as there is compelling evidence of a link between maternal psychological functioning during pregnancy that primes the maternal brain for the challenges of motherhood (Mayes, Rutherford, Suchman & Close, 2012). Although the focus of the Newborn Behavioral Observations (NBO) system approach (Nugent, Keefer, Minear, Johnson, & Blanchard, 2007; described in the next section) is primarily on the reciprocal nature of the parent–child relationship during the postnatal period, this system builds on an appreciation of the effects of the prenatal environment on both fetus and mother, as well as their reciprocal influences (Bruschweiler-Stern, 2009; DiPietro, 2004; Glynn & Sandman, 2011; Monk, Spicer, & Champagne, 2012; Parfitt & Ayers, 2014; Slade, Grienenberger, Bernbach, Levy, & Locker, 2005).

This accumulated body of evidence has shown that early relationships and parental caregiving play a critical role in the development of the child's brain; influence social, emotional, and cognitive development; and even mediate life-long health outcomes (Shonkoff, Boyce, & McEwen, 2009). The newborn period and the first months of life make up a significant stage in the development of the parent–infant relationship and in the infant's behavioral adaptation to his new environment, which, in turn, involves a major transformation in many neural functions, because brain growth and maturation support the formation of the early parent–infant relationship (Als et al. 2012; Champagne, 2015; Klaus, Kennell, & Klaus, 1995; Mayes et al., 2012; McAnulty et al., 2013). There is evidence to suggest that the same adult brain networks involved in emotional and social interactions are already present in immature and incomplete forms in the infant (Parsons, Young, Murray, Stein, & Kringelbach, 2010).

There is the possibility then, that these early months of life may be the intervention point *par excellence* across the lifespan, not just because this stage comes first in time in the infant's life but because it is also a major transition stage in the lives of both

infants and their parents, so that it presents clinicians with a unique opportunity to affect change at what can be called a critical transition stage in the development of the parent–infant relationship and, indeed, in the development of the family itself (Belsky & Kelly, 1994; Blanchard, 2009; Brazelton, 2009; Browne & Talmi, 2005; Bruschweiler-Stern, 2009; Clark & Fenichel, 2001; Cowan & Cowan, 1995; Gomes-Pedro, 2009; Gomes-Pedro et al., 1995; Klaus et al., 1995; Nugent & Brazelton, 1989, 2000; Olds et al., 1997; Paul, 2015; Shaw, Deblois, Ikuta, Ginzburg, Fleisher, & Koopman, 2006; Stern, 1995; Tronick, 2007).

The NBO System: Background

The NBO system was developed as an interactive relationship-building tool to strengthen the relationship between infants and parents beginning in the newborn period (Nugent et al., 2007). The development of the NBO was inspired by almost 40 years of experience working with Berry Brazelton and the Neonatal Behavioral Assessment Scale (NBAS; Brazelton, 1973; Brazelton & Nugent, 1995, 2011; Nugent, 1985; Nugent & Brazelton, 1989, 2000). Research with the NBAS has contributed to an appreciation of the richness and complexity of the newborn's behavioral repertoire, on the one hand, but it has also contributed to an understanding of these early months of life as characterized by a series of transformative developmental challenges for both infants and parents, which in turn, present clinicians with a unique opportunity for preventive intervention at this early stage of life (Als, 1982; Bruschweiler-Stern, 2009; Keefer, Johnson, & Minear, 2009; Nugent, Blanchard, & Stewart, 2007; Nugent & Brazelton, 2000; Redshaw, 2011).

The NBO is above all a developmental or relationship-based care model. It is strength-based and is primarily guided by the principle that the quality of early experiences drives brain development and functional outcomes. It can be used to support parents at a time when the very bases for parental functioning are being established. The NBO describes the infant's capacities in such a way that the parents can begin to see their baby as a person, better appreciate their baby's unique competencies and vulnerabilities, and learn to understand and respond to their baby in a way that meets the baby's unique developmental needs. Moreover, the NBO can easily be integrated into a range of clinical practices and is used in hospital, clinic, or home visit settings by pediatric professionals such as nurses, doctors, psychologists, social workers, midwives, physical and occupational therapists, doulas, child life specialists, lactation specialists, home visitors, and other early intervention professionals.

Although it can be used effectively at hospital discharge on a once-only basis, the NBO is designed to be conducted serially either weekly, fortnightly, or monthly from birth through the third month of life, depending on the individual needs of the infant and family and the program goals and capacities. Over the course of these observations, the NBO yields an individualized profile of the infant's behavior so that the clinician and parents can discuss the implications of the baby's responses for the management of sleep, feeding, and crying in addition to identifying the kind of interaction that is best suited to the infant's behavioral threshold and style.

Photo: Matthew Lee

Baby turns to Mom's voice during the Newborn Behavioral Observations before discharge from the neonatal intensive care unit.

The NBO—Content and Uses

The NBO system consists of 18 neurobehavioral observations (see box Newborn Behavioral Observations (NBO) System Items) and is designed for use from birth through the third month of

Newborn Behavioral Observations (NBO) System Items

1. Habituation to light (sleep state)
2. Habituation to sound (sleep state)
3. Muscle tone in legs and arms
4. Rooting
5. Sucking
6. Hand grasp
7. Shoulder and neck tone
8. Crawling response
9. Visual tracking (red ball)
10. Visual response to face
11. Visual response to face and voice
12. Orientation to sound (rattle)
13. Orientation to voice
14. Crying
15. Soothability
16. State regulation
17. Response to stress—color change, startles, tremors
18. Activity level

Source: Adapted from Nugent, Keefer, Minear, Johnson, & Blanchard (2007), *Understanding newborn behavior and early relationships: The Newborn Behavioral Observations (NBO) system handbook.* Baltimore, MD: Brookes.

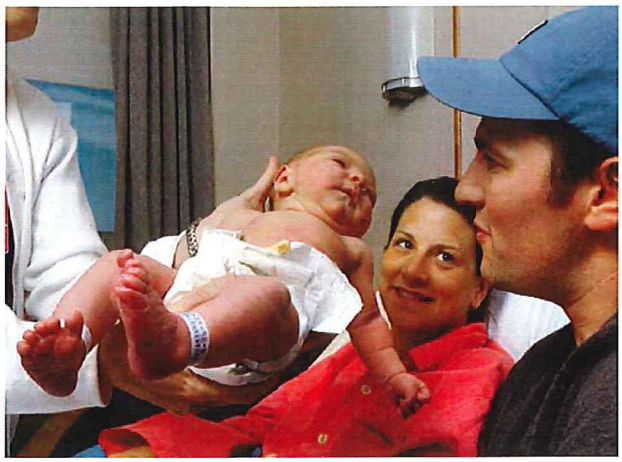

Photo: Matthew Lee

Two-day-old baby turns to Dad's voice during the Newborn Behavioral Observations.

life. These items are designed to show that newborns possess a wide range of visual, auditory, and perceptual abilities that allow them to explore the world around them and to engage in face-to-face, eye-to-eye mutual exchange. This readiness to engage and connect with her caregivers is made possible by a rich behavioral repertoire that is present at birth (Brazelton, 2009; Trevarthen 2003). But the NBO is not designed to simply list these discrete abilities for parents but attempts to integrate them in a way that reveals the baby's very personhood, individuality, and the potential impact of this information on the emerging relationship between parent and child.

The 18 items include observations of the infant's capacity to habituate to external light and sound stimuli (sleep protection); the quality of motor tone and activity level; the capacity for self-regulation (including crying and consolability); response to stress (indices of the infant's threshold for stimulation); and the infant's visual, auditory, and social–interactive capacities (degree of alertness and response to both human and non-human stimuli). The NBO can be used to track the process of self-regulation as the infant attempts to stabilize his autonomic, motor, and state behavior and prolong his periods of alertness and social availability over the first weeks and months of life. These weeks and months make up a special period of developmental change and reorganization in the patterns of infant attention and emotion, which are captured by the NBO.

Theoretical Framework

Over the first few months of life, newborns face a series of hierarchically organized tasks in self-regulation that are in some ways similar to stages (Als, 1982; ; Lawhon, 1997; McManus, Magnusson, & Nugent, 2014; Nugent et al., 2007). From this developmental perspective, the newborn infant is seen to confront a series of tasks or challenges as she attempts to adapt to her new extrauterine world, both the world or objects and the world of people. This includes the infant's capacity to first regulate her physiological or autonomic system, her motor behavior, then her state behavior, and finally her affective interactive behavior, which develop in a stage-like epigenetic progression over the first 2 to 3 months of life (McManus et al., 2014). These tasks are summarized by the acronym AMOR, for **A**utonomic, **M**otor, **O**rganization of state, and **R**esponsiveness, as shown in box Challenges Facing the Newborn: AMOR.

The first developmental task for the newborn is to organize his autonomic, or physiological, behavior. It involves the tasks of stabilizing breathing, reducing the number of startles and tremors, and being able to maintain temperature control. When this adjustment has been achieved, the newborn can move on to the second task: regulating motor behavior. This means gaining control over random motor movements, developing good muscle tone and control, and reducing excessive motor activity. Organization of state, or state regulation, includes the ability to develop strong and predictable sleep and wake states, as well as what could be called sleep protection, or the ability to screen out negative stimuli, such as noise, while asleep. State control also means that the infant is able to deal with stress, either by crying to gain the caregiver's help or engaging in such self-comforting behaviors as placing a hand in the mouth. The final developmental task for the newborn is the regulation of attentional–interactive, or social, behavior. This involves the capacity to maintain prolonged alert periods, to attend to visual and auditory stimuli, and to seek out and engage in social interaction with the caregiver. The framework enables practitioners and caregivers to interpret and attribute meaning to the behaviors and communication cues they observe in the context of the NBO.

Challenges Facing the Newborn: AMOR

Over the first few months of life, newborn infants face a series of hierarchically organized tasks in self-regulation, which involve the integration of autonomic, motor, state, and social interactive behavior. These tasks are summarized by the acronym **AMOR**, for **A**utonomic, **M**otor, **O**rganization of state, and **R**esponsiveness.

Autonomic/physiological stability—stabilization of breathing, temperature regulation, reducing tremors and startles, etc.

Motor regulation—development of good motor control and feeding skills; ability to maintain a controlled activity level

Organization of state—ability to cope with stress; able to regulate state and develop predictable sleep-wake patterns

Responsiveness—development of a growing awareness of the environment and the capacity to process visual and social information and engage in social interaction

Source: Adapted from Nugent, Keefer, Minear, Johnson, & Blanchard (2007). *Understanding newborn behavior and early relationships: The Newborn Behavioral Observations (NBO) system handbook.* Baltimore, MD: Brookes.

MEETING THE BABY

Whether the NBO takes place in a bustling hospital ward or a busy apartment, the clinician needs to create a psychologically safe holding environment for the parents, a space that is respectful and non-judgmental and where the outside word—for now at least—is set aside, as parents, siblings, grandparents, family, and friends are invited to gather around and "meet" the baby. Maintaining the same stage metaphor, the baby remains at center-stage throughout the NBO. The clinician, by eliciting the baby's behaviors, is the choreographer, who not only draws out the baby's capacities through sensitive handling but also draws in the parents as the baby's primary caregivers as part of the baby's on-stage supportive cast. When it comes to the actual eliciting of the items, in the hands of an experienced clinician, items such as the hand-grasp or the baby's response to the voice are elicited in such a seamless way that the parents see the baby and not a maneuver or series of maneuvers. The individually elicited items disappear, so to speak, and the baby is revealed, so that the items of the NBO are merely scaffolding, which support the emergence of the baby as a person. Following the principles of reflective functioning, the clinician needs to be able to develop his own capacity for embodied mentalizing, that is, to be able to read the baby's communication cues and respond thoughtfully and in a reciprocal embodied way (Fonagy, Gergely, Jurist, & Target, 2002; Paul, 2015).

The invitation to the participants in the NBO setting is framed in a phrase such as, "Let's see what this little baby can tell us about herself" or "Let's see what she would like us to know about herself, about what kind of care she needs." The specific challenge for the NBO clinician is to make it possible for the parents to recognize the baby's communication repertoire, so that they can learn to anticipate the baby's state of mind and reliably meet the baby's needs (Gilkerson, 2004; Paul, 2015; Shahmoon-Shanok & Stevenson, 2015; Slade et al., 2005; Weatherston, Kaplan-Estrin, & Goldberg, 2009; Weigand, 2007; Winnicott, 1967).

THE NBO SESSION AS IT UNFOLDS

The baby's behavior shapes the direction and thrust of the NBO session, so that the order of presentation is always predicated on the baby's behavioral state. Because it is a "baby-led" session, the clinician needs to be flexible enough to allow the baby's behavior to guide the order of presentation of the items. The NBO session typically begins with a shared observation of the baby's initial state. If the baby is asleep, the clinician then administers the light and sound stimuli to observe the infant's capacity for sleep protection, which may lead to a discussion of the implications of the baby's response for caregiving. In a neonatal intensive care unit setting, or even in a home visit setting, many practitioners have found that this series of sleep observations and perhaps some of the motor behaviors may make up the whole NBO session, as the baby may remain in a deep sleep throughout. Even this brief set of observations can still provide grist for the reflection mill and set the stage for further exploration of the baby's sleep patterns as parents and clinician anticipate the challenges of sleep organization of the first months of life. Bedsides, when the NBO is conducted as a series of either weekly or fortnightly visits over the early months, there will be an opportunity to see how the patterns of sleep organization unfold over time and what parents may need to do to facilitate this level of self-regulation.

Photo: Matthew Lee

Newborn tracks the red ball during Newborn Behavioral Observations.

As the clinician begins to elicit the behaviors, he remains at the parent's side as part of the surrounding circle. If the baby is no longer in a sleep state, the clinician then elicits—or guides the parents to elicit—motor behaviors such as hand-grasp, sucking and rooting, and crawling, and together they discuss the implications of the baby's responses for touch and skin-to-skin contact, feeding cues, and even sleep positions. The quality of motor tone and activity level is observed, followed by observations of the infant's capacity to respond to the face and voice and inanimate visual (red ball) and auditory stimuli (rattle) and the opportunity to engage in face-to-face interaction. During the session, the clinician and the parents together continue to formulate caregiving strategies or handling techniques based on their observations of the baby's behavior in terms of the level of stimulation that is appropriate for and meets the needs of this baby. If the infant cries, the amount of crying and the ease or difficulty of consolability is recorded, while the infant's overall state regulation and response to stress is examined. All the while, particular attention is paid to the infant's threshold levels and what level of stimulation may be overstimulating and stressful. Every behavior is of import—this is the baby's only way of communicating her needs (see box Lifting the Veil).

Management of crying and sleep are two of the most overwhelming concerns of parents in these early months (Gilkerson et al. 2012) which means the NBO can be used as a tool in providing guidance to parents on the most appropriate ways to manage sleep and crying behavior, in a way that is responsive to their individual baby's needs. Providing this behavioral profile of the infant's strengths and challenges can help the parents develop the kind of confidence they need to support their baby's development and enjoy the experience of being a new parent.

Lifting the Veil—Giving the Baby and Family a Future

Sarah was born at 36 weeks gestation and admitted to the neonatal intensive care unit with upper respiratory difficulties. She also had reduced poor muscle tone, which resulted in feeding problems, but with good developmental care, her breathing and feeding had improved and she was ready for discharge after 10 days. As part of the transition to home plan, the Newborn Behavioral Observations (NBO) system was requested on the day of discharge.

The clinician introduced himself and explained the NBO by simply asking the mother and father if they would like to join him to look at Sarah's behavior in order to see what she would like them to know about herself before going home—so that she could tell them what support she might need from them as they prepared to leave the hospital.

Sarah was in a low alert state at the beginning of the NBO, but when the clinician demonstrated the muscle tone in her legs and arms, she became slightly more alert. They then looked at her rooting and sucking responses and found that while the suck was still a little weak, Sarah's mother reported that she was now better able to feed. The father was then asked if he would like to place his finger in her hand. "She is so strong," he said, beaming, as her fingers curled around his. When she was placed on her belly to see the crawl response, she moved her legs and arms and moved her head to one side to free up her airways, which reassured her parents in terms of sleep positioning. "She is able to free up her breathing," said the mother. At this stage, Sarah was becoming more alert and, as the clinician looked at her, she was now able to focus on his eyes. She was engaged. "She is so alert." Then Sarah's mother was invited to call her name. Sarah stilled and her eyes brightened as she listened. As the mother continued to call her name, Sarah began to search for her mother's voice, first with her eyes and then with her head and eyes. When their eyes met, her mother picked up her hand and kissed it. "Oh, Sarah, you already know me!" There were tears in the mother's and father's eyes as the mother drew the baby to her.

When the session ended, the clinician and parents sat together side by side to summarize what they had observed, from Sarah's point of view. They singled out Sarah's alertness and her improved sucking, and they were impressed at how calm she remained while she was being handled. They could also see that maintaining a good suck was still challenging and, while she was alert, she took a while to respond, so that the parents knew they could not rush her if they wanted to have more social interaction with her. "She is so social," said the mother as she looked into her eyes, "but I want to be sure not to overwhelm her."

It was only then the mother told the clinician that Sarah had a Trisomy 21 diagnosis. They had been devastated by the news. But, because of this experience with the NBO, she said, all had changed. That their baby had Down Syndrome no longer mattered or rather mattered less, as now they saw her as their baby, as a person with her own personality and her own temperament. No longer a baby defined by her Down diagnosis, they could now think about a future together. The parent–child attachment process had now begun. The veil had been lifted. The future was beckoning.

An Infant-Focused and Family-Centered Relational Approach

Although the NBO session involves the systematic observation and interpretation of the newborn's behavior, it must be pointed out that the baby's behavior is never objective data in the sense that it stands on its own and is self-explanatory. While it may be interpreted by the clinician, the clinician must be aware of the mother's psychic processes and should recognize that her representations of herself and of her baby will shape her understanding of the baby's behavior during the NBO session (Bruschweiler-Stern, 2009; Paul, 2015; Stern, 1995). Mayes and colleagues pointed out that clinicians need to think of adult brain and psychological development as occurring simultaneously with infant brain and mind development, which means that intervention needs to focus on helping parents understand the changes in their own psychology as well as those of their infant (Mayes et al. 2012). For those reasons, the NBO stance toward parents is based on the assumption that this period constitutes a major transition stage in the parent's own development as well being a pivotal period in the development of their relationship with their infant (Emde & Robinson, 1979; Rutherford, Potenza, & Mayes, 2012; Sander, Stechler, Burns, & Lee, 1979; Stern, 2004).

Although the NBO itself is designed to capture the "baby's story", clinicians try to provide parents with the relational space so that they feel free in sharing "the family story" (McDonough, 2004). In this way, clinicians can learn more about the parents' own cultural capital, their hopes, and their fears as they face the challenge of becoming attached to this new baby (Weatherston, 2010). As clinicians attempt to engage the baby in the presence of his parents they build on what can still be very fragile capacity for parental reflective function (Fonagy et al. 2002; Paul, 2015; Slade et al., 2005). As a result, the emerging portrait of the baby becomes a jointly constructed endeavor.

The NBO in Practice—Selected Evidence

Although the NBO is still in its infancy as an intervention approach and much more research needs to be done with larger samples and with follow-up outcome measures, a growing number of studies have demonstrated its effectiveness as a form of support. These studies provide evidence to show that the NBO is associated with enhanced mother–infant engagement, a greater understanding of the baby's communication cues, increased levels of confidence among parents, positive perceptions of their interactions with their high-risk infants in early intervention settings, a reduction of postpartum depressive symptomatology, increased levels of father involvement, and higher perceived confidence among service providers in working with low- and high-risk newborns and their families (Alvarez- Gomez, 2007, 2014; Cheetham & Hanssen, 2014; Fishman et al., 2007: Gibbs, 2015; Holland & Watkins, 2015; Kashiwabara, 2012; McManus & Nugent, 2011, 2012; Nugent & Alhaffer, 2006; Nugent et al., 2007; Nugent, Dym-Bartlett, & Valim, 2014; Nugent, Dym-Bartlett, Von Ende,

Killough, & Valim, 2015; Paul, 2015; Paul, Nicolson, Thomas, Chapman, Salo, & Judd, 2014; Sanders & Buckner, 2006; Savage-McGlynn & Hawthorne, 2014; Subramaniam & Plant, 2014).

Conclusion

The goal of the NBO, therefore, is to place the baby at the center of intervention and support work with families at this particularly sensitive time in the parents' own transition to parenthood across the first months of life. By sensitizing parents to their baby's strengths and communication cues, the NBO makes it possible for the infant to reveal herself as an individual and provide a powerful motive for positive change in the parents themselves and strengthen the emerging parent–infant bond. Thus it is the capacity of the infant—in all her individual richness—to change and transform all who come into her orbit that is at the heart of the NBO approach to working with families. From this perspective, the baby, as Selma Fraiberg points out, "stands for the renewal of the self; his birth can be experienced as a psychological rebirth for his parents" (Fraiberg, 1980, p. 54).

The individualized developmental nature of the NBO provides the baby with a "voice," with a "signature." It gives the baby an opportunity to tell the caregiver who he is, what his preferences are, what his vulnerabilities might be, and in what areas he may need support across the first months of life. The inherent capacity of the baby to motivate caretaking behavior in the human, which has the evolutionary function of enhancing offspring survival, is a key concept in this strength-based relational approach to early intervention work with new parents. As the Irish writer George

Learn More

Books for Parents

Your Baby Is Speaking to You: A Visual Guide to the Amazing Behaviors of Your Newborn and Growing Baby
K. Nugent (photographs by A. Morell), (2011)
Boston, MA: Houghton-Mifflin

Touchpoints: Birth to Three
T. B. Brazelton & J. Sparrow (2006)
Cambridge, MA: Da Capo Press

The Picador Book of Birth Poems
K. Clanchy (Ed.), (2012)
London, UK: Picador

Keeping Your Child in Mind: Overcoming Defiance, Tantrums, and Other Everyday Behavior Problems by Seeing the World Through Your Child's Eyes
C. M. Gold (2011)
Cambridge, MA.: Da Capo Press

Books for Professionals

The Newborn as Person: Enabling Healthy Infant Development Worldwide
J. K. Nugent, B. Petrauskas & T. B. Brazelton (Eds.), (2009)
Hoboken, NJ: John Wiley and Sons

The Baby as Subject: Clinical Studies in Infant-Parent Therapy
C. Paul & F. Thomson-Salo (Eds.), (2013)
London, UK: Karnac Books

Infant and Early Childhood Mental Health
K. Brandt, B. D. Perry, S. Seligman, & E. Tronick (Eds.), (2013)
New York, NY: American Psychiatric Publishing

The Development of Children and Adolescents
P. Hauser-Cram, J. K. Nugent, K. Thies, & J. F. Travers (2013)
Hoboken, NJ.: John Wiley and Sons

Primary Care of the Premature Infant
D. Brodsky & M. A. Oullette (2008)
Philadelphia, PA.: Elsevier

Nurturing Children and Families: Building on the Legacy of T. Berry Brazelton
B. Lester & J. Sparrow (Eds.), (2010)
Hoboken, NJ.: John Wiley and Sons

Valuing Baby and Family Passion: Towards a Science of Happiness
J. Gomes-Pedro (Ed.), (2014)
Lisboa, Portugal: Fundacao Calouste Gulbenkian

The Birth of a Mother: How the Motherhood Experience Changes You Forever
D. Stern, N. Bruschweiler-Stern, & A. Freeland (1998)
New York, NY: Basic Books

Your Amazing Newborn
M. Klaus & P. Klaus (2000)
Cambridge, MA: Da Capo Press

Case Studies in Infant Mental Health
J. Shirilla & D. J. Weatherston (2002)
Washington, DC: ZERO TO THREE

Web Sites

The Brazelton Institute, Division of Developmental Medicine, Boston Children's Hospital
www.brazelton-institute.com

NBONBAS International— (coming soon)
This website is designed for practitioners who use the NBO and NBAS in their practice.
https://nbonbasinternational.wordpress.com

Boston Children's Hospital
Ab Initio International—the on-line publication of the Brazelton Institute designed to promote the discovery, dissemination, and application of knowledge about developmental processes in the first years of life, with an especial emphasis on the use of the NBO and NBAS in prevention and treatment.
www.childrenshospital.org/AbInitio

Developmental Medicine Center
www.childrenshospital.org/centers-and-services/developmental-medicine-center-program/programs-and-services

Brazelton Touchpoints Center
www.brazeltontouchpoints.org

Center on the Developing Child
http://developingchild.harvard.edu

Bernard Shaw put it, "Life is a flame that is always burning itself out, but it catches fire again every time a child is born" (Shaw, 1933). Clinicians who work with infants and families have the privilege of coaxing this fire into life, and the NBO can help stoke and fan that fire until it bursts into life.

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